

PUBLISHED WEEKLY.



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

VOL. VIII. No. 92.] CALCUTTA, THURSDAY, 2nd JANUARY, 1908.

[ANNAS 4.]

INDEX.	PAGE
NOTES	1
NOTICES—	
Calls for Tenders	7
LEADER—	
The World's Wheat Harvests	8
SEASON AND CROP PROSPECTS	10
THE FAMINE	11
CARIFT CHANGES	12
THE COPPER MARKET	12
THE PEARL TRADE	12
THE COTTON GOODS TRADE	13
Wool PRODUCTION IN GREAT BRITAIN	13
VALUABLE SPANISH BEAN	14
DE OF THE STRAITS SETTLEMENTS	15
LESS TELEGRAPHY	16
ORD CABLEWAY	17
ILERS	18
STRIAL CONFERENCE	19
D RUBBER INTERPLANTING	20
C ² FODDER CROP	21
h ¹ KIUNGCHOW	23
o ¹ MERCERISED COTTON	24
m ³ NCE BOOKS	25
app ² the ade of the United Kingdom	25
chan ² India	29
to fre ¹ MOVEMENTS	30
PUBLICATIONS	32
	33

NOTES.

Intimation has been received by the Madras Government that there is a strong popular feeling against the arrival of Indian immigrants in Canada and that difficulty may be experienced in protecting them. All District Magistrates and the Commissioner of Police, Madras, will be requested, if any emigration to Canada has taken place or is taking place from the local areas within their jurisdiction, to warn intending emigrants against proceeding to that Colony.

In their report on the Shanghai piece-goods market, dated 5th ultimo, Messrs. Noel-Murray and Co., Ltd., state:—If the course of the Indian yarn market can be taken as a forecast, confidence is certainly returning at last, and, though we do not wish to be too optimistic, it looks as though the tide had turned. The good demand that has appeared for these spinnings during the interval has been readily met at the increased prices buyers have shown willingness to pay, and although the sales do not show the same regularity in the advance the market for No. 10's and 20's may be considered up a tael and a half. For No. 12's about half a tael better prices have been paid. The demand for the lower count has come chiefly from Szechuen and Tsingtau, No. 20's being wanted for Szechuen and the River Ports. The total sales reported amount in the aggregate to 4,397 bales.

The number of bales of cotton imported into the United Kingdom during the week ended the 5th

December, 1907, was 161,796 (including 108 bales British West Indian and 160 bales British West African) and the number imported during the forty-nine weeks ended the 5th December was 4,312,238 (including 6,069 bales British West Indian and 10,645 bales British West African). As regards exports, the figures are, for the week ended the 5th December, 9,913 bales, and for the forty-nine weeks 466,950 bales.

A correspondent writes to the *Manchester Guardian* that some producers of bundle yarn for the Continent are accepting contracts for short-reeled hanks—that is to say, of less length per hank than 840 yards. A good deal of discussion has taken place as to this matter. It is pointed out that such reeling of yarn for sale is a contravention of the Merchandise Marks Act, and some years ago the Extra Hard Yarn Association brought some cases into the Police Court. The short reeling of yarn was thought to be a thing of the past, but it would appear that steps will have to be taken again to call the attention of offending spinners to the provisions of the Act.

Mr. Hester, of the New Orleans Cotton Exchange, sends the *Manchester Guardian* the following statement of the average weights of American cotton bales handled at the United States ports and overland from September 1st to October 31st inclusive:—

	Number of bales	Weight.	Average weight.	Average weights.
		lbs.	lbs.	lbs.
Texas	47,833	257,051,134	539.08	538.09
Louisiana	23,833	123,679,943	518.82	527.42
Alabama, etc.	9,518	50,252,713	527.97	527.21
Georgia	62,179	317,832,924	509.17	515
South Carolina	89,713	44,856,500	500	510
North Carolina	208,962	104,278,038	499	506.25
Virginia	126,923	61,438,433	483	502
Tennessee, etc.	71,209	36,125,638	507.38	511.98

Total and average:—

Two months	1,931,493	995,630,855	515.47	525.88
September	591,649	307,922,167	520.54	527.75

It will be noticed that the comparison of bale weights is less unfavourable to the present crop than it was at the end of September.

A New York correspondent states that there was a sensational break on the cotton market after the publication of the Bureau figures on the 10th December estimating the crop at 11,678,000 bales. The session was the most exciting that has taken

place for many months, the price dropping from 40 to 50 points under heavy selling orders. There was some recovery near the close. Local traders estimate that the actual crop will be as much as 12,400,000, adding 400,000 bales to the official figure for under-estimation and 300,000 for linters.

The Crop Reporting Board of the U. S. A. Bureau of Statistics of the Department of Agriculture has issued its final report on the cotton crop of this season. In this report the total yield is estimated, in bales of 500 lbs. each, exclusive of linters, at 11,698,000 bales, which compares with the Government estimate of last year's crop of 12,546,000 and of the 1905 crop of 10,168,000 bales of 500 lb. weight. The following table gives the particulars and the yield of the various States with comparisons with two previous seasons' Government estimate in December, in thousands of bales:—

	1907.	1906.	1905.	1904.
North Carolina	601	537	545	609
South Carolina	1,091	875	995	1,100
Georgia	1,898	1,578	1,564	1,765
Florida	64	54	77	77
Alabama	1,216	1,252	1,267	1,279
Mississippi	1,536	1,484	1,213	1,540
Louisiana	712	930	555	918
Texas	2,490	3,944	2,383	2,992
Arkansas	796	791	618	833
Tennessee	298	250	336	343
Indian Territory	919	405	325	338
Oklahoma	...	380	232	246
Missouri	40	43	41	43
Virginia	14	13	17	19
Totals	11,678	12,546	10,168	12,163
Amount of cotton ginned to Dec. 1st.	8,339	10,025	8,531	...

Owing to the probable shortage of wheat Australia (writes a Melbourne correspondent) there will be a considerable re-importation of supplies which had in October been shipped for British ports. Minister of Customs, although a strong Protectionist, realised that the country would never the imposition of the duty on this re-imported so on November 1st he decided to allow it to go to Australia duty free, provided it had not ship's bottom and had not changed hands.

A Canadian message, dated the 11th states that the North-West Grain Dealers' after careful inquiries about the threshing all districts, have just issued a new statement of the Western wheat crop on the 25th. The yield is given at 12.9 bushels per acre, putting the acreage at 5,013,544 the yield to about 64,675,000 bushels.

is 34.5 per acre for 2,373,030 acres, giving a total of 81,395,000 bushels. The yield of barley is 35,000 bushels, and of flax 1,071,500 bushels. Grain Dealers' Association state that 45 per cent of the grades are number 4 or lower. Considering the lateness of the harvest, the movement of crop to Lake Superior ports is quite satisfactory.

The *Corn Trade News* gives the following summary of the world's crops as on the 10th ultimo:—**United States of America**—Condition officially estimated at 91.1 per cent, against 94.1 a year ago. Area sown with Winter Wheat is 31,069,000 acres against 31,665,000 last year. **Canada**—The Northwest Grain Dealers' Association estimates Western wheat crop only 64,000,000 bushels (Government estimate 70,000,000 bushels), against 95,000,000 bushels last year. Only 48 per cent. of this year's crop, or 35,000,000 bushels, is expected to grade as milling wheat, whereas the bulk of the 1906 crop was good quality, and much graded high. **Argentina**—Weather fine, after rain. Surplus-estimates maintained fully 5,000,000 qrs. **India**—Rain; generally thought there will be no export plus, but winter rains may yet modify this view. **Australia**—Estimate of exportable surplus increased a trifle. **Russia**—Crop reports of the western grain region of Russia proper continue bad. One report from Caucasasia favourable, others unfavourable. Some interior districts satisfactory but prospects main Winter Wheat region very unfavourable. **Roumania**—Weather mild, but seedlings weakly, and may be hard to struggle through Winter. **Turkey**—Good rains, prospects favourable. **Austria**—Additional rains fallen; people very doubtful crops. **France and Germany**—Full satisfactory condition. **United Kingdom**—Rains stopped sowing; no increase acreage of Italy, Spain, and North Africa—Sourable.

The wool situation does not seem to be so bad in London, although prices cannot be so high, the tone of the saleroom is exceedingly in the future are heavy withdrawals every day. In speculative sales are reported both for the future delivery at lower prices than have been sold at under 14d., and the silly for crossbred tops, is thoroughly legitimate from Australia Messrs. Dalgety report Leghorn bred are again lower by 10 per cent. advise a similar drop in lambs' poundage. The London who is attending the London Wool is being withdrawn on a daily basis. The end of the year in the wool market is as flat as ditchwater. The men of the wool are very heavy, and, what is a loss of confidence, whilst wool is being sold which will have to be sold. to frey

Advices from Australia which reached Calcutta this week state that for the week ending the 10th ultimo 34,332 bales of wool were offered, and 31,649 bales sold, in the Melbourne and Geelong markets. For the corresponding week of last year 33,110 bales were offered, and 32,400 bales sold. The sales so far thus show an increase of 100,585 bales, as compared with the sales of the corresponding period of last year. Among the leading sales effected at Melbourne on the 10th were Wando, merino to 16½d., Padthaway to 15½d., Hynam to 15½d., Boikerbert to 14½d., Gymbowen, Kooma, and A.D. over A.M.G., to 14d. In scoureds, A. C. and Co. over Darr sold up to 23d. At the Sydney wool sale on the 10th 7,907 bales were catalogued, and 7,025 sold. Good wools were in strong request, but faulty and inferior sorts were generally dull of sale and irregular, and at times distinctly lower. Cross-breds fairly maintained their position. For scoured competition showed no improvement. The top for greasy was 13½d. The most striking feature of the Geelong sale on the 5th ultimo was the very high prices paid for specially picked lots of super merino wool. Among the leading sales effected on that date were Gala (Lismore), and Caramut merino to 19d., Titanga (Lismore) to 18½d., Vite Vite (Derrinallum), Yarram-park (Glenthompson), and Salt Creek (Dunkeld, to 18d.; Myrngrong (Camperdown) to 17½d.; and Borriy-alloak to 17½d. Cross-breds sold up to 17½ for Mingawalla (Colac), and South over Caramut.

The Lyons silk clearances during the week ending 7th December amounted to 150,076 kilos, as compared with 141,183 in the preceding week and 158,571 in the corresponding week of 1906. The particulars and comparison with previous years are as follows:—

Week ended December 4th.	THROWN.		Raw.	Total.
	Organsins.	Trames.		
	Kilos.	Kilos.	Kilos.	Kilos.
1907	23,075	25,763	101,238	150,076
1906	19,483	23,233	115,855	158,571
1905	21,431	20,935	88,070	130,437
1904	19,576	22,382	115,096	157,054
1903	17,905	19,384	77,450	114,740
1902	18,418	22,305	93,642	134,365

The market at Lyons is still listless and demoralised. Manufacturers continue to favour the policy of day-to-day buying, and the sum of small transactions registered represents the immediate needs of consumers. The constant weakening of the price of the raw material cannot but confirm buyers in this policy, the more so as they themselves are experiencing considerable difficulty in the marketing of their production of fabrics.

In common with other companies working the viscose artificial silk process, says the *Manchester Guardian*, the Société Générale de Soie Artificielle par le Procédé Viscose, Brussels, has not had a very successful career, though its directors report that the outlook is distinctly brighter, and consider that it will be possible to avoid liquidation if fresh capital can be introduced. A daily output of 150 kilos. is considered probable, and one of 500 kilos. is spoken of as possible. Meanwhile it is proposed to reduce the capital from five million to one million francs, and to issue 600,000 francs 5 per cent. preference shares. Another company, the Rhenish Artificial Silk Company, of Cologne, has just been floated. In addition to artificial silk, it is proposed to manufacture gun-cotton explosives, a number of patents having been acquired. The capital is two million marks. The chairman of the Company is Mr. Oskar Müller, of Cologne.

A report on the Lyons silk industry during 1906 just issued by the Ministry of Commerce, draws attention to the increasing competition of Germany, Italy, and Switzerland. The consumption of raw silk in Germany has increased by 15 per cent. in three years, and is now almost as large as that of the Lyons district. The demand for Lyons chiffons has nevertheless been unprecedented in the history of the trade, and there has been an enormous production of the cheaper qualities into which fine cotton yarns enter. The aggregate value of the production of whole-silk and part-silk goods in the district of which Lyons is the centre was last year over £17,000,000 and of this the popular Union chiffons and tulles accounted for £5,000,000. Amongst the pure silk fabrics most in demand have been "radium" crêpe de chine, satin crêpe, Liberty satin, Lyons pongee, and very light velvets. In light-silk veilings the Lyons manufacturers appear to have had no effective competition.

A Washington message, dated the 11th ultimo, states that Senator Beveridge, Republican Senator from Indiana, will introduce a Bill providing for a commission of financial and business experts, who are not to be members of Congress, to examine the present tariff duties and draw up recommendations for such alterations as seem advisable. Senator Beveridge believes that this will be the most practical way for dealing with the tariff revision. The sentiment of the Senate, which is largely Republican, is said to be opposed to the measure, and will doubtless stop the Bill. There is a distinct feeling that tariff matters will be given no attention whatever in this session of Congress, and in any case the Senate will never consent to delegate its authority to adjust the tariff schedules to any outside commission. "That there is a distinct demand throughout the country for tariff revision is undoubtedly true, but it does not seem likely that any steps will be taken for this end until after the next Presidential election. When the

matter comes up for consideration it will be as on previous occasions. A committee will be appointed, consisting of members of the Senate, House of Representatives, who will discuss the matter and listen to representations from experts, manufacturers, dealers, and other people interested both in maintaining the present rates and in obtaining revision."

Two important enactments of the Legislature of the State of Massachusetts have come into effect within the last few weeks. One of these, the called "Overtime Bill," was placed upon Statute-book after an almost uninterrupted agitation covering a period of practically fifteen years. It provides that "no person and no agent or officer of a person or corporation engaged in the manufacture of textile goods shall employ any minor under years of age or any woman before six o'clock in morning or after six o'clock in the evening." The effect of this is that the working day for women and young persons ends at six o'clock in Massachusetts textile mills. The closing hour in mills has hitherto been 10 p.m. The new law ends a struggle of many years to do away with the evils of "swapping"—as it called—that is, working for a set establishment in the evening after ten hours during the day time. The penalty for a violation of the law is a fine of not less than \$20 nor more than \$50 for each offence. Another Act affecting working population which came into force same date is entitled "an Act to provide for a rest in seven." This law provides that in cases of emergency, or except at the request of the employer, it shall not be lawful for an employer to require an employee engaged in commercial occupation, or in the work of a trial process, or in the work of transportation, to do on the Lord's Day the work of his occupation unless such employee during the six days next ensuing twenty-four hours without labour. It is further provided that the Act "shall not be construed as any work on the Lord's Day not now a law, nor as applying to farm or persons, druggists, to watchmen, to superintendents, caretakers, or to persons engaged in the sale, or delivery of milk, food, or news, or in the violation of the new law exceeding \$50.

At a meeting of the Manchester Chamber of Commerce on the 11th ultimo, a resolution was passed, based on a Glasgow correspondent's report, to the proposed acceleration of the of the Peninsular and Oriental Company, Great Britain and India, to come under the new postal contract in effect. Eight hours are to be saved on the route, and a correspondent suggested that this be utilised at the English end of the

JAN. 2, 1908.]

THE INDIAN TRADE JOURNAL.

7

no water near, the pointer remains stationary. If there be water, the pointer vibrates more or less, varying with the amount and proximity of the spring. The vibration of the pointer is such as to indicate also in which direction the water lies, so that by moving the instrument from place to place the exact position for well-sinking can be readily ascertained. The instrument is said to be as efficient in locating oil as water, and that the only case in which it fails to work satisfactorily is in proximity to veins of iron stone. The instrument is light and portable, and should prove invaluable to prospectors and colonists. Messrs. Mansfield & Co., of Creewood Buildings, Brunswick Street, Liverpool, have secured the sole agency for its sale in Great Britain and British Colonies.

Despite the fact, says *Commercial Intelligence* that the United States produces three-fourths of the world's cotton, and possesses a larger number of spindles than any other country except the United Kingdom, her imports of cotton goods are now exceeded only by those of India (133 million dollars) and of China (125 millions in 1906, of which total nearly one-half was cotton yarn). In the fiscal year 1907, those imports were twice as great as in 1907, and nearly four times as great as in 1877, while in the calendar year 1907 the value promises to exceed by several millions the former high-record total and to approximate 80 million dollars. On the export side the United States holds a still more remarkable position. The value of her cotton manufactures exported in 1906, a record year, was about 53 million dollars, against 78 millions exported from France, 118 millions from Germany, and 500 millions from the United Kingdom. In the nine months ending with September, 1907, the value of cotton manufactures exported from the United States was little more than one-third the value of cotton manufactures imported, the total value of all cotton manufactures exported having been 20,590,267 dols., and that of all cotton manufactures imported 58,796,601 dols. This large and rapidly growing importation of cotton manufactures occurs chiefly in the high-grade cotton goods, and especially those in which hand labour forms an important part in their production.

Sir A. Hosie, Acting Commercial Attaché to H. M. Legation at Peking, in a report on a visit to the Southern Ports of China, states that the distillation of camphor oil at Foochow was started by Japanese, who own several distilleries, but the Chinese have now as many as seventeen, and others are in process of construction. They are very primitive establishments, each containing a couple of stills, and there appears to be much waste of time and labour due to the crude system employed. Several British merchants at Foochow informed the Attaché that, owing to frequent fluctuations in the value of camphor, they

preferred to take no part in the trade. Most of the Foochow output is in the hands of Parsee merchants in Hong-kong, by whom it is exported to India.

In writing to his Government concerning the low prices for cigars and cigarettes in India, Consul-General W. H. Michael, of Calcutta, has this to say:—"A firm in Madras advertises three of its best cigars at 1½ cents, 1½ cents, and 2½ cents each, respectively (cent = ¼ anna). I suppose these cigars would sell in the United States at 10 to 15 cents each, or two for a quarter. The men who grow the tobacco—that is, the labourers in the field—get 10 to 12 cents a day, and the men who make the cigars get from 12 or 20 cents a day—both classes boarding and lodging themselves. Nice looking stogies are manufactured in Madras and sold at wholesale for 55 cents a thousand. Cigarettes made in India sell at proportionately low prices. With such prices the outlook for the United States or any other country to capture the cigar and cigarette trade of India is rather discouraging, yet Key West cigars are on sale here. There is another obstacle in the way of importers of cigars in India. It is a moth or fly that finds its way into a box of cigars or tobacco and lays an egg that soon develops into a destructive worm or grub, which bores through the wrapper into the body of the cigar and ruins it. There is hardly anything that will keep these pests out except to enclose each cigar in a bottle or wrap it in heavy tinfoil. For this reason dealers in India do not like to import a better grade of cigars. The loss is too great. One dealer showed me box after box of high-priced imported cigars that were absolutely ruined by the moth described."

NOTICES.

CALLS FOR TENDERS.

Meat.

The Divisional Contract Officer, Meerut, will receive tenders up to the 24th instant for the supply of meat for the use of troops.

Army Clothing.

The Director of Army Clothing, Calcutta, invites tenders up to the 29th instant for the supply of helmets, colours, and embroidered badges. Tenders for woollen and cotton goods will be called for later.

Petty Stores.

The Ordnance Officers at both Agra and Rawalpindi are inviting tenders up to the 8th proximo for the supply of petty stores.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are: Indian, without postage, Rs. 12; with postage, Rs. 13; foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, JANUARY 2, 1908.

THE WORLD'S WHEAT HARVESTS.

THE progress of wheat cultivation in the United Kingdom during the past 100 years forms the subject of an interesting article in the *Times* of the 7th ultimo dealing with the "Cereal Year," which dates from September 1st (the time of sowing) to August 31st (the time of reaping). In perusing the details given one is struck with what the writer calls "the disastrous decline in the area under wheat cultivation in the 19th century." The figures show a decline in area from 4,800,000 acres in 1807 to 1,625,436 in the present year. The result is that, at the present moment, out of every 33 loaves used in Great Britain 27 are made of foreign wheat.

Luckily, however, the yield of British wheat has, by means of fertilisers and improved methods, about doubled during the period under discussion. Were it not for this largely increased yield, the price of the quarter loaf would not improbably have doubled also, and the effect of such dear bread on the poorer classes would have been very serious. The following table shows the position of the British wheat crop during the past ten decades:—

Year.	Yield per acre.	Contemporary criticism.
	Bushels.	
1807	20	Regarded as a large yield.
1817	16	Slightly under average.
1827	20	"A good wheat crop" (<i>Times</i>).
1837	23	"A deficient crop" (<i>Times</i>).
1847	30	"Considerably over average" (Algernon Clarke).
1857	27	"Over an average" (<i>Times</i>).
1867	24	"Very inferior" (Algernon Clarke).
1877	28	"Much under average" (<i>Times</i>).
1887	34	A large crop.
1897	29	Under an average.

The 1907 official return is 33.97 bushels, and is described as "decidedly over the average."

The judgments on 1807, 1817, 1887 and 1897 are universally accepted, and therefore need no reference. But it will be noted that the 1837 crop, which was deficient according to the idea of that day, was three bushels larger than the 1827 yield, which in its time was reckoned a good one. This bears out the general impression that the period 1827—37 was one of remarkable agricultural advance, especially in science and the systematic development of production. The "much under average" crop of 1877 was only a bushel smaller than the "over average" crop of 20 years previously, and, was six bushels larger than the "large yield" of 1807. Since 1887 no rise in the average yield per acre is usually asserted to have taken place. The average for the ten years ended 1905 was officially returned at 30.56 bushels per acre, however, and in 1885 the official estimate of an average yield was 28.80 bushels on a period of 25 years. These figures seem to have been generally accepted by experts, as in 1889 we find a yield of 29.89 bushels—described as 1.09 bushel over the average—as, in fact, rather a good yield. To-day it would be held to be deficient, and the *Times* believes that the mean fertility of British wheat land is still upon the increase. As stated above it has doubled in a century.

JAN. 2, 1908.]

THE INDIAN TRADE JOURNAL.

9

Since the beginning of the present century the area under cultivation and the yield of British wheat have been as under:—

Year.	Area (Acres).	Yield (Bushels.)	Yield (per acre.)
1901	1,845,042	51,040,000	30.93
1902	1,726,473	54,876,500	32.91
1903	1,581,457	47,613,000	30.13
1904	1,375,188	38,880,000	26.82
1905	1,796,810	58,902,000	32.78
1906	1,755,198	59,092,000	33.66
1907	1,625,436	55,209,328	33.97

In other words, the area devoted to wheat has fallen two-thirds in a century, but the yield has fallen less than half. Sales of British wheat at the statute markets since the new century have been as follows and the price average has been:—

Cereal year ended	Area (Acres.)	Yield (Bushels.)	Yield (per acre.)
August 31st 1901	2,463,341	qr. at 27s. 1d. per qr.	
" 1902	2,451,275	" 28s. 4d. "	
" 1903	2,386,017	" 26s. 5d. "	
" 1904	2,129,448	" 27s. 2d. "	
" 1905	1,746,927	" 30s. 7d. "	
" 1906	2,940,263	" 28s. 9d. "	
" 1907	2,830,991	" 28s. 1d. "	

At Mark Lane wheat opened the cereal year 1906-07 with an average of 27s. 5d. for September, and closed with an average of 33s. 2d. for August. The tendency, was therefore decidedly upward, and since a new cereal year has come in further advance has occurred.

On the Continent little improvement seems to have been made in wheat cultivation during the past century, and most continental wheat-growing areas are at that stage which Great Britain passed 100 years ago. In France the average yield is said to be 19.22 bushels per acre. Germany claims a higher average yield, but there seems to be some doubt about the actual figures. In Austria-Hungary the average yield is said to be 17½ bushels, in Italy 12.75 bushels. The following table shows the official returns of the countries named since the beginning of the present century. The unit employed is 1,000 quarters, so that, to take the case of France, 37,680 represents 37,680,000 English quarters of 480 lbs. each:—

	1901.	1902.	1903.	1904.	1905.	1906.	1907.
France	37,680	39,723	42,500	38,200	42,500	40,600	46,770
Germany	11,862	17,700	18,300	17,800	17,000	18,000	13,500
Austria							
Hungary	23,515	20,316	26,000	27,000	31,000	34,000	21,000
Italy	19,945	16,500	22,352	17,000	18,500	20,250	22,000
Spain	17,131	16,500	12,000	11,000	11,500	15,000	13,000
Russia	63,686	75,700	78,000	82,320	79,235	61,097	58,855
Roumania	8,700	9,800	8,680	6,500	12,500	14,000	6,500
Total	170,403	204,250	203,832	198,320	212,235	204,947	181,586

Other returns make the net result to be that the continental yield of wheat has fallen off by 23,362,000 qrs.

The average yield of wheat per acre in America in 1889 was officially declared on the basis of ten years' returns to be 12.3 bushels; for the last seven years it is returned at 14.1 bushels. The improvement in cultivation goes on at the mean rate of about a bushel every ten years. This is not rapid and American production per acre will not at this rate equal the English before about 2077 A. D. The area under cultivation varies with the seasons, but in 20 years it has increased from 37,336,000 acres to 47,305,000 acres—that is to say, at the rate of not quite half a million acres a year. The total increase in 20 years is 9,969,000 acres, the increased yield per acre 1.8 bushels, so that, whereas at the period of the last Agricultural Domesday Book (as it may be called) the average yield was 459,232,800 bushels, the average yield to-day would be 667,000,000 bushels in round numbers. The actual yield for 1907 was returned in the official estimate published on October 11th last at 625,537,000 bushels, or not quite 6 per cent. below the average.

This year's Canadian wheat crop is estimated to be 34,201,000 bushels smaller than in the preceding year, when that Dominion exported 40,000,000 bushels; but the presumptive wheat exports of this season's crop from America and Canada are estimated at only 7,333,000 qrs. less than in 1906, which is a much more satisfactory state of affairs than was considered possible a short time ago, when reports were current that both the American and Canadian wheat crops had been very extensively damaged by both drought and frost.

As we showed in our issue of the 5th ultimo, the Australian wheat crop is so very short that there is not likely to be any surplus; and the Indian wheat forecast, published in our last issue, showed a contraction of 34.4 per cent. in the area under cultivation. There can be scarcely any doubt that the world's wheat crop is deficient this season, and the presumption is that prices will rule at a more or less high level during 1908.

—The October Bulletin of the French Chamber of Commerce at Barcelona states that the Union Resinera Española has produced, during the year 1906, 3,982 tons of essence of turpentine, and 14,601 tons of colophony. These figures show an increase of 946 tons of turpentine and 2,445 tons of colophony over the preceding year. Most of the colophony was exported to the United Kingdom.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 21st DECEMBER, 1907.

Burma.—Rainfall *nil*. Reaping of autumn rice is well advanced and is progressing satisfactorily everywhere. Cultivation of miscellaneous spring crops is in progress. Plucking of cotton is completed in one district and is progressing in others. Crop prospects are good in Lower Burma; and generally fair in Upper Burma though poor in parts owing to drought. The price of paddy rules high; it has risen in three; and has fallen in four districts.

Eastern Bengal and Assam.—(Report not received).

Bengal.—The week has been rainless except for some very light showers in Gaya, Saran, Muzaffarpur, Darbhanga, Purnea and Cooch Behar. Rain is still wanted in Bihar for the sowing of spring crops. The harvesting of winter rice and sowing of some spring crops are in progress. The outturn of winter rice is reported to be bad in almost all districts. The condition of the sugarcane crop is generally fair; its pressing is going on in almost all the Bihar districts as well as in Orissa. Prospects of spring crops have slightly improved in places due to the recent rain. Poppy sowings have been completed in Saran. The condition of the crop is promising in Patna. Wheat is reported to be damaged by insects in Patna and *kalai* in the Bihpur thana in Bhagalpur. Prices of food-grains taken as a whole are generally stationary. The price of common rice has risen in five districts; has fallen in ten; and is stationary in nineteen. Stocks of food-grains are reported to be sufficient except in Bankura, Nadia, Murshidabad, Balasore and Palamau. Scarcity is apprehended in the districts of Birbhum, Bankura, Nadia, Murshidabad, Jessore, Gaya, Shahabad, Saran, Balasore, Ranchi, Palamau and Manbhum. One test-work was opened on the 18th at Tunga in the Kendrapara sub-division of Cuttack at which 45 males, 10 females and 11 children attended. Test-works are also about to be commenced in the Chilka tracts of Puri. The condition of agricultural stock is reported to be generally good. The supply of fodder and water is sufficient except in parts of Shahabad and Balasore. Water is scarce in places in Murshidabad.

United Provinces.—No rain fell during the week except an insignificant fall in the north of Basti and Gonda. Prices exceed scarcity rates and are generally stationary except in a few districts where they are rising. Markets, aided by importing, are adequately supplied. The demand for labour continues. Cotton picking and sugarcane pressing are going on. Spring crops are still being sown and irrigated. Germination is good, but rain is urgently needed. Poppy cultivation is progressing well. The condition of agricultural stock is fair, but fodder is dear and scarce. There is no marked increase of crime. The numbers on relief are increasing noticeably in Gonda and Bahraich only where the figures

are:—Gonda on works 19,000; on gratuitous relief 6,458; Bahraich on works 5,168; on gratuitous relief 5,929. There are relief works in five districts and test-works in eight. The numbers in the Province are:—on relief works 39,762; on gratuitous relief 18,151; total 57,913.

The weekly report on the famine and scarcity is as follows:—Distress is increasing, although it is not yet severe. Continued high prices are pressing more hardly upon the classes unable to work, especially in towns. Gratuitous relief has commenced in some districts and will commence from 1st January in others where scarcity has been declared. Famine has been declared in Jalaun and scarcity in the Kheri and Agra districts and the towns of Fatehpur, Ghazipur and Saidpur and Muhammadabad and Zamania in the Gazipur district. Relief measures are adequate; the health of those on relief is good. There has been some increase of casual relief by the police; but there is no general wandering. The numbers on relief in the Province are:—on works 39,762; on gratuitous 18,151; total 57,913. Prices:—Bahraich 9½; Jhansi 10½; elsewhere 10 seers per rupee.

Punjab.—Rainfall *nil*. Prices of food-grains are generally above scarcity rates and are still rising in many districts. Cotton picking and sugarcane pressing are in progress. *Toria* is being harvested. Wheat and barley sowings on irrigated lands have almost been finished in Gujranwala and nearly finished in Ambala and Ferozepore. The condition and prospects of standing irrigated crops are good to average; and those of unirrigated crops bad. The outturn of irrigated autumn crops is average to below average and that of unirrigated autumn crops poor. Some damage was done to crops in Ambala, Gujranwala and Shahpur. The crops have also been damaged by insects and white ants in Ambala and Ferozepore. Frost has also injured the crops in Ferozepore. *Toria* has been damaged by green fly in Shahpur. Cattle are suffering from over work and scarcity of fodder in Jullundur and Sialkot. Pasturage and fodder are scarce in Delhi, Ambala, Sialkot, Gujranwala, Shahpur, Mianwali and Jhang, and in parts of Amritsar and Rawalpindi. Green fodder is not available in Ferozepore, Amritsar, Sialkot and Lyallpur. The supply of fodder is decreasing in Jullundur. Complaints of shortage of canal water are reported from Lyallpur. The water supply is decreasing in Ambala.

North-West Frontier Province.—No rain fell during the week. Rain is badly needed throughout the Province. The condition of crops on unirrigated areas is very poor and on irrigated areas, average. Harvesting of autumn crops is completed in parts of the Tank tehsil of the Dera Ismail Khan district; and land is being ploughed on irrigated areas in the Peshawar district. Water is running in canals and fodder is sufficient except in the Dera Ismail Khan district where cattle are reported to be suffering. Prices are still rising but have not yet touched scarcity rates.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 12th December, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Tariff Amendments. Marking of Brandy. Drawback of Duty on New Zealand Pine for Butter Boxes.

DOMINION OF NEW ZEALAND.—Customs Decisions. Revocation of Prohibition of the Importation of Tinctures of Lemon and Sweet Orange Peel.

FRANCE.—Conditions Governing Temporary Duty-Free Admission of Bromine and Iodine.

ITALY.—"Temporary Importation" of Iron Sheets and Tubes.

TURKEY.—Measures affecting the Importation of Flour and the Exportation of Cereals.

CUBA.—Revised Import Duties on Cardboard and Manufactures thereof.

COLOMBIA.—Navigation Dues on the Colombian Rivers.

VENEZUELA.—Increase of Import Duty on certain Articles.

THE COPPER MARKET.

An American View.

Writing on the 5th ultimo on the condition of the copper market, the *New York Journal of Commerce* says:—

Although there is almost a total absence of business in refined copper in both the domestic and foreign markets, there is an occasional spurt of speculative activity, such as took place yesterday in standard warrants at London, which business is facilitated by the larger number of warrants now available. The air, too, is surcharged with all sorts of bullish statements, which so far as the actual developments are concerned are not substantiated, nor do they seem likely to be furnished a solid foundation in the very near future. One of the most interesting statements, it seems, made within the last few days, is credited to an English authority whose opportunity for gauging the situation is excellent, but it is hard to reconcile the reported statements with actual conditions.

For instance, it is claimed by this British interest that of the 80,000 tons exported from America to Europe in the last three months, 50,000 tons have been purchased for consumption in Europe and only 30,000 tons have gone into warehouse. This flattering estimate seems to have caught a number of producers and selling agents in this country, who doubtless are easily influenced to entertain bullish views. We have had recent reports from other English authorities, however, estimating European consumption 60 days ago at about 18,000 tons per month, and at present the European melting has probably fallen to about 15,000 tons per month. If Europe

Jammu.—Rainfall *nil*. Prices are still rising. Prices:—Wheat from 7½ to 15; and maize from 10½ to 19 seers per rupee. The condition of standing crops is fair on irrigated lands and poor in other parts. Fodder is insufficient in Akhnur, Jammu, Bhimber, Samba, Ranbirsinghanj and Basohli tehsils, and in the Randi circle of Jasmirgarh tehsil. Sowings of spring crops are in progress. Rain is badly wanted.

Kashmir.—The weather is bright and piercingly cold. Prices are almost stationary.

THE FAMINE.

Telegram to Secretary of State.

The following is a copy of a telegram, dated 30th ultimo, from the Viceroy to the Secretary of State regarding crop prospects:—

Good rain fell during the week in several districts of the Madras Presidency; light rain in parts of the rest of Southern India; but, with a few unimportant exceptions, the week was rainless elsewhere. Rain is urgently wanted everywhere; and, if the winter rains hold off much longer in the distressed tracts, the spring crops, the germination of which has been fairly good, will be seriously affected.

Up to the present time distress has not been so intense as might have been expected from the early cessation of the rains, and there has been as yet little wandering and no marked increase of crime; but the effects of the scarcity and high prices are becoming increasingly evident, especially in the United Provinces, where the area in which relief measures are necessary is rapidly extending. The numbers on relief from the State in that Province are rising and are as follows:—On works 39,762, gratuitous relief 18,151.

In Bengal one test work has been opened in Orissa, but as yet has been resorted to by only an insignificant number of labourers. The country in which, next to United Provinces, distress is most severe, is Central India, where 22,847 people are now employed on works, or are in receipt of gratuitous relief.

In the Panch Mahals district of Bombay 552 persons are employed on test works. The total number of persons now in receipt of State relief in the whole of India is 81,378.

Prices generally are stationary or rising slightly.

—H. M. Minister at St. Petersburg reports, on the authority of the *Official Messenger*, that the Ministry of Ways and Communications has placed 9,000,000 roubles (£947,368) as extraordinary expenditure on the estimates for work in connection with the laying of a second line on the Siberian Railway, and has also placed 12,000,000 roubles (£1,263,158), on the estimates for the reconstruction of that part of the line which passes through mountainous districts.

had supplied her entire requirements with American copper for three months she would have purchased about 50,000 tons, and it is understood that foreign consumers have supplied their requirements up to the end of this year, but these figures ignore the fact that Europe has been receiving from 9,000 to 10,000 tons of copper per month from European countries. Japan, Australia, etc. For instance, take European statistics for the month of November just passed, which showed total receipts in Europe of 43,230 tons, of which 33,787 tons were American copper, leaving 9,443 tons which was supplied by other countries. This means that if European consumption was 15,000 tons last month, only 5,557 tons of American copper were needed, indicating that 28,230 tons, or over 63,000,000 pounds, went into warehouses in Europe in November, which with previous stocks show that Europe has enough American metal on hand to meet current requirements for three months or more without taking into consideration additional exports to be made from this country, as well as the copper to be imported by Europe from other foreign countries. These figures certainly do not lend themselves to a bullish construction.

THE PEARL TRADE.

Heavy Decline in Prices.

A CONSIDERABLE amount of anxiety and uncertainty prevails in Bombay, says the *Times of India*, as to the present state of the pearl market; the heavy fall in the price of pearls has affected not only the merchants, but also shroffs and bankers who have made advances against consignments. Of recent years the trade has passed through many vicissitudes. At the time of the Paris Exhibition the value of pearls rose nearly a hundred per cent., and many shrewd business men took advantage of the situation to secure large profits. But these high prices were not maintained. The Paris market by no means fulfilled expectations, and pearls fell in value, though not to any very great extent, as merchants refused to part at the prices offered. Little business was in consequence done, and by holding up their goods the pearl merchants succeeded in checking the slump until the Coronation of his Majesty the King-Emperor and the Durbar at Delhi created a fresh demand for pearls and sent up prices again. That these were maintained long after the historic event had ceased to exercise any influence on the market was in a great measure due to the formation of a powerful syndicate at Surat, which made advances to merchants against the security of pearls. By these means, although prices in Europe fell rapidly, the Indian market was maintained at a fairly good level.

But recent failures in America and the stringency of the money market in Europe have produced a situation that cannot be modified by any local organisation. Last year, Americans ceased buying pearls, and the Paris dealers, who were already overstocked, found themselves compelled to sell first at thirty per cent. under cost, and latterly at

little more than half price. So far, Indian merchants have refused to sell, with the inevitable result that the market is at a stand-still, and no business is done in pearls in Bombay. The losses consequent on this stagnation are, of course, very heavy, and it remains to be seen how long Indian merchants can resist the falling prices. At present the outlook is gloomy, and there is nothing that indicates a brighter prospect in the near future. In addition to the state of the money market, other causes such as the mercurial character of silver and the failure of crops in China and India, are having a depressing influence on the pearl trade. The efforts to conceal the actual state of affairs have been frustrated by the suicide of a prominent pearl merchant in Bombay a few days ago, which has directed public attention to the present situation. There is, however, so much reticence still shown on the subject that it is not easy, even now, to learn the full facts of the situation. Large consignments of unsold pearls representing a value of from two to three crores of rupees have certainly been returned from Europe, and this alone is sufficient to account for the anxiety so generally felt. Meanwhile the output from the pearl fisheries in the Persian Gulf and Ceylon show, year by year, a steady increase, a fact which under present conditions cannot be regarded as satisfactory from the trade point of view.

Mr. S. M. Moses, a prominent merchant and senior partner in the well-known firm of Messrs. David Sassoon and Co., in the course of a recent interview with a representative of the *Times of India*, said that he anticipated no improvement until the money market got easy. "More gold," he added, "must be put in circulation before matters improve. The present sales in Europe are immaterial. They come to a few hundred sterling per week, a very insignificant sum compared with the large stocks now held in hand." In his opinion, it was impossible to resist the natural causes at work, and he thought that the situation was not likely to improve for another six months. In former years pearls were sent to China, where they found a ready sale, but now China is exporting pearls to India and Europe. Several other gentlemen of financial experience were interviewed by our representative, and their views are practically identical with those we have set down, and all are agreed that the pearl trade has now to face the most serious crisis that has yet occurred in its history.

—In their chemical trade circular, dated Manchester, November 29th, Messrs. S. W. Royse and Co. remark that the dearth of money has not yet had much effect upon the chemical trade, although it must in time be affected through the various industries that consume chemicals. A fair business continues to be done for near delivery; there is, however, less disposition to buy far ahead, and altogether the general tone is somewhat slacker. Business in far products is perceptibly easier, and values are lower, and in general chemicals also the position is somewhat easier.

THE COTTON GOODS TRADE.

Exports to India and the East.

BRITISH exports of cotton yarn and cloth to the East during the month and twelve months ended October 31st, 1907, and in the corresponding twelve months ending October, 1906, 1905 and 1904 (in millions of lbs. and millions of yards) were as follows:—

	Twist.—lbs.				
	October.	12 months.			
	1907.	1907.	1906.	1905.	1904.
Bombay	1.0	10.4	11.5	9.7	6.1
Calcutta	.9	10.1	11.6	9.6	6.1
Madras	.7	7.4	9.8	11.1	8.1
Ceylon	.2	1.0	.8	.6	.6
Kurrachee	.1	1.1	1.6	2.3	1.8
Rangoon	.2	1.5	4.2	3.9	3.2
Shanghai	—	2.4	4.4	3.0	2.4
Tientsin	*.1	*.23			
Hong Kong	.1	1.2	2.2	5.0	1.8
Singapore	.2	1.5	2.4	1.8	1.1
Java	.1	.8	1.5	1.0	.7
Manilla	—	.7	.8	1.1	.7
Japan	.1	2.2	6.7	3.3	.6
TOTAL	3.7	42.6	57.5	52.4	33.2

Plain Cottons.—Yards.

Bombay	48.5	438.0	415.0	411.0	392.0
Calcutta	104.5	1135.0	1124.0	1146.0	960.0
Madras	10.0	37.0	110.0	90.0	99.0
Ceylon	1.0	16.0	16.0	19.0	11.0
Kurrachee	17.7	190.0	150.0	174.0	142.0
Rangoon	4.0	40.0	45.0	40.0	44.0
Shanghai	14.6	249.0	353.0	483.0	250.0
Tientsin	*.6	*28.0			
Hong Kong	3.6	65.0	76.0	76.0	60.0
Singapore	5.5	66.0	95.0	80.0	67.0
Java	7.8	95.0	109.0	100.0	83.0
Manilla	2.0	23.0	18.0	17.0	15.0
Japan	4.7	76.0	88.0	83.0	20.0
TOTAL	224.5	2513.0	2605.0	2719.0	2143.0

Died and Coloured Cottons.—Yards.

Bombay	9.2	68.9	73.9	88.3	86.0
Calcutta	6.1	54.8	63.8	73.3	54.6
Madras	1.3	12.5	10.8	12.3	9.0
Ceylon	.2	2.2	3.2	2.7	1.6
Kurrachee	4.3	36.7	36.3	41.2	28.3
Rangoon	1.4	12.1	15.8	13.0	12.2
Shanghai	10.6	145.5	148.6	138.7	96.1
Tientsin	*.7	*17.3			
Hong Kong	2.2	20.5	16.0	19.5	23.0
Singapore	1.8	17.8	16.3	15.3	18.0
Java	3.4	30.0	23.7	33.1	29.5
Manilla	.9	9.8	8.3	8.1	5.3
Japan	2.6	19.5	19.3	19.1	7.0
TOTAL	44.7	467.6	441.9	469.6	371.6

Printed Cottons.—Yards.

	October.	12 months.			
	1907.	1907.	1906.	1905.	1904.
Bombay	13.8	136.8	130.5	111.0	116.1
Calcutta	7.1	63.4	57.7	59.3	67.5
Madras	2.9	34.7	17.6	27.3	26.3
Ceylon	.7	6.1	4.9	5.4	4.1
Kurrachee	4.6	53.2	71.5	53.3	44.9
Rangoon	1.8	23.7	24.9	20.4	20.7
Shanghai	1.2	31.6	37.7	27.8	18.5
Tientsin	*.1	*13.0			
Hong Kong	.3	5.5	6.9	4.9	6.7
Singapore	1.3	19.8	19.2	19.9	19.5
Java	5.8	73.6	70.5	82.8	55.2
Manilla	1.5	13.1	9.3	13.2	5.5
Japan	.5	21.5	16.6	10.4	3.3
TOTAL	41.6	501.0	467.3	435.7	388.3

WOOL PRODUCTION IN GREAT BRITAIN.

A REPORT on the production of wool in Great Britain has just been issued by the Board of Agriculture. It deals with the years 1905 and 1906 and is the first of its kind. In his introductory statement Mr. R. H. Rew says that the inquiry was rendered desirable by "the renewed importance which the recovery in prices in recent years has given to the supply of British wool," and the report shows the lack that has been felt of official information on the subject. The Board has been assisted in the preparation of the report by its agricultural correspondents and market reporters as well as by many flock masters and wool buyers. In order that the possibility of error should be reduced to a minimum it was decided to defer the publication of the results of the first return until the inquiry could be repeated in 1906, and the estimates set forth represent the average returns of the two years. The following is an approximate estimate of the total annual production of wool in the United Kingdom:—Sheep shorn 87,838,000 lbs.; sheep slaughtered 30,250,000 lbs.; lambs shorn 2,000,000; lambs slaughtered 1,000,000. Total for Great Britain 121,085,000; total for Ireland, 12,000,000; total for United Kingdom, 133,085,000. But this total, large as it is, represents only 27 per cent. of the gross consumption. The average annual imports of wool (sheep, lambs and alpaca) retained for home consumption in the two years 1905-06 was 360,000,000 lbs. The bulk of the imports came from within the Empire. In the triennial period 1904-05, 81 per cent. came from the Colonies, but in 1880-2 the percentage was even higher, being 87 per cent., the growth in the foreign import, such as it is, being almost entirely due to the development of the pastoral pursuit in South America. The report also gives much information as to the wool yield in the different countries, and of

* Includes Nenchwang and Taku.

the various breeds and crosses. As a rule each breed shows to the best advantage in the district with which it is specially identified. Thus in its native country the Lincoln breed averages 10½ lb. per fleece for ewes, and 13 lb. for other sheep, as against 9½ lb. and 10½ lb. in Derbyshire, and 10 lb. and 12½ lb. in Nottinghamshire, although in the North Riding of Yorkshire the corresponding averages were 11 lb. and 14 lb. The south Devon seems to be the most prolific wool-bearing variety, the Lincoln and Dartmoor being equal second, while the Devon-long-wool comes next. The Oxford Down is first among the short-wooled breeds, the Shropshire second, and the Hampshire third. The report deals, too, with wool production from the buyers' point of view, and sheep farmers will find it worth attention.

A VALUABLE SPANISH BEAN.

Excellent Food for Horses.

U. S. Consul-General Benjamin H. Ridgely, of Barcelona, reports that on the occasion of a recent important agricultural and botanical convention in that Spanish city Señor Bartolome Bonet, a cultivator and agricultural student, referred to the algarroba tree as the "tree of the future." Mr. Ridgely continues:—

He based his statement upon the value of its fruit—locust beans—as a fattening and strengthening food for horses. Upon investigating the matter I found that the algarroba or carob tree grows all along the Spanish coast of the Mediterranean and in the islands of Majorca and Ibiza. The beans are used as fodder for horses. The best quality is obtained in the neighbourhood of Vinaroz, and large quantities are grown in the Tortosa district. The tree grows best in dry, rocky soil. About the eighth or ninth year it begins to bear fruit and will produce about 50 kilos, (110 pounds) the first year. A good tree in full beauty will, on an average, produce 550 to 660 pounds annually, and the beans are sold at 20 to 22 reales (\$0.90 to \$0.95) per quintal (89½ pounds).

The life of the carob tree is about thirty years. The only thing it has to fear is the frost, which almost invariably kills the tree. The wood of the carob tree is valueless as lumber and is sold for fuel. The beans, when used as food for horses, are strengthening, fattening, and healthful. In feeding the beans are broken into halves or quarters and mixed with bran. In a report concerning the growth and treatment of the algarroba tree Señor Bonet says: "They should be grown in pots having the lower extremity wider than the upper, and the lower part well perforated. They must not be transplanted until the end of February or the beginning of March. The best manner of grafting is by budding, which should be performed when the bark separates itself easily from the tree, the branch not being cut until the following year. As to pruning, this must not be done too vigorously, but frequently."

TRADE OF THE STRAITS SETTLEMENTS.

Exchange.

The following particulars from the Annual Report on the Trade of the Straits Settlements for 1906 will be read with interest:—

The appreciation of the dollar, due to the restriction of the circulation between 1904 and 1906, gave rise to considerable speculation on exchange. It was certain that the exchange value of the dollar would continue to rise until the point was reached at which it could be fixed with safety, and all classes of people began to speculate for this rise. The rate naturally rose still more rapidly towards the end of 1905, and in January, 1906, it was decided that the dollar should be fixed at the rate of \$60 for £7 sterling, or 2s. 4d. to the dollar.

This was effected on the 29th February, on which day Ordinance I, of 1906, authorising the Currency Commissioners to give notes in exchange for gold against telegraphic transfer in favour of the Crown Agents, was passed at one sitting, and an Order in Council published fixing, as above, the rate at which the Commissioners might receive gold for notes. From the date of the issue of this Order the demand rate continued fairly uniform, the maximum and minimum rates for the remainder of the year being 2s. 4½d. and 2s. 4d., respectively.

Gold was first tendered to the Commissioners in March, and by the end of August the amount in their hands had reached £954,730. On the 14th September, Ordinance XXIII of 1906 was passed enabling the Commissioners to issue gold in exchange for notes and sell telegraphic transfer payable in London by the Crown Agents against notes received in Singapore. The sovereign was made legal tender in the Colony by proclamation of the 20th November under an Order of His Majesty the King in Council dated 22nd October, 1906, the dollar, however, remaining the standard coin.

Currency.

Bar silver continued to appreciate during the first-half of the year, until the margin between the intrinsic and nominal values of the Straits dollar became so small that it was necessary to obtain His Majesty's Government's sanction to a reduction in the size of the dollar, in order that if the margin disappeared the Straits dollar should not leave the Colony. The reduction decided upon was one of 25 per cent., the fineness of the coin being retained at 900, and its weight reduced to 312 grains.

Several consignments of Straits dollars were despatched to England for the purpose of being re-minted in accordance with this decision, but none of the new dollars had been delivered by the end of the year. These dollars were, to a great extent, taken from the balance in the hands of the Currency Commissioners, so that as little inconvenience as possible might be caused to the trade of the Colony. In addition to using these balances, however, notes of the value of \$1 each were also printed and brought into circulation. There was therefore but little incon-

venience, more especially as the law relating to currency notes was amended to make the one-dollar notes legal tender for any amount. This small note has proved a popular one.

The sovereign was also made legal tender in the Colony, mainly with the object of enabling the Currency Commissioners to prevent any drain on the silver reserve, of which the greater part was being remitted to England for re-coinage.

At the beginning of the year the dollars and notes in circulation, including the stocks held by the banks, and the treasuries in the Federated Malay States, amounted to \$54,136,722, of which \$17,353,710 were Government currency notes, \$1,408,731 bank notes, and the rest Straits dollars. At the end of the year the corresponding figures were \$58,721,096, \$22,222,560 and \$1,124,255, respectively.

The excess of exports of dollars over the quantity of that coin imported was \$844,672 for Singapore and \$611,880 for Penang, in all an excess of \$1,456,552, as against an excess of \$3,557,902 in 1905. No account is taken in these figures of small quantities of dollars taken away from or brought into the Colony by passengers. The greater part of the exports was to Sumatra.

In Singapore subsidiary silver coin to the value of \$796,301 was withdrawn from circulation. The rise in the value of the Straits dollar over the parity of the British and Mexican dollars had caused the return of large quantities of Straits subsidiary coin, which had circulated in China and elsewhere at an equal value with the local subsidiary currency. As soon as the rise in the exchange value of the Straits dollar became such that it paid to return this subsidiary coin, so much of it flowed into the Colony that the supply became too great for the needs of the place, and it was to relieve this congestion that the Government withdrew the amount in question from circulation. No copper coin was imported during the year.

The average bank note circulation was \$1,329,053 as compared with \$1,866,215 in 1905. The Hongkong and Shanghai Banking Corporation continued the reduction of their note issue.

Imports and Exports.

The trade of 1906 was not generally satisfactory though exports in dollar values largely increased and both exports and imports increased in sterling. A continuous rise in home prices tended to restrict sales, as goods had to be parted with below the value of replacement, in order to prevent congestion of stocks, which are larger generally than they have been for many years. Dollar imports of merchandise decreased by over one-half per cent., but export values rose by over 6 per cent. The rise in sterling exchange of over 14 per cent. resulted in a large increase in the sterling value of over 13½ per cent. in imports and 21 per cent. in exports.

Singapore imported 72.3 per cent. of the whole dollar value, a decline of .7 per cent.; Penang, 27.3 per cent., a rise of .4 per cent.; and Malacca the

balance. In exports, Singapore contributed 69.3 per cent., a decline of 2.3 per cent.; Penang, 30.1 per cent., an advance of 2.2 per cent.; Malacca the remainder. Statistics of the land traffic between Negri Sembilan and Malacca have been inserted for the first time, but the rail traffic between Penang and Perak is not included.

The value of the Colony's trade with outside places is as follows, the Inter-Settlement trade being excluded:—

	1905.	1906.
Merchandise—		
Imports	\$ 319,776,549	317,850,836
Exports	265,184,613	281,273,455
Total	584,961,162	599,124,291
Treasure—		
Imports	12,457,367	21,457,455
Exports	17,776,172	29,732,354
Total	30,233,539	51,189,809
Gross Total	615,194,701	650,314,100

The gross imports into the three Settlements were valued at over 352½ million dollars (£41,129,000), an advance of nearly 7½ million dollars; but treasure alone rose by 8¼ millions, so that merchandise showed a fall of over one million and a quarter dollars.

Cotton Goods.

Cotton piece-goods were imported to the extent of 5,400,000 pieces, an increase of nearly 600,000, the value reaching considerably over 17½ million dollars, an increase of 666,000. The United Kingdom supplied over 4½ million pieces, valued at about 15 million dollars, an increase of over half-a-million pieces, and three-quarters of a million dollars, or 13½ per cent. in quantity, and 5½ per cent. in dollar value. Continental imports reached 466,000 pieces, valued at over 1½ million dollars, an increase of 23,000 pieces. Supplies from Indian mills increased by 10,000 pieces, and Eastern imports by 32,000 pieces. Grey yarn imported shows 14,295 bales, a small decline in quantity; but only half the 1905 quantity from the United Kingdom was sent in 1906, Indian spinners rapidly ousting the United Kingdom from this trade. Of dyed yarn 13,304 bales were received, an increase of 1,806 bales, of which total 10,103 bales were from the United Kingdom (an increase of 2,060), while the Continent sent 2,844 bales, a decline of 32. Although Swiss dyes find a market, they are not in favour on their merits, but business is attracted owing to misleading tickets regarding lengths. There was a heavy fall in cotton blankets brought in, only 301,000 pieces, comparing with 556,000 in the previous year, and an average of 538,000 for the previous five years. While the buying powers of the natives are not

sufficient to go in largely for woollen blankets makes, chiefly Continental, but superior to the ordinary wick blanket, find favour. Of the important class included under apparel, hosiery, millinery, etc., the value received was about $3\frac{1}{2}$ million dollars, a decrease of nearly \$320,000. The United Kingdom showed a rise of over \$204,000, with a total of nearly $1\frac{1}{2}$ million dollars, while Germany, with about the same total, fell by \$236,000, and other Continental supplies also fell off. Japan improved its position in this class by \$60,000, but other consignments declined. Sarongs, Slendangs and Kainas showed 303,000 corges, of 20 pieces each, imported, a decrease of 44,000, valued at $5\frac{1}{2}$ million dollars, a fall of $1\frac{1}{10}$ million dollars. About 81,000 corges were received from the United Kingdom, a decrease of over 40,000 and 80,000 corges from the Continent, a decrease of 9,000; but Indian imports increased, while Java supplies remained stationary. The demand for this class was fairly large, but poor prices were realised. Woollen blankets have not been a good market, for reasons above stated. Hats and caps valued at \$427,000 were imported, an increase of \$29,000, increasing British values meeting Italian declines. About 230,000 pieces of silk cloth were brought in, valued at close on $2\frac{1}{2}$ million dollars, an increase of 13,000 pieces and \$94,000; European manufactures of this class continuing to fall off and Eastern to increase.

The import of umbrellas was valued at over half-a-million dollars, a decrease of \$46,000. Supplies from the United Kingdom increased by \$64,000, and French imports by \$10,000; but Eastern productions showed less value by \$113,000.

Over 20,000 pieces of woollen cloth of different kinds entered the market, valued at considerably over half-a-million dollars, a decrease of 2,000 pieces and \$27,000, the United Kingdom sending 1,500 pieces less and Germany 500 pieces more. Jute gunny bags from Calcutta were valued at over $4\frac{1}{2}$ million dollars, an increase of \$600,000. The value of sewing thread showed a decrease of \$104,000, orders from home not being met owing to great pressure in the mills.

Trade with India.

Imports from British India and Burma, excluding goods shipped *via* ports in French India, declined to $40\frac{1}{2}$ million dollars, a decrease of nearly 3,700 millions; of which Calcutta was responsible for nearly $1\frac{1}{2}$ million, Burma ports $1\frac{1}{2}$ million, Madras well over half a million, and Bombay about \$174,000. Benares opium from Calcutta fell by nearly three million dollars, but gunny bags rose by three-fifths of a million, and coal by nearly one million, dollars.

Rice from Burma ports fell by nearly $1\frac{1}{10}$ million dollars, and petroleum also declined. Imports of ground-nuts and tobacco, however, increased in value. Sarongs from Madras ports fell by over seven-tenths of a million dollars, followed by goats' skins. Cattle received advanced in value. Smaller values of cloves and grey yarn from

Bombay are noticeable. Exports to British India and Burma rose to nearly $13\frac{1}{2}$ dollars, an increase of \$618,000. Calcutta values advanced by nearly a million dollars, Burma receiving half-a-million less in value, Bombay an increase of about \$200,000, and Madras one of \$77,000. Arecanuts to Calcutta increased in value by over a million dollars, and to Burma by \$207,000, and also showed a small advance to Madras. Sticklac to Calcutta, and fish, tin, and cocoanuts to Burma gave less values while tin exported to Bombay increased.

WIRELESS TELEGRAPHY.

German Activity.

The Slaby-Arco system of wireless telegraphy, which is the official German system, is making rapid progress not only within but outside the German Empire. At present the number of stations equipped with apparatus of this system is now 641 or 41 per cent. of the entire list of existing wireless telegraphic stations, numbering 1,550. These have all been installed by one Berlin company, which controls a variety of patents in the leading countries on machines and accessories. These 641 stations are scattered over the territory or vessels of 31 different countries. Of these some 174 are located on land. They usually command a radius of 125 miles. In several cases this is extended to 310, 435 or even greater distances. Germany's own quota is 36, mostly located on the coasts of the Baltic and the North Sea. It includes the great experimental station at Nauen, which commands a radius of 1,860 miles. In the United States are 20 stations, including Fire Island, Washington, New Orleans, San Francisco, and San Juan, P. R. Russia has 17 stations. That of Vladivostok is the most important, commanding a range of 620 miles. Austria-Hungary has 10 stations; Denmark and Spain, each 7; Holland, 6 (that of Scheveningen reaches 435 miles); Norway and Sweden, each 5, etc.

In non-European lands the system has 4 stations in Argentina, 6 in Brazil, 5 in China, 8 in Cuba (that of Habana commanding 930 miles), 6 in Mexico, 2 in the Philippines, 1 in the Sandwich Islands (at Honolulu). The majority of these land stations are government property and under the control of the postal, naval or light-house services.

Most of the installations are on ocean vessels. Of these 22 are on Dutch and German steamers, while 389 are on warships. They include vessels of the following nationalities: German, 140; Russian, 126; American, 43; Swedish, 19; Austrian, 17; Dutch, 10; Norwegian, 8; Argentinian, 6; Danish, 5; Brazilian, 5; Spanish, 5; Greek, 3, and Indian, 2.

Fifty-four mobile military stations have been installed in several countries, more particularly in Germany, 14; in America, 8; in China, 5; in England, 4; and in Austria-Hungary, 4.

In France, Great Britain, and Italy the German system is evidently unable to meet the competition of the strongly entrenched systems under local control. In the United States, despite the active competition of the de Forest, Fessenden, Stone, and other systems, it is apparently able to secure a fair share of the installations. The unusual degree of enterprise exhibited by German manufacturers in this special field is by no means in advance of their efforts to secure the lion's share in several other branches of applied electricity.

A RECORD CABLEWAY.

The Gorno Savodsky Listok, after a passing reference to the Kneutlingen and Differdingen aerial cableways (10.8 and 13 km. long, respectively) as the longest in Germany and to the 33 km. cableway in the Argentine as hitherto the longest in the world, remarks that the cableway now being constructed in Turkestan is the greatest enterprise of its kind hitherto attempted. The work is being done by the Kharkoff firm, V. V. Eichner, Kharkoff and Berlin, for the Turkestan Coal and Mining Company, of Samarkand. The coal mines of the Company are at a distance of 120 versts (verst=1,167 yards) from Samarkand, and hitherto the coal has had to be taken to the town by camels. The route from the coal mines for the first 12 kilometres is over a very mountainous part, and it rises in steep gradients as high as 2,000 metres. Then, after traversing 30 kilometres over hilly ground with deep clefts, it reaches the valley of the river Seravshan and crosses this river; then after first passing through a fruitful valley it crosses a desert plain, covered with undulating and sandy dunes, and finally reaches the railway station of Restovtseff, about 700 metres above the level of the sea. One of the most difficult parts of the work from the technical point of view is the crossing of the Seravshan river. Heavy concrete foundations have to be sunk in the river bed to carry the supports for the cableway; some clear spans of which extend 700 metres. The delivery of machinery and metal material on the ground offers great difficulties, and even timber has to be brought from the Government of Orenburg. The line is being constructed on the German double-cable system, with the application of the Eichner patent. It has to deliver from eight to ten million poods of coal (123,000 tons to 161,000 tons) to the railway station per annum, so that its capacity is expressed in 11,300,000 to 14,300,000 kilometre tons. The delivery of coal to the station, including amortization, will cost no more than 9 pies to one anna per pood of 36 pounds. The wagons, with a capacity of 20 poods each, will have to do the distance between the mines and the station—87 kilometres—in nine hours. On their return journey they will deliver, besides all the material required for the mines, all the water that may be required for the population and the steam engines on the way. The work of

construction was begun in the month of July, 1906, and it is expected to be finished in the spring of 1908. It is hoped that the facility of getting good coal should have a stimulating influence on the industry of the district, which embraces naphtha, cotton, and iron, copper and argentiferous lead deposits.

A previous article on the subject of cableways appeared in the issue of the *Indian Trade Journal* of October 17th last.

MILL BOILERS.

The Lancashire Model.

The history of the Lancashire mill boiler, says the *Manchester Guardian*, is one of steady, unsensational evolution. For more than half a century the type has altered but little, but pressures have steadily increased from 20 or 30 pounds and even less up to 200 pounds per square inch, with 160 pounds as the most usual figure for new boilers. The dimensions of the boiler have also increased somewhat. This combination of large diameter of shell and high steam pressure has involved many practical difficulties in construction and has led some mill-owners to favour the water-tube boiler, of which the Babcock and Wilcox is the best known example. Other developments in boiler construction have had a limited vogue. For a time cross tubes placed in the flues seemed likely to become very common, but experience has told against them, and it is comparatively seldom that they are now fitted. With dirty or impure water they are likely to cause corrosion, and even with pure water they increase the difficulties of cleaning and inspection. Their value from the point of view of increased efficiency, too, is debatable. In general, engineering constructions should be as simple as is consistent with satisfactory and efficient working, and this principle applies with particular force to boilers because time of necessity wastes and corrodes them and thorough inspections can seldom be made more than twice or three times a year.

Difficulties of Construction.

The difficulties of the boiler-maker increase considerably with the steam pressure and the diameter of the shell. Both these call for greater thickness in the boiler plates and more rigid riveted joints which tend to make the boiler stiff and unyielding. But the high-pressure Lancashire boiler is subjected to very great differences of temperature whilst in use, and the boiler must be sufficiently flexible to allow of unequal expansion without distressing any of the plates or rivets. For instance, the flues always expand more than the main body of the boiler, and hence they push out the end plates. This action is resisted by the gusset stays connecting the end plates to the main shell, and in particular

the toe rivets in the angle irons used for holding the stays to the end plates are severely stressed. If the end plates and gusset stays are made too strong the "breathing" of the end plates is more nearly restricted to the area between the flues and the stays, so that the bending at the toes of the stays is much more severe, and is liable to lead to corrosion and leaky rivets. It is the boiler-maker's art—for in this particular boiler-making is hardly a science—to know the happy mean between strength and flexibility. It is because the water-tube boiler can usually be made both amply strong and flexible that it possesses a certain advantage over the Lancashire boiler when high pressures are required. The makers have, however, steadily improved the Lancashire boiler, so that, in spite of the drawbacks mentioned, this type still holds the field for mill and general stationary steam-engine work. All rivet holes are now drilled accurately in position so that each part is properly placed relatively to its neighbours and none is called upon to bear more than its fair share of the stresses carried by the boiler. It is hardly too much to say that the high pressures to which Lancashire boilers are now subjected would not be possible with punched holes for the rivets. The corrugated flue is another device for giving the boiler flexibility, and one which is in fairly common use. Another feature which is coming into prominence is the use of dished ends without gusset stays. The end plates of the boiler are pressed to a cambered or spherical shape, the radius of the sphere being usually about equal to the diameter of the boiler. Even without the flues, which when cold act as stays, such a dished end is self-supporting, and hence the gusset stays can be abolished. Experience with these dished ends is as yet limited, and it is certainly too soon to say that they are an unqualified success. They seem, however, to have given no serious trouble so far, and they undoubtedly simplify the construction of the boiler.

Utility in Cotton Mills.

In a cotton mill the conditions are specially suited to the Lancashire boiler. In the first place the periods of working are quite regular and are always known beforehand. The result is that it is never necessary to put the boiler under steam from the cold or semi-cold condition without allowing a sufficient time for it to attain an approximately even temperature throughout. One of the greatest claims of the water-tube boiler is that it can raise steam in a very short time from the cold condition without unduly stressing the tubes and joints, but in most textile mills such a qualification counts for very little. On the other hand, the water-tube boiler requires more constant attention than the Lancashire boiler if fluctuations in the steam pressure are to be avoided. In some situations the water-tube boiler possesses advantages because it occupies relatively little floor-space, but where there are only two or three boilers the saving in space is

not very considerable and is not often of any great consequence in a textile mill. The water-tube boiler has some positive defects. It is more expensive than its rival; when there are only two or three boilers the radiation from the brickwork setting is excessive; and it is most at a disadvantage when the feed-water is dirty or impure. The tubes naturally lead to accumulations of deposit which, besides necessitating frequent cleaning, are liable to cause overheating or wastage. Surface condensers are seldom used in textile mills, so that the boiler feed-water is of the same quality as the condensing water. Another point against the water-tube boiler is its comparative complexity of construction.

With the increase in boiler pressures have come improvements in material as well as design. It is usual to make all high-pressure fittings, such as seating blocks, of cast or forged steel instead of cast-iron. Similarly, the steam pipes are made of mild steel. Although the superheater is not strictly a part of the boiler, the improvements made in it during the last few years have made it a common accessory to the mill boiler. To-day there are few objections, unless of a commercial character, which can be made to its use. The superheater is usually placed in the downtake at the back of the boiler, and although in a few instances separate superheaters with their own furnaces have been fitted, these are not to be recommended on the ground either of economy or of reliability. The economiser, another accessory, is so nearly universal in mill boiler plants that very little need be said about it; it has been in use for so long that the verdict of experience may be safely relied upon as proving its value under the conditions usual in textile mills. Automatic stokers are, unfortunately, seldom applied to mill boilers simply because there are seldom a sufficient number of boilers to enable the saving in firemen's labour to counterbalance the cost of the mechanical stokers in interest, depreciation, power, and maintenance. Otherwise the steady load on mill boilers is such as to enable the very best results to be obtained from automatic stokers in the way of efficiency and smokelessness.

—Trade between British India and Tibet, says the *Pioneer*, increases but slowly, as the figures for the six months ending on the 30th of September last go to prove. The value of both exports and imports was just under 20 lakhs of rupees as compared with Rs. 19,62,000 in the similar period of 1906 and Rs. 18,35,000 in the year before. There is thus only a gain of about 1½ lakhs in two years, of which two-thirds is credited to the United Provinces and the remainder to Bengal. The trade with the Punjab is so inconsiderable that it is not worth taking into account. The figures compare badly with those for Nepal, the trade with that country having been worth nearly 179 lakhs in the same half year.

THE INDUSTRIAL CONFERENCE.

Meeting at Surat.

THE Third Indian Industrial Conference was opened on Monday last at Surat and was largely attended. Dewan Bahadur Ambalal Sakarlal Desai, retired Chief Justice, Baroda, presided, and in the course of his address, said:—

The fundamental facts of our economic situation are well-known: (1) widespread and chronic poverty among a large proportion of the population; (2) dense ignorance of the masses; (3) an abundance of raw materials; (4) absence of scientific and technical knowledge, and practical skill; (5) a low state of commercial enterprise; (6) a large deficiency of capital. The question that we are called upon to consider is now to evolve a state of widespread industrialism out of the conditions just postulated.

Some of the remedies suggested are those that have proved efficacious elsewhere, viz., a wide provision of elementary education; foundation of technical schools and scientific institutes; establishment of commercial schools, and acquisition of scientific and technical knowledge by students sent abroad. All these are comprised under one comprehensive head, education. The efforts made till now to supply it have been spasmodic and feeble. But strong, systematic, and sustained exertions are indispensable. They ought to be continually re-enforced by a strong national spirit, that is determined to achieve success at all costs, and is immovably steadfast in the pursuit of its high national aim of securing our industrial regeneration.

In the meanwhile we must depend for our immediate progress on our resources as they now exist. Our merchants are indeed mostly ignorant of the intricate ramifications of modern industrial conditions, their vast extent, and the foundation on which they ultimately rest.

Next to the want of commercial enterprise and industrial knowledge, the thing that stands in the way of our industrial growth is the absence of the requisite capital. Nay it may be asserted that the want of capital is now our chief desideratum. We must confess that we have only made a fair beginning for a general regeneration of our industry. The great problem awaiting a practical solution is that of raising the necessary funds.

The question admits of a satisfactory solution, provided our best minds apply themselves to the task. The Rupee debt of the Government of India held in India amounts to Rs. 105 crores, and of this Rs. 55 crores are held by Indians. It may not be possible to divert all this into the channels of trade and industry, but even if we could secure for the latter purpose ¼th of it, say Rs. 14 crores, the impetus imparted to our industries would be very great. It is to be wished that Indian publicists will earnestly endeavour to create a public opinion in favour of the diversion. That it is quite within their power, I have no doubt. The higher returns of trade and industries ought to prove a strong argument in favour of the change.

There is another and a cognate source which may well be tapped by our enterprising men. The amount deposited in the Postal Savings Banks was for the year 1904-05, Rs. 13 crores. Nearly 13 crores out of this sum were purely private Indian savings. Now, if we could succeed in getting even a half of this sum, say Rs. 6 crores, for our commercial purposes, an amount of strength would be imparted to our industrial activity, of which we have at present no adequate conception.

The best way of fulfilling the latter purpose, as well as that of getting at the money now locked up in Government Promissory Notes, would seem to be the establishment of Banking institutions all over the land.

It is clear, however, to all who take a comprehensive view of the present industrial situation, that Indian productive industry requires more capital than all the ways just mentioned can be expected to secure. The question arises whether we should resort to foreign countries for loanable capital, or prefer to wait till our resources grow equal to our wants. There is a strong feeling among a section of our people that foreign capital should be shunned. The sentiment is natural. But our interests require that we should look at the matter from a purely business point of view. From this standpoint, the only reasonable rule of conduct to follow is that we should freely borrow money of foreigners for industrial purposes. The Government of India has been long doing this for Railway construction. Very powerful nations go to the markets of London and Paris for war-loans, or for naval construction and also for industrial development. There is no reason why we should not do the same.

The Swadeshi Movement.

The new propaganda termed the "Swadeshi" movement requires some remarks. The aim of this movement is the establishment of new industries in India, by means of Indian capital if possible, so that the Indian people may be as far as is practicable self-contained and independent of the foreign imports that now flood the land. The great necessity of Indian agriculture is cheap credit. At present the agriculturist is being financed at a rate of interest varying from 25 to 50 per cent.; so that he is unable to take advantage of any improvement which does not give a return of over 25 (or 50 per cent. as the case may be) on the capital invested, and therefore unless the good and careful agriculturist can obtain capital at a rate not exceeding 12½ per cent. the usefulness of our great Agricultural Departments will be enormously curtailed. Everything is being done to build up an Agricultural Department in each province in India, which will compare favourably with similar departments in other great agricultural countries. The present scheme for development will not be fulfilled for five or ten years yet, and therefore now is the time when we must put forth every effort to cheapen credit.

The solution of the problem we believe we have found in the establishment of Co-operative Credit Societies. It is not money that we want but men. The villagers are ready and willing to pay a rate of interest which will attract capital, but we want men to spread a knowledge of the principles of co-operative credit and to counsel and guide the people in carrying them out.

Proceeding to discuss the history and principles of Co-operative Credit Societies in India, Mr. Gourlay described the workings of the Raiffeisen Societies which had been found to be the most suited to rural India.

The main principles of the Raiffeisen Co-operative Credit Societies were:—(1) Unlimited liability; (2) operations restricted to a small area; (3) no shares, and consequently no dividends; (4) no payment for services rendered; (5) repayment of the loan from the profits or savings effected; (6) the moral as well as the material benefit of the members. These principles have been the foundation of what has been done in Europe, and have led to success there. Here in India our success is due to building on the same foundations. It now remained in India to organize the individual societies into unions such as exist in Germany. This was the great work which was occupying the attention of those interested in the movement at present, and as success had been attained in Europe, so they confidently looked for success in India. When the societies were thus united, they would be in a position to offer security for one another and so to increase the security of the individual society in the eyes of the public and consequently to obtain their capital at a lower rate. They did not want money from Government to assist them; we wanted the willing co-operation of those who had the welfare of the people of this land at heart to help them in spreading a knowledge of the principles and to help them to guide and counsel the members of new societies.

COCOA AND RUBBER INTERPLANTING. Scheme of Great Possibilities.

SIR Alfred L. Jones, K.C.M.G., has received the following letter — which explains itself — from Mr. Robert Thomson, who writes from 45, Bensham Manor-road, Thornton Heath:—

With reference to previous correspondence on the subject of rubber cultivation in Jamaica, which you have so favourably entertained, I am sorry I omitted to point out another new phase appertaining to the economical production of this commodity, the recommendation of which I have had under contemplation, *i.e.*, the interplanting of rubber with cocoa, as well as with bananas. I am reminded of this omission by a statement published in the London newspapers, *viz.*, that the adoption of this interplanting system of rubber with cocoa has proved a great success on a Ceylon rubber plantation — the Ceylon Cocoa and Rubber Company, Ltd. Thus it is stated that from the cocoa alone a profit of £10 per acre is realised

several years before the interplanted rubber trees become remunerative. In one of my reports, published by the Foreign Office in 1894, I propounded this mode of cultivating rubber and cocoa combined, to which I have already referred with respect to rubber and bananas.

I have myself taken a part in the development of cocoa cultivation in Jamaica. Thus, many years ago (1873), under instructions from one of the famous Governors of the Colony, Sir J. P. Grant, I visited the island of Trinidad with the object of acquiring practical information relative to cocoa cultivation, a leading commercial commodity of that colony. The Governor was anxious to establish this industry in Jamaica. I collected many thousands of seeds of the best varieties, and established the same at the Castleton Botanic Garden, at the same time distributing thousands of the seeds; and more seeds were imported from time to time. Also, during several years many thousands of plants were propagated and distributed from Castleton. In this connection it is interesting to note that more than a century ago cocoa was a highly prized cultivation in the island, but it subsequently languished, and was ultimately practically exterminated. I remember having encountered many of the degenerated trees. The crop produced was only worth a few hundred pounds a year. But under the auspices of regenerated cultivation the product has become valuable, some 4,000 acres being cultivated. There can be no doubt that if the people had only exerted themselves ten-fold this area would now be flourishing. Anyhow, as I have stated, a great Governor has bestowed this lasting benefit on the people.

My projected pamphlet points out the remarkable resources and advantages available for the production of rubber at a cost so moderate that this cultivation is bound to be taken up on a commercial scale. Backed by your powerful influence and guidance, the project must attract attention. As indicated, rubber can be produced at a minimum cost in this way. And when it is cheap, the *Times* predicts it will be extensively used in the preparation of roads. And there will be great jubilation in Jamaica consequent on the promulgation of a great new industry yet more important than cocoa, while the latter culture would be greatly augmented.

—Last year attention was drawn to the extraordinary increase in the imports into India of Java sugar, but the latest figures are still more amazing. For the eight months ending on the 30th November Java sent 224,700 tons to the country as against 134,500 in the similar period of 1906. The next largest importer was Mauritius with 80,000 tons, and the third Austria-Hungary with 21,000 tons. Germany's share in the trade dropped to 2,300 tons as compared with 82,000 in 1906. Java seems destined to drive European competitors out of the Indian market and she has seriously interfered already with Mauritius.

CACTUS AS A FODDER CROP. Food Value of the Plant.

In our issue of October 17th, this question was dealt with at length. We now see it stated in an American publication that the opinion is prevalent in southern Texas that the old woody stems of *Opuntia lindheimeri* fed there are much more valuable as a stock food than the younger growths. So firmly do many believe this that they practise cutting off and throwing away two or three of the terminal joints when feeding. In Mexico, on the contrary, the young growth is always fed; but there the species are commonly much larger and stouter, and the trunks are altogether too woody to be fed even if it were desirable to do so. The reasons for the opinions current in Texas are rather clearly brought out in the analyses. The younger growth has a relatively higher water content, and therefore probably causes more scouring, which is the only evil influence overcome by a rejection of it. On the other hand, the old stems contain a much larger proportion of fibre and are really of less forage value.

Guthrie* after comparing his own analysis of the stems of four Australian species with the analysis of fruits made by Wolf, concludes that the latter are of less forage value than the stem because they contain a smaller proportion of nutritious substance and more crude fibre. Forbes,† on the other hand

* Agricultural Gazette, New South Wales, 11: 671, 1900.
† Arizona Agricultural Experiment Station, Annual Report, 15: 496, 1904.

concludes from analyses of Arizona cylindrical-jointed species that the fruits of these species are relished by cattle on account of their high ether extract (including fats). Recent analyses show that the ether extract is mainly a constituent of the seeds, and since these pass through cattle undigested can contribute nothing to either the palatability or nutritive value of this part of the plant. That the seed is not digested is plainly shown in the case of *Opuntia lindheimeri* in many favourable seasons in portions of Texas. In the vicinity of Austin, in the early spring of 1904, there were numberless young plants springing up from cattle droppings in many of the pastures. They were fully as numerous in some situations as are the seedlings of the mesquite under similar conditions in favourable seasons in the river valleys of Arizona and on the plains of southern Texas.

This applies to the genus *Opuntia*, to which belong the prickly pears and cane cacti. The seeds of the other group are very different in character. There is no doubt that burros which commonly feed upon the fruits of the viznaga (*Echinocactus wislizeni*), get a great deal of nourishment out of the seeds, which are very oily and easily masticated. It is interesting to note that No. 8170a (*Opuntia fulgida*) contains but little more food value in the whole fruit than is found in the pulpy portion alone, but in this sample most of the seeds were poorly developed or sterile. Other samples of fruit of the same species show an apparently greater food value.

Chemical composition of the different parts of fruits of cacti.

Number of sample.	Scientific name of cactus.	Part of fruit analyzed.	Water.	Ash.	Protein.	Fat.	Nitrogen free extract.	Fibre.	Organic matter.
			Pct.	Pct.	Pct.	Pct.	Pct.	Pct.	Pct.
8022a	<i>Opuntia phaeacantha</i>	Seed	7.26	1.75	6.07	11.41	23.18	50.33	90.99
8022b	<i>Opuntia phaeacantha</i>	Pulp	92.50	2.09	.20	.07	4.63	.51	5.41
8162a	<i>Opuntia spinosior</i>	Whole fruit	77.74	2.97	1.74	1.11	11.50	4.94	19.29
8162b	<i>Opuntia spinosior</i>	Pulp	83.04	3.10	.55	.24	11.74	1.33	13.86
8173a	<i>Echinocactus wislizeni</i>	Seed	8.59	3.09	10.92	15.46	36.59	25.37	88.31
8173b	<i>Echinocactus wislizeni</i>	Pulp	94.14	.96	.63	.06	3.05	1.16	4.90
8170a	<i>Opuntia fulgida</i>	Whole fruit	82.84	2.70	.63	.51	11.63	1.69	14.46
8170b	<i>Opuntia fulgida</i>	Pulp	87.17	1.58	.47	.27	9.66	.91	11.25

It must be understood that but few fruits have been analyzed aside from those which are of more value for forage than they are as food for man. None of the cylindrical-jointed species and but few of the native prickly pears of the United States bear edible fruits.

A Balanced Ration of Prickly Pear.

To determine in just what proportion cactus should be fed with other foods to produce a balanced ration, it is necessary to know the amount of digestible nutrients contained in the cactus, as well as those of the food or foods with which it is to be fed. This

has been determined for most foods, but unfortunately there are as yet no such data for the cacti. It is hoped to be able soon to obtain the coefficient of digestion for *Opuntia lindheimeri*. For the present, all that can be done is to assume this digestibility coefficient to be the same as that of some food as similar in chemical composition and properties to the cacti as possible. It is somewhat difficult to secure a green fodder very similar in character to cactus, but perhaps its digestion coefficient will not be missed very far by assuming it to be the same as that of immature green corn fodder. By using the coefficient for this fodder the nutrients in *Opuntia lindheimeri* are found to be: Protein, 0.47 per cent.; fat, 0.26 per cent.; carbohydrates, 7.85 per cent. This being the case, cactus would have a nutritive ratio of 1:18, a ratio which according to the best authorities would prohibit its use alone for any feeding standard. The nutritive ratio for a standard ration varies from 1:4 to 1:12, depending upon the age, character, and kind of animal to be fed, as well as the object of the feeding; that is, whether it is desired to produce work, flesh, or milk.

If the object of feeding is to produce milk, a cow giving a heavy yield of milk should, according to the best authorities, be fed about 25 to 30 pounds a day of organic matter, containing from 1.8 to 2 pounds of digestible protein, from 0.4 to 0.7 pound of digestible fat, and 11 to 13 pounds of digestible carbohydrates, making a nutritive ratio of from about 1:5.5 to 1:7. If a cow requiring a ration of this kind should eat cactus alone, it would take 160 pounds to furnish the fats and carbohydrates and an additional 240 pounds to furnish sufficient protein, and, since to avoid scouring a cow should probably not be fed to exceed 50 or 60 pounds of cactus a day, it may be readily seen how impossible it would be for a milk cow to get even a one-sided ration from cactus alone.

A ration of 40 pounds of cactus with 10 pounds of wheat bran and 12 pounds of corn stover would furnish the nutrients in somewhat near the proper proportion. In a ration of this kind the cow would get 21.16 pounds of organic matter, containing 1.68 pounds of protein, 11.82 pounds of carbohydrates, and 0.49 pound of fat, which is in a ratio of 1:7.7.

If a ration is desired in which the cactus is fed with dried brewers' grain and cotton-seed meal, it could be made by feeding 60 pounds of cactus with 14 pounds of brewers' grain and 1 pound of cotton-seed meal. In this case 20.58 pounds of organic matter are fed, containing 2.85 pounds of protein, 10.38 pounds of carbohydrates, and 1 pound of fat. This ration would contain the nutrients in the ratio of 1:4.5. If this ration is considered too narrow, it could be widened to good advantage by feeding with it a small quantity of coarse, dry fodder, rather than by increasing the amount of cactus.

A balanced ration of cotton-seed meal and cactus cannot be prepared, for if the meal be fed in just sufficient quantity to furnish the proteids it would

necessitate the feeding of too much cactus to supply the remainder of the carbohydrates. From this it must not be inferred that a mixture of these foods would not make a desirable ration; in fact, current successful practice has demonstrated that it will. For example, a ration of prickly pear and cotton-seed meal was fed to steers for one hundred and five days in a recent experiment conducted by the Bureau of Plant Industry at Encinal, Tex., with a gain of $1\frac{1}{2}$ pounds of flesh a day at a cost of only $3\frac{1}{2}$ cents. Any ration of these two foods that would secure this gain each day would contain an excess of the proteids over an amount necessary for a balanced ration. Fortunately, however, an excess of proteids can be utilized in serving the function of the carbohydrates in the animal body, and this no doubt is what took place in the above experiment. Usually proteids are the most expensive foods for man and beast, and it is poor economy to substitute them for carbohydrates; yet such a condition is not uncommon in Texas cattle feeding, where cotton-seed meal is cheaper than other more starchy foods.

—We see it stated that an option on the American rights to a patent process called "sheradizing," which it is asserted makes iron and steel rust proof and has been used successfully in England, has been sold to a firm in New York. It is claimed for this process that it coats iron and steel with zinc as well as or better than ordinary wet galvanizing, and that the iron and steel thus coated can be brilliantly polished. In the process zinc dust is placed in a cylinder which has been brought to a temperature of 400° to 500° F.; that is, below the melting point of zinc. The articles it is desired to "sheradize" are put into the cylinder, which is then revolved. The zinc in this process is not actually melted, but forms an alloy through the surface of the articles absorbing the zinc, and then a coating covering the whole visible surface is deposited to any desirable thickness. Articles thus treated are said to have an even and adherent coating which wears excellently and does not strip, and that by the use of a lime mop are easily polished. It had been found that the use of the wet galvanizing process upon articles on which threads are cut made it necessary afterwards to recut the threads. This, it is claimed, is obviated in the new process, thus avoiding both the additional work of recutting the threads and also making the threads themselves rust proof. Another advantage claimed is that because articles are not heated to a high temperature the temper of the steel is little affected, while its tensile strength and that of iron remains the same. The owners of the process assert that it will obviate the necessity of using brass in the manufacture of many articles that may rust, an important development in view of the high cost of brass. Aluminium and antimony can be substituted, it is said, for zinc, with success, while when copper and its alloys are subjected to this process their surface is so hardened as to even turn the edge of a steel tool.

TRADE OF KIUNGCHOW.

We learn from the Report on the trade of Kiungchow (Hoihow) for 1906 by Mr. Acting Consul Savage that the total value of trade during the year amounts to £1,109,755, an increase of £72,945 over the previous year. It should be noted that conditions were not altogether favourable to trade during last year. The typhoon of September 18 at Hongkong disabled several of the ships which ply to the port of Hoihow; Hainan itself, or at least its northern half, was swept by a succession of these disastrous storms, and the summer and late autumn were exceptionally dry, while too much rain fell in the spring and in September, causing much damage to the crops.

The import trade accounted for £636,494 and the export trade for £473,261, the imports showing an increase of £157,014 and the exports a decrease of no less than £84,069 from the record figure of 1905. Higher exchange may have partly contributed to this decrease in the exports, the Haikuan tael having risen from 3s. 0 $\frac{1}{2}$ d. in 1905 to 3s. 3 $\frac{1}{2}$ d. in 1906, but as the goods exported from Hainan are mostly such as find a market in China, or at any rate among the Chinese, the effect of a rise in exchange can hardly have been very great. On the other hand the conversion of silver into sterling values at a higher rate of silver inflates the value of the exports in terms of sterling currency. In the last half decade, the only year during which the exports exceeded the imports in value was the year 1905. This was due to an excellent sugar crop reaped in 1904, an exceptional year, during which no typhoons visited Hainan. In 1905, the sugar crop was not nearly so good, as is shown by the falling-off of the export of sugar in 1906, for the sugar reaped in one year is exported the following season.

Principal Imports.

There was a slight falling-off in the import of Patna opium which was more than counterbalanced by the import of 449 cwts. of native opium originating from Yunnan, a small portion of which came from Tongking. The total value of the Indian drug imported was £95,773. Up to the end of 1906 no active steps had been taken locally to diminish the consumption of opium. Before this question arose, additional taxation was imposed upon the prepared article early in the year in the shape of licences on shops, which were required to report regularly the amount of their sales and to pay a tax approximating to 4 per cent. After some opposition from the dealers, who threatened to suspend business, a compromise was effected by the shops paying an amount varying from 6 to 20 dol. per month in proportion to the extent of their business.

The trade in cotton piece-goods has been very good. Shirtings, grey and white, with over 31,000 pieces, have been surpassed only once in 11 years, namely in 1901. British T-cloths, printed chintzes and shirtings, cotton Italians, Hongkong dyed and

Turkey-red shirtings, and 22-inch velvets, show record quantities. Japanese T-cloths, cotton cloth and crape have also improved considerably. It would appear that the plainer articles are most in favour here, the demand for the more ornamental being small, except in the line of figured, brocaded and spotted white shirtings. This is perhaps due to the wide distribution of the sparse population of Hainan and to the small number of important towns. The value of the cotton goods imported into Kiungchow during the year was about 26 per cent. of the total value of the import trade, having reached the comparatively high figure of £167,465. High exchange and the prosperity following upon a year of unprecedented expansion of trade probably contributed largely to this satisfactory result. The largest amount of kerosine imported in any one year during the decade 1896 to 1905 was nearly 1,500,000 gallons in 1901. In the year under review, the total import was over 2,000,000 gallons, of which 1,633,990 gallons were American oil. A comparison of the quantities and values given in the statistics published by Imperial Maritime Customs for American and Sumatra oil, respectively, shows that the average price of all American oil imported into China works out, in 1906, at approximately 4.47d. per gallon, and that of Sumatra oil at about 3.84d. In 1905, the average price was about 5.04d. for American, and 4.32d. for Sumatra oil. Locally the price of kerosine oil is fully 25 per cent. higher on account of transshipments, storage and other expenses incurred owing to the lack of facilities for storing the oil in bulk. Local conditions are not indeed favourable for tank installations, the cost of which would perhaps be disproportionate to the amount of the trade in oil in this, as yet, only partially developed market. Russian kerosine has reappeared with nearly 150,000 gallons and Borneo is still represented with a modest 20,000 gallons.

Next to kerosine in value among the imports is rice, of which 142,809 cwts. were imported. This is a little above the average for the past six years, but is a long way behind the 606,375 cwts. of 1902. The effect of a dry summer followed by a series of violent storms and again by drought was very damaging to the local autumn crop, but the spring crop had been fair, so that the demand for rice did not begin to arise until late in the year. Hainan is so far fortunate that, while it is as yet unable to supply itself with a sufficiency of rice, it is close to Indo-China and Siam, which countries are as a rule in a position to export large quantities of this article of food, which is indispensable to the Chinese. The demand for food-stuffs is also exemplified in the larger amounts of American flour and vermicelli imported. The import of beans was normal, the local supply being fairly plentiful.

Sugar Exports.

The export of sugar fell off heavily until the very end of the year, when the dealers, who had been holding their stocks in anticipation of a rise in the Hongkong market, were obliged to part with them at

low prices, owing to the approach of the Chinese New Year. The 1905 crop had not been a particularly good one, and the Hongkong market was plentifully supplied with excellent sugar from Java. The total export of sugar in 1906 was only 118,183 cwt. valued at £78,031 as against 323,918 cwt. and £204,000 in 1905.

Shipping.

The British flag cuts a poor figure in the returns of shipping entered and cleared at this port. It is represented by 17 steamers with an aggregate of 20,059 tons, most of which entered and cleared in ballast. These were mainly old ships chartered by Chinese engaged in the emigration trade with the Straits. But a well-known British Company, Messrs. Butterfield and Swire, are now about to begin running steamers from Hongkong to Haiphong and back *via* Hoihow.

TESTS FOR MERCERISED COTTON.

THOSE merchants and others who are from time to time in doubt as to whether certain goods have been mercerised or not will welcome the communication made by Mr. Julius Hübner to the Manchester Literary and Philosophical Society, in which he gives two definite and easily applied tests for mercerised cotton. It is known that finishers sometimes give cloth the open-width bleach and after schreiner turn the goods out as mercerised. Previously there was no test for mercerised cotton which could be relied on, but now those engaged in the trade are presented with a means of detecting any attempts at deception. It is true that the microscope reveals some differences between the fibres of mercerised and non-mercerised cotton, but in the case where all the fibres have not been thoroughly penetrated by the lye during mercerisation there is a possibility of mistakes. Also if the cotton has undergone subsequent treatment (e.g., if it has been calendered or schreinered) the nature of the fibre is so altered that the difficulties of distinguishing are accentuated, and washing does not entirely eliminate the effects of these after-treatments.

A solution of 30 grains of iodine in 100 cubic centimetres of a saturated solution of potassium iodide is given by Mr. Hübner as the re-agent to use. In an actual comparison pieces of mercerised and ordinary cotton were treated with this solution for a few seconds and then washed well with water in a bottle, the water being frequently changed.

The non-mercerised cotton was seen to become light blue in colour and finally to wash quite white, while the mercerised sample was still a blue black, and remained very dark-coloured in spite of further repeated washings. A piece of cotton cloth containing a stripe of mercerised cotton was put into the liquor and washed; the stripe remained dark blue, whereas the non-mercerised portion of the fabric returned to its original colour. Dr.

Lange, of Crefeld, mentioned a similar test for mercerised cotton four years ago at the International Congress of Applied Chemistry at Berlin, but when his solution is used the blue of the mercerised cotton is much more fugitive to washing than is the case when Mr. Hübner's solution mentioned above is employed.

The second test described by Mr. Hübner is perhaps even more striking than the first. For the testing re-agent, in this case a water solution of zinc chloride is made containing 140 grains of zinc salt in 150 cubic centimetres of solution, and to 10 cubic centimetres of this solution are added two drops of the iodine solution which is produced when one dilutes to half strength Herzberg's well-known iodine solution used in paper testing. This solution turns mercerised cotton a deep blue (almost black), whereas non-mercerised cotton remains white. The intense blue colour shows itself over most colours, but in the case of blue and black materials the colour must be "stripped" before the cotton is tested. The test seems to be applicable to all classes of goods if the finishes they contain are first removed.

NEW REFERENCE BOOKS.

- THE MONTHLY INDEX TO THE TIMES.
November, 1907. 9½ x 6, 133 pp. . . . £2 per annum.
The Times Office.
- BUSINESS PROSPECTS YEAR BOOK, 1908.
Edited by J. DAVIES and C. P. HAILEY. 7½ x 4½.
202 pp. . . . 2s. 6d.
- Commercial Intelligence.
- THE WEIGHTS AND MEASURES ACTS, 1878-1904.
With the Board of Trade Regulations, by W. ERIC BOUSFIELD. With a Preface by W. R. BOUSFIELD, K.C. 8½ x 5½, xxx + 390 pp. . . . 6s.
Stevens and Sons, Limited.
- CANADA AS I SAW IT.
By W. REDWOOD, Member of the Dominion Government Press Party. 9½ x 7½, 70 pp. . . . 6d.
Reprinted from and Published by the Western Daily Press, Bristol.
- MINUTES OF PROCEEDINGS OF THE INSTITUTION OF CIVIL ENGINEERS.
Volume CLXIX. Edited by J. H. T. TUDSBURY, D.Sc., M.INST. C.E., Secretary. 9 x 5½, viii + 528 pp.
(Published by the Institution), 1907.
- HAND-BOOK OF AMERICAN GAS-ENGINEERING PRACTICE.
By M. NISBET LATTA. 5½ x 8½, 466 pp. . . . 18s. net.
A. Constable and Company.
- THE THEORY OF OFFICIAL INSTRUMENTS.
By E. T. WHITTAKER 2s. 6d. net.
- TECHNICAL THERMODYNAMICS.
By Dr. GUSTAV ZEUNER. First English Edition. Authorised Translation by J. F. KLEIN. Two Volumes. 86s. net. SUPERHEAT, SUPER-HEATING, AND THEIR CONTROL. By H. BOOTH. . . . 6s. net.
- MARINE BOILER MANAGEMENT AND CONSTRUCTION.
By C. F. STROMEYER. Third Edition . . . 12s. net.
- HAZELL'S ANNUAL FOR 1908.
Edited by W. PALMER 3s. 6d. net.

FOREIGN TRADE OF THE UNITED KINGDOM IN NOVEMBER, 1907.

I.—GENERAL.

THE trade returns for November, 1907, when compared with those for the corresponding month of 1906 show increases in the value of the Imports into the United Kingdom, and of the Exports of British produce, but a decrease in the Exports of Foreign and Colonial merchandise.

The value of the Imports in November, 1907, was £57,145,099 an increase of £1,398,020, or 2.5 per cent. as compared with November, 1906, whilst the total Exports amounted to £41,993,893 or an increase of £1,726,070. The Exports of British produce show an increase of £2,887,014, or 8.8 per cent., as compared with November, 1906, whilst there is a decrease of £1,160,944 or 15.9 per cent., in the Exports of Foreign and Colonial merchandise.

II.—IMPORTS.

The following table shows the value of the Imports for November, 1907, as compared with the corresponding months of 1906 and 1905, according to the different categories of merchandise.

Imports of Foreign and Colonial Merchandise.*

	MONTH ENDED 30TH NOVEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	£ 5,595,725	£ 5,353,748	£ 7,259,249	+ 1,905,501	+ 1,663,524
B. Meat, including animals for food	4,110,996	3,769,972	3,587,092	— 182,880	— 523,904
C. Other food and drink—					
1. Non-dutiable	5,912,406	5,926,034	5,993,995	+ 67,961	+ 81,589
2. Dutiable	4,715,234	4,695,974	5,090,472	+ 394,498	+ 375,238
D. Tobacco	318,344	411,480	458,534	+ 47,054	+ 140,190
Total, Class I. £	20,652,705	20,157,208	22,389,342	+ 2,232,134	+ 1,736,637
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	4,246	4,342	432	— 3,910	— 3,814
B. Iron ore, scrap iron, and steel	468,220	146,976	501,798	+ 38,822	+ 33,578
C. Other metallic ores	657,690	729,847	784,371	+ 54,524	+ 126,681
D. Wood and timber	1,810,966	1,923,355	2,190,118	+ 266,763	+ 379,212
E. Cotton	6,992,364	9,687,798	8,524,039	— 1,163,759	+ 1,531,675
F. Wool	2,601,133	1,863,080	2,744,307	+ 881,227	+ 143,174
G. Other textile materials	1,831,264	2,187,677	1,478,237	— 709,440	+ 353,027
H. Oil seeds, nuts, oils, fats, and gums	1,898,479	2,283,803	2,481,753	+ 197,950	+ 583,274
I. Hides and undressed skins	731,884	793,953	739,251	— 54,702	+ 7,367
J. Materials for paper making	364,368	347,942	434,107	+ 86,165	+ 69,739
K. Miscellaneous	2,226,366	2,023,201	2,050,436	— 27,235	+ 175,930
Total, Class II. £	19,566,920	22,307,974	21,928,819	— 379,125	+ 2,341,929
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	858,636	574,916	696,482	+ 121,566	— 162,154
B. Other metals and manufactures thereof	2,098,638	2,628,156	2,480,739	— 147,417	+ 382,101
C. Cutlery, hardware, implements and instruments	389,382	350,283	379,932	+ 29,649	— 9,450
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	94,844	114,164	102,190	— 11,974	+ 7,346
E. Machinery	412,659	407,342	395,501	— 12,041	— 17,358
F. Ships (new)	9,991	8,074	237	— 7,837	— 9,754
G. Manufactures of wood and timber (including furniture)	182,126	158,420	172,418	+ 13,998	— 9,708
H. Yarns and textile fabrics—					
1. Cotton	636,603	700,769	735,880	+ 35,111	+ 99,277
2. Wool	984,847	821,300	773,461	— 47,839	— 211,386
3. Other materials	1,477,350	1,468,131	1,428,578	— 39,553	— 48,772
I. Apparel	261,403	304,155	221,143	— 83,012	+ 40,260
J. Chemicals, drugs, dyes and colours	805,412	884,200	979,547	+ 95,347	+ 174,135
K. Leather and manufactures thereof (including boots and shoes, and gloves)	1,030,855	1,220,821	1,009,343	— 211,478	— 21,512
L. Earthenware and glass	428,757	375,302	363,246	— 12,056	— 65,511
M. Paper	487,776	476,308	486,101	+ 9,793	+ 1,675
N. Miscellaneous	2,517,983	2,585,004	2,407,803	— 177,201	— 110,180
Total, Class III. £	12,677,262	13,077,345	12,632,401	— 444,914	+ 44,861
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)					
£	219,009	204,552	194,507	— 10,045	— 24,502
Total value of Imports £	53,135,896	55,747,079	57,145,099	+ 1,398,020	+ 4,009,203

* The values of the Imports represent the cost, insurance, and freight; or when goods are consigned for sale, the latest sale value of such goods.

III.—EXPORTS.

The following table shows the value of the Exports of British produce for the month of November, 1907, as compared with the corresponding month of 1906 and 1905, and the increase or decrease in each principal category :—

Exports of Produce and Manufactures of the United Kingdom.*

	MONTH ENDED 30TH NOVEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
	£	£	£	£	£
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	246,109	257,011	302,608	+ 45,597	+ 56,499
B. Meat, including animals for food	119,353	131,764	122,689	— 9,075	+ 3,336
C. Other food and drink	1,736,937	1,831,774	1,869,474	+ 37,700	+ 132,537
D. Tobacco	89,437	101,694	123,375	+ 21,681	+ 33,938
Total, Class I	2,191,836	2,322,243	2,418,146	+ 95,903	+ 226,310
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke and manufactured fuel	2,171,582	2,644,240	3,921,289	+ 1,277,049	+ 1,749,707
B. Iron ore, scrap iron and steel	32,650	50,187	34,161	— 16,026	+ 1,511
C. Other metallic ores	5,526	18,761	14,734	— 4,027	+ 9,208
D. Wood and timber	6,022	6,646	9,997	+ 3,351	+ 3,975
E. Cotton	—	—	—	—	—
F. Wool	237,266	303,882	246,665	— 57,217	+ 9,379
G. Other textile materials	8,615	10,432	10,992	+ 560	+ 2,377
H. Oil-seeds, nuts, oils, fats and gums	253,865	270,530	354,612	+ 84,082	+ 100,747
I. Hides and undressed skins	163,111	143,559	145,667	+ 2,108	— 17,444
J. Materials for paper-making	47,247	64,223	55,641	— 8,582	+ 8,394
K. Miscellaneous	200,389	197,805	225,319	+ 27,514	+ 24,930
Total, Class II	3,126,293	3,710,265	5,019,077	+ 1,308,812	+ 1,892,784
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	2,945,888	4,026,315	3,691,357	— 334,958	+ 745,469
B. Other metals and manufactures thereof	822,638	968,351	807,658	— 160,693	— 14,980
C. Cutlery, hardware, implements and instruments	481,259	517,243	547,529	+ 30,286	+ 66,270
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	436,040	175,674	128,688	— 46,986	— 307,352
E. Machinery	2,134,687	2,431,560	2,804,399	+ 372,839	+ 669,712
F. Ships (new)	370,702	268,094	480,887	+ 212,793	+ 110,185
G. Manufactures of wood and timber (including furniture)	185,845	129,541	134,024	+ 4,483	— 1,821
H. Yarns and textile fabrics—					
1. Cotton	7,900,126	8,304,579	9,516,624	+ 1,212,045	+ 1,616,498
2. Wool	2,267,019	2,357,825	2,440,286	+ 82,461	+ 173,267
3. Other materials	1,192,819	1,411,795	1,289,351	— 122,444	+ 96,532
I. Apparel	532,901	522,357	539,709	+ 17,352	+ 6,808
J. Chemicals, drugs, dyes and colours	1,262,811	1,360,483	1,374,360	+ 13,877	+ 111,549
K. Leather and manufactures thereof (including boots and shoes, and gloves)	560,172	644,145	557,329	— 86,716	— 2,743
L. Earthenware and glass	305,623	348,018	355,386	+ 7,368	+ 49,758
M. Paper	168,693	189,933	192,582	+ 2,649	+ 23,889
N. Miscellaneous	2,270,994	2,690,148	2,952,551	+ 262,403	+ 681,557
Total, Class III	23,788,222	26,346,061	27,812,820	+ 1,466,759	+ 4,024,598
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	501,798	596,593	612,133	+ 15,540	+ 110,335
Total value	29,608,149	32,975,162	35,862,176	+ 2,887,014	+ 6,254,027

Exports of Foreign and Colonial Merchandise.*

Total value	£ 6,692,958	£ 7,292,661	£ 6,131,717	£ 1,160,944	£ 561,241
-----------------------	-------------	-------------	-------------	-------------	-----------

* The values of the Exports represent the cost and the charges of delivering the goods on board the ship, and are known as the "free on board" values.

IV.—TRADE DURING THE FIRST ELEVEN MONTHS OF 1907.

The following table shows the value of the Imports of foreign and colonial merchandise during the eleven months ended 30th November, 1907, as compared with the corresponding periods for 1906 and 1905 :—

Imports of Foreign and Colonial Merchandise.*

	ELEVEN MONTHS ENDED 30TH NOVEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
	£	£	£	£	£
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	63,480,816	63,089,555	69,573,716	+ 6,484,161	+ 6,092,900
B. Meat, including animals for food	44,856,548	47,864,877	47,858,328	— 6,549	+ 3,001,780
C. Other food and drink—					
1. Non-dutiable	57,384,919	63,099,100	61,861,936	— 1,237,164	+ 4,477,017
2. Dutiable	42,063,039	40,742,306	43,697,519	+ 2,955,213	+ 1,634,480
D. Tobacco	3,427,632	4,270,367	3,657,427	— 612,940	+ 229,795
Total, Class I	211,212,954	219,066,205	226,648,926	+ 7,582,721	+ 15,435,972
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke and manufactured fuel	39,944	34,940	20,380	— 14,560	— 19,564
B. Iron ore, scrap iron and steel	5,024,606	6,190,760	6,866,827	+ 676,067	+ 1,642,221
C. Other metallic ores	6,843,190	8,236,702	9,458,054	+ 1,221,352	+ 2,614,864
D. Wood and timber	21,764,822	25,829,001	25,324,914	— 504,087	+ 3,560,092
E. Cotton	44,301,555	46,632,637	61,212,333	+ 14,379,696	+ 16,910,778
F. Wool	24,411,267	27,862,635	33,074,221	+ 5,211,586	+ 8,662,954
G. Other textile materials	12,570,438	14,238,702	16,235,558	+ 1,996,856	+ 3,665,220
H. Oil-seeds, nuts, oils, fats, and gums	21,581,922	23,615,149	28,522,437	+ 4,907,288	+ 6,940,515
I. Hides and undressed skins	7,888,056	9,977,196	10,013,419	+ 36,223	+ 2,625,363
J. Materials for paper making	3,474,582	3,548,287	3,614,256	+ 65,969	+ 339,674
K. Miscellaneous	20,549,895	22,221,721	23,879,023	+ 1,657,302	+ 3,329,128
Total, Class II	167,950,277	188,587,730	218,421,522	+ 29,833,792	+ 50,471,245
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	7,628,411	7,809,669	6,479,903	— 1,329,766	— 1,148,568
B. Other metals and manufactures thereof	19,571,977	25,342,706	26,832,790	+ 1,490,084	+ 7,260,813
C. Cutlery, hardware, implements and instruments	3,261,192	3,411,933	3,661,257	+ 249,324	+ 400,065
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	915,321	1,092,696	1,145,878	+ 53,182	+ 230,557
E. Machinery	4,192,670	4,754,216	4,909,067	+ 154,851	+ 716,397
F. Ships (new)	31,510	28,372	26,855	— 1,517	— 4,655
G. Manufactures of wood and timber (including furniture)	1,603,209	1,868,749	1,757,209	— 111,540	— 46,000
H. Yarns and textile fabrics—					
1. Cotton	7,242,388	8,610,981	8,793,182	+ 182,201	+ 1,550,794
2. Wool	11,610,542	11,245,293	10,034,299	— 1,210,994	— 1,576,243
3. Other materials	17,849,828	18,655,546	19,351,336	+ 695,790	+ 1,501,508
I. Apparel	3,705,370	3,545,176	3,395,285	— 149,891	— 310,085
J. Chemicals, drugs, dyes and colours	8,831,080	9,262,680	10,695,813	+ 1,433,133	+ 1,864,733
K. Leather and manufactures thereof (including boots and shoes, and gloves)	10,023,050	11,821,100	10,562,109	— 1,258,991	+ 539,059
L. Earthenware and glass	3,883,843	3,872,774	3,686,492	— 186,282	— 197,351
M. Paper	4,771,340	5,253,442	5,152,060	— 101,382	+ 380,720
N. Miscellaneous	25,620,751	26,879,386	26,176,851	— 702,535	+ 556,100
Total, Class III	130,942,432	143,454,719	142,660,336	+ 794,333	+ 11,717,904
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	2,052,483	2,266,685	2,180,802	— 85,883	+ 128,314
Total	512,158,201	553,375,339	589,911,636	+ 36,536,297	+ 77,753,435

* The values of the Imports represent the cost, insurance, and freight; or when goods are consigned for sale, the latest sale value of such goods.

The value of the Exports of home produce, also of foreign and colonial produce, during the eleven months ended 30th November, 1907, as compared with the corresponding periods of 1906 and 1905, is as shown in the following table:—

Exports of Produce and Manufactures of the United Kingdom.*

	ELEVEN MONTHS ENDED 30TH NOVEMBER			Increase (+) or Decrease (-) in 1907 as compared with 1906.	Increase (+) or Decrease (-) in 1907 as compared with 1905.
	1905.	1906.	1907.		
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	£ 2,533,967	£ 2,357,866	£ 2,841,481	+ 463,615	+ 307,514
B. Meat, including animals for food	815,798	1,219,804	1,214,851	- 4,953	+ 399,053
C. Other food and drink	13,493,565	14,858,120	15,682,747	+ 824,627	+ 2,189,182
D. Tobacco	898,316	966,580	1,147,001	+ 180,421	+ 248,685
Total, Class I	17,741,646	19,402,370	20,886,080	+ 1,463,710	+ 3,144,434
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	23,868,088	29,008,229	38,437,749	+ 9,429,520	+ 14,569,661
B. Iron, ore, scrap iron, and steel	428,170	540,840	547,700	+ 6,861	+ 119,531
C. Other metallic ores	104,949	155,430	178,470	+ 23,040	+ 73,521
D. Wood and timber	71,636	83,642	103,030	+ 19,388	+ 31,394
E. Cotton	—	—	—	—	—
F. Wool	2,325,741	2,638,776	3,077,203	+ 438,427	+ 751,462
G. Other textile materials	146,744	152,505	205,406	+ 52,901	+ 58,662
H. Oil-seeds, nuts, oils, fats, and gums	2,382,088	2,589,072	3,172,611	+ 583,539	+ 790,523
I. Hides and undressed skins	1,684,873	2,055,742	1,712,112	- 343,630	+ 27,239
J. Materials for paper making	492,125	654,863	702,205	+ 47,342	+ 210,080
K. Miscellaneous	1,761,324	1,860,916	2,376,582	+ 515,666	+ 615,258
Total, Class II	33,265,738	39,740,015	50,513,069	+ 10,773,054	+ 17,247,331
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	29,153,627	36,396,027	43,426,490	+ 7,030,463	+ 14,272,863
B. Other metals and manufactures thereof	8,141,337	9,262,253	10,975,717	+ 1,713,464	+ 2,834,380
C. Cutlery, hardware, implements and instruments	4,670,238	5,387,146	5,935,554	+ 548,408	+ 1,265,316
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	2,333,214	2,239,176	2,360,251	+ 121,075	+ 27,037
E. Machinery	21,140,838	24,400,081	29,011,565	+ 4,611,484	+ 7,870,727
F. Ships (new)	5,157,187	8,211,837	9,528,873	+ 1,317,036	+ 4,371,686
G. Manufactures of wood and timber (including furniture)	1,118,916	1,183,496	1,291,212	+ 107,716	+ 172,296
H. Yarns and textile fabrics—					
1. Cotton	83,635,643	91,231,876	101,615,474	+ 10,383,598	+ 17,979,831
2. Wool	26,604,955	29,168,992	31,605,114	+ 2,436,122	+ 5,000,159
3. Other materials	11,981,381	13,611,425	15,323,503	+ 1,712,078	+ 3,342,122
I. Apparel	5,539,908	6,295,443	6,671,776	+ 376,333	+ 1,131,868
J. Chemicals, drugs, dyes and colours	13,403,269	14,248,279	15,812,035	+ 1,563,756	+ 2,408,766
K. Leather and manufactures thereof (including boots and shoes, and gloves)	5,150,565	5,864,239	6,107,335	+ 243,096	+ 956,770
L. Earthenware and glass	2,944,128	3,362,897	3,738,461	+ 375,564	+ 794,333
M. Paper	1,789,779	1,896,320	2,152,863	+ 256,543	+ 363,084
N. Miscellaneous	23,181,548	27,282,508	30,771,166	+ 3,488,658	+ 7,589,618
Total, Class III	245,946,533	280,041,995	316,327,389	+ 36,285,394	+ 70,380,856
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 4,417,356	£ 5,079,358	£ 5,736,322	+ 656,964	+ 1,318,966
Total	301,371,273	344,263,738	393,462,860	+ 49,199,122	+ 92,091,587

Exports of Foreign and Colonial Merchandise.*

	£	£	£	£	£
Total value	70,705,412	77,357,653	85,252,169	+ 7,894,516	+ 14,546,757

* The values of the Exports represent the cost and the charges of delivering the goods on board the ship and are known as the "free on board" values.

SEA-BORNE TRADE OF INDIA.

THE following is a summary of the accounts relating to the Sea-borne Trade and Navigation of British India for the month of November, 1907, and for the eight months, 1st April to 30th November, compared with the corresponding period of the years 1905 and 1906:—

	MONTH OF NOVEMBER			EIGHT MONTHS, 1st APR. TO 30th NOV.		
	1905	1906	1907	1905	1906	1907
IMPORTS—						
MERCHANDISE, PRIVATE—						
Bengal	3,83,41,272	3,68,32,580	4,80,55,985	27,27,87,318	28,63,86,895	35,76,13,450
Eastern Bengal and Assam	(a) 1,93,954	2,74,814	2,74,814	(a) 28,01,025	37,50,670	37,50,670
Bombay	4,17,73,307	4,13,01,978	4,39,82,610	23,53,61,811	24,32,55,301	28,40,67,830
Sind	83,99,298	77,69,585	1,06,72,908	5,32,52,718	6,28,00,549	6,18,77,698
Madras	66,66,943	65,38,379	83,46,886	5,31,65,405	6,01,22,345	6,53,74,896
Burma	79,40,009	96,83,753	1,04,90,938	5,28,19,129	6,52,47,602	6,74,11,480
TOTAL	10,31,29,823	10,43,20,229	12,18,24,141	66,73,86,381	72,06,13,717	84,00,96,024
DITTO, GOVERNMENT STORES	84,44,607	81,28,774	56,66,738	6,02,22,697	6,08,63,865	4,25,14,389
TOTAL MERCHANDISE	11,15,74,436	11,24,49,003	12,74,90,879	72,76,09,078	78,14,77,582	88,26,10,413
TREASURE, PRIVATE—						
Bengal	63,25,625	1,11,10,524	67,76,711	4,65,99,794	6,03,86,437	5,87,43,476
Eastern Bengal and Assam	(a) 38,151	38,151	38,151	(a) 36,475	36,475	36,475
Bombay	97,16,433	1,71,97,123	86,84,308	8,37,52,765	11,60,95,874	16,19,67,265
Sind	1,97,647	7,10,909	4,10,892	25,32,389	34,18,699	51,39,486
Madras	82,577	4,31,917	6,20,068	6,20,423	38,67,140	61,35,559
Burma	2,640	2,00,016	2,10,576	4,03,665	9,23,048	9,61,438
TOTAL	1,63,24,922	2,96,50,489	1,67,40,796	13,59,09,036	18,47,27,673	23,30,46,303
DITTO, GOVERNMENT	63,90,498	1,85,91,166	17,89,917	2,35,61,750	11,82,75,015	9,44,62,124*
TOTAL TREASURE	2,27,15,420	4,82,41,655	1,85,30,623	15,94,70,786	30,30,02,688	32,75,08,427*
GRAND TOTAL OF IMPORTS	13,42,89,856	16,06,90,658	14,60,21,502	88,70,79,864	108,44,80,270	121,01,18,840
EXPORTS—						
MERCHANDISE, PRIVATE—						
(Foreign Merchandise)—						
Bengal	1,36,791	1,03,115	1,24,057	13,22,103	11,62,964	14,43,790
Eastern Bengal and Assam	(a) 250	250	250	(a) 250	250	250
Bombay	23,98,029	21,62,628	24,08,396	1,72,20,858	1,68,61,552	1,97,70,222
Sind	4,75,932	4,79,796	6,50,463	25,19,984	31,91,434	33,91,677
Madras	30,562	41,783	68,025	5,55,227	11,91,450	8,73,022
Burma	22,534	23,761	42,315	2,55,445	4,37,503	4,66,586
TOTAL	30,63,848	28,11,083	32,93,256	2,18,73,617	2,28,45,138	2,59,65,847
(Indian Merchandise)—						
Bengal	7,56,56,188	9,15,32,232	7,12,64,500	44,88,99,604	49,60,17,332	49,85,71,709
Eastern Bengal and Assam	(a) 59,29,462	91,95,518	91,95,518	(a) 2,51,43,389	2,67,45,629	2,67,45,629
Bombay	3,03,26,070	2,97,63,465	2,74,45,584	27,52,54,825	25,52,67,151	32,52,03,711
Sind	77,74,847	87,80,170	1,04,17,079	8,23,16,016	9,88,46,505	14,41,59,926
Madras	1,12,56,692	1,37,34,564	98,27,578	9,80,39,263	11,28,22,575	12,95,42,853
Burma	64,79,838	38,07,414	56,37,300	8,96,45,266	7,87,47,317	9,24,68,522
TOTAL	13,14,93,625	15,35,47,307	13,37,87,559	99,41,94,974	106,63,44,269	121,71,96,800
Total Foreign and Indian Merchandise exported—						
Bengal	7,57,92,979	9,16,35,347	7,13,88,557	45,02,21,707	49,71,80,296	50,00,15,499
Eastern Bengal and Assam	(a) 59,29,462	91,95,518	91,95,518	(a) 2,51,43,389	2,67,45,629	2,67,45,629
Bombay	3,27,24,039	3,19,26,093	2,98,53,980	29,24,75,683	27,21,28,703	34,49,78,933
Sind	82,50,779	92,59,966	1,10,67,542	8,48,38,000	10,15,37,939	14,75,51,603
Madras	1,12,87,254	1,37,76,347	98,95,603	9,86,54,490	11,40,14,005	13,04,15,875
Burma	65,02,362	38,31,175	56,79,615	8,98,80,711	7,91,84,825	9,34,55,108
TOTAL	13,45,57,473	15,63,58,390	13,70,80,815	101,60,68,591	108,91,89,407	124,31,62,647
DITTO, GOVERNMENT STORES	49,235	1,88,151	1,59,383	7,98,536	7,20,140	10,12,931
TOTAL MERCHANDISE	13,46,06,708	15,65,46,541	13,72,40,198	101,68,67,127	108,99,09,547	124,41,75,578
TREASURE, PRIVATE—						
Bengal	6,19,549	6,28,787	5,78,467	16,99,032	56,46,426	26,40,865
Eastern Bengal and Assam	(a) 28,943	28,943	28,943	(a) 10,36,313	10,36,313	10,36,313
Bombay	30,62,631	36,53,640	32,84,893	3,02,99,205	3,93,46,685	2,82,23,711
Sind	3,00,270	5,00,000	10,07,922	16,00,625	14,22,209	35,20,415
Madras	7,500	3,61,750	3,61,750	1,83,015	93,275	93,275
TOTAL	39,89,950	47,82,427	49,00,225	3,49,26,483	4,74,08,741	8,55,14,579
DITTO, GOVERNMENT	1,50,00,006	15,000	12,500	7,50,85,985	52,450	17,500
TOTAL TREASURE	11,89,89,956	47,97,427	49,12,725	11,00,12,468	4,74,61,191	8,55,32,079
GRAND TOTAL OF EXPORTS	15,35,96,664	16,13,43,968	14,21,52,923	112,68,79,595	113,73,70,738	127,97,07,657
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	65,09,152	66,87,203	63,21,306	4,47,17,699	4,62,69,692	4,79,26,698
DITTO, EXPORT DUTY COLLECTED	4,71,775	3,11,182	2,48,795	65,87,092	54,64,838	52,96,000

(a) Included with Bengal.

* Figures for the seven months, 1st April to 31st October 1907, rectified.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8 (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried of Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

Notes on Sugar in India. R1-8. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, Newbond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S, Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambray & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoom, Bombay.
Sundur Pandurang, Bombay.
V. Kalyanarama Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.
Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. E. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:

To Subscribers	per copy 8 0
To Non-Subscribers	" 10 0

POSTAGE:—

Abroad	per copy per annum 5 0
In India	" 2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 1 0
To Non-Subscribers	" 2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0
For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.	

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,

STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

G. W. MUNT & SONS,

WHOLESALE

BOX MANUFACTURERS

(EVERY DESCRIPTION),

LONDON,

ENGLAND.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to

J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E.
LONDON, ENGLAND.

MARTIN & CO.*Engineers and Contractors**Architects and Builders,*

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.**PORTLAND CEMENT.** As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.**GALVANIZED CORRUGATED IRON.**

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. **C. I. COLUMNS***Light Railway Material of every Description.***MARTIN & CO.**6 AND 7 CLIVE STREET
CALCUTTA.
Bombay.
Ceylon.
Punjab.**B. MURATTI, Sons & Co.**
(LIMITED).

MANCHESTER, LONDON, BERLIN, BRUSSELS, PARIS & CONSTANTINOPLE.

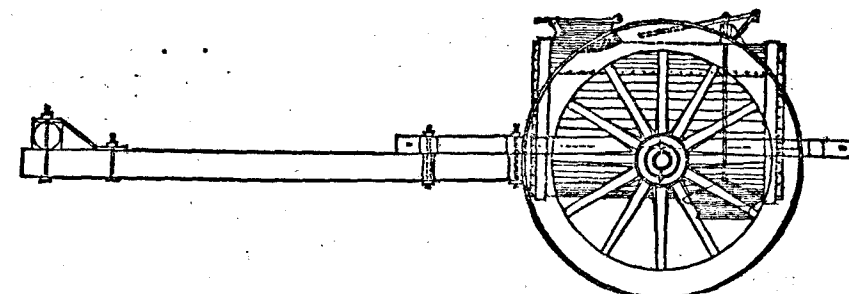
Purveyors to the French Regie and Several Other
European Government Monopolies.

THE PIONEERS OF TURKISH CIGARETTES IN EUROPE.

MANUFACTURERS OF THE WORLD-RENOUNDED CIGARETTES

ARISTON & NEB-KA.

For price lists and particulars apply direct to—

B. MURATTI, Sons & Co., Ltd., Manchester, England.**CONSERVANCY CARTS.**GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.

Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., LD., MADRAS,
Government Contractors.

DELICIOUS COFFEE RED WHITE & BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS.
MAKERS OF SAILS,
AWNINGS AND WAGON SHEETS.

AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE NO. 132.

BARLOW & Co.
Import and Export Merchants

and
Commission Agents

Agents: United Alkali Co., Ltd.—Fertilizers.
Sulphur.

The Summerlee Iron Co., Ltd.
Scotch Pig Iron. Special Brand. Stocks.
37, STRAND ROAD, CALCUTTA.

THURSTON'S

The Parent House of the Trade.
BILLIARD TABLES
By Appointment to His Majesty King Edward VII.
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.



J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:

CUNNINGHAM, LEITH.

Reference:

BANK OF SCOTLAND, EDINBURGH

AHMUTY & CO.
CALCUTTA.

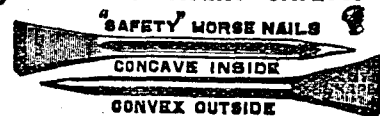
Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.
PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,

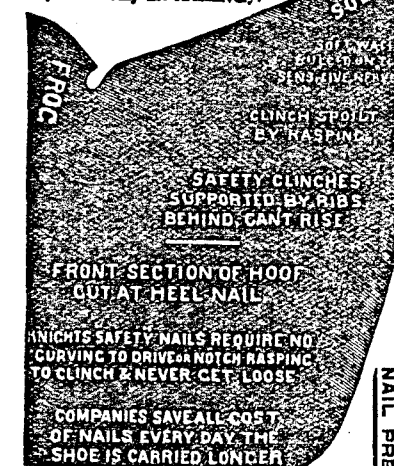
HORSE NAIL MANUFACTURER By Appointment
TO HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'



Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
Extract from Mr. SKEATH'S Eminent Report:—

'I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'

Japanese Army use exclusively.



London and EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.

Telegrams: 'HORSE NAIL LONDON' Telephone: No. 5018 C-2-1.

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,

DONCASTER, ENGLAND.

Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
in Gelatine.

Beechwood Brand awarded 4 Gold Medals
and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

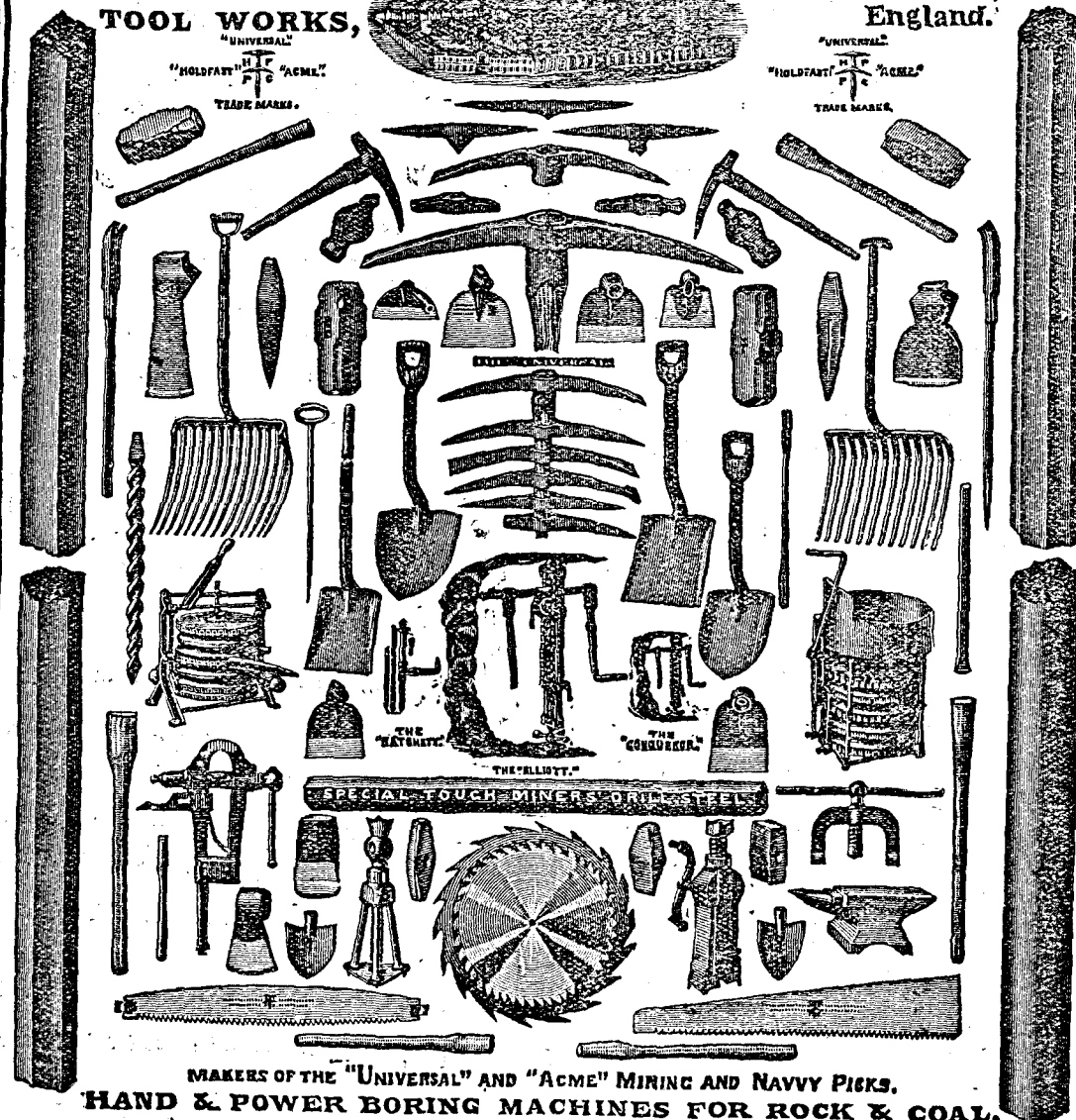
HIGH-CLASS TOOLS FOR MINERS, CONTRACTORS, QUARRYMEN, AND AGRICULTURISTS.

TELEGRAPHIC ADDRESS:-
HARDYPICK, SHEFFIELD.

TELEPHONE, NATIONAL 187

THE HARDY PATENT PICK Co. Ltd.,

MINING TOOL WORKS, SHEFFIELD, England.



MAKERS OF THE "UNIVERSAL" AND "ACME" MINING AND NAVY PICKS.
HAND & POWER BORING MACHINES FOR ROCK & COAL.
PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS,
AND ALL MINING, QUARRY, CONTRACTORS, AND AGRICULTURAL TOOLS.

SPECIAL TOUGH DRILL STEEL, SHEAR, CAST, AND BLISTER STEEL.
SAWS, FILES, AND RASPS.

IMPORTERS OF HICKORY HANDLES.

London Office and Showrooms : 22, Queen Victoria Street, London, E.C.

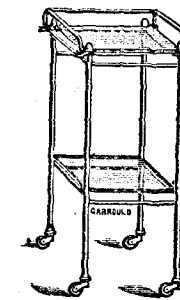
Garrould's

To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS &
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

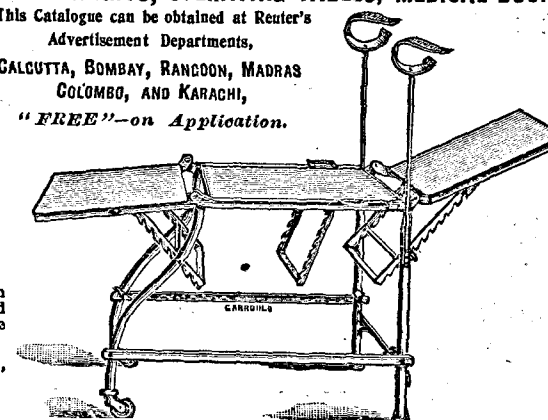
THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—
NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS,
OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLETS, CLINICAL
THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS,
CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

This Catalogue can be obtained at Reuter's
Advertisement Departments,
CALCUTTA, BOMBAY, RANGOON, MADRAS
COLOMBO, AND KARACHI,
"FREE"—on Application.



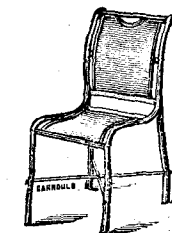
ANÆSTHETIC TABLE.

Size 14 in. by 14 in., with
two glass shelves, and
nickel-plated rail on three
sides.
Mounted on castors,
with rubber tyres.

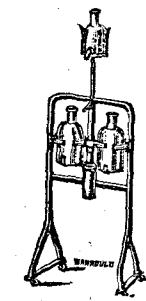


Portable Operating Table designed by Dr. J. J. BUCHANAN.

In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors,
complete with Nickel Plated Leg-rest—Will Fold up into a small space.

HOSPITAL CHAIR
(Aseptic).

Tabular frame,
enamelled white.



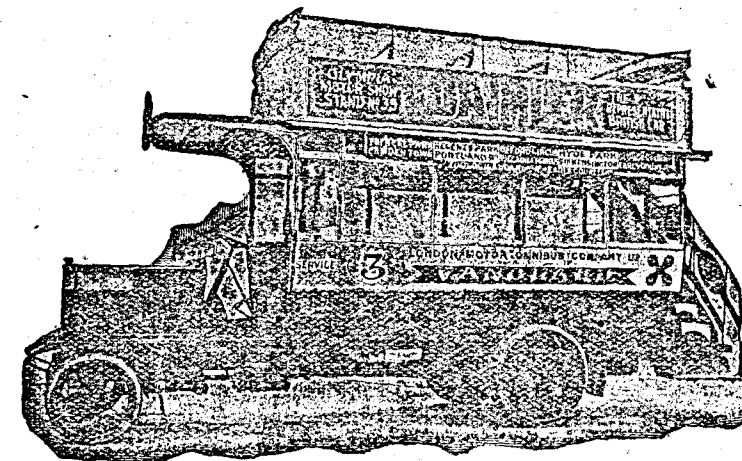
IRRIGATOR STAND.

Of wrought iron enam-
elled white, on rubber
castors, with 1-gallon
irrigator, adjustable to
any height. Also two
stoppered bottles for
antiseptic solution, and
cylindrical glass for
filling irrigator.

E. & R. GARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



Motor Lorries,
" Vans,
" Wagons,
" Tower Wagons,
" Mail Vans,
" Omnibuses,
" Charabanc,
" Waggonettes,
" Launches, &c.

GREAT WESTERN CHARABANC.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the
principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos.
Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern,
Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and
others. Particulars on application.

Immediate delivery of all types.

SANITARY ENGINEERS

Water works and Sewage systems. Engines, Tanks, and Fittings. Septic Tank systems a speciality. Light Railways for refuse removal.

THE EMPIRE ENGINEERING CO., LTD.

New patent Receptacles and Lorries, Improved carts, Latrines, and Conservancy Appliances of all kinds.

Apply for Illustrated Catalogue to
GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
in all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

"WOODITE"

FOR VALVES, JOINT RINGS PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,

MITCHAM COMMON, SURREY, ENGLAND

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Illustrated Catalogues with Prices can be obtained—FREE from Messrs. Reuter's
Print Depts., Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

GALLEYS

for **Lino
Job or
Bookwork**

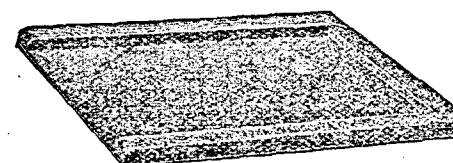
WE ARE MAKERS OF THE BEST IN
QUALITY AND WORKMANSHIP, AND
HOLD THE BRITISH RECORD FOR THE
LARGEST VARIETY AND OUTPUT

*Speciality: The All-Brass Lino Galley, with Patent Clip, which can be
securely locked up at any point.*

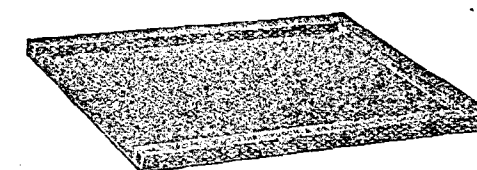


12-inch Lino Galleys, for 12 to 16 em matter.

ZINC BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Job Galley—Half Lined.



Zinc Tube Galley.

BRASS BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Column Galley—Lined all round.

BRASS TUBE, ZINC TUBE, SOLID BRASS AND ZINC GALLEYS, ALL SIZES.
Rims one or both sides and head.

OUR JOB, COLUMN AND LINO GALLEYS ARE MADE IN ALL SIZES.

DETAILED PRICE LIST sent free on application to

JOHN HADDON & Co. Salisbury Square,
LONDON, E.C.

Displayed in the Haddon Type and Haddon Old Style. 12 pt. and 6 pt. Bamboo Border.

TELEGRAMS & CABLES
"POUND, LONDON"A.B.C. CODE
4TH EDITION

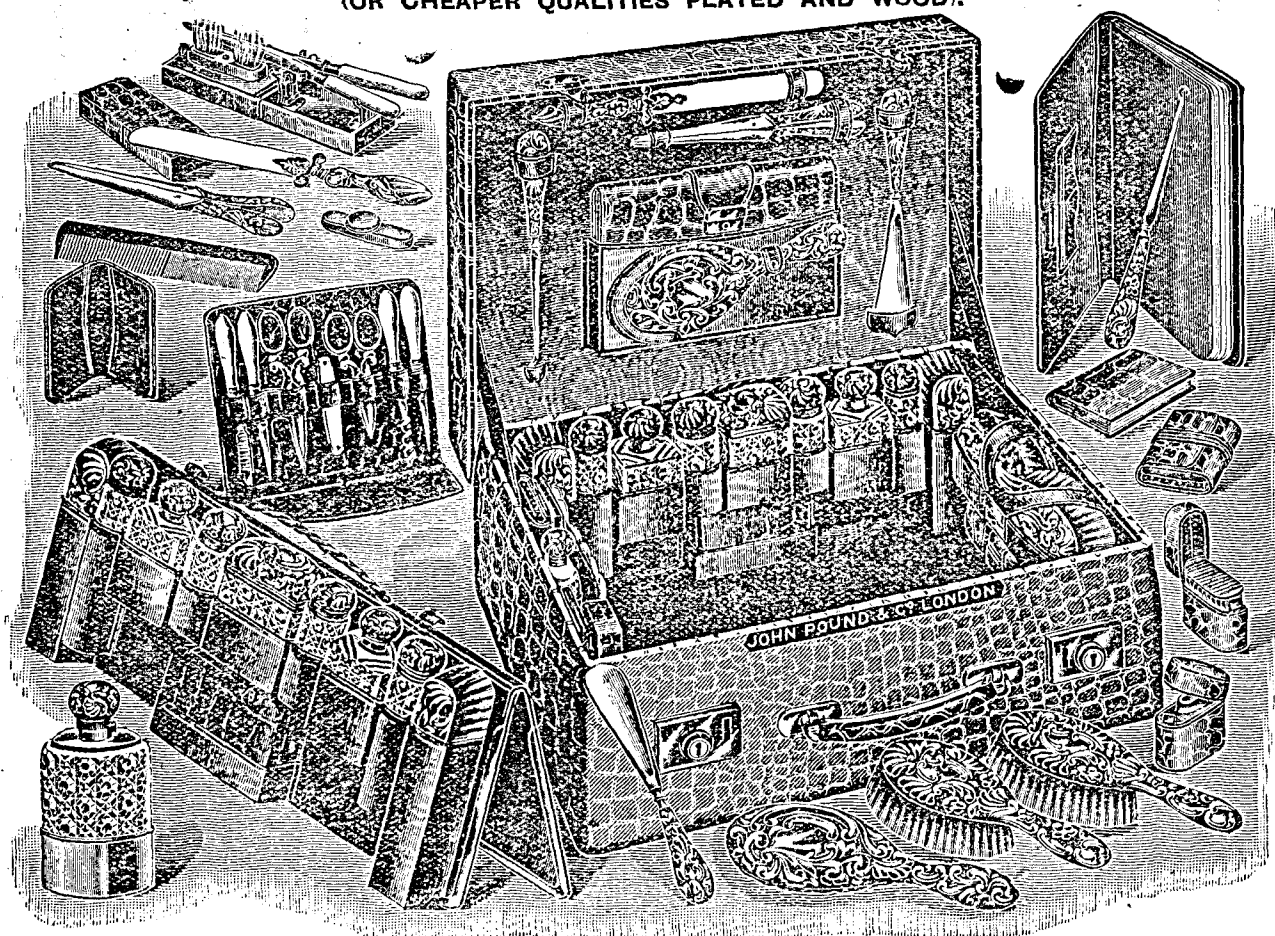
JOHN POUND & Co.

ACTUAL MAKERS

OF FITTED TRAVELLING GOODS IN ALL QUALITIES TO SUIT ALL MARKETS.

NOTED FOR QUALITY OF MATERIAL AND WORKMANSHIP.

BAGS AND CASES MADE IN HIDE, MOROCCO, CROCODILE AND PIGSKIN, FITTED WITH SILVER
AND IVORY, ALL SILVER, OR GOLD AND TORTOISESHELL
(OR CHEAPER QUALITIES PLATED AND WOOD).



ILLUSTRATING LADY'S CROCODILE CASE, HEAVY CHASED SILVER FITTINGS AND CUT GLASS BOTTLES.

ACTUAL MAKERS OF

TRAVELLING GOODS

OF EVERY DESCRIPTION.

81-84, LEADENHALL STREET, LONDON, E.C.

WRITE FOR
ILLUSTRATED
CATALOGUES
FREE.

INDENT
THROUGH
AGENTS
OR DIRECT.

JOHN PIGGOTT, Ltd.

**MOTOR CLOTHING
MANUFACTURERS.**

ILLUSTRATED LIST

Free on application to—

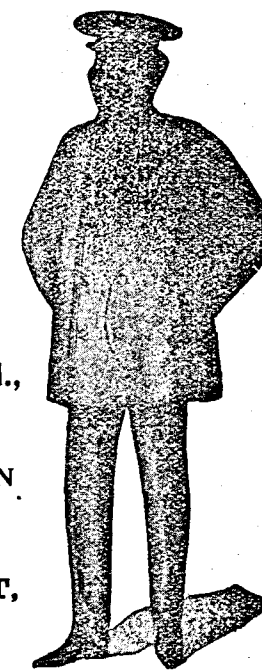
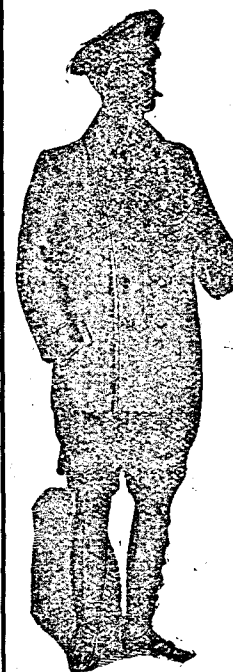
Advertisement Dept., Reuter's Telegram Co., Ltd.,

BOMBAY, CALCUTTA, MADRAS,

KARACHI, COLOMBO or RANGOON

[Please mention this Advertisement.]

**117 & 118, CHEAPSIDE & MILK STREET,
LONDON, E.C.**

RELIABLE
QUALITY
ONLY.

PADMORE BILLIARD TABLES

Over
70 Years'
Reputation.

Carry a 10 years' Warranty and hold the premier position for

STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941

To the Trade.
MARLBOROUGH'S

"Self-Taught" Series.

Containing Vocabularies, Idiomatic Phrases and Dialogues,
Travel Talk, Military, Sporting and Commercial Terms, Tables of Money,
Weights and Measures. With ENGLISH PHONETIC PRONUNCIATION.

HINDUSTANI
TAMIL
JAPANESE

Self-Taught.

RUSSIAN
EGYPTIAN
ARABIC

Self-Taught.

Sold by all Booksellers and Bookstalls.

For List of "Series," write for the (AL) Catalogue post free.

London: E. MARLBOROUGH & Co., Publishers,
51, Old Bailey, E.C.

STANLEY, LONDON.

**LARGEST
MANUFACTURERS
OF SURVEYING AND
DRAWING
INSTRUMENTS
IN THE WORLD.**

Please send for
our H. 24
Catalogues
(Post free) and
compare our prices
with those of
other
**FIRST CLASS
Makers.**

**W. F. STANLEY & Co.
LIMITED,**

**CREAT TURNSTILE,
HOLBORN,
LONDON,
ENGLAND.**



6-inch Transit Theodolite.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 1/4 to 1/4 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,
TOBACCO TRADE ENGINEERS,
33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,
CIGARETTE SPECIALISTS,
35, ENDELL STREET, LONDON, W.C.
MALCAJIK CIGARETTES.
TURKISH GRADES.

De Luxe. Special. Princessas.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO

MALCAJIK VIRGINIA ROYAL CIGARETTES.

Made of the very choicest Bright Virginia Tobacco.

AND

MALCAJIK PIPE MIXTURE.

A revelation to lovers of a good Pipe Mixture. The finest ever made.

AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

Orders through English Merchants.



**"Pelican" and
"Chin-Chin"**



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1 1/2-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

Pelican Colours

These Celebrated Artists' Water-Colours blend most perfectly when mixed, may be most evenly applied for washes without showing the slightest trace of Granulation, and have and retain unequalled Brilliancy and Colouring.



Three Advantages:—

Superior Quality.

Larger Tubes..

Lower Price.

Test these claims by writing for descriptive colour card or price list.

Obtain a sample for trial purposes and then you will insist upon supplies of

Pelican Colours

TRANSPARENT COLOURS
for Tinting
PHOTOS POSTCARDS ETC

NO MEDIUM REQUIRED.

EXPERT KNOWLEDGE UNNECESSARY.

Two Grades only.

Matt Surfaces.	Glossy Surfaces.
24 Assorted Tints.	12 Assorted Tints.



No. 55.

Obtainable of Artists' Colourmen and Photographic Dealers. If unable to obtain, apply for nearest Agent's address and for Colour Card to

GÜNTHER WAGNER,

Sole Manufacturer,

80, MILTON STREET, LONDON, E.C.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES AND DESCRIPTIONS

**DIESEL OIL ENGINES,
JEWELL WATER FILTERS,
VENTURI METERS.**

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS,

Large Stocks held

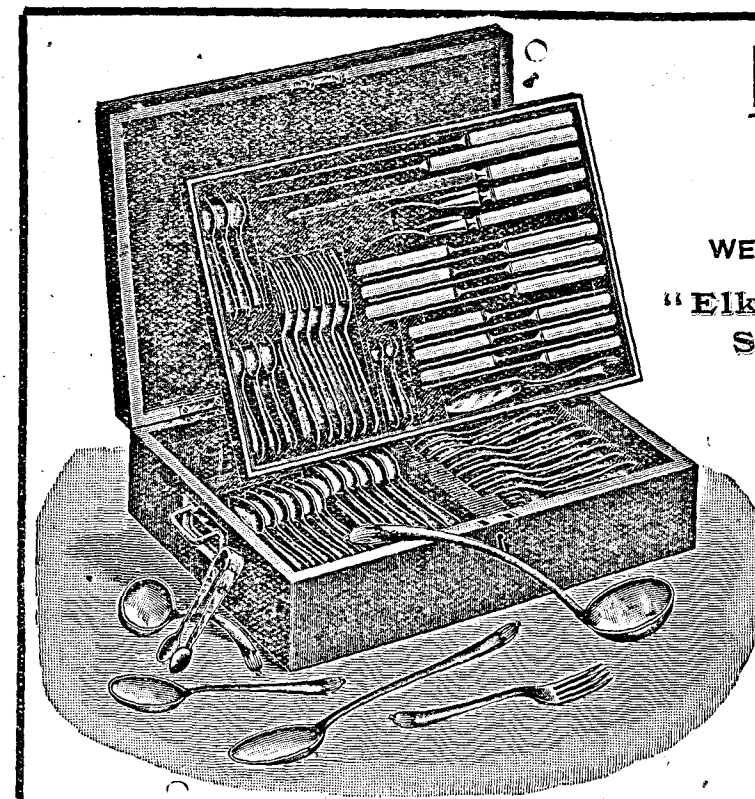
in Calcutta.

WATER METERS,

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, Lord St.

MANCHESTER—St. Ann's Square.

GLASGOW—84, St. Vincent St.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,
MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

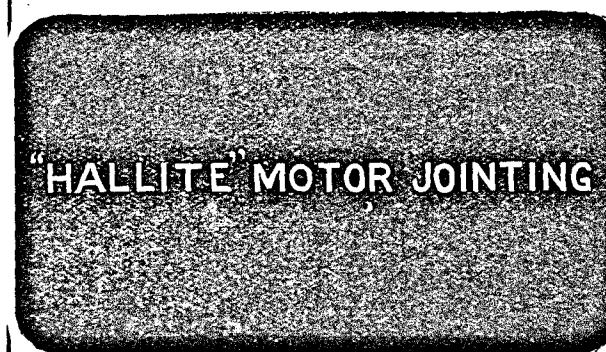
Specially for Cable Iron and

B B H Best Best

HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.
Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known
"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



Catalogues can be obtained from
Advertisement Department, Reuter's Telegram Co., Ltd.,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

Telegrams:—"Firms, London."

Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT



HIS MAJESTY THE KING.

Established over 200 years.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
REUTER'S TEL. Co.
ADVERTISING
DEPARTMENTS,
AT THEIR
SEVERAL
BRANCHES.

Manufacturers of every description of

Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

GABRIEL POWER & SON,

IMPERIAL WORKS,
FREDERICK STREET,
WALSALL,
ENGLAND

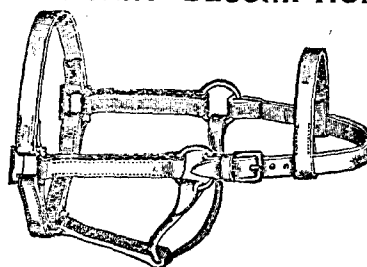
MANUFACTURERS OF LEATHER GOODS
OF EVERY DESCRIPTION.

HORSE CLOTHING,

KNEE CAPS,

FETLOCK BOOTS,

SADDLE GIRTHS,



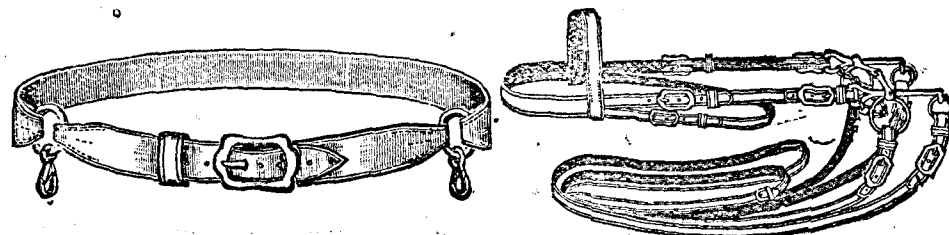
BRIDLES,

HEAD COLLARS,

DRIVING REINS,

LEGGINGS,

Sporting & Cycling Belts in great variety.



ALL ORDERS through ENGLISH MERCHANTS.

SANITARY PAINT COY., LTD.

THE MANUFACTURERS OF

"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"

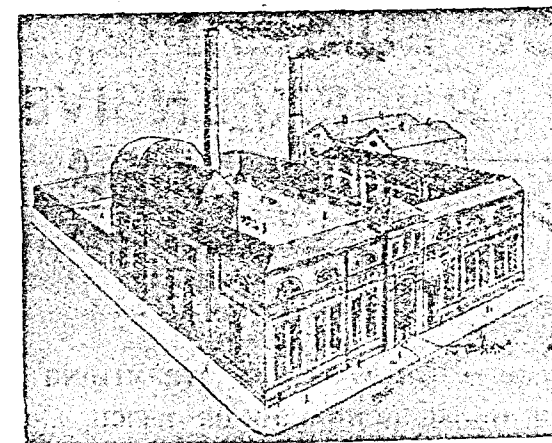


was received from the Calcutta

Exhibition in 1884,

and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.

Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
x x CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINC WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

They will serve you well, and we are confident they will do their best to please you.

PATENT

"BITUMASTIC" SOLUTION AND "BITUMASTIC" ENAMEL WAILES, DOVES

The Best Paint for protecting iron and steel structures. Avoid spurious imitations containing coal tar and other impurities.

All large Liners are coated with "BITUMASTIC."
British & Foreign Navies are coated with "BITUMASTIC."
TO PROTECT GOOD WORK AND VALUABLE STRUCTURES,
SPECIFY "BITUMASTIC."
USE THE BEST
that is

"BITUMASTIC"

Export Agent: H. I. ROBERTS, 42, Castle Street, Liverpool.
Calcutta Agents: Kinmond & Co. | Karachi Agents: B. R. Herman & Co.
Bombay Agents: | Madras Agents: Arbuthnots' Industrials, Ltd.

HOUSE OR OFFICE FURNITURE, ARTISTIC, DURABLE & INEXPENSIVE

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Reuter's Telegram Co. (Advertising Department) at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

THE GRATZE

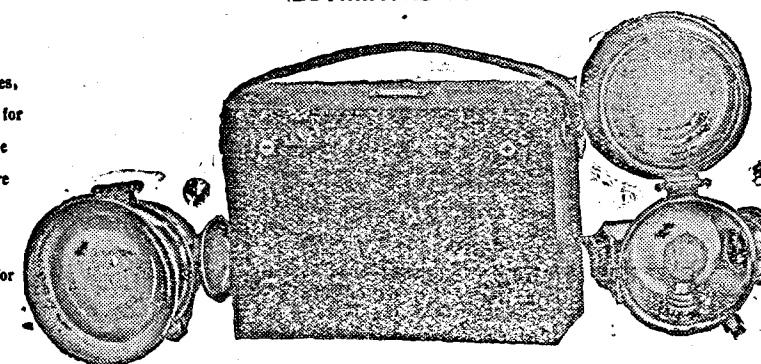
IMPROVED PLANTÉ AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.

FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Reuter's Telegram Co., Ltd. (Advertising Department), at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES, ORTHOPÆDIO APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.
CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.
31, STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to
HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING CO.
SAFE & LOCK MAKERS, NEAR GAS WORKS, PAREL, BOMBAY.

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE.

Bombay, 12th September 1905.

MESSRS. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency.

MACBETH BROS. & CO., ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities.—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al, Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

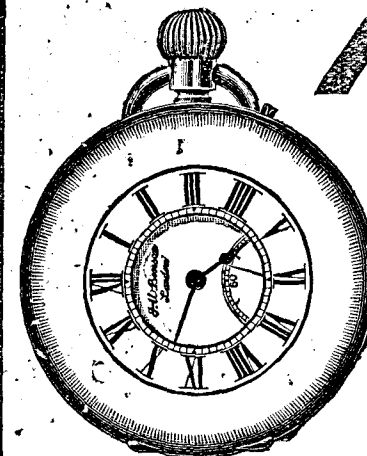
GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S TELEGRAM Co., Ltd.,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adv.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING CO., LTD.,

DUNDEE.

Agents in India

BOMBAY	KILICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.



HARRIS & SHELDON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, MANCHESTER, DUBLIN, GLASGOW, QUEEN ST.

DEPOTS: CAPE TOWN, JOHANNESBURG, BERLIN, KRAUSENSTRASSE, 40.



SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish "SWAN" FOUNTAIN PENS

From inferior or imitations are:

- They are always clean and ready for use,
- They neither scratch, blot, nor wear out,
- The regular flow of ink and
- The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers. Send for illustrated catalogue.

MABIE TODD & CO.,

WHOLESALE & EXPORT MANUFACTURERS,

79 & 80 HIGH HOLBORN, LONDON, W.C.

AND AT MANCHESTER, PARIS, BRUSSELS, NEW YORK, CHICAGO & SYDNEY.



STANDS FOR

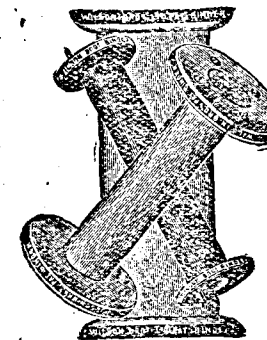
NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED
SOLELY BY**G. H. NELSON,**CLARKE ROAD,
NORTHAMPTON,
ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.**WILSON BROS. BOBBIN CO., LTD**

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823.

53 GOLD MEDALS & DIPLOMAS

HEAD OFFICE & WORKS: GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORTON. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.**CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.**

INCORPORATED BY ROYAL CHARTER.

Capital - - - £800,000 | Reserve Fund - - - £10,75,000
Reserve Liability of Proprietors - - - £800,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

BRANCHES:

Bangkok.	Colombo.	Ipoh (Perak Feder- ated Malay States).	Madras.	Penang.
Batavia.	Foochow.	Karachi.	Manila.	Rangoon.
Bombay.	Hamburg.	Kobe.	Medan (Deli Sumatra).	Saigon.
Calcutta.	Hankow.	Kuala Lumpur.	New York.	Shanghai.
Cebu.	Hong-Kong.	Tientsin.	Yokohama.	Singapore.

Sourabaya.
Current Depos
shorter 1
Calcutta Agt
5, COUNCIL HOUSE

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

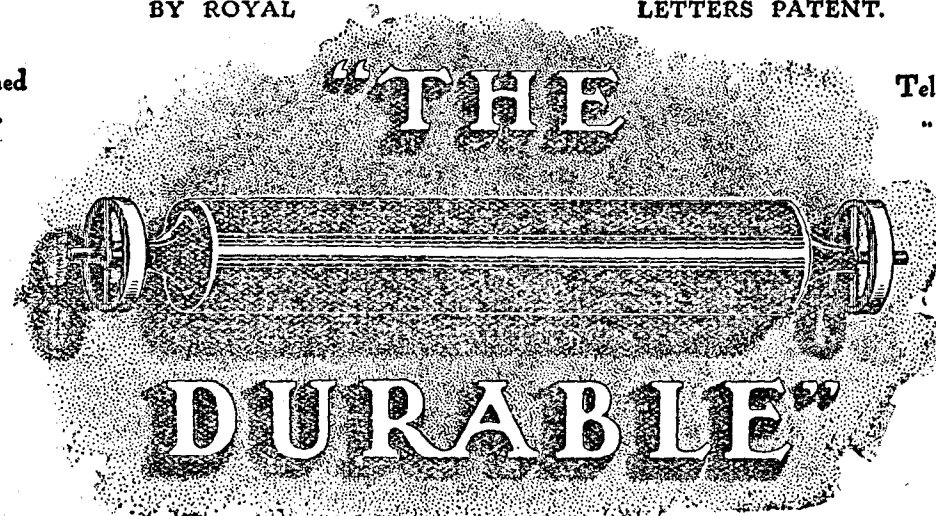
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:
"DURABLE."
ROLLERS.
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

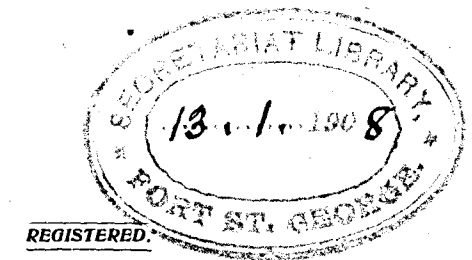
COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

PUBLISHED WEEKLY.



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

VOL. VIII. No. 93.] CALCUTTA, THURSDAY, 9th JANUARY, 1908.

[ANNAS 4

INDEX.

	PAGE
NOTES	57
NOTICES—	
Crop Forecast	63
Calls for Tenders	ib.
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Indian Yarns in Europe	64
CHAMBER OF COMMERCE	65
TARIFF CHANGES	66
SEASON AND CROP PROSPECTS	67
THE FAMINE	68
FINANCIAL SITUATION IN CONSTANTINOPLE	ib.
INDIAN WOODS FOR PACKING CASES	69
TRADE OF YEZD	72
HEREDITY IN PLANT LIFE	74
DETERMINATION OF NICOTINE IN TOBACCO	75
POSITION OF THE WOOL TRADE	77
TRADE OF ISPAHAN	78
READY-MADE CLOTHING TRADE IN EGYPT	80
TRADE OF FOREIGN COUNTRIES AND BRITISH POSSESIONS	81
NEW REFERENCE BOOKS	ib.
TABLES—	
Joint Stock Companies	82
Indian Customs Revenue	84
WEEKLY TRADE MOVEMENTS	85
DEPARTMENTAL PUBLICATIONS	87
ADVERTISEMENTS	88

NOTES.

The Presidency Bank rate is as follows:—

Calcutta	7	per cent.
Bombay	7	" "
Madras	7	" "
Exchange	13 $\frac{3}{4}$	" "

In regard to country liquor manufactured in Calcutta or its Suburbs, the Lieutenant-Governor of Bengal is pleased to fix Rs. 5-10 per gallon London-proof as the duty to be paid, on and from the 1st April, 1908, on country spirit manufactured in the distillery at Russa and removed from that distillery or from any warehouse connected therewith for consumption in Calcutta, the Suburbs of Calcutta, the town of Bally or the town of Howrah.

The present rate of duty on beer and other fermented liquors, whether imported or manufactured in the country, is one anna per gallon. The tariff rate has remained unaltered since 1863, and the excise duty since 1890, when it was first imposed. The rate of taxation is relatively inadequate, in view of the greatly enhanced taxation to which spirit, both country and imported, has in recent years been subjected. Moreover, as shown by the declared value of imports, a large quantity of the beer which comes into India from abroad pays less, at one anna a gallon, in proportion to its value than it would do under the ordinary tariff rate of 5 per cent, *ad valorem*. Recently the Indian

Excise Committee have recommended that the duty on beer and other fermented liquors, such as ale, porter and cider, should be raised from one anna to two annas per gallon and the object of the **Indian Tariff (Amendment) Act**, which received the assent of the Governor-General on the 3rd instant, is to give effect to that recommendation.

The Upper India Chamber of Commerce has addressed the Government of the United Provinces on the subject of **encashment of ten-rupee currency notes at par**. The letter refers to the rapid increase in circulation of the universal five-rupee notes, and suggests that the experiment could now with advantage be extended to notes of ten-rupees denomination.

The Indian Merchants' Chamber and Bureau in Bombay have sent us a copy of a letter addressed by them to the Bombay Government on the subject of the proposal to assign to members of the Bengal and Bombay Chambers of Commerce the two seats in the **Imperial Legislative Council** which are to be allotted to representatives of commercial interests. The Association urges that means be found to secure representation of the Indian commercial interest on the Council and they attach copies of correspondence from which it appears that their view is supported by the Bombay Native Piece-goods Merchants' Association, the Grain Merchants' Association, the Bombay Cotton Exchange Co., Ltd., and the Bombay Diamond Merchants' Association.

We learn from the Administration Report of the **Madras Port Department** for 1906-07 that 5,490 native passengers left the ports of the Presidency on "long voyages," and 326,824 on "short voyages," against 231 and 397,683 in the previous year. During the year under review 21,685 vessels called at the sixteen minor ports and paid port dues Rs. 3,27,956, against 21,526 vessels which called in 1905-06 and paid Rs. 3,19,129, the increase in the number of vessels being chiefly in those trading with the Straits Settlements. Port dues for the year under report were the largest since 1897-98. The trade value of the sixteen minor ports is shown as Rs. 20.73 crores against Rs. 19.20 crores in the previous year, Cochin doing the largest trade in imports and Tuticorin in exports, and Calingapatam the lowest trade in imports and Pamban in exports. The value of trade rose during the year at all the minor ports except at Calicut, Calingapatam, Pamban, Mangalore and Tellicherry. The decrease in the trade of the port of Calingapatam is due to the failure of the jute crops and to the advent of the East Coast Railway and the consequent transport of rice and seeds to other coast ports by rail instead of by sea as in former years. The export of coffee in 1906-07 at all the ports of

the Presidency is stated to be 221,356 cwt., valued at Rs. 96,91,253, against 349,546 cwt. valued at Rs. 1,71,67,643 in the previous year, the deficiency being due to short production of tea. Altogether, 13,979,570 lbs. valued at Rs. 82,80,905 were exported, from Madras ports during 1906-07, exceeding those of the previous year by 1,300,016 lbs. in quantity and Rs. 7,52,380 in value. Thirty-five sub-ports of the Presidency did no trade during the last five years and the question of closing them is under consideration.

As indicated in our last issue in connection with the **Indian Section of the Franco-British Exhibition, 1908**, the Executive Committee have secured an area of 20,000 feet of space, at a cost of £2,000, in close proximity to the French and British Colonial Section. The Indian pavilion will consist of a large central hall with bays or courts running along the sides, and will have a floor area of about 12,000 square feet. It is intended to allot these courts to various groups of Indian raw products, industries and manufactures, as well as to illustrations of the administrative machinery of the Government of India. The central hall will be largely devoted to the more artistic exhibits from India. The Executive Committee have decided to make a charge for space, fixed at a minimum of 10s. per superficial foot of floor area. Early application should be made for space in the Indian Section addressed to Mr. B. J. Rose, Secretary, Indian Executive Sub-Committee, Franco-British Exhibition, India Office, London. Forms of application and other information can be obtained in India from Messrs. King, Hamilton and Co., Calcutta; Messrs. King, King and Co., Bombay; Messrs. Gordon, Woodroffe and Co., Madras; and Messrs. A. Scott and Co., Rangoon.

The Report on **Inland Emigration** during the year ended June 30th, 1907, states that 6,164 emigrants were registered in Bengal including the Chota Nagpur Division, the Sonthal Parganas, and Sambalpur, 2,347 having been recruited by licensed contractors and 3,817 by garden sardars, as against 10,082, of whom 3,743 were recruited by licensed contractors and 6,339 by garden sardars, in the previous year. Of all emigrants recruited in India by licensed contractors, 2,140 were embarked at Goalundo, 1,845 for Assam, 208 for Cachar and 87 for Sylhet. Of the sardari emigrants 3,709 were registered for Assam, 36 for Cachar and 72 for Sylhet. The number of dependants registered with these two classes of emigrants amounted to 28.86 per cent. of the total, against 31.34 per cent. in the previous year. The decrease in the number of all classes of emigrants despatched to the labour districts is attributed to increased demand for local labour in connection with construction of railways, cotton cultivation in Orissa, and working of the coal mines. Of the total number of emigrants embarked at Goalundo for the Assam labour districts 44.37 per cent. were men, 34.33 per cent.

women and 21.18 per cent. children. Twenty-one deaths were reported, eleven from cholera and ten from other causes.

Rules for the grant of licenses for timber and other forest produce are published in the *Mysore Gazette* of the 2nd instant.

During the quarter ending June 30th, 1907, twenty-four prospecting licenses for minerals were granted in the **Central Provinces**. Of these, nineteen were for manganese only, one for coal, one for mica, and three for minerals in general.

Writing at the end of November a **Bushire** correspondent states that financial conditions are very poor at that port, and he records three bankruptcies in which British creditors are involved. In **Shiraz**, he says, anarchy and dearth of money have reduced trade stability to a very low ebb.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 21st December, 1907—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,220; (new, 1905-06) Rs. 1,256 to 1,315; (old, 1904-05) Rs. 1,350 to 1,420; the latest prices at Hongkong and Shanghai were (new) Rs. 1,263 and 1,270; (old) Rs. 1,343 and 1,352, respectively.

For the week ending 28th December, 1907—

In the Calcutta market—

Behar opium—Rs. 1,242; 1,242; 1,236; 1,240; 1,248; 1,239; 1,235.

Benares opium—Rs. 1,225; 1,225; 1,220; 1,225; 1,225; 1,220; 1,215.

The prices in the time bargains for the Behar opium of the 1st sale of 1908 were Rs. 1,247; 1,247; 1,241; 1,245; 1,253; 1,244; 1,240.

In the China market—

At Hongkong (exchange Rs. 134½ to 136 per \$100).

Behar opium—\$917½; 920; 922½; 920; 920; 920; 920.

Benares opium—No quotations received.

At Shanghai—No quotations received.

For the week ending 4th January, 1908—

In the Calcutta market—

Behar opium—Rs. 1,238; 1,246; 1,252; 1,266; 1,286; 1,280; 1,290.

Benares opium—Rs. 1,210; 1,220; 1,225; 1,240; 1,250; 1,250; 1,260.

The prices in the time bargains for the Behar opium of the 1st and 2nd sales of 1908 were Rs. 1,241; 1,249; 1,255; 1,269; 1,295; 2nd sale, Rs. 1,289; 1,299.

In the China market—

At Hongkong (exchange Rs. 135½ to 141 per \$100).

Behar opium—\$920; 925; 925; 925; 940; 940; 940.

Benares opium—No quotations received.

At Shanghai—No quotations received.

For the week ending 28th December, 1907—

In the Bombay market—

On the 22nd and 25th instant (new, 1906-07) Rs. 1,220 and Rs. 1,235; on the 23rd and 27th instant (new, 1905-06) Rs. 1,256 to 1,315 and Rs. 1,252 to 1,314; on the 22nd and 26th instant (old, 1904-05) Rs. 1,350 to 1,420 and Rs. 1,400, respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,204 and 1,270; (old) Rs. 1,285 and 1,352 respectively.

The *Corn Trade News* gives the following summary of the world's crops as on the 17th ultimo:—**United States of America**—Condition of winter wheat maintained, but moisture needed in south-west. **Canada**—Ontario crop officially estimated 4,000,000 bushels below last year's, and reports of western crop fully as bad as recently. **Argentina**—Some rains reported, but our to-day's cable says: Harvest progressing satisfactorily, and surplus generally estimated 16,000,000 qrs., which compares with about 13,000,000 from the last crop. Linseed also a good crop, and reports of maize excellent. **Australia**—Rains are reported to-day; in some cases heavy falls, which will not be welcomed where the wheat harvest is in progress. **India**—No improvement in conditions, and export wheat business at present impossible. **Russia**—Revised official estimates make wheat crop equal last year's which, however, was decidedly short, and caused severe famine. Semi-official reports describe new wheat seedings generally bad, Rye poor, but our own latest advices have been rather less pessimistic. **Roumania**—Seedings improved with very mild weather. Snow now falling. **Turkey**—Seeding reports now favourable for European and Asiatic provinces. **Hungary**—After being very favourable, weather turned cold and dry. **France and Germany**—Crop reports favourable, but more seasonable weather wanted. **United Kingdom**—Weather unseasonably wet. **Italy, Spain, and North Africa**—Reports are favourable.

There has been a rise in the price of grain on the **Karun, Persia**, owing to competition. One firm is said to have paid sixty Krans for a maund of 3½ cwts. The Shushter people are alarmed and think there is danger of famine. They have stopped the export from Shushter and asked the Sardar Arfa' to approve their action. He will not interfere; and as there has been no rain as yet there is some fear that high prices may induce the Arabs to denude the country of grain.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of

Excise in the week ended the 14th December, 1907, were as follows:—Wheat, 34s. 8d.; barley, 27s. 0d.; and oats, 18s. 5d.

The total area irrigated in the North-West Frontier Province in connection with the Rabi (spring) crop of 1907-08 up to October 31st last was 28,517 acres, as against 23,074 acres during the corresponding period of the previous year.

A statement of irrigation operations in the Bombay Presidency, excluding Sind, shows that the total area irrigated during 1906-07 was 110,066 acres, as compared with 106,945 acres during 1905-06.

In their report on the American piece-goods market dated December 9th Messrs. Suffern and Co., of New York, say that, despite the improvement in the previous week, they do not feel that conditions are at all prosperous, and it seems to them that any further advances would be ill-advised and would lead to stagnation later on—that is, unless China comes in for heavy quantities. That alone would advance prices and make the market for heavy goods firm.

Discussing in their circular of the 12th ultimo the conditions prevailing in the Shanghai piece-goods market, with special reference to Indian Yarn, Messrs. Noel, Murray & Co. say:—Although the quantity sold, during the interval, that has come to our knowledge is not large, we understand a good demand on the lines mentioned in our last still continues. The buyers for Szechuen are noticeably inclined to take the better class of No. 10's now that were usually booked for Tientsin. Prices might be called strong, especially for No. 20's which are up a tael and a half. The total business reported amounts to 2,125 bales only, which is probably somewhat below the real figure.

Advices from Australia which reached Calcutta this week state that for the week ending the 17th ultimo 38,370 bales of wool were offered, and 32,605 bales sold in the Melbourne and Geelong markets. For the corresponding week of 1906 the offerings amounted to 39,824 bales, and the sales to 39,035 bales. The sales so far show an increase of 77,022 bales, as compared with the sales to the corresponding period of the previous year. Wools are, in general, reported as distinctly worse to sell than the previous week. Merinoes are irregular and frequently in buyers' favour. In medium, ordinary, and particularly in coarse crossbreds, the fall is quite pronounced, many lots showing a drop of ½d. to 1d. per lb. on the rates of the week before, and from 2d. to 2½d. from the highest rates of the season. Among the leading sales effected at Mel-

bourne on the 17th ultimo were Coomete, come-back, to 16d.; Mokanger and J. R. McP., cbk, to 15½d.; Ennerdale, merino, to 15½d.; Ardullie, cbk, to 14½d. and merino to 14½d.; O in dia., merino, to 13½d. At the Sydney wool sales on the 17th ultimo 8,064 bales were catalogued, and 7,750 sold. Compared with the previous week, the market displayed more animation, and competition was more general. Prices for good wools showed firmness, but irregularity was still noticeable with regard to faulty sorts. Top prices in greasy were 14½d. At the Geelong sales on the 13th ultimo the market was much stronger all round for everything except deep crossbreds and Lincolns. Medium to good merinoes, from 12d. to 14d., showed a distinct improvement, compared with the previous fortnight. All wools suitable for the American demand sold better.

It is notified by the postal authorities that the orders prohibiting the transmission by the inland parcel post of current gold coins of a value exceeding twenty sovereigns have now been extended to the inland letter post. In future, therefore, no letter, packet, or parcel for transmission by the inland post shall contain current gold coins of a value exceeding the limit mentioned.

The postal authorities notify that, in order to save firms and other persons who post value-payable articles in large numbers the labour and trouble of filling in and signing a separate certificate in respect of each article, special forms of certificate have been provided for them. Particulars of all the registered value-payable articles to be posted at one time should be entered in the form for registered value-payable articles and the sender should sign the certificate at the foot of the form which, together with the articles entered in it, should then be presented at the post office. In the case of unregistered value-payable articles, the same procedure should be followed, except that the articles should be entered in the special form of certificate provided for unregistered value-payable articles and the postage stamp or stamps in payment of the money order commission in the case of each article should be affixed in the last column of the form opposite to the entry of the article. If more than one form has to be used at one time, the certificate on the last form only need be signed by the sender, but in that case the forms should be page-numbered 1, 2, 3, and so on. Bound copies of these forms of certificate, so arranged as to render it easy for the entries made to be duplicated by the sender by means of carbonic paper, will be available for sale at post offices at two annas a copy.

The quantity and the value of gold extracted from the Indian mines in November, 1907, were 45,419 oz. and Rs. 25,91,187 and those of April to November

1907, were 360,481 oz. and Rs. 2,05,78,458. The output as compared with the corresponding period of 1906 and 1905 was as follows:—

Month of November, 1907.					
	1907.	1906.	1905.		
Mysore	{ Oz. 44,453	Oz. 45,477	Oz. 50,866		
	{ Rs. 25,35,687	Rs. 26,15,343	Rs. 29,37,842		
Nizam's	{ Oz. 966	Oz. 1,180	Oz. 1,104		
Territory.	{ Rs. 55,600	Rs. 66,389	Rs. 62,125		

Eight months, April to November, 1907.					
	1907.	1906.	1905.		
Mysore	{ Oz. 351,503	Oz. 368,567	Oz. 411,176		
	{ Rs. 2,00,61,333	Rs. 2,11,90,649	Rs. 2,36,41,596		
Nizam's	{ Oz. 8,978	Oz. 9,327	Oz. 8,794		
Territory.	{ Rs. 5,17,125	Rs. 5,35,318	Rs. 5,00,290		

The Treasury Department in Washington estimates the world's gold stock on December 31st, 1906, at £1,377,780,000, divided, according to the Exchange Company, as follows:—United States, £318,660,000; Germany, £206,000,000; Russia, £187,880,000; France, £185,280,000; Great Britain, £97,340,000; remainder of the world £382,620,000. The world's product of gold in the calendar year 1906 is placed at £80,049,060; and the silver, commercial value, at £22,422,100.

The Manchester Guardian of the 17th ultimo writes:—The movement in copper has been downward again during the past week, the total fall amounting to about £3 per ton. According to the Ironmonger the operators last week based their ideas upon an entire miscalculation of the situation in America—"financial as well as commercial." The feeling in London now is that it is yet far too early to hope for any real improvement in the factors which govern the market. Fluctuations backwards and forwards are bound to occur, but they have no real market significance. "The article has been so much manipulated in one way or another," says the Ironmonger, "that what it now requires is a prolonged spell of rest." This is the view which most shrewd men in the metal trade are taking. Copper must remain somewhere about where it is for a considerable time if the market is finally to improve. Any sudden smart upward movement only excites more suspicion. But there is another way of looking at the matter. Copper is yet by no means at its lowest possible price; on the contrary there is room for a much greater fall; and the state of stocks and of demand is such that a further drop in prices is by no means improbable. Shipments from the Atlantic ports are proceeding at a tremendous pace, and 27,000 tons have been sent off during the last six weeks. Some one is holding this copper against advances; for how long is it to be held?

The fall in the tin market, continues the Manchester Guardian, is more serious than that in

copper, and hitherto the market does not seem to grasp the fact that the causes are essentially the same. It is not, of course, that there is any enormous stock of tin locking up much-needed money and frightening away consumers; but that the collapse in the trade of the United States means a much less consumption of tin during the next few months. Meanwhile, it is ridiculous to look at prices as though they were already low; they are not low but high, and too high for any condition of trade which is less than prosperous. The market was affected last week by the statement that the United States Steel Corporation was a seller of surplus tin bought by them for their tin plate works. This statement was looked upon as a "dodge" to bring down the market with a slump in order that the corporation might buy some cheap metal, but it seems doubtful whether there was any truth at all in the report. Crude methods of this kind are scarcely compatible with the record of the United States Steel Corporation. The total imports of tin for eleven months are 40,859 tons, against 40,268 tons in 1906 and 36,146 tons in 1905. The increase is trifling, but it is an increase and trade, on the other hand, is decreasing.

Messrs. Neill Brothers' cotton circular reaffirms their estimates of this season's production and consumption of America cotton as 11,600,000 bales (maximum) and 12,600,000 bales, respectively. With regard to the Bureau estimate of production, Messrs. Neill declare that its meaning is perfectly clear:—"It estimates the yield of lint at 5,581,968,000 lbs. and expresses this in bales of 478 lbs. net, or 11,678,000, but calls them, for some reason of its own, 500 lbs. gross." They admit, "of course, that the Bureau has almost always underestimated past crops, but they seem to endorse Mr. Gwathmey's suggestion that we need not add the usual 7 per cent. to the Bureau estimate this year as the Bureau itself has probably already added this 7 per cent. for at least two good reasons, (a) to correct the underestimates of the past, or rather the tendency shown thereby, and (b) "to assure the financial world both here and abroad that we have a very considerable asset for the gold that we have drawn from the other side." To this Messrs. Neill add the further suggestion that as the planters are now showing very remarkable ability to take care of themselves, it is no longer necessary for the Government to protect them by underestimates.

The crop reporting board of the Bureau of Statistics of the U. S. A. Department of Agriculture, from the reports of the correspondents and agents, issued a report on the 10th ultimo estimating that the total production of cotton in the United States for the year 1907-08 will amount to 5,581,968,000 pounds (not including linters), equivalent to 11,678,000 bales of 500 pounds gross weight.

The number of bales of cotton imported into the United Kingdom during the week ended the 12th December, 1907, was 114,093, and the number imported during the fifty weeks ended the 12th December was 4,426,331 (including 6,069 bales British West Indian and 10,645 bales British West African). As regards exports, the figures are, for the week ended the 12th December, 4,158 bales, and for the fifty weeks, 471,108 bales.

In their cotton circular dated New York, December 3rd, Messrs. Hubbard Bros. and Co. contrast the buying activity of European spinners with the apathy of American spinners, who, they believe, will be left with the poorer portion of the American cotton crop. "Our American spinners," they say, "have been so deeply impressed with the sudden change in financial conditions that they have not as yet realised that the tide has turned from the low point of the depression, and that while the recovery is slow at the start it is certain, because of the underlying prosperity of the farmer and planter. As the market advances the movement will increase but the planter believes that he has shown his ability to secure good prices by selling his cotton slowly and we think it more than likely that he will continue the policy which has proved successful, meeting the market from time to time, but not pressing the balance of his crop for sale."

A planting correspondent informs the *Madras Mail* that a consignment of calcium nitrate and calcium cyanamide was received by the Inspector-General of Agriculture in India from Europe some time ago; and some details as to its efficacy as a fertiliser in this country should be forthcoming before very long. According to the American Consul at Lyons the agricultural papers of France are manifesting considerable interest in the new fertiliser which is believed to be destined to fill an important place in agriculture. A member of the French Institute recently read a paper on it before the French National Society of Agriculture, in the course of which he said that the Norwegian factory puts the article on the market in closely made barrels containing 220 lbs. each. The nitrate is thus delivered to the consumer in good condition and is kept close in the barrels until used. Many experiments, he added, have proved that nitrate of lime is as good a fertiliser as nitrate of soda; and that its action is the same in all kinds of ground, even in calcareous land. In some kinds of farming, especially in the cultivation of the beet, it is superior to nitrate of soda, which is said to be sometimes detrimental to a perfect development of the plant.

We learn from the Report on the Administration of Coorg for 1906-07 that orange culture is being constantly extended: the area thereunder has been doubled in the last six years. Transport, however, is the great difficulty with which this form of planting has to contend, and though it is believed

to be superable, the Coorg ryot, who is the chief orange grower, has not yet abandoned the wasteful practice of selling his crop on the trees to contractors from the low country. The efforts which are being made to reform this procedure through the agency of Agricultural Societies have not yet materialised: they will depend upon the Coorgs' capacity for combination.

In asking for the approval by Parliament of the Act of Brussels, 1907, supplementary to the Sugar Convention, the Belgian Government declares that raw sugar, particularly that from Russia and Argentina, admitted to both markets and bounty fed, cannot be imported into Holland as of both origin, so that such sugar on importation will be subject to special duty. The Government has no fear of results detrimental to Holland's exports of sugar to Great Britain.

In the course of an article discussing the production of tea and the position of growers, the *Times Financial and Commercial Supplement* says:—"India will make less than was expected, short yields at the end having followed the good increase made early in the season. Last year's total of 240,000,000 lbs. may not be much exceeded, and considerably less will be received here. The total export last advised by mail showed an increase of about 4,000,000 lbs. which has gone abroad, but later telegrams show that the shipments in the interval have been short, and that there is a considerable falling off in exports to the United Kingdom. Garden returns to the end of October disclosed an average increase of about 2 per cent. in the crop so far gathered, more being made in the aggregate of Assam, Cachar, Sylhet, and Travancore, but less in Darjeeling, Dooars, and the Terai. The best results to growers which can now be said to be already assured, are for those who have made heavy crops at a low cost-price and have been able to sell them readily at 1d. to 2d. per lb. more than they obtained for their last crop. The average of London sales to date is about 8½d. per lb., against 8d. per lb. last season, and of Calcutta sales 6 annas 10 pies against 5 annas 5 pies in 1906. Ceylon will ship a total of about 180,000,000 lbs., contrasted with 170,000,000 lbs. last year, including some that is grown in Southern India but sent through Colombo, estimated to be between two and three million pounds. Of the increase only about 3,000,000 lbs. will come here, the rest having been sold abroad. London sales average 8d. per lb. against 7½d. obtained last year, and Colombo sales have returned the growers 41 cents against 35 cents all round in 1906."

In exercise of the power conferred by section 9 of the Indian Tea Cess Act, 1903 (IX of 1903), the Governor-General in Council is pleased, on the recommendation of the Tea Cess Committee, to declare that sections 2 to 7 of the said Act shall continue in force until the 31st day of March 1913.

NOTICES.

CROP FORECAST.

THE Final General Memorandum on the Sesamum (til or jinjili) crop of the season 1907-08 will appear in the *Indian Trade Journal* of 16th January, 1908. The gist of it in tabular form will be exhibited as usual at the street door of the Office of the Director-General of Commercial Intelligence at No. 5, Clive Street, Calcutta, on the 15th instant at 4 P.M.

CALLS FOR TENDERS.

Military Rations.

The Divisional Contract Officer, Quetta, is calling for tenders for the supply of beef, mutton, beer, porter, oil of sorts, and miscellaneous stores.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Belgian Exports.

(172)—An exporter of Belgian goods and products desires to be represented by an agent in Calcutta.

Felt Cap Manufactory.

(173)—An Indian firm desires to be furnished with an estimate of the cost of erecting a felt cap manufactory and the names of firms dealing in the necessary machinery. (*English and American papers please copy.*)

Wool Machinery.

(174)—A Madras firm requires particulars of any simple machinery for converting rough wool into yarn, its probable cost, and the addresses of dealers.

Sunn Hemp.

(175)—A firm in Belgium, furnishing bank references, desires to open up commercial relations with exporters of Bengal sunn hemp.

Agency Business.

(176)—A Copenhagen firm desires to be placed in communication with exporters of Indian silks, cotton, silverware and other articles suited to the Denmark market.

Kapoc.

(177)—A firm in Genoa desires to be placed in communication with firms exporting kapoc.

Cocoanut Oil.

(178)—An Italian firm wishes to enter into correspondence with large shippers of cocoanut oil.

Indian Products.

(179)—A firm in Odessa wishes to be placed in touch with exporters of copra, rice, tea, coffee, cotton, jute and indigo.

Agave Fibre.

(180)—A firm doing business at Liverpool and on the Continent desires to enter into communication with shippers of agave fibre.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the Ante-Room till Wednesday, 8th January, 1908:—

Parliamentary Publications.

Colonial Reports, Annual Series—No. 551—Northern Nigeria, 1906-07. Local Taxation Returns (England and Wales), 1904-05, Part VII—Summary and Index. Mercantile Marine—Return of the Number, Ages, Ratings and Nationalities of the Seamen employed on the 4th day of April, 1906, etc. United Kingdom—Monthly Account of Trade, November, 1907. Foreign Trade and Commerce—Monthly Accounts for Nov. '07. Treaty Series No. 44—Agreement between the United Kingdom and the United States of America respecting (1) Commercial Travellers' Samples entering the United Kingdom; (2) Import Duties on British Works of Art entering the United States. Signed at London, November 19th, 1907.

Foreign and Colonial Publications.

Australia—Trade, Shipping, Oversea Migration, and Finance of the Commonwealth of Australia, September, '07; Monthly Statistical Bulletin of N. S. Wales, Oct. 1907; Intelligence Dept., N. S. Wales, Bulletin No. 19—Trade of Japan and Korea, 1906; Statistics of the State of Queensland, 1906. Canada—Weekly Trade Report, 2nd December '07. China—Customs Gazette, July to September, '07. Italy—Monthly Account of Trade, August '07. Natal—Statistical Yearbook for 1906. Netherlands—Muntverslag over het Jaar 1906. United States—Bulletin No. 89—Population of Oklahoma and Indian Territory, 1907; No. 90—Supply and Distribution of Cotton for the year ending August 31st, 1907. Special Census Reports—Prisoners and Juvenile Delinquents in Institutions, 1904. Bureau of Plant Industry Bulletin No. 110—Cranberry Diseases. Bureau of Animal Industry—Circular No. 113—Classification for American Carriage Horses. Forest Service, Circular No. 99—Suggestions for Forest Planting on the Semiarid Plains; Circular No. 109—Forest Planting in the North Platte and South Platte Valleys. Office of Experiment Stations—Bulletin No. 193—Studies of the Effect of Different Methods of Cooking upon the Thoroughness and Ease of Digestion of Meat at the University of Illinois. Biological Survey—Bulletin No. 29—Relation of Birds to the Cotton Boll Weevil. Austria-Hungary—Monthly Accounts of Trade, October, '07. Belgium—Monthly Accounts of Trade, November, '07. Canada—Weekly Trade Report, dated 9th December, '07; Annual Trade Accounts, year ending 31st March, '07. Egypt—Monthly Accounts of Trade, November, '07.

Diplomatic and Consular Reports.

Ecuador—Trade and Finances of Ecuador for the year 1906. Austria-Hungary—Finances of Austria-Hungary for the years 1905-07.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to, Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted. A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, JANUARY 9, 1908.

INDIAN YARNS IN EUROPE.

THE *Times of India* has been doing good service by the publication of letters and communications about the carelessness with which many spinners in Bombay have approached the European markets recently opened to them. The successful introduction of Indian yarns into those markets was to some extent the result of efforts on the part of this Department, although it has been clear that many spinners and shippers followed up with considerable enterprise and energy such indications as were given to them, and quickly became independent of official help. But the progress of the movement has, of course, been watched closely. The invasion of the new markets was carried out with vigour and resource, but, unfortunately, without due appreciation of the importance of a first appearance. Some millowners, demoralised by the easy conditions of trade with the Further East, so far as quality and reeling are concerned, would appear to have taken

no special pains to see that their shipments were in accordance with the requirements of their buyers. The immediate result was that considerable quantities of yarn were totally rejected, while heavy allowances were claimed and obtained in respect of others. For these the shippers concerned had themselves to thank. Some of them have no doubt learned their lesson and will try again, using a little more care in their methods. Others, incapable of rising to the level of a new situation, have already withdrawn from the trade; and this is the best thing they can do both for themselves and for those of their competitors who are more alive to the special requirements of the new field. The immediate loss through defective fulfilment of these first contracts is the least of the evils that result. The most serious is the general discredit that is apt to attach to all Indian yarns for some time to come. Fortunately there is a very considerable contingent of Indian spinners who are perfectly alive to the more exacting requirements of the European markets, and who are capable of satisfying them. Even with the best of good will and skill, the business is not free from peculiar difficulties; but the margin secured by the shipment of yarn instead of raw cotton is such that henceforth a substantial quantity of twist is sure to go forward and those spinners who establish a good position at the outset will reap a harvest for many years to come.

The following figures show the shipments to Europe, Egypt and Turkey in the eleven months ending November, 1907, and in the corresponding eleven months of the two previous years.

Cotton—twist and yarn exported by sea from British India during the eleven months (1st January to 30th November) of the last three years:—

Years.	Europe.	Egypt.	TURKEY IN ASIA.	
			Ports in the Levant.	Ports in the Persia Gulf.
	lbs.	lbs.	lbs.	lbs.
1905 . . .	185,179	722,400	751,850	2,214,320
1906 . . .	275,836	895,800	1,904,562	1,363,118
1907 . . .	21,231,760	2,773,198	5,974,368	2,349,490

These are sufficiently striking, and they would probably have been more so but for the unwise haste of some of the shippers and the consequent set-back that has recently been experienced.

The moment chosen for the opening of the enterprise was auspicious, for the great off-take of cotton

fabrics had outstripped the spinning capacity of Europe and created an unprecedented shortage of yarn. And although the prospects of trade in general are not what they were six months ago, it may be found that the prospective lock-out of some 150,000 operatives in England on the 25th instant and the consequent restriction of output will afford India an opportunity of reinstating herself with those Continental buyers whose experience had prejudiced the trade. It is to be very earnestly hoped that the millowners in Bombay will use their opportunity wisely and not ruin their harvest by an attempt to reap it before it is ripe.

CHAMBER OF COMMERCE.**PUNJAB.**

At a meeting of the Punjab Chamber of Commerce, held on the 3rd ultimo, the following matters came up for consideration:—

Read (1) letter No. 1679-1907 from the Secretary, Bengal Chamber of Commerce, dated 29th October, 1907, enclosing copy of revised Bill for the Registration of Partnerships and letter No. 1678-1907, dated 29th October, 1907, submitting same to the Government of India, Home Department; (2) letter No. 1075, dated 28th November, 1907, from the Secretary, Bombay Chamber of Commerce, submitting copy of a draft Bill submitted by his committee to Government; (3) letter No. 247, dated 6th November 1907, from the Secretary, Marwari Association, Calcutta.

The Secretary of the Bengal Chamber points out that should Government decide to attempt legislation, opportunity will be given to all interested to discuss the draft Act, and on this account, and owing to the great delay that has already taken place in the matter, his Committee did not consider it advisable to again consult the other Chambers prior to laying the Bill before Government.

The Secretary of the Bombay Chamber, in forwarding the draft Act as submitted to Government by his Committee, states that, while his Chamber and the Bengal Chamber agree as to the desirability of legislation, it will be noticed that the two draft Acts differ very materially on some important points.

The Secretary of the Marwari Association requests to be favoured with this Chamber's views on the draft Act as submitted to Government by the Bengal Chamber.

Resolution.—The Secretary is instructed to have the two draft Bills drawn up side by side for purpose of easy comparison. The matter to be then remitted to a sub-committee for consideration and report.

Resolution.—The Secretary, Marwari Association, to be informed that the Committee approve of the objects of the draft Act as submitted to Government by the Bengal Chamber of Commerce.

Read letter No. 3268, dated 6th November, 1907, from the Director of Land Records, Punjab, and enclosures dealing with a proposal to institute an export duty of Re. 1 per maund on natural indigo exported from Indian ports. The suggestion emanates from the Behar Planters' Association and the views of this Chamber are requested on it.

Resolution.—The Director of Land Records, Punjab, to be informed that the Committee are not prepared to offer any opinion on this matter.

Read letter No. 12944/1046/2, dated 1st November, 1907, from the Postmaster General, Punjab and North-West Frontier Circle, requesting the Chamber's opinion on a proposal to increase the size of the existing 1-anna embossed envelope from 5½ × 3¼ inches to 6 × 3½ inches and to introduce a new one-anna embossed envelope measuring 9 × 4 inches.

Resolution.—The Postmaster General, Punjab, to be informed the Committee are of opinion that the increase in size of the existing envelope would not be of any material benefit, but that they favour the suggestion of an envelope measuring 9 × 4 inches and believe that its introduction will be appreciated and that it will command a wide sale.

Read the following draft letter regarding the Merchandise Marks Act to the Chambers of Commerce in India:—

The attention of my Committee has been drawn to the following circular which has recently issued from the Bombay Custom House in connection with the working of the Merchandise Marks Act.

Circular.

"I think it necessary that you should impress upon those Banks and Merchants, for whom you act as clearing and forwarding agents, the importance of strict adherence to the provisions of the Indian Merchandise Marks Act. This Act has now been in force for a considerable number of years and should be thoroughly well known by this time to all importers. Nevertheless the number of infringements of this Act appears to be multiplying and very little attempt seems to be made by importers to see that its provisions are properly observed by their manufacturers and shippers. By far the greater portion of these infringements are of a comparatively innocuous character and owe their origin rather to carelessness and laxity than to any deliberate attempt to violate the Act or defraud the Government revenue. It has therefore been the practice at this Customs House to impose in many cases merely nominal penalties which are in proper ratio to the heinousness of the offence. It appears however that these penalties do not have the desired effect of causing any improvement and it seems necessary to resort to more stringent measures. I have therefore decided to impose severe penalties in future for all infringements of this Act and I shall thank you to do your utmost to make this known to your up-country constituents. I propose to institute this measure from the 1st January, 1908."

The Act was introduced with the special object of preventing frauds and merchants have co-operated loyally with it as will be seen from the fact that now the greater portion of the infringements are of a comparatively innocuous character. The infringements, the circular points out, owe their origin rather to carelessness and laxity than to any deliberate attempt to violate the Act or to defraud the Government revenue. My Committee have no sympathy with the carelessness and laxity which is deliberate, but I am to submit that it is to be remembered that India draws its supplies from different countries in many of which English is imperfectly understood, and it is not to be wondered at that the intricate provisions of the Act are

not always complied with. Even in England it is not always possible to maintain in the warehouses and making-up rooms the high order of intelligence that is necessary to prevent mistakes or overlooks of the provisions of the Act.

The Act undoubtedly fulfils its object in preventing frauds, but my Committee are of opinion that it is encumbered with provisions which, while they accomplish nothing useful, impose on the Custom authorities work that is of no practical value and cause inconvenience and loss to merchants and generally hamper trade.

My Committee are therefore of opinion that the Act should be revised in the light of the experience of the Customs authorities and of merchants with a view to the simplification of its provisions and to the narrowing of them down to what is deemed necessary for the prevention of fraud.

I am therefore directed to ask the favour of an expression of opinion from your Committee on the expediency of a joint representation being made from the Chambers of Commerce to Government on the subject.

Resolution.—The draft letter is approved and the Secretary is directed to address copies of same to the Chambers of Commerce, Bengal, Bombay, Karachi, Upper India, Madras and Rangoon.

Read draft letter to the Secretary, Railway Board, stating that it appears to be at present no uncommon thing for merchants to have to wait six or even nine months for a settlement of their claims on State Railways and urging that steps may be taken to secure more prompt examination and settlement in future.

Resolution.—The draft letter is approved.

Read letter No. 1992, dated 28th November, 1907, from the Secretary, Municipal Committee, Amritsar, forwarding copy of a resolution passed at an ordinary meeting of his Committee held on 1st November, 1907, regarding Octroi Regulations in Amritsar.

The resolution is to the effect that in the case of imported goods from foreign countries, the invoice will be accepted for purposes of octroi in lieu of examination of goods.

Resolution.—Letter to be addressed to the Secretary, Municipal Committee, Amritsar, conveying an expression of the Committee's appreciation of the above concession; reference however to be made to this Chamber's letter of 3rd April, 1907, in which it was urged that octroi on piece goods should be totally abolished.

Read letter No. 65, dated 24th November, 1907, from the Accountant General, Patiala State, in which he refers to the iniquitous manner in which traders and others are at present subject to the illegal demands of the subordinate Railway Staff.

Resolution.—Copy of the letter to be circulated to members with a request that particulars of ascertained cases of a similar nature, to that contained in the letter, of which members may be cognizant, be submitted to the Committee for their information.

—It is suggested by Sir Walter Hughes, the Bombay Port Commissioner, that an overhead electric tramway shall be erected to connect the business offices with the new docks.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 19th December, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

PROTECTORATE OF SOUTHERN NIGERIA.—Proposed Free Importation of certain Foodstuffs.

DOMINION OF CANADA.—Customs Decisions.

AUSTRALIAN COMMONWEALTH.—Method of Payment of Duty on Advertising Matter. Tariff Amendments.

DOMINION OF NEW ZEALAND.—Customs Decisions.

SIERRA LEONE.—Tariff Amendment affecting Machinery.

GERMANY.—Alteration in Tare Rates.

GERMAN EAST AFRICA.—Duty-free Admission of Barbed Wire.

GERMANY-TOGOLAND.—Imposition of Import Duty on certain kinds of Fish, and Duty-free Admission of French Coins, &c.

UNITED STATES OF AMERICA.—Customs Decisions. New Sub-port of Entry.

CHINA.—Customs Treatment of Goods Imported into China from Russia by Land.

We give the following particulars of changes interesting to Indian Trade:—

CHINA.

Goods Imported into China from Russia by Land—Customs Treatment of.

With reference to the notice which appeared at page 123 of the *Board of Trade Journal* for the 18th July last on the subject of an agreement between the Russian and Chinese Governments, relating to the opening of Customs houses on the Manchurian frontier, the Board of Trade are now in receipt, through the Foreign Office, of information to the effect that, in accordance with a further arrangement between the two Governments, goods conveyed by the Chinese Eastern Railway from Russia to China are to pay two-thirds of the Treaty Tariff rates so long as they remain within the fixed areas of the railway stations. If conveyed thence to other parts of Manchuria, they are to pay the remaining one-third of the Treaty Tariff rates. If they are transported into China proper, a transit duty of one-half of the Treaty Tariff rates will be levied, i.e., the goods will be in exactly the same position with regard to the payment of duties as goods imported into China by sea.

—The mono-rail seems to have a future in the working of mines. Encouraged by the results in the Langlaagte Deep, where the mono-rails are used for hauling up one-ton trucks, the owners of the Rand mines have ordered installations for all their subsidiary mines. Probably other groups will adopt the mono-rail at an early date. It is also about to be introduced in some mines in Tennessee. The two great advantages of the mono-rail are its mobility and its economy.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 28th DECEMBER, 1907.

Rajputana.—Spring sowing continues in some places. Irrigated crops are on the whole fair; they are suffering for want of rain in Bharatpur and in the hilly and inferior lands in Kotah; elsewhere sowings have been generally raised. Cattle are generally good. Fodder and water are sufficient for the present. Food stocks are being imported. Prices have risen by nearly a seer in Dholpur; slightly in Bharatpur; and owing to imports have fallen in Jaisalmer. Elsewhere prices are unchanged. There is so far a sufficient demand for labour and the condition of the labouring classes is good.

Central India.—[Report not received.]

Central Provinces.—The weather continued clear and cold. No rain fell during the week. Harvesting of autumn crops is almost completed and threshing and winnowing continue. Picking of cotton is in progress. Spring crops are generally in good condition and fair in Damoh, Betul, Drug and Akola. Germination is reported unsatisfactory in Raipur. More rain is required in the Vindhyan districts. Germination of wheat, gram and *ringni juar* which were sown after the recent rains is reported to be successful in Nagpur; but that gram in the Chhindwara tahsil is partly unsatisfactory. *Til*, *tur Masur*, linseed and gram suffered from frost in Chhindwara, the Nerbudda Valley, and the Vindhyan districts; linseed has withered in parts of the Melghat taluk of the Amraoti District; wheat has been slightly damaged by disease in the Dharampur tahsil of the Nimar district. No insufficiency of work for labourers is reported anywhere. Fodder and water are sufficient, but fodder is dear in Sangor; inadequate in Narsinghpur; and becoming scarce in the Darwha taluk of the Yeotmal district. The prices of staple food grains have remained stationary in Jubbulpore and in all districts of the Nagpur and Ohhattisgarh divisions, but there was a rise in the prices of nearly all staples in Sangor; Damoh, Narsinghpur, Nimar and Chhindwara. Wheat became dearer in Sangor and Seoni by 1 seer; by $\frac{1}{2}$ seer in Damoh; and by $\frac{1}{3}$ seer in Chhindwara. The price of wheat in Hoshangabad and *juar* in Buldana fell by $\frac{1}{2}$ and $1\frac{1}{2}$ seers respectively, *juar* became dearer in Chhindwara by 1 seer and $1\frac{1}{2}$ seers in Nimar. The prices of gram rose by $2\frac{1}{2}$ seers in Nimar, by $1\frac{1}{2}$ seers in Hoshangabad; and by 1 seer to $\frac{1}{2}$ seer in Buldana, Sangor, Narsinghpur and Damoh.

Feudatory States.—Rainfall nil. Harvesting, threshing and winnowing of autumn crops and picking of cotton were in full swing. The condition of spring crops is generally good. Fodder and water are sufficient everywhere. Rice in Kawardha and Bastar became dearer by 1 seer.

Bombay.—Slight rain fell during the week in parts of Kanara, Satara and Kolhapur. Rain is generally needed for standing spring crops which are withering for want of moisture in parts of Ahmeda-

bad, the Panch Mahals, Broach, the Deccan and Bijapur; elsewhere crops are in good condition except for slight damage by grasshoppers in parts of Dharwar. Threshing of autumn crops is in progress in parts of Sind, the Konkan, Khandesh, Nasik, Ahmednagar, Kathiawar, Palanpur and Mahi Kantha. Spring sowing continues in parts of Sind, Ahmedabad, Kanara and Nasik. Cotton picking is progressing in parts of Hyderabad, Thar and Parkar, Khandesh, Nasik, Bijapur and Kathiawar. The supply of fodder is adequate except in parts of Ahmedabad, Kaira, East Khandesh and Sholapur. Agricultural stock is generally in good condition. The supply of drinking water is generally sufficient. Water for irrigation is insufficient in parts of Sind, Surat, West Khandesh, Nasik, Poona, Sholapur, Satara and Kathiawar. The quantity of food grains purchasable per rupee is in Sind 30 to 43 per cent; in Gujarat 21 to 53 per cent; in the Konkan 22 to 32 per cent; in the Deccan 22 to 51 per cent; and in the Karnatak 28 to 63 per cent less than the normal. Prices are rising. Stocks of grain are generally adequate. The demand for labour is sufficient and wages are normal. Emigration from the Panch Mahals, Ahmednagar and Sholapur continues. The cultivating and labouring classes are in fair condition. During the week 574 persons were employed on three test works in the Panch Mahals.

Hyderabad.—The rainfall received during the week was 12 cents. Some showers fell in five districts. Cause for anxiety regarding standing spring crops has been completely removed. The season will be a moderate one. Special famine measures are unnecessary. In limited areas, suspensions of revenue will probably be necessary and provision of labour on ordinary works later. Prices in districts show a downward tendency. Prices:—wheat $5\frac{1}{2}$; coarse rice $6\frac{1}{2}$; and *juar* $11\frac{1}{2}$ seers per rupee. In Hyderabad city *juar* is selling at $11\frac{1}{2}$ seers per rupee. The rise is due to the absence of yellow *juar* in the market. The highest price in districts is 9 seers per rupee in eight talukas.

Mysore.—No rain fell in any part of the Province. Prices of food grains have slightly fallen in Kolar and Hassan. Standing crops are in good condition. Crops are being harvested and prospects of the season are good, but rain is needed in parts of Bangalore and Mysore. Cattle are healthy. Water and fodder are available.

Coorg.—Picking of coffee and reaping of rice continued. Prices of food grains are stationary. The public health is fair. Water and fodder are sufficient. Agricultural prospects are good.

Madras.—Rainfall fair in Tinnevely, the Nilgiris and South Canara; below average in Nellore, Madurai, Malabar and Tanjore; and nil elsewhere. Irrigation supplies are insufficient in parts of all districts except Guntur, Chingleput, Trichinopoly, Tinnevely, Malabar South Canara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress in parts. Standing crops are generally fair but some in parts of Vizagapatam, Kistna, Bellary, Cuddapah and

Madura are withering ; and some in parts of Ganjam and Tanjore require more rain. Harvests continue with outturn poor to normal. Pasture is generally sufficient except in parts of the Circars, the Deccan and Madura. Fodder is scanty in parts of Ganjam, Nellore, Salem and Tanjore. The condition of cattle is generally good. The price of rice is stationary in ten districts ; has fallen in seven ; and has risen in five. The prices of millets have fluctuated as follows :—*Ragi* is stationary in eleven districts ; has fallen in four ; and has risen in five. *Cholam* is stationary in three districts ; has fallen in seven ; and has risen in three. *Oumbu* is stationary in five districts ; has fallen in six ; and has risen in six. The public health is generally good. Prospects are fair generally except in parts of the Circars and the Deccan where more rain is required. The condition of the labouring classes is good and employment is procurable.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, Jan. 7th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 6th instant:—

There has been no rain. The harvesting of winter rice, the plucking of cotton, the cultivation of rabi crops, and the pruning and hoeing of tea are in progress.

The prospects of the standing crops are fair to good.

Cattle disease is reported from four districts.

The price of common rice has fallen in one and risen in five districts.

No scarcity is apprehended at present.

THE FAMINE.

Telegram to Secretary of State.

The following is a copy of a telegram, dated 6th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

Moderate rain fell during the week in parts of the Madras Presidency ; slight rain in Burma, Eastern Bengal and Assam, Bombay and Hyderabad ; elsewhere the week was rainless. Rain is urgently wanted in Upper India ; owing to its absence prospects are becoming worse and distress is increasing in the United Provinces and Central India.

The numbers on State relief are now: United Provinces, relief works, 68,404 ; gratuitous relief, 32,928. Central India: relief works, 32,781 ; gratuitous relief 1,897.

No marked increase of crime or wandering has yet appeared in the United Provinces, and the measures taken to meet situation are adequate.

The Bengal report is somewhat more hopeful than before, though rain is wanted badly and scarcity is apprehended in a number of districts. In Orissa, the numbers on test works are still insignificant, but over 3,000 persons, mostly women and children, are

in receipt of gratuitous relief. Some 570 persons are employed on test works in the Panch Mahals district of Bombay.

The total number of persons in receipt of State relief in the whole of India is now 140,000.

The area sown with wheat in British India is estimated to be 34 per cent. less than last year. In the Punjab and United Provinces the decrease is 42 and 35 per cent., respectively. There is also a decrease of 37 per cent. in the area sown with oilseeds. Prices continue to show a tendency to rise.

FINANCIAL SITUATION IN CONSTANTINOPLE.

Constantinople has for some time past, says a correspondent, been in the throes of a commercial crisis which has proved the undoing of a number of firms of established credit, while several others are stated to be in a position of great difficulty. Since the summer no fewer than fifteen more or less reputed houses have failed, their uncovered liabilities ranging between £10,000 and £200,000. The causes of the crisis are many and various. The major portion of the business in Constantinople reposes on a credit basis. The banking establishments of Constantinople are largely responsible. In their anxiety to secure business they have been tempted to encourage merchants to extend their credit beyond reasonable limits. Things went smoothly under normal conditions, but at the first touch of adversity the whole fabric collapsed. The first set-back which the local market experienced was the result of the crisis in Egypt last year. The Egyptian "krach" greatly undermined the credit of Near Eastern business papers generally, and especially in London. The local banks thereupon began to insist on more cover and, scared by the failure of one or two big Armenian firms, refused to show any indulgence, thus greatly accentuating the difficulties of their clients, upon whom they had previously pressed almost unlimited credit. The Armenian houses encountering most difficulty in discounting their bills, gave each other support by mutual endorsement, and thus became seriously involved in each others' affairs.

A second blow was sustained as a consequence of the economic crisis in both Asia Minor and European Turkey. Owing to the failure of crops, not only were no orders received from the interior, but merchants in Constantinople were left with large stocks bought on credit on their hands and no prospect of being able to realise.

One very unhealthy attribution of the local market is the tendency to over-speculation, and this is largely responsible for more than one recent failure. The values which have been chiefly abused for this purpose are the shares of the Balia-Karaidin, Karason, and Kassandra mines ; while Anatolian Railway and Rio Tintos have likewise claimed a fair proportion of victims. Here again the local banks have played anything but a worthy rôle. Clients have been encouraged to speculate on margin, being offered great facilities in the way of credit.

INDIAN WOODS FOR PACKING CASES.

Sources of supply.

We publish below a Memorandum on woods for packing cases, compiled for this office by Mr. R. S. Troup, Imperial Forest Economist, at the instance of the Inspector-General of Forests:—

As the manufacture of packing cases, other than tea-boxes and other boxes for special purposes, has not been extensively carried out in the past, the woods of India have not yet received a very thorough trial for the manufacture of boxes. Below will be found lists of woods used for (1) tea-boxes, (2) Cigar-boxes, and (3) other forms of packing-cases. For detailed information on the woods in question, as regards quantity available and cost of supply, the conservators of Forests in the Provinces concerned might be addressed.

In addition to the woods mentioned in these lists it is probable that many other woods might be found suitable if they were to receive a trial, particularly in well-wooded provinces such as Eastern Bengal and Assam, and Burma. In the latter Province a large number of sawmills are working, and planks could be obtained in quantity ; the cost of supply is an-

other matter, but details could be obtained on application to the Chief Conservator of Forests in Burma, Maymyo.

As regards Assam the supply of *simal* wood is by no means exhausted. In Goalpara and Kamrup there are large supplies of this wood within easy reach of the Gauhati extension of the Eastern Bengal State Railway and also within easy access of the steamers. Details of cost could be obtained on application to the Conservator of Forests, Eastern Bengal and Assam, Shillong.

The following notes apply to the woods used, respectively, for tea-boxes, cigar-boxes, and other forms of packing-cases:—

Tea-boxes.

Although there are many Indian woods well suited for tea-boxes, only certain kinds have been hitherto available at sufficiently cheap rates delivered in the tea districts. Trials are about to be made with some of the numerous Burmese woods which appear suitable, but it remains to be seen whether these will bear the cost of transport to the Indian tea districts.

The chief woods used or suitable for tea-boxes are the following:—

Scientific Name.	REMARKS.	Province in which Found.
<i>Abies Pinrow</i> (silver Fir)	A white deal	Punjab, United Provinces (Himalayas).
<i>Acer Coesium</i>	.....	Ditto
<i>Acer Campbellii</i>	.....	Fengal (Himalayas).
<i>Acer laevigatum</i>	.....	United Provinces, Bengal (Himalayas).
<i>Acrocarpus fraxinifolius</i>	.....	Bengal, Eastern Bengal and Assam (Chittagong), Madras, Lower Burma.
<i>Æsculus indica</i> (Kulu)	.....	Punjab, United Provinces (Himalayas).
<i>Albizia odoratissima</i>	.....	All provinces.
<i>Albizia procera</i>	.....	Ditto.
<i>Albizia stipulata</i>	Quality variable ; sometimes very good	Ditto.
<i>Alnus nepalensis</i>	Not good ; does not hold nails well	Punjab, United Provinces (Himalayas), Assam, Hills of Upper Burma.
<i>Alstonia scholaris</i>	.....	All, but not very abundant.
<i>Amoora Rohituka</i>	.....	Bengal, Assam, Oudh (Gonda), Bombay, Madras, Burma.
<i>Anacardium occidentale</i>	.....	West coast of India (Bombay and Madras).
<i>Anthocephalus Cadamba</i>	A good box wood	Bengal, Eastern Bengal and Assam, West coast of Bombay and Madras, Burma.
<i>Aquilaria Agallocha</i>	Has been recommended	Bengal, Eastern Bengal and Assam, Burma (Tenasserim).
<i>Beilschmiedia sikkimensis</i>	.....	Fengal (Himalayas).
<i>Bombax Malabaricum</i> (Simal)	Should be either water-seasoned or sawn up green. If seasoned in the log the wood is apt to become discoloured.	All provinces.
<i>Canarium bengalense</i>	.....	Bengal, Eastern Bengal and Assam.
<i>Canarium sikkimense</i>	.....	Bengal.
<i>Casearia glomerata</i>	Sometimes used	Bengal (Himalayas), Eastern Bengal and Assam.
<i>Castanopsis tribuloides</i>	.....	United Provinces, Bengal (Himalayas), Eastern Bengal and Assam, Burma, in hills.
<i>Cedrela microcarpa</i>	.....	Bengal (Himalayas), Eastern Bengal and Assam.
<i>Cedrela multijuga</i>	.....	Burma (Tenasserim).
<i>Cedrela Toona</i>	A very good tea-box wood	All provinces.
<i>Cinnamomum obtusifolium</i>	.....	Bengal, Eastern Bengal and Assam, Burma, Andamans.

Tea-boxes—continued.

Scientific Name.	Remarks.	Province in which Found.
<i>Cordia Myra</i> . . . . .	.....	All provinces.
<i>Diptocarpus pilus</i>	Said not to be good owing to the resin in the wood, but sometimes used.	Eastern Bengal and Assam.
" <i>turbinatus</i>	(Gurjan)	Eastern Bengal and Assam, Burma, Andamans.
<i>Duabanga sonneratioides</i>	One of the best tea-box woods, much in request in Bengal and Assam.	Bengal, Eastern Bengal and Assam, Burma.
<i>Echinocarpus dasyarpus</i> . . . . .	.....	Bengal (Himalayas).
<i>Ehretia Wallichiana</i> . . . . .	.....	Ditto.
<i>Eloeocarpus lanceaefolius</i> . . . . .	.....	Bengal (Himalayas), Eastern Bengal and Assam.
<i>Engelhardtia spicata</i> . . . . .	.....	Bengal, Eastern Bengal and Assam, Burma, in Hills.
<i>Erythrina arborescens</i> . . . . .	.....	Bengal, Eastern Bengal and Assam.
" <i>indica</i> . . . . .	.....	Coasts of Bengal, Burma, and Madras.
<i>Ficus Glomerata</i> . . . . .	.....	All Provinces.
<i>Garuga pinnata</i> . . . . .	.....	All provinces, including Andamans.
<i>Gmelina arborea</i>	Will probably be found too valuable for rough packing cases. An excellent wood for the better classes of boxes.	All provinces.
<i>Lindera pulcherrima</i> . . . . .	.....	United Provinces (Kumaon), Bengal (Himalayas), Eastern Bengal and Assam, Burma, in Hills.
<i>Machilus bombycina</i>	Said to be good for tea-boxes, but not much used as the tree is rarely felled, being one of the trees on which the Muga silk worm is reared.	Eastern Bengal and Assam.
" <i>edulis</i> . . . . .	.....	Bengal (Himalayas).
" <i>Gammieana</i> . . . . .	.....	Ditto.
<i>Magnolia Campbellii</i> . . . . .	.....	Ditto.
" <i>Pealiana</i> . . . . .	.....	Eastern Bengal and Assam.
" <i>Pterocarpa</i> . . . . .	.....	Bengal, Eastern Bengal and Assam.
<i>Mangifera indica</i> (Mango)	The chief tea-box wood in Dehra Dun .	All provinces.
<i>Melia composita</i>	Suitable for tea-boxes	Bengal (Himalayas) Eastern Bengal and Assam Bombay, Madras, in Hills.
<i>Michelia Cathcartii</i> . . . . .	.....	Bengal (Himalayas), Eastern Bengal and Assam (Naga Hills).
" <i>Oblonga</i> . . . . .	.....	Eastern Bengal and Assam.
<i>Millingtonia hortensis</i>	Probably suitable	Much cultivated throughout India.
<i>Morus indica</i> . . . . .	.....	Punjab, United Provinces, Bengal.
<i>Nyssa sessiliflora</i> . . . . .	.....	Bengal (Himalayas).
<i>Pentace burmanica</i>	Suitable for tea-boxes	Burma.
<i>Phoebe attenuata</i> . . . . .	.....	United Provinces, Bengal, Eastern Bengal and Assam.
<i>Picea Morinda</i> (Spruce)	A white deal	Punjab, United Provinces, Bengal (Himalayas).
<i>Pinus excelsa</i> (Blue pine)	A pinkish deal, of fine quality	Ditto ditto.
<i>Pinus longifolia</i> (Chir pine, or chil)	A whitish deal	Ditto at low elevations.
<i>Podo-carpus nerlifolia</i>	Very suitable, but probably not obtainable in sufficient quantity.	Bengal, Eastern Bengal and Assam, Burma, Andamans.
<i>Populus ciliata</i>	Suitable, but probably not obtainable in large enough quantities.	Punjab, United Provinces, Bengal, (Himalayas).
<i>Shorea assamica</i> . . . . .	.....	Eastern Bengal and Assam.
<i>Sonneratia apetala</i> . . . . .	.....	Tidal forests of Bengal, Madras and Burma.
<i>Spondias axillaris</i> . . . . .	.....	Bengal (Himalayas), Nepal.
<i>Sterculia alata</i> . . . . .	.....	Bengal, Eastern Bengal and Assam, Burma, Andamans.
" <i>villosa</i>	Formerly not considered suitable, but now much used in Bengal.	All provinces, including Andamans.
<i>Stereospermum chelonoides</i> . . . . .	.....	All provinces.
<i>Terminalia myriocarpa</i> . . . . .	.....	Bengal, Eastern Bengal and Assam, in Hills.
<i>Tetrameles nudiflora</i> . . . . .	.....	Bengal, Eastern Bengal and Assam, Burma, West coast of Bombay and Madras.
<i>Torriceilia tiliaefolia</i> . . . . .	.....	Bengal, Eastern Bengal and Assam.
<i>Vateria indica</i>	Doubtful	Western Ghauts of Bombay and Madras.
<i>Wendlandia tinctoria</i> . . . . .	.....	All provinces.

Cigar Boxes.

The chief woods used for cigar-boxes are as follows :—

Scientific Name.	Remarks.	Province in which Found.
<i>Adina cordifolia</i>		All provinces.
<i>Cedrela microcarpa</i>		Bengal (Himalayas), Eastern Bengal and Assam.
" <i>Toona</i>		All provinces.
<i>Melia Azedarach</i> (Persian lilac)		Cultivated all over India.
" <i>Composita</i>		Bengal (Himalayas), Eastern Bengal and Assam (Khasia Hills), Bombay and Madras (Western Ghauts).
" <i>indica</i> (Neem)		Planted all over India. Wild in Upper Burma, and perhaps in the Deccan and Carnatic.

In addition to these, woods worth trying for cigar-boxes, are *Cedrela multijuga* (Burma), *Dysoxylum binectariferum* (Bengal, Assam, Western Ghauts), *Evodia meliaefolia* (Eastern Bengal and Assam), *Pentace burmanica* (Burma), and *Shorea assamica* (Eastern Bengal and Assam).

Other forms of packing-cases.

Among the woods more generally used are the following :—

Scientific Name.	Remarks.	Province in which Found.
<i>Adina cordifolia</i>	Has been tried for opium chests, but has not given satisfaction.	All provinces.
<i>Ailanthus excelsa</i>	A white soft wood	Bombay, Central Provinces, Madras.
<i>Anacardium occidentale</i>	Used for indigo-boxes in Madras	Introduced from America and established in the coast-forests of Bombay and Madras.
<i>Poswellia serrata</i>	Used for mica-boxes in Bengal; often used for rough packing-cases, has been unsuccessfully tried for opium-boxes	All provinces, except Burma and Assam.
<i>Bombax cambodienae</i>	Used for packing-cases in Burma. Better than ordinary simal.	Upper Burma.
<i>Bombax insignis</i>	Used for sugar boxes in Burma. Better than ordinary simal.	Burma, Bombay (North Kanara), Chittagong.
<i>Butea frondosa</i>	Used for rough packing cases; has to be cut green and seasoned in the plank, otherwise it becomes discoloured.	All provinces.
<i>Cedrus Deodara</i> (Deodar)	Used for packing-cases by the Ordnance Department.	Punjab, United Provinces (Himalayas).
<i>Dipterocarpus alatus</i>	Used for packing-cases	Burma.
" <i>tuberculatus</i>	Ditto	" Chittagong.
" <i>turbinatus</i>	Ditto	" Andamans, Eastern Bengal and Assam
<i>Erythrina indica</i>	Used for rough packing-cases	Coasts of Bengal, Burma and Madras.
" <i>suberosa</i>	Ditto	All provinces.
<i>Ficus bengalensis</i>	Used for opium chests in the Central Provinces.	Ditto.
<i>Hymenodictyon excelsum</i>	Used for packing-cases in Burma	Ditto.
<i>Lagerstromia lanceolata</i>	Coffee-boxes	Bombay and Madras.
<i>Mangifera indica</i> (mango)	Largely used for packing-cases, for which purpose it is used by the Ordnance Department. Used for opium-boxes, where obtainable, in Bengal.	All provinces.
<i>Odina Wodier</i>	Packing-cases	Ditto.
<i>Populus alba</i>	Afghan grape-boxes	Kashmir.
" <i>nigra</i>	Ditto	" Punjab (Himalayas).
<i>Shorea robusta</i>	Formerly used for opium chests, but now considered too expensive.	United Provinces, Central Provinces, Bengal Eastern Bengal and Assam.
<i>Stephegyne diversifolia</i>	Used for packing-cases in Burma	Burma, Andamans, Chittagong.
<i>Sterculia foetida</i>	Used for cheap boxes in Mysore	Bombay and Madras (West Coast), Burma (Tenasserim).
<i>Terminalia belerica</i>	Used for coffee-boxes in Southern India	All provinces.
<i>Wrightia tomentosa</i>	Indigo-boxes	Ditto.

TRADE OF YEZD.

Large Orders for Bombay.

MR. VICE-CONSUL BAGGALY reports as follows on the Trade of Yezd for the year 1906:—

As no statistics are available for reference it is somewhat difficult to prepare a trade report that shall be of real value, there being no means of making exact comparisons one year with another. One can only gather approximate information from the leading merchants and from this information form a general estimate of the state of trade. The imports of chief interest are cotton yarns (lower counts from India, higher from the United Kingdom), cotton piece-goods, tea, sugar, indigo, copper sheets, block tin, tin sheets, candles, kerosene oil, matches and spices.

As regards British cotton piece-goods, the year 1906-07 has been on the whole a very unsatisfactory one for merchants. In the earlier months of the year trade was practically paralysed by a series of failures, largely due to over-trading consequent upon the facilities offered by accommodation paper. Towards the end of the year trade improved somewhat, being assisted by foreign exchange, which gradually fell. A difficulty with which British merchants in Yezd have to contend arises from periodical imports from Shiraz by native merchants. Such imports are invariably sold at prices very much below those current in the bazaars and for the time being spoil the market. This form of trading can only be carried on at a considerable loss, which presumably falls on the consignor at Shiraz, who resorts to this method of raising funds.

Indian, China and Java Teas.

About 6,500 lbs. of China white tea, known as "Appar," were imported during the year under review for local consumption only. There appear to have been no imports of China green and black tea during the year. The yearly demand for Java tea, known as "Lamsar," is estimated to be about 1,000 cases of 10 lbs., net per box, and it is estimated this quantity was imported during the year. Indian tea is not consumed locally. Yezd merchants distribute this tea to Koom, Kashan and Tehran, and it is said the demand for it at those places is steadily increasing. Very little, if any, was sent to Khorassan.

Sugar.

The large imports of Marseilles loaf sugar practically swamped the market, and it is very doubtful if any profit was earned in this trade during the year 1906-07. The fall in exchange was more than counteracted by the high rates of transport from the coast. One reason for the excessive imports of this sugar is said to have been the small quantity of crystal sugar imported from Russia owing to the disturbed state of that country, and as crystal sugar is refined locally and made into loaves the deficiency had to be met by importing loaf sugar.

Indigo.

In the Yezd trade report for 1905-06, page 7, attention was drawn to the efforts being made by a German firm to introduce Synthetic Indigo. To facilitate this their representative, who visited Yezd in February, 1906, gave away small quantities for experimental purposes, and it would appear that those who have tried it are so satisfied with the results they have obtained that there is now a steady and increasing demand for this particular indigo. Merchants obtain it from an agent in Tehran.

Copper and Tin.

Owing to the very enhanced prices of metals at home the imports of copper sheets and block tin must have realised quite nominal profits, and the quantities imported during 1906-07 cannot have been great. Nevertheless, as these metals are absolutely essential for the manufacture and whitening (tinning) of cooking pots, there must always be some demand for them be the prices what they may.

Tin sheets are chiefly used in the manufacture of packing cases for exporting opium abroad, but as the export trade in opium is practically dead, the demand for tin sheets has correspondingly decreased.

The demand for Rangoon candles is steadily increasing and they are gradually displacing Continental makes.

Only Russian kerosene oil is found in the Yezd bazaars. Trade was remunerative during the year under review and prices were lower than during the year 1905-06, *vide* Appendix C.

Russian and Japanese matches still hold the market, but a large order has been placed for Swedish matches.

Transport.

As regards transport from Bunder Abbas to Yezd, although the very high rate of 500 krans per 100 shah mans, or 1,300 lbs. during the year 1905-06 was not reached the general average was abnormally high, for which the large imports of sugar were responsible. The rates from Bushire to Yezd were also correspondingly high, due partly to scarcity of mules and to the forwarding of large quantities of telegraph material for the Indo-European Telegraph Department.

Several robberies of caravans of minor importance occurred during the year, but the roads generally were much safer than during the year 1905-06 owing to the vigilance and drastic measures of the local authorities. In October and November, 1906, they succeeded in capturing seven or eight robbers, including three notorious leaders. All these men were executed and their heads carried round the Yezd bazaars.

Local Products.

The local products of chief interest are opium gum tragacanth, cotton, assafetida, silk, almonds, walnuts, pistachios, madder root and pomegranates.

Owing to the crash in prices for opium in both London and China the trade with those places is

practically dead, so much so that the local cultivation is now about one-tenth of what it formerly was. Still, the importance of Yezd as a distributing centre for opium consumed in Persia appears to be in no way diminished.

The supply of both gum tragacanth and assafetida has been good during the year, more especially gum tragacanth, owing to the exceptional rainfall, and remunerative business was done in both. It is to be regretted that some traders still persist in adulterating assafetida, which practice can only tend eventually to ruin the trade.

Both the supply and demand of raw cotton were limited during 1906-07, and sales were effected at unremunerative rates. The supply of almonds, walnuts and pistachios was exceptionally good and trade in them remunerative. Madder root is mostly used locally, only a small quantity being exported. Formerly what little was exported went to Bombay, but during the year 1906-07 less went to that place than in previous years, and a small quantity went to Shahrud, its ultimate destination being Russia. It is said that this is the first time this product has been exported from Yezd to Russia.

Local Industries.

The local industries of chief importance are cotton and silk weaving, henna grinding and working up opium into sticks. There seems to be an increasing demand for cotton and silk stuffs of local manufacture, due, it is said, to the efforts made by the Persian National Assembly to induce natives to encourage home industries by wearing garments the materials of which are of local manufacture. The quality of the Yezd silk is also improving, cultivators having successfully imported eggs of the silkworm from Resht, which are much superior to the eggs of the Yezd silkworm.

Although the amount of opium cultivated locally has considerably diminished, it is imported and worked up into sticks. The Yezd climate being excessively dry lends itself to this process by giving the sticks a nice colour, consequently opium worked up in this way in Yezd has a good reputation throughout Persia and there is a great demand for it. Only the best quality of opium is consumed in Persia.

The crops of barley and wheat were exceptionally good and sufficient for six months' local consumption. It is considered a good year when they are sufficient for four or five months' local consumption. No census is taken. The best authorities fix the population of the town of Yezd at about 60,000, made up as follows:—Parsis, 7,500; Jews, 1,000; Armenians, 40; and the remainder Mahomedan Persians, with the exception of 20 Europeans, all of whom are British subjects.

Public Credit.

I am indebted to Mr. E. Montague Eldrid, manager of the Yezd branch of the Imperial Bank of Persia, for the following remarks on the state of trade and public credit during the year 1906-07:—

"There has been no marked recovery in the local trade of Yezd during the year under review. The

demand for its silk and cotton manufactures does not appear to have increased much; weavers certainly being unenterprising and taking no steps to find markets for their manufactures or endeavouring to ascertain the popular requirements as to colour, pattern, etc. On the other hand it must be said that they receive no encouragement whatever, so any lack of enterprise on their part can scarcely cause surprise.

"The disturbed state of the country has undoubtedly adversely affected trade, but since the heavy import duties on tea have diverted so much traffic which formerly passed through Yezd and Yezd merchants' hands on its way to the province of Khorassan and over the border into Russia, the foreign trade of Yezd has yearly become of less importance. It may here be remarked that the major part of Yezd's foreign trade is with India, and several of the merchants have offices in Bombay.

"The low rate of exchange, especially during the latter part of the year under review, has been favourable to importers, and large orders are said to have been placed in Bombay. There have, however, been so many losses in Yezd owing to failures that many merchants are nervous of operating largely, whereas several wholly devote their capital to financing others at a rate of 12 per cent. per annum.

"The insecurity of the roads, indifferent and irregular transport service to Bunder Abbas, inferior means of communication with that port and the high import duties all stand largely in the way of Yezd becoming an important customer for foreign goods."

—An interesting series of experiments to demonstrate the relative speeds of electric and steam locomotive trains have lately been made upon a six-mile stretch of the New York Central Railway. The two trains, identical in weight, ran side by side upon an ordinary railway track with easy gradients and curves of average radius. Both the steam and the electric locomotives were of the latest design, the former weighing 108 and the latter 90 tons. In the first run the electrically hauled train came in two lengths ahead, and reached a maximum speed of 57 miles an hour to the steam-engine's 50. The result of all the other five races was the same—victory for electricity. In the second run the electric train reached a speed of 60 miles an hour to the steam train's 53.6, and in the third run 61.6 miles to 58 miles an hour. In the last two trials the electric locomotive was run at full speed; with one coach attached its maximum speed was 79 miles an hour, and without any coach over 80 miles an hour. Had not the precaution been taken of shutting off the power when rounding curves, a speed of 90 miles an hour would probably have been reached. The net result of these runs seems to be a demonstration that, the conditions being equal, a lighter electric locomotive will haul a load of given weight at a higher speed and with greater powers of acceleration than a steam locomotive.

HEREDITY IN PLANT LIFE.

An Important Discovery.

THE scientific world is on the point of giving full recognition to a new, strange, and deep-rooted law, writes W. Beach Thomas in the *Daily Mail*; and is a satisfaction to know that in a few months some of the most striking of its practical results will be published by a body of English scientists.

The new secret is known as Mendel's law. No one has yet been able to give an abstract description of its root principle or find any formula to express it. But the law seems to touch the ultimate mystery of heredity, and some of its workings may be prophesied with indisputable precision. Briefly the law is this: When pure stocks or strains are crossed, it is found that a certain list of qualities—of which more are being discovered daily—remain, so to speak, indestructible, and appear uncontaminated in a definite proportion of the offspring of all generations after the first.

A concrete example will best show the practical effect of the law. When the tall variety of sweet pea and the short variety of sweet pea are crossed, the first generation are all tall. Tallness is the "dominant" quality over shortness, which is called "recessive." But in the second generation it is found that just one-quarter are dwarf, and not only are they dwarf out they will remain pure dwarf, without any reversion, and when crossed with dwarf will never again show sign of tallness. The other three quarters will be tall, and of these tall again just one-quarter will be pure tall, and never again show signs of dwarfness. The remaining two quarters will be impure but again when crossed with their like will give both pure tall, pure dwarf, and mongrels in due proportion. So that we find in all grandchildren, so to speak, of pure strains the proportion 1:2:1 has a mystic application—that is, one-quarter of these grandchildren will be exact or pure reproductions in one quality of their grandmother, one-quarter will be pure reproductions of their grandfather, and two quarters, though resembling one grandparent, will have latent in them the qualities of both.

The New Darwinism.

"Mendelism"—a word with which no doubt all shall soon be as glib as we are with "Darwinism"—and "evolution"—is both a simple and a complex thing. The law in many of its workings is difficult to trace and is open to dispute, but it has, as I have said, reached especially in the hands of the Cambridge biologists, results that are plain and undoubted. The apparent anomalies issuing from the law of heredity that Mendel discovered have baffled both breeders of animals and cultivators of plants for centuries. In regard to animals, the simplest and best known case in common experience is perhaps that of the blue Andalusian fowl. If the pure black and speckled white varieties be mated together all the chickens will be "blue Andalusians." But mate

two of the blue Andalusians, and it always happens that the chickens are of three sorts—some black, some speckled white, some of the composite colour known as blue Andalusian, and the most inexplicable fact in this family picture of inherited qualities is that both the blacks and the whites, as also half of the descendants of the blues in the next generation may be called pure bred—that is, in certain definite respects no trace of the cross will again appear in their progeny. This issue, though it has a rather different appearance, is theoretically much the same as in the case of the peas, and proves the existence of a deep-rooted law that will revolutionise the science of developing varieties.

Profitable Varieties of Wheat.

In the Cambridge experiments, wheat has been found to be endowed above other plants with "Mendelian characteristics." The strength of the straw, the length of the ear, the quality of the grain, the resistance to rust—that bane of farmers—all answer to the test. The result is that a man of science can in these respects turn out a new wheat to order within two years, and be quite certain that it will keep true. This has been already done. The great triumph of the Cambridge experiments is to have created a wheat which combines the "strength" of Manitoba hard grain with the yield of the softer English wheats, and it is maintained that already the value of the English wheat crop can be improved by 10s. or more per acre. This is but a foretaste of what can be done. It is expected, for example, that a turnip of vastly increased food value will soon be "fixed." We may presently have a potato with a double percentage of alcohol, and English farmers would thus be able to feed their beasts at reduced cost, and perhaps manufacture out of their own tubers alcohol for driving their own machines and cultivators.

Of course, in the past wonders have been effected by those scientists, known as "the fancy" in getting new varieties of animals and plants, but the work has been done by slow and uncertain methods. Breeders and growers have picked out "sports," or exceptional individuals, and in each generation selected those offspring that had the largest share of the particular virtue required. Some of the successes have been remarkable, if slowly attained; but it has been found almost impossible to know which would breed true; and the pure stocks have often been found miserably delicate. With the help of the new law more wonderful results can be attained within no more than two or three years and with great certainty. Incidentally, the whole conception of what is meant by a pure breed has been altered. The new knowledge will enable the scientific grower to get a pure stock by crossing with stocks once thought impure, and thus give to the new variety at any time that it may be required all the strength of the mongrel without in the least impairing its pure character.

DETERMINATION OF NICOTINE IN TOBACCO.

A New Method.

THE following extracts are taken from one of the *Miscellaneous Papers* recently issued by the U. S. Department of Agriculture as Bulletin No. 102 of the Bureau of Plant Industry. The method proposed will facilitate the tests attending the improved cultivation of Indian tobaccos:—

Nicotine is the characteristic alkaloid of tobacco, and thus far has not been found in any other plant. Its function in the economy of the plant is not understood, and it has not been determined with certainty whether it plays a rôle in nutrition or is simply a waste product resulting from katabolic changes in the albuminoid constituents. The physiological effects on the human system resulting from the use of tobacco are doubtless due chiefly to the presence of nicotine, though in the case of tobacco used for smoking purposes other constituents of the smoke probably play a considerable part. On the other hand, it has been repeatedly shown that the burn, flavour, aroma, and other important qualities of tobacco are in no sense proportional to the amount of nicotine present. Indeed, even the "strength" of manufactured tobacco—using this term in the sense understood by the trade—is not dependent upon the nicotine content. It seems only reasonable, however, to suppose that tobacco entirely free from nicotine would no longer prove satisfying to the consumer any more than would whisky deprived of all its alcohol.

Numerous attempts have been made to devise a process for the partial removal of the nicotine from tobacco, either before or after it is manufactured, by appropriate treatment, and many patents have been issued for processes intended to accomplish this result, but none of the proposed methods has as yet proved sufficiently practicable to come into general use, and this is not surprising when it is remembered that the flavour and aroma of tobacco are comparable in delicacy to those of tea and coffee and that consequently even the mildest treatment for the removal of the alkaloid is almost certain to result in injury to these qualities.

There can be no doubt that there would be a genuine demand for tobacco containing only a very small percentage of nicotine but retaining the other attributes of the best grades of the crop as now produced, especially in the case of the cigar-filler types. The most rational method of attaining this end would seem to lie in the systematic breeding of types characterized by their low nicotine content, and at the same time avoiding those soils, fertilizers, and cultural methods which tend to the excessive production of the nitrogenous constituents of the plant.

The Proposed Method.

In endeavouring to devise a method for estimating nicotine suited to our requirements, three principal

objects were kept in mind, namely, the use of a comparatively cheap solvent, the extraction of the nicotine without the use of an extraction apparatus requiring the application of heat, and the direct titration of the extract without previous distillation. Our process as finally adopted accomplishes all of these ends, as will appear below.

Gasoline or ligroin was chosen as the most suitable solvent. This is prepared by shaking the crude gasoline of 70° with concentrated sulphuric acid and distilling and collecting the distillate coming over between the limits of 60° and 100° C. By using a product with high boiling point, the evaporation which takes place during the filtration of the extract is reduced to a minimum and there is little danger of explosions occurring from the accumulation of the vapours in the atmosphere of the room. A number of preliminary experiments were carried out to determine the conditions necessary for the complete extraction of the nicotine from the tobacco and the effect of varying amounts of ammonia on the results obtained by titration of the extracts.

Preliminary Experiments.

In order to avoid the possibility of the presence of organic acids in the extract and to insure the complete extraction of the nicotine, a fixed alkali must be added, and this is best applied in aqueous solution. Gasoline and water are immiscible and their mutual solubility is very slight, but these facts do not in any way hinder or retard the extraction of the nicotine, since the latter is easily soluble in both the water and the gasoline.

It is necessary to agitate the mixture only occasionally to avoid too great concentration of the nicotine in the portion of either solvent which happens to be in direct contact with the tobacco. Using the ligroin in quantities of 100 c. c. to 6 or 8 grams or less of tobacco, it was found that the extraction of the nicotine is complete at the end of four hours, and when the quantity of the latter in the tobacco is small less time is required. Ligroin is capable of dissolving only a very small quantity of ammonia gas, and even this is rapidly given off when the solution is exposed to the air, and especially when it is also agitated. It was found by experiment that 100 c. c. of ligroin saturated with ammonia, after being allowed to stand one hour in an unstoppered Erlenmeyer flask, retained less than 5 milligrams of this base. On the other hand we have found that no loss of nicotine whatever occurs when a solution of 0.3 gram of the base in 100 c. c. of ligroin—equivalent to 5 per cent. nicotine in 6 grams tobacco—is allowed to stand several hours in an open beaker at ordinary room temperature. Tobacco, especially after it has been fermented, contains considerable quantities of ammonia, but it was found that only a small proportion of this is contained in the extract; hence the quantity dissolved is not sensibly affected by the varying amounts contained in different samples of tobacco. This fact is of

importance, because it renders the subsequent removal of the ammonia a very simple matter; in fact, even if no attempt is made to remove the ammonia in solution, the error resulting therefrom will not exceed 0.2 per. cent.

Description of the Method.

From these preliminary data we have been able to work out the details of a very simple method for the quantitative estimation of nicotine which is both rapid and accurate and requires nothing but the simplest forms of apparatus and inexpensive materials.

The air-dried sample is pulverized by passing through a sieve containing twenty or more wires to the inch. For exact work the water content is determined by drying over sulphuric acid for forty-eight hours. 1 gram of the sample on a large watch glass placed in a desiccator, while for approximate results the air-dried sample may be assumed to contain 5 per cent. of water. Six grams of the pulverized sample are weighed into a beaker, from 3 c. c. to 5 c. c. of 5 per cent. aqueous caustic soda solution are added, and the mixture is stirred with a steel spatula until homogeneous. The quantity of caustic soda solution to be used depends on the character of the tobacco to be analyzed; thin, light-bodied samples, such as cigar-wrapper tobaccos, require a larger amount of the solution than do thick, heavy samples, such as domestic cigar-filler types.

The moistened sample is next transferred to a 200 c. c. glass cylinder and 100 c. c. of the ligroin are added. The cylinder is tightly stoppered and the contents thoroughly agitated for a few minutes, after which the cylinder is placed in a horizontal position. This insures the exposure of a maximum amount of surface of the tobacco to the solvent action of the ligroin. Stout glass tubing of suitable diameter and length, sealed at one end and fitted with a good soft cork, serves equally as well as the cylinder for the extraction. After four hours, during which time the contents of the cylinder should be thoroughly agitated at intervals of about thirty minutes, the latter is placed in an upright position in order to allow the upper portion of the gasoline to clarify. After thirty minutes or longer the extract is passed through a folded filter, care being taken to first moisten the filter with the clear portion of the gasoline.

The extract is poured off from the tobacco without bringing the latter on the filter, and further portions are pressed out by means of a glass rod flattened at one end. The filtration should be carried out as rapidly as possible in order to avoid loss from evaporation, and as soon as all the extract can be brought on the filter the funnel should be covered with a watch glass. An aliquot portion of the filtrate—conveniently 75 c. c., corresponding to best 5 grams of tobacco—is measured into a dry separator funnel, which is left unstoppered and allowed to stand for about an hour in order to remove the ammonia. As has already been stated, no loss of

nicotine is to be feared by this treatment. Instead of allowing the extract to stand in the funnel a slow current of air may be drawn through it for five minutes by means of a stopper supplied with inlet and outlet tubes, the latter of which is connected with a filter pump. After the ammonia has been removed 10 c. c. of fifth-normal sulphuric acid in about 50 c. c. of water are introduced into the funnel and the contents thoroughly shaken. After drawing off the aqueous layer the gasoline is washed twice with small volumes of water and the excess of sulphuric acid titrated with tenth-normal alkali, using cochineal as the indicator.

This method of titrating the nicotine may be modified as follows: The measured portion of the filtered extract is placed in a 250 c. c. Erlenmeyer flask and allowed to stand an hour. The standard acid is then run in and a convenient volume of water added. The contents of the flask are thoroughly shaken, and after the two layers have separated the greater portion of the ligroin is drawn off by means of a pipette.* The excess of acid is then titrated as before. One cubic centimeter of fifth-normal sulphuric acid is equivalent to 0.0324 gram of nicotine.

As has already been stated, the only reliable method for the determination of nicotine heretofore available is that of Kissling, and we have used this as the standard for comparison. The nicotine content of a large number of samples of tobacco of different types has been determined both by the Kissling process and by the new method.

Conclusion.

The results indicate that the new method gives figures averaging a few hundredths per cent. lower than the Kissling method. This difference is due to the water added to the sample along with the caustic soda, which is not taken into account in the calculations. From 3 to 5 c. c. of water are thus added depending upon the character of the tobacco. As is well known, tobacco is markedly hygroscopic, and a considerable portion of the added water is doubtless held in loose chemical combination with the salts contained in the tobacco, and hence does not act as a solvent for the nicotine. The portion of the water not thus combined, however, really forms a part of the nicotine extract. It was found by experiment that the relative solubility of nicotine in ligroin and in water is in the ratio of 11 to 9. The mutual solubilities of ligroin and water are so slight as to be negligible, and there is no appreciable contraction in volume when the two are mixed. Taking all the facts into consideration, it is clear that the actual error resulting from the addition of the water to the sample to be analyzed is too small and variable to attempt any correction therefor.

It should be observed in this connection that those types which contain the highest percentage of nicotine belong to the class of heavy filler tobaccos, and

* It is necessary to remove the greater portion of the gasoline before titrating because of the yellow colouring matter which it contains in solution.

hence require the addition of only the smallest quantity of water. This, of course, tends to equalize this source of error. The analyses by the Kissling method were not made in duplicate, and differences in the results obtained by the two methods amounting to one-tenth of 1 per cent. or more are doubtless due to slight experimental errors.

After a very careful test of our new process, we are fully convinced that it gives very reliable and accurate results, while it is so simple in execution that there are few chances for the occurrence of errors in manipulation.

POSITION OF THE WOOL TRADE.

THE *Times* Financial and Commercial supplement of December 13th has a long article on this subject from which we extract the following particulars:—The influences making for the increased consumption of wool (unless much affected by the coming decline in trade) must become intensified in the future, while the prospect of much more important trade with the Far East than is done to-day is by no means a remote contingency. To meet this increasing demand authorities generally hold out no likelihood of more ample supplies. Many formerly important sources of production tend annually to become smaller. Decrease in European domestic clips is inevitable, growth of population and high farming accounting for the considerable diminution in the flocks in the German Empire there were last year some 3,000,000 fewer sheep than in 1900, and returns from other Continental countries show a substantial falling off. Of even greater significance, and of special importance as affecting the position of coarse wools, is the lessened export from the Argentine Republic, where the official figures show that a production of 228,000 tons in 1901 (the South American bale is so much larger than the Australasian that a comparison in tons is preferable) dropped to 149,000 tons in 1906. Some increase from South Africa is possible, and much energy is being shown by a section of the pastoral industry in that country towards acquiring a much needed improvement in their flocks but the contribution from this quarter cannot be sufficiently great to make adequate compensation for the growing deficiency in other countries. It has been already stated that the Australasian clip has this year reached a record figure. That it can be much exceeded seems most improbable. Over the vast continent of Australia there are few years when drought is not reported from one of the States, and increase in one direction is counterbalanced by decrease in another, while the policy of "closer settlement," which has become, thanks to late prosperity, so popular in both the Commonwealth and the Dominion of New Zealand, tends towards the rearing of fewer sheep. Estimates as to the size of even a coming clip are apt to be erroneous. The latest reports indicate the certainty that the clip, to be sold in the season 1908-1909, will show a consider-

able deficiency, but the experience of past years should prevent the acceptance of any definite estimate of this decrease, as it is impossible at this date, even for those best informed, to make a trustworthy forecast.

Prospects of High Prices.

It would seem, then, that to meet the increased demand resulting, not only from the natural increase in the world's population, but from a larger consumption per head, the most direct factor tending to a reduction in the cost of wool—increased supply—is lacking, and that the advance in values, great though it is, is the natural outcome of the ordinary course of trade. Those, therefore, who contend that prices to-day may be taken as an approximate future standard of the value of wool have more ground for their claim than others who, reasoning that past history must repeat itself, maintain that present quotations cannot be preserved in the age of production exceeding or even equalling that of the low value period. In fact, application of the ordinary laws of supply and demand warrants the belief that, taking the average value of 1907 as a standard, the next ten years are more likely to witness an all-round rise than any downward movement. A strict application of those laws might, indeed, encourage statisticians to quote figures which logically would justify an expectation of a further great advance in value, but the ways of commerce are often disconcertingly illogical, and the cost of wool to-day is such that the purchasing power of the masses must be very materially strengthened before any noteworthy expansion can take place, though to some extent this purchasing power has fallen off in production, and the effect of this contingency may soon make itself felt.

It is, therefore, no unreasoning optimism that regards a recovery in values as probable rather than possible, or which claims that hazardous trading and careless finance apart, an examination of the causes which have brought about an advance in the cost of wool of 55 per cent. in 12 years permits the belief that ideas formerly existing as to the normal average cost of the raw material must be adjusted to suit a new scale—the result of greatly increased consumption—to meet which no increase in production appears possible.

—Some experiments have recently been made on the Egyptian State Railways in regard to the heating of locomotive feed water. It is stated that the use of heating apparatus has effected a saving of 21.4 per cent. in coal consumption. Waste steam is used to heat the water, which is delivered to the boiler at an average temperature of 255 deg. Fahr. when this apparatus is in use, the heat to be supplied by the boiler is 16.1 per cent. less than when the feed is unheated. Allowing for depreciation, it is said that the feed water heating apparatus saves its cost in a year.

TRADE OF ISPAHAN.

A Gloomy Outlook.

We extract the following particulars from the Report on the Trade of Ispahan for the year 1906, compiled by Consul-General Barnham:—

The year under review shows an improvement in imports but a decided falling-off in exports. The same causes as operated last year—high prices in Manchester, the fluctuation of exchange and the enormous cost of transport—continued to depress the market, but there was this difference in the matter of exchange, that instead of rising and falling every two and three months as was the case in 1905, it steadily declined from 61 krans per £1 at the commencement to 53 krans at the end of the year, and a lower rate of exchange acts favourably upon the import trade.

The political events incident on the death of the late Shah have naturally had a disturbing effect upon the Ispahan market. There is, for instance, an important business done in bills between Tehran and Ispahan, and the repeated closing of the Tehran bazaars during the autumn must have had a bad effect here. Things have since gone from bad to worse. There is such a feeling of uncertainty as to what may happen from one day to another that importers are afraid to place large orders at home, and already business here has so frequently been brought to a standstill that I am afraid when I write my next report the record of trade will be poor indeed.

Imports.

The list of imports shows that 6,500 bales of grey T-cloths and grey shirtings were imported of which only 4,000 bales were sold; that 1,500 bales of Turkey-red twills were imported all of which appear to have found purchasers; and 10,000 bales of Manchester prints, of which 7,000 bales were sold. As, however, no trade returns were given with the last report and are not now procurable I am unable to make a comparison, but I am assured that these figures represent a very material improvement in these articles of import, which are the only ones that directly concern us. Turning to imports of the same category from Russia we find that they consisted of 2,000 bales of T-cloths and 3,000 bales of print stuffs, of which a large portion remained unsold at the end of the year. There can be little doubt that the Russian manufacturer, notwithstanding the fact that his Government grants him a subsidy equal to 25 per cent. of the *ad valorem* price of his goods, is making no headway at all here, owing in great measure to the enterprise of the leading firm here, who turn out most admirable imitations of Russian prints.

The quantity of Indian print goods which find their way to Ispahan is not considerable. They are brought here chiefly during the opium season and are sold to obtain funds for the purchase of opium.

The importation of German synthetic indigo has been initiated since last year, and this article has been readily taken up by dyers in place of natural

indigo, the prices being very much lower. The general impression is that it will find a permanent and important place in this market. So far 120 cases have been sold, each case containing 8 shah maunds (10 lbs.). The duty charged in Bushire on this article is the same as on natural indigo.

The Ispahan market serves as a distributing centre for the villages in the district, for the **Bakhtiari country** and for the other towns of Persian Irak.

The Opium Trade.

The opium crop was exceptionally abundant, and was estimated at something like 60,000 shah maunds of the crude article, or 3,120 cases, of which about 1,500 cases (each containing about 150 lbs. of hard, prepared opium) were bought by European and native merchants for export to London and China. There was very little opium left unsold from the previous year. Local consumption may be put at 10 pounds per diem of prepared opium consumed in Ispahan itself, and 9,000 maunds per annum exported to other towns. From the above figures it is evident that large stocks remained unsold. The steps taken by the Chinese Government to abolish the opium trade caused the shipments to China to fall off considerably. The continued depression of the Chinese market will naturally have a very unfavourable effect upon the future of Persian opium, and if the Chinese Government is successful in stamping out the use of the drug it will take but a very short time to reduce the area of cultivation in Persia, as only a small proportion is purchased for the London market.

At the commencement of the season (June) prices were about 220 krans shah maund (13 lbs.) for crude opium, but on account of discouraging reports from China and London merchants deferred making purchases, and in the meantime prices went down to 160 and 170 krans per maund. It seems that the business done has been anything but profitable for either local dealers or exporters. Another reason for trade in this article showing bad results was the sudden heavy drop in the rate of exchange on London and India.

Almost all the opium sent from Ispahan went *via* Bushire, as apparently exporters, bearing in mind the constant delays which occur in sending *via* Mohammerah, have decided in future not to risk such an expensive article by that road. The new opium crop is said to be damaged by frost and a sort of blight ("shevteh"); and the yield is expected to be about 30 per cent. less than last year, although some say it will be nearly half.

Cotton, Almonds and Gum.

The cotton crop was a trifle smaller than that of 1905—about 290,000 shah maunds (3,770,000 lbs.)—and nearly all of it was exported to Russia. Ispahan produces two qualities of cotton, of which the best is grown in six villages in the immediate vicinity, and sells at 10 krans per maund; the second quality, at 9 krans, chiefly from the district of Simirun.

The crop of almonds yielded 150,000 shah maunds, of which about 5,000 maunds only remain unsold. Nearly all was exported to Russia, and very little to the United Kingdom. Prices 9 to 10 krans per shah maund.

Gum tragacanth yielded about 20,000 shah maunds, all of which was sold, and most of it went to Russia. As regards prices, it should be noted that there are several qualities. The first pricking of the shrub yields white gum of the best quality, and each successive extract becomes yellower in colour and is inferior in quality. The best gum in this district comes from the neighbourhood of Sultana-bad. Prices vary from 60 to 20 krans per shah maund. The gum is picked, cleaned, re-assorted and priced at Ispahan.

Tobacco Cultivation.

Ispahan is the great centre of "tunbeki" cultivation, a class of tobacco practically unknown in the United Kingdom, as it is not adapted for use either in the form of cigarettes or of pipe tobacco, but is consumed exclusively in the Persian kaliûm or Turkish narghillè (water-pipe). Though in more or less general use all over Asia Minor and Egypt, the Ispahan product is for the most part consumed on the Mediterranean littoral. Smyrna, with its dependencies, is an important consumer, but Beyrouth and Syria generally come first. Tastes differ in these two districts, the former preferring the light coloured and milder leaf, while the latter gives preference to the darker well-matured leaf, which is much stronger.

Egypt also is a large consumer, and there, as well as in Turkey, the importation and sale is in the hands of a monopoly. A less important market is Greece, which, however, of late years has started growing this article. The United States take a small quantity, probably for the use of the many Greeks and Syrians who emigrate to that country. Syria also produces an inferior quality, grown from seed originally imported from Ispahan. Mesopotamia and the Red Sea littoral do not consume the Ispahan plant, but the former takes that grown near Shiraz, and the latter that produced in Laristan. This latter is shipped principally from the port of Lingah. Constantinople and the Black Sea littoral consume very little of the Ispahan plant, using instead the Kashan tunbeki, which is packed after being saturated with brine.

The crop of 1905 was, as already reported, a heavy one, considerably more ground being under cultivation than had been the case for several years—since 1898 in fact. It proved, however, to be of very poor quality, due for the most part to blight and premature cutting, the latter combined with hurried gathering-in from the fields, and as far as export qualities are concerned produced only some 20,000 bags (average weight between 9 and 10 shah maunds). Some 20,000 bags seem to have been acquired by the Société du Tombac, of which probably a quarter was for the Tunbeki Monopoly

Company of Egypt, for whom they are the buyers, and the rest for their own requirements in Turkey. Of the remaining 5,000 bags a good half has been exported by native merchants and the rest still remains on the market, together with nearly the whole of the inferior portion of the crop. The markets all through Persia consume the latter in the shape of preparations called "dogilty" (in imitation of the Shiraz article) and "Teri-Kashi" (in imitation of the Kashan); the successive rain-damaged crops of previous years having produced an exceptionally large quantity of these rejections from the export qualities. A further portion of this inferior produce is prepared under the name of "mushiri," and is sent down to Bushire, whence it probably finds its way *via* Muscat into Arabia.

Tobacco Prices.

First-hand prices obtained by the growers were low, but the cost of the prepared export quality was generally as high, if not higher, than for the previous years, when scarcity of crop enabled the growers to stand out for higher prices. On the whole, both from the growers' and shippers' point of view, the 1905 crop must be considered as an unsatisfactory one.

Giving promise of a good healthy production, though of considerably smaller area than the preceding one, the 1906 crop was unfortunately, like so many recent crops, caught by the early autumn winds and rains, while a large portion of it was yet on the ground. The damage caused was considerable, and it has been estimated that the production of export qualities will only be some 15,000 bags, though this estimate is perhaps too low.

Owing to various reasons, local conditions of unrest included, there have been practically no buyers in the market other than the Société du Tombac, the usual native shippers and speculators even holding aloof. The Société du Tombac has thus been able to withstand the demand of the growers for high prices. The bagging not having been undertaken at the usual time it cannot yet be stated what the quantity available for export will be.

Native Industries.

The native industries are earthenware, glazed tiles, arms and armour (damascened) textile fabrics, needlework and embroidery, metal work, wood carving, inlaid woodwork, lacquer work and hand-painting. Of these the most attractive are the varieties of silver and brasswork found generally in the form of objects suited to Oriental use and taste, but such is the imitative genius of the Persian that he can make a beautiful copy of anything European. In silver work we find filagree of exquisite design and finish, carved and inlaid work and open and beaten brasswork in the form of trays, bowls or vases. Beautiful specimens of hand-painting are to be found in the form of book covers, mirror frames and kalem-dans (Persian inkstand). There is a native company called the Shirket-i-Islamie, which was founded some seven or eight years ago for the

manufacture of native cotton and woollen cloth. The weaving is done by handlooms, and generally speaking the workmanship is very poor. The company is in great measure financed by the leading mollahs, who use every available opportunity to compel the Persians to purchase their goods rather than go to Europeans whose goods they declare to be unclean.

READY-MADE CLOTHING TRADE IN EGYPT.

The following particulars of the ready-made clothing trade in Egypt, in which India might very well participate, are extracted from the *Journal of the British Chamber of Commerce of Egypt* :—

The statistics dealing with the imports of ready-made clothing into Egypt during the past five years clearly demonstrate that the trade is steadily increasing in volume year by year, and that Great Britain has only a very insignificant share of the market, despite the fact that she ranks third on the list of competing countries. It will also be observed that whilst Austria does 65 per cent. of the trade, her nearest rival (France) is credited with only 16·7 per cent.

Imports of Ready-Made Clothing into Egypt.

	1902.	1903.	1904.	1905.	1906.
	£E.	£E.	£E.	£E.	£E.
Austria-Hungary	144,471	186,417	201,526	218,044	230,093
France	23,459	43,442	45,650	56,409	59,139
United Kingdom	21,112	22,341	22,238	27,610	39,588
Turkey	7,015	7,911	11,020	9,833	10,424
Italy	1,279	2,343	3,455	3,045	2,908
Germany	1,918	2,031	4,329	5,000	4,706
Belgium	838	1,014	1,298	1,426	1,587
Other countries	2,712	2,542	3,408	4,346	4,952
Total	202,804	268,071	292,924	325,713	353,397

A feature in favour of Austria is the fact that the trade in Egypt is more or less in the hands of three or four big firms, which have houses in Vienna, and so import direct. They have their own branches in the larger Egyptian towns, and, it is under stood, some of them are also interested in the smaller clothing shops in the villages. The combination is so strong that, although both England and Germany have attempted to get a footing, the efforts they have made in this direction have so far been unsuccessful.

It must also be remembered that Austria has been in the Egyptian clothing trade for the last 40 or 50 years, and therefore thoroughly understands the requirements of the market. Her Government, too, encourages the industry as far as possible by waiving all import duties on materials brought into the country and afterwards exported in the form of clothing.

The main centre for the trade in Austria is Vienna, with some 35 villages in the neighbourhood. After

the goods are finished they are packed for export in strong wooden cases, each some 1·20 metres (47 inches) long by 1 metre (39 inches) high, and costing about 5s. 6d. The cases (which are sometimes lined with waterproof paper) usually contain clothes to the value of about £E.100.

The following is the range of retail prices in Alexandria for Austrian ready-made clothing :—

Men's suits for summer wear, from	15 to 70 francs.
Boys' suits	7 to 40 "
Men's suits for winter wear	25 to 80 "
Boys' suits	15 to 45 "
Long overcoats for men	24 to 80 "

England supplies Austria with a very large part of the raw material, such as serge, black alpaca, tennis flannel, and the cloths for the very cheapest class of goods. Practically the whole of the khaki used by Austria comes from England. *Appropos* of khaki, a prominent firm in Egypt recently estimated that the Egyptian Government takes about one million yards of it per annum in connexion with the uniforms for the army, police, coastguards, railways, and so forth. Although some of the contracts go to Austria, the whole of the raw material is supplied by England.

France.—The principal imports are the more expensive clothes for ladies. France also sends the very cheapest form of workmen's clothing, such as smocks, etc.

Germany.—Germany has made sundry attempts to secure a share of the trade, but without much result. She does a little through commission agents but she cannot compete with the cheap Austrian labour.

Turkey.—The cheapest imported goods, made without much regard for cut, workmanship and materials employed, come from Turkey, the chief centres being Smyrna and Constantinople. It is stated that the cloth used for the goods in question is mainly supplied by England, but the fact remains that clothes can be sent to Egypt at such a price that even Austria cannot compete.

Local.—The remarks last made apply with even greater force to the goods turned out by the numerous small tailors who abound in Alexandria and Cairo. These men, for example, can turn out a full length overcoat at about 8s. and sell it in their shops for 10s. The account works out thus :—

2½ yards of English material at 1s. 10d. a yard	4 7
Linings and buttons	1 5
Workmen	2 0
	8 0

General.—At the present time the double-breasted coats having two or three buttons are the ones mainly in vogue in Egypt amongst purchasers of ready-made clothing. The coats have two inside pockets but no breast ones. The goods are made in all colours with patterns. A single colour cloth with no design on it is not much good to the Arabs, who, by the way, are the largest buyers.

TRADE OF FOREIGN COUNTRIES AND BRITISH POSSESSIONS.

The following summary table has been prepared at the Board of Trade, showing the total imports and exports of merchandise of the principal countries for which the particulars can be given up to September, 1907, inclusive, and referring in all cases to the same period, *vis.*, the nine months ended September. The corresponding figures for 1906 and 1905 are added for comparison :—

	Imports (see NOTE below). Nine Months ended September.			Exports (Domestic) (see NOTE below). Nine months ended September.		
	1905.	1906.	1907.	1905.	1906.	1907.
	£	£	£	£	£	£
Germany	233,519,000	284,175,000	315,189,000	197,942,000	217,618,000	249,281,000
Belgium*	85,376,000	95,506,000	104,610,000	61,692,000	75,125,000	77,453,000
France	140,251,000	164,278,000	178,194,000	139,587,000	153,101,000	163,583,000
Switzerland	37,018,000	40,743,000	45,237,000	27,635,000	30,669,000	33,532,000
Spain	31,442,000	30,129,000	27,701,000	26,344,000	25,823,000	25,800,000
Austria-Hungary	65,601,000	69,431,000	70,457,000	63,395,000	69,245,000	70,402,000
Egypt	15,100,000	16,888,000	18,927,000	13,213,000	13,998,000	16,829,000
United States	181,724,000	197,556,000	230,871,000	225,332,000	253,861,000	272,856,000
Japan	40,063,000	33,002,000	38,238,000	22,691,000	28,807,000	32,509,000
British India	52,930,000	57,273,000	62,253,000	76,771,000	81,075,000	97,256,000
Canada	39,551,000	46,840,000	57,305,000	26,774,000	33,761,000	34,878,000
British South Africa†	not available	24,195,000	20,969,000	not available	30,649,000	34,880,000
United Kingdom	352,621,000	330,093,000	402,898,000	242,398,000	278,054,000	319,281,000

* Value of principal articles only.

† Including bullion.

A comparison of the total figures for ten months ended 31st October is possible for four countries, as follows, *vis.* :—

	Imports (see NOTE). Ten Months ended October.			Exports (Domestic) (see NOTE). Ten Months ended October.		
	1905.	1906.	1907.	1905.	1906.	1907.
	£	£	£	£	£	£
Belgium*	95,505,000	106,606,000	115,553,000	70,020,000	83,999,000	86,697,000
France	154,520,000	183,299,000	197,366,000	156,801,000	171,462,000	182,917,000
United States	204,108,000	222,166,000	251,165,000	257,008,000	292,506,000	310,040,000
United Kingdom	395,041,000	427,570,000	453,673,000	271,763,000	311,289,000	357,601,000

* Value of principal articles only.

NOTE.—In the case of Germany, Belgium, France, Switzerland, Austria-Hungary, Egypt, Japan, Canada, and United Kingdom, the import figures given in the above summaries represent imports for home consumption. In all cases the export figures are intended to represent exports of domestic produce. In most cases, however, they include a certain amount of "nationalised" goods, *i.e.*, goods originally imported for consumption, and which, if dutiable, have been charged with duty, but which are subsequently re-exported.

NEW REFERENCE BOOKS.

THE PRACTICE OF SOFT CHEESE-MAKING.

By C. W. WALKER and T. E. ROBINSON. 7½ x 4½, 87 pp. (New Edition, enlarged) 1s. net. *The Dairy World and British Dairy Farmer.*

ESSENTIALS OF ECONOMIC THEORY.

As Applied to Modern Problems of Industry and Public Policy. By J. B. CLARK, Professor of Political Economy in Columbia University. 8 x 5½, 566 pp. 8s. 6d. net. *The Macmillan Company.*

THE WEIGHTS AND MEASURES OF INTERNATIONAL COMMERCE TABLES AND EQUIVALENTS.

By F. H. HATCH, Ph.D., and E. J. VALENTINE. 8½ x 5½, 59 pp. 2s. 6d. net. *Macmillan.*

THE PRACTICAL DESIGN OF IRRIGATION WORKS.

By W. G. BLIGH, M.Inst.C.E. 10½ x 7, xii + 390 pp. Constable.

SUPERHEAT, SUPERHEATING, AND THEIR CONTROL.

By W. H. BOOTH, M.A.M.Soc.C.E., Lecturer to the Royal School of Military Engineering, Chatham. 9½ x 6, 155 pp. 6s. net. *Constable.*

MINING TABLES.

Being a comparison of the units of weight, measure, currency, mining area, etc., of different countries; together with tables, constants, and other data useful to mining engineers and surveyors. By F. H. HATCH, Ph.D., F.G.S., M.I.C., late President of the Geological Society of South Africa, and E. J. VALENTINE, F.G.S., M.F.I.M.E. 8½ x 5½, 200 pp. 6s. net. *Macmillan.*

CARRIERS AND RAILWAY COMPANIES

By T. WAGHORN. (Reprinted from the World's Carriers and Contractors' Review) 6d. net. *The Carriers' Publishing Company.*

BRITISH RAILWAY FINANCE.

With Special Reference to Capital Charges. By J. R. SOWBAY, F.S.S. 1s. *Stanford.*

JOINT STOCK COMPANIES.

Number and particulars of Joint Stock Companies registered in each Province in British India in the month of November, 1907.

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL.	
				Nominal.	Paid-up.
	I.—TRADING.			Rs.	Rs.
	(a) Co-Operative Associations.				
1	Swadesi Vastu Paripalan Sabha	Tinnevely, Madras	Trading in Swadesi goods	20,000	...
	(b) Others.				
2	Rangoon Skating Rink, Co.	Rangoon, Burma	Business of Skating Rink Proprietors.	20,000	...
3	India and Burma Stores	" "	General trading	1,00,000	...
4	Mogok Transport and Trading Co.	Mogok	Business of Motor Car or other service.	75,000	...
5	T. R. Pratt	Bengal	Business of Export, Import and manufacture of engineering materials, electrical apparatus, instruments, etc.	1,50,000	...
6	Rope Sole Shoes and Knitting Co.	United Provinces	Manufacture of Rope Sole shoes.	30,000	...
7	Goan Drapery Stores	Bombay	Dealing in millinery and drapery.	40,000	...
8	Andhra Lakshmi Industrial Co.	Kistna, Madras	Dealing in paddy, skins and iron and manufacturing candles, soaps, etc.	2,00,000	...
	Total, Others . . . . .	.....	.....	6,15,000	...
	Total, Trading . . . . .	.....	.....	6,35,000	...
	II.—MILLS AND PRESSES.				
	(a) Cotton Mills.				
9	Albion Spinning and Weaving Co.	Bombay	Spinning and weaving cotton.	15,00,000	...
10	Indore Malwa United Mills	" "	do. do.	15,00,000	...
11	Godavari Industrial and Commercial Co.	Godavari, Madras	Do. do.	12,00,000	...
	Total, Cotton Mills . . . . .	.....	.....	42,00,000	...
	(b) Cotton and Jute Screws and Presses.				
12	Botad Ginning, Pressing and Manufacturing Co.	Ahmedabad, Bombay	Ginning and pressing cotton, etc.	96,000	...
13	New Jamner Ginning, Pressing and Manufacturing Co.	Bombay	Do. do.	2,00,000	...
	Total, Cotton and Jute Screws and Presses . . . . .	.....	.....	2,96,000	...
	(c) Saw and Timber Mills.				
14	Naharkatiya Saw Mill	E. B. & Assam	Saw mill business	50,000	...
	(d) Other Mills.				
15	Katni Milling Co.	Katni Central Provinces.	Flour mill business	2,00,000	...
16	Sri Laxmi Oil Mill Co.	Akola, Berar	Oil mill business	1,50,000	...
17	Shri Narmada Cotton Seed Crushing Co.	Bombay	Crushing cotton seed and other nuts.	1,00,000	...
	Total, other Mills . . . . .	.....	.....	4,50,000	...
	Total, Mills and Presses . . . . .	.....	.....	49,96,000	...

JOINT STOCK COMPANIES—contd.

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL.	
				Nominal.	Paid-up.
	III.—PLANTING.			Rs.	Rs.
	(a) Tea.				
18	Ambari Tea Co.	Bengal	Cultivation and manufacture of tea, etc.	1,25,000	...
	(b) Others.				
19	Manipur Co.	Bengal	Sericulture	10,00,000	...
	Total, Planting . . . . .	.....	.....	11,25,000	...
	IV.—MINING AND QUARRYING.				
	(a) Coal.				
20	Pandakanali Coal Co.	Bengal	Coal-mining	5,00,000	...
21	Satpukuria and Asansol Collieries	"	" "	8,00,000	...
22	South Govindpur Colliery	"	" "	7,50,000	...
	Total, Mining and Quarrying . . . . .	.....	.....	20,50,000	...
	GRAND TOTAL . . . . .	.....	.....	88,06,000	...

ABSTRACT TABLE OF COMPANIES REGISTERED IN THE MONTH OF NOVEMBER, 1907.

	Capital (Rs.)	
	Nominal.	Paid-up.
1 Co-operative Association	20,000	...
7 Trading Companies (other than Co-operative Association)	8,15,000	...
3 Cotton Mills	42,00,000	...
2 Cotton Presses	2,96,000	...
1 Saw Mill	50,000	...
3 Mills (other than those specified)	4,50,000	...
1 Tea Planting Company	1,25,000	...
1 Planting Company (other than Tea)	10,00,000	...
3 Coal Mining Companies	20,50,000	...
22	TOTAL	88,06,000

—The report of the Bombay, Baroda and Central India Railway Co., for the half-year ended December 31st last, shows that the net earnings amounted to 96.1 lakhs, as compared with 104.95 lakhs for the second half of 1906. The Directors hope to be able to pay in July a dividend of 10s. per cent. in addition to the ordinary guaranteed interest, making an actual payment at that date of £2 per cent. Any future dividend which might be paid in January of any year in excess of the guaranteed interest would be of the nature of an *ad interim* dividend, as the surplus profits were calculated on a yearly basis. The report of the Great Indian Peninsula Railway for the second half of last year states that the net profits are estimated at Rs. 5,38,000, being an increase of about 13 per cent. on the profits of the corresponding period of the previous year. A dividend of 28s. per cent. has been declared. At the meeting of the Bengal-Nagpur Railway Co., held in London on

the 17th ultimo, Sir Samuel Hoare, who presided, stated that the net receipts for the period of one and a half years were 88 lakhs, an increase of 5 lakhs over those of the previous corresponding period. The percentage of working expenses to gross earnings was 44.39, as against 42.68. The total number of passengers had risen from 4,973,000 to 5,762,000. At the meeting of the Indian Midland Railway Co., held in London on the 16th ultimo, Sir A. R. Scoble, presiding, stated that the past half-year had been the best the company had had since their amalgamation with the Great Indian Peninsula Co., and it had been the best half-year in the whole history of the company. As regards expenditure, the agreement with the Great Indian Peninsula Railway Co. was of much advantage to them, for whereas the accounts showed the sum of 9½ lakhs expended during the half-year for maintenance, under the terms of the contract the Indian Midland was debited with a little less than 7 lakhs.

INDIAN CUSTOMS REVENUE.

The following table shows the total gross Indian Sea and Land Customs revenue (excluding salt revenue) in thousands of rupees.

	IN THE NINE MONTHS, APRIL TO DECEMBER, OF									
	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08
SEA CUSTOMS.										
Imports—										
Special Import Duties.										
Arms, ammunition, and military stores .	2,47	2,34	2,01	2,	2,54	2,40	3,15	3,07	3,16	4,06
Liquors—										
Ale, beer, porter, cider and other fermented liquors	1,38	1,46	1,46	1,53	1,76	1,88	2,12	2,18	2,22	2,16
Spirits and liqueurs	46,82	47,89	47,24	47,50	51,20	55,52	56,24	58,80	55,16	68,03
Wines	2,71	2,57	2,56	2,50	2,95	2,76	2,70	2,89	2,75	2,92
Opium	2	2	2	2	3	2	3	3	2	3
Petroleum	32,88	29,14	33,72	39,85	39,88	31,32	31,69	28,81	26,75	31,92
Sugar (countervailing duties, 1899)	—	5,60	13,26	21,51	16,40	—	11	1	1	—
Sugar (countervailing duties, 1902)	—	—	—	—	3,25	17	8	1	—	—
General Import Duties.										
Articles of food and drink (excluding sugar)	9,99	10,55	11,88	11,20	10,71	11,22	12,99	14,21	14,41	18,07
Sugar (ordinary duties)	13,30	13,16	21,21	20,77	19,45	21,04	24,56	25,82	34,90	33,54
Chemicals, drugs, medicines and narcotics, and dyeing and tanning materials	7,70	7,59	7,79	8,59	8,62	10,18	9,92	10,51	10,84	13,46
Cotton manufactures—										
Piece goods, grey	33,56	36,53	34,42	37,58	39,39	33,23	41,95	47,16	47,96	50,18
white	12,32	13,61	13,60	20,55	12,05	14,16	20,14	20,88	17,63	28,51
coloured	13,97	18,23	14,62	17,87	16,70	20,53	23,81	24,25	24,63	27,97
Other goods	1,31	2,21	2,01	2,31	1,87	2,97	4,21	4,64	4,92	5,18
Metals and manufactures of—										
Silver bullion and coin	24,84	17,77	8,95	21,05	29,57	28,86	29,35	19,54	31,04	37,35
Other metals and manufactures of metals	14,69	11,86	15,72	16,96	22,18	23,81	27,14	22,99	25,10	30,69
Oils (excluding petroleum)	1,39	97	1,13	1,46	1,14	71	67	95	1,54	3,01
Manufactured articles	36,09	41,36	42,79	46,73	45,60	53,10	62,22	62,76	62,04	73,38
Raw materials and unmanufactured articles	6,34	4,30	7,69	6,83	6,71	6,60	7,55	8,97	8,48	10,23
TOTAL IMPORTS	2,61,78	2,67,16	2,82,03	3,27,17	3,32,00	3,22,55	3,60,63	3,58,43	3,73,56	4,39,69
Excise duty on cotton goods	9,66	9,86	8,60	12,48	12,92	14,19	16,00	18,73	18,55	22,13
Export Duties—										
Rice and B. e-flour	62,10	53,88	51,05	54,28	71,00	66,65	78,95	69,21	57,84	56,19
LAND CUS. AND MISCELLANEOUS	4,16	5,18	5,75	6,13	6,09	6,78	7,28	6,37	6,73	7,49
GRAND TOTAL	3,37,70	3,36,08	3,47,48	4,07,06	4,22,01	4,10,17	4,62,86	4,52,74	4,56,73	5,25,50

—According to the *New York Journal of Commerce* the sisal hemp producers of Yucatan have formed themselves into a Joint Stock Company. They met in Merida on November 8th, and elected a manager with instructions to provide for the financing of the new Association by arranging credits in Mexican and foreign banks and in other ways. Growers are to make all deliveries direct to the Association at central points and on such deliveries are to receive an advance of two-thirds of the value of their hemp. It is said that the National Bank of Mexico has agreed to advance the Association a sum sufficient to enable them to warehouse hemp until such time as the United States manufacturers of rope and twine come to terms. The State of Yucatan has practically a monopoly of the production amounting annually to about 600,000 bales of 360 lbs. each.

—Mr. C. Driberg, Secretary of the Ceylon Agricultural Society, writes to the May issue of the *Tropical Agriculturist*, submitting a report on samples of Ceylon papain by Professor Dunstan, of the Imperial Institute, who states that "the brokers value both samples (powdered and granulated) at about 5s. per lb. They add that the demand is very limited, and recommend that not more than 50 lbs. be shipped at one time. Papain is regularly offered on the London market but the sales are not large * * *. The material has not come into extensive use as a medicinal agent." Mr. Driberg in his covering letter states that it may be inferred, however, from the fact that a Ceylon firm is buying a considerable quantity every month at a price somewhat over 5s., that there are other good markets in the world outside England.

JAN. 9, 1908.]

THE INDIAN TRADE JOURNAL.

WEEKLY TRADE MOVEMENTS.
For the fortnight ending 4th January, 1908.

COTTON GOODS.	
Twist and Yarn.	
Foreign—	Calcutta, lbs. 478,687
Imports by sea into	Bombay " 270,179
	Madras " 261,070
Indian—	Calcutta " 677,272
Exports by sea from	Bombay " 3,500,220
	Madras " 10
Grey Piece Goods.	
Imports by sea from	Calcutta, yds. 22,009,537
Foreign ports into	Bombay " 6,121,435
	Karachi " 1,900,502
	Madras " 4,604,776
	Rangoon " 201,609
White Piece Goods.	
Imports by sea from	Calcutta, yds. 4,884,108
Foreign ports into	Bombay " 5,304,393
	Karachi " 5,221,170
	Madras " 2,039,487
	Rangoon " 1,093,984
Other Piece Goods.	
Imports by sea from	Calcutta, yds. 2,614,616
Foreign ports into	Bombay " 4,294,930
	Karachi " 1,433,123
	Madras " 2,251,839
	Rangoon " 1,519,886
Piece Goods.	
(Indian and Foreign.)	
Despatches by rail from	Calcutta,* owt. 25,177
	Bombay " 10,113
	Karachi " 23,355
	Madras " 10,497
Raw Cotton.	
Imports into Bombay	By sea owt. 8,406
	Coastwise " 35,120
	By rail " 579,368
Imports into Karachi by rail	" 66,565
" " Calcutta by rail and river*	" 19,010

* Figures incomplete

KEROSENE OIL, FORTNIGHT ENDING 4th JANUARY, 1908.

Imports by sea into—	FROM			
	Russia.	America.	All other foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	503,891	354,699	858,590
Bombay	39,560	252,350	1,526,042	1,817,952
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
			Bengal " galls.	745,600
			E. B. & Assam " "	...
			Bombay " "	437,627
			Sind " "	...
			Madras " "	...
			Indian Ports, Non-Br. " "	545,273
			Foreign Ports " "	...

JUTE.	
Arrivals by all routes in	Calcutta, owt.* 694,989
	Gunny bags, No. 10,130,690
Exports by	Calcutta " cloth, yds. 11,081,740
sea from	Jute, owt. 426,855
	Chittagong—Jute " 103,825
TEA.	
Arrivals by all routes in	Calcutta,* lbs. 5,757,831
	Calcutta " 6,286,464
Exports by sea from	Chittagong " 1,415,083
WHEAT.	
Imports into	Calcutta by rail and river,* owt. 65,578
	Karachi by rail " 105,917
	By sea " 5,273
	Bombay " Coastwise " 66,637
	By rail " 8,709
	Calcutta " 2,474
Exports by sea from	Bombay " 1,038
	Karachi " 77,024
RICE.	
Arrivals by all routes in	Calcutta,* owt. 291,625
	Calcutta " 46,806
	Chittagong " 22,928
Exports by sea from	Bombay " 20,787
	Karachi " 159,931
	Madras " 159,931
	Rangoon " 159,931
LINSEED.	
Imports into	Calcutta by rail and river,* owt. 13,32
	By sea " 255
	Bombay " Coastwise " 149
	By rail " 1,829
	Karachi by rail " 21,541
Exports by sea from	Calcutta " 35,470
	Bombay " 35,470
	Karachi " 35,470
RAPE AND MUSTARD SEED.	
Imports into	Calcutta by rail and river,* owt. 18,702
	By sea " 497
	Bombay " Coastwise " 970
	By rail " 27,542
	Karachi by rail " 7,209
Exports by sea from	Calcutta " 7,001
	Bombay " 24,074
	Karachi " 24,074
COTTON SEED.	
Exports by sea from Bombay, owt.	" 59,350

IMPORTS OF SUGAR, FORTNIGHT ENDING 4th JANUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	15	...	8	35	31	...	89
Germany	...	...	...	2,000	500	350	2,850
Austria-Hungary	...	...	27,496	...	500	...	27,996
Other European Countries	...	...	...	...	...	100	100
Java	110,297	...	11,746	22,343	...	...	144,386
Mauritius	...	...	76,428	...	...	...	76,428
Other Non-European Countries	...	...	2,823	...	...	886	3,708
					Total refined		255,557
					Total unrefined		4,830
					Grand Total, cwt.		260,387

—An international arrangement between boiler-tube manufacturers was signed at Paris on the 18th ultimo. Among the parties to the agreement are the British, German, Belgian, and American manufacturers. The French manufacturers (says Reuter) have not signed the agreement. A further meeting of representatives of the different manufacturers will be held about the 18th instant and it is probable that two French firms will then give their adhesion to the Agreement. The group to which they belong will remain outside the combination. The two firms will be able to give nothing beyond their personal adhesion without engaging the group.

—A special company has been formed to take over the **Owen's glass patents**, to which reference was made in the last issue of the *Indian Trade Journal*. The company is to be known as the European Union of Flask Manufacturers, and the preliminary capital is £50,000, which will be raised immediately to £300,000. The shares are allotted in certain proportions amongst various manufacturers in England, Germany, France, Austria, Belgium, Holland, Denmark, Norway, and Sweden. The headquarters of the company are in Berlin, but the shareholders in each country will have their special representative on the board of directors, Mr. Hermann Heye, of Gerrisheim, being the chairman. The patent rights for all countries will be held by the company, and worked by those firms holding shares in the company, the number of machines supplied to each being in proportion to the amount of shares held, whilst the output of each concern will also be similarly regulated.

—Dr. Foelsing, of Offenbach, gives some interesting information on the source of **East African copal** in the current number of *Der Tropenpflanzer* (1907, 478). He points out that the commercial names "Zanzibar" and "Indian" copals are misnomers, since most of the resin which comes in the market under these names is produced in German East Africa from the tree *T. mossambicense*. The "recent" or "fresh" copal of this type is obtained by

incising the stems of the tree, and since it has not undergone oxidation as the result of exposure to moisture and air, it is softer and therefore less valuable than the so-called "fossil" copal, which is produced by natural exudation into the soil from the roots of the same trees. This fossil copal was formerly collected on a large scale by the natives, but since the suppression of the slave trade this industry has been neglected, and consequently at the present time there is a great scarcity of such copal. The author goes on to say that all parts of the copal trees, and especially the fruit, contain the resinous sap, which as it passes into the air "dries" into copal, and he has patented a process for extracting the 23 per cent. of copal which can thus be obtained from the fruits. This "fruit copal," according to the author, is in every way as good as the best Zanzibar copal, and will be a valuable product for the manufacture of hard outdoor varnish.

—H. M. Consul at Bangkok (Mr. W. R. D. Beckett) has forwarded a copy of the Administration Report on the traffic of the **Royal State Railways in Siam** for the year ended 31st March, 1907, in which the Director-General states that the financial results of the year's working have been most satisfactory. There were increases in both passenger and goods traffic, the latter indicating a wider use each year of the railway by the agricultural community in sending their produce to Bangkok. The total length of line under traffic remained the same as in 1905-06, viz., 423.79 kilometres of standard gauge and 151.05 kilometres of metre gauge. Operations are, however, being rapidly pushed forward upon the Northern line and upon a new Eastern line, the present objective of which is the town of Chachung-Sao on Petru, lying 64 kilometre due east of Bangkok, and the centre of fertile rice producing delta. The Director-General anticipates that during 1907 an additional 138 kilometres will be opened for traffic on the Northern line, thus taking railhead to Pitsannlok, and the Bangkok-Petru line will also be opened.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. Rs. (R1.)
- Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. Rs. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in India. Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

- Notes on Sugar in India. R1-8. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent on Government Printing, India, Calcutta:—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
- Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
- Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambray & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoon, Bombay.
Sundar Pandurang, Bombay.
V. Kalyanarama Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.
- Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
Per annum	Rs. A. 100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 8 0
To Non-Subscribers	" " 10 0

POSTAGE:—

Abroad	per copy per annum 5 0
In India	" " 2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 1 0
To Non-Subscribers	" " 2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " half-year	35 0
" " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Rule IV of the Indian Tariff Act, 1894 of 1894 with subsequent amendments (per copy)	0 6

Orders regarding the above Publications should be sent to Customs, Calcutta, by designation only.

R. MORSHEAD,

Customs, Calcutta.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,

STANDARD BUILDINGS,

Dalhousie Square,

CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E. LONDON, ENGLAND.

MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,

TEES ANGLES BARS AND PLATES

PORTLAND CEMENT.

As used for the Foundations of

VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO.'S

BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES

OF ALL SIZES.

C. I. COLUMNS

Light Railway Material of every Description.

MARTIN & CO.

6 AND 7 CLIVE STREET,

CALCUTTA

B. MURATTI, Sons & Co.

(LIMITED).

MANCHESTER, LONDON, BERLIN, BRUSSELS, PARIS & CONSTANTINOPLE.

Purveyors to the French Regie and Several Other European Government Monopolies.

THE PIONEERS OF TURKISH CIGARETTES IN EUROPE.

MANUFACTURERS OF THE WORLD-RENOWNED CIGARETTES

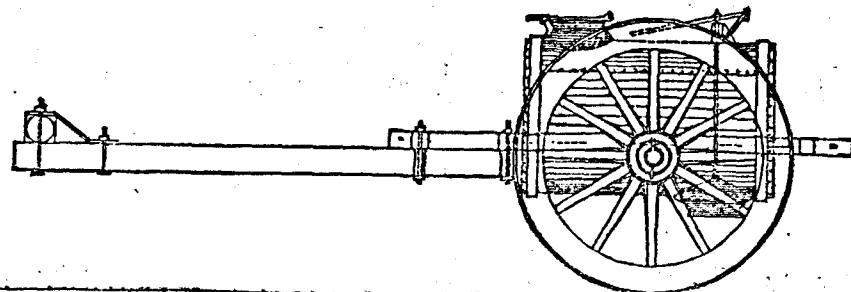
ARISTON & NEB-KA.

For price lists and particulars apply direct to—

B. MURATTI, Sons & Co., Ltd., Manchester, England.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and poie are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM CO., LD., MADRAS,
Government Contractors.

DELICIOUS COFFEE RED WHITE & BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS,
MAKERS OF SAILS,
AWNINGS AND WAGON SHEETS.

Contractors to Arsenal, Government, and Royal Indian Marine.

AGENTS FOR

SUTER HARTMANNS RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.

Rope Works at Ghusari.

TELEPHONE No. 132.

BARLOW & Co.
Import and Export Merchants

Commission Agents

Agents: United Alkali Co., Ltd.—Fertilizers.
Sulphur.

The Summerlee Iron Co., Ltd.
Scotch Pig Iron. Special Brand. Stocks.
37, STRAND ROAD, CALCUTTA.

THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

RELIABLE QUALITY ONLY. **PADMORE** Over 70 Years' Reputation.
BILLIARD TABLES

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.

PROPRIETORS OF

SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
 As supplied to
 The Government
 Experimental
 Farms.
 From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

*Price List and Membership rules
 free on Application.*

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment
 TO HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'

"SAFETY" HORSE NAILS
 CONCAVE INSIDE
 CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
 Extract from Mr. SHEATHER's Eminent Report:-
 "I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe."
 Japanese Army use exclusively.

THE CRUEL TO MAKE THE HORSE STAND ON SLIPPERY ROADS WITH NAIL PRESSURES
 FRONT SECTION OF HOOF CUT AT HEEL NAIL
 KNIGHT'S SAFETY NAILS REQUIRE NO CURVING TO DRIVE, NOTCH RASPING TO CLINCH & NEVER GET LOOSE
 COMPANIES HAVE ALL COSTS OF NAILS EVERY DAY THE SHOE IS CARRIED LONGER

London and EXPORT BRANCH,
 4 Upper St. Martin's Lane, W.C.
 O Telegrams: Telephone:
 'HORSE NAIL LONDON' No. 5018 C

LITTLE'S "PHENYLE" DISINFECTANT

The best & most powerful for all purposes.

THE MOST EFFECTIVE AND SAFEST DISINFECTANT
 FOR THE BUBONIC PLAGUE.

ADOPTED BY THE INDIAN GOVERNMENT.

Cheap, economical, harmless and effective. A liberal use of this preparation prevents and arrests contagion in cases of Fever, Cholera, Scarletina, and kindred infectious diseases. Pronounced by an expert Committee (appointed by the U.S.A. Government) to be the BEST DISINFECTANT.

REFUSE IMITATIONS.

The Proprietors hereby give notice that action will immediately be taken against all infringements of "Phenyle."

Manufacturers and Proprietors:

MORRIS, LITTLE & SON, LTD., DONCASTER, ENGLAND.

Agents for Bengal Presidency:

M. M. FRASER & Co., 59, BENTINCK STREET, CALCUTTA.

Sole Agent for Sindh, Punjab, and N.W. Provinces:

MR. MUNCHERJEE MANECKJEE, MULTAN, LAHORE, ALLAHABAD
 AND RAWALPINDI.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
 in Gelatine.

Beechwood Brand awarded 4 Gold Medals
 and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

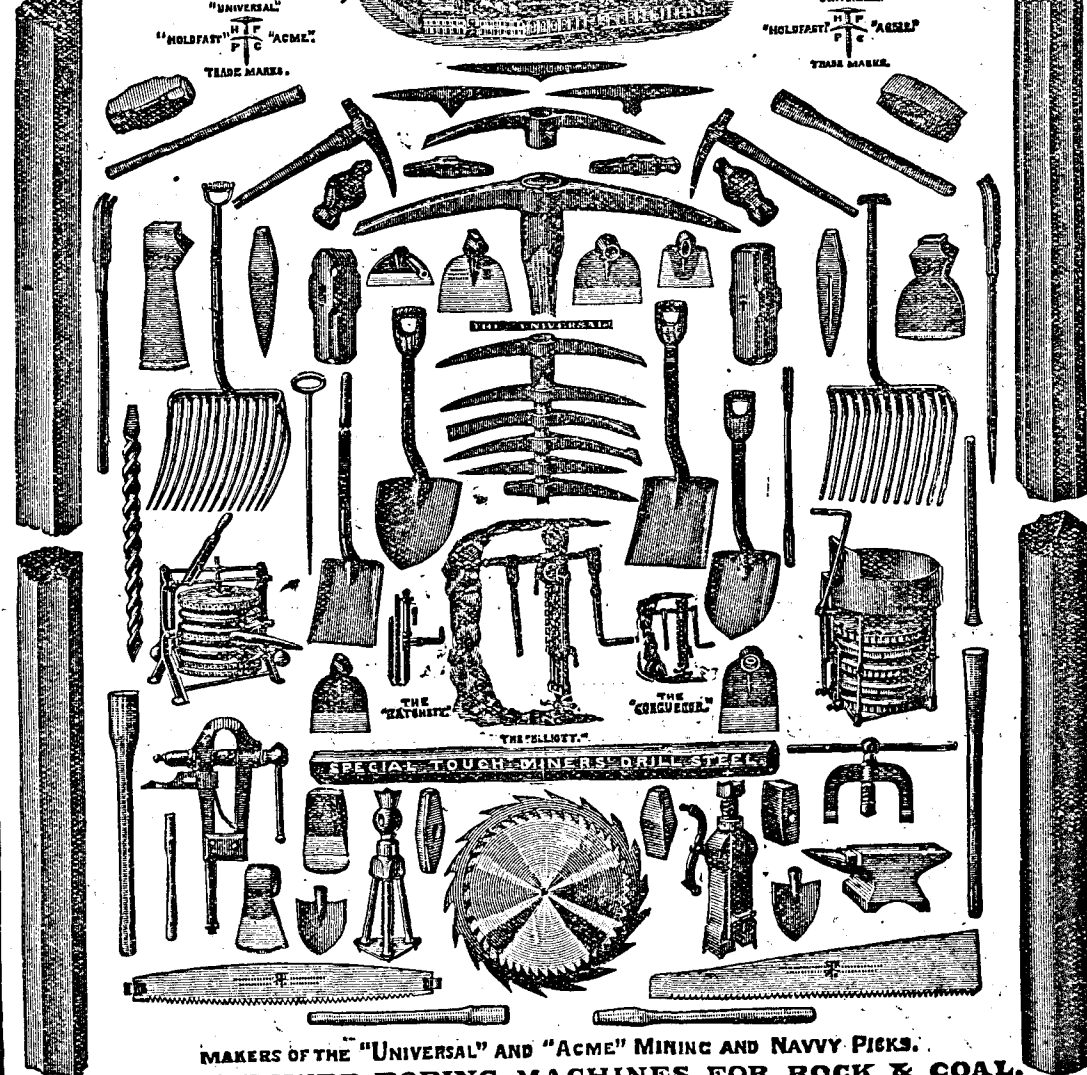
ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

HIGH-CLASS TOOLS FOR MINERS, CONTRACTORS, QUARRYMEN, AND AGRICULTURISTS.

TELEGRAPHIC ADDRESS:-
 HARDY PICK, SHEFFIELD.
THE
HARDY PATENT PICK Co. Ltd.,
 MINING
 TOOL WORKS,
 SHEFFIELD,
 England.



MAKERS OF THE "UNIVERSAL" AND "ACME" MINING AND NAVY PICKS.
HAND & POWER BORING MACHINES FOR ROCK & COAL.
PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS,
 AND ALL MINING, QUARRY, CONTRACTORS, AND AGRICULTURAL TOOLS.

SPECIAL TOUGH DRILL STEEL, SHEAR, CAST, AND BLISTER STEEL.
SAWS, FILES, AND RASPS.

IMPORTERS OF HICKORY HANDLES.

London Office and Showrooms: 22, Queen Victoria Street, London, E.C.

"CHARLTON"**SILICATE
PAINT**

Registered Patentees:

THE SILICATE PAINT CO.,**J. B. ORR & CO, LD., CHARLTON, LONDON.***THE ORIGINAL AND ONLY MANUFACTURERS.***Invented in 1873. In use over 30 years in India.**

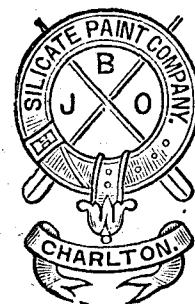
Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,
and for all
GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.

Messrs. John Fleming & Co., Bombay.

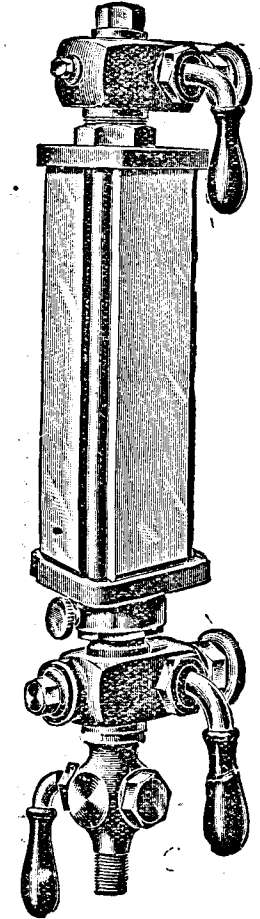
Messrs. Walker Sons & Co., Ltd., Colombo

Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

Showing Protector in Position.



Gauge Glass Protector.

**"EUREKA"
GAUGE GLASSES**

ESTABLISHED 1853.

MAKERS OF THE NEW GAUGE GLASSES

"S.H.P."

FOR SPECIAL HIGH-PRESSURE BOILERS.

*SEND FOR CIRCULARS AND TESTIMONIALS.***JOSEPH TOMEY & SONS, LD**

GLASS TUBE WORKS,

Catherine Street, Aston, BIRMINGHAM.

LONDON WAREHOUSE AND SHOWROOMS—98, HATTON GARDEN, E.C.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,**MITCHAM COMMON, SURREY, ENGLAND.****AGENTS WANTED** throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

STRUCTURAL ENGINEERS AND FOUNDERS.

Bridges, Girders, Roofs,

Tanks, Railway Wagons,

Wrought Iron Gates, Doors, and Railings.

THE EMPIRE ENGINEERING Co., LTD.

Cast Iron Columns, Brackets, Beams, etc., Designs and Estimates Free.
TRANSPORT CARTS, WATER CARTS, REFUSE CARTS, WOOD, AND IRON WHEELS,
PATENT ARTILLERY WHEELS, SEPTIC TANKS, LATRINES, AND CONSERV-
ANCY APPLIANCES A SPECIALITY FOR ILLUSTRATED LIST APPLY TO—

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypes,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
in all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,
8, BOUVERIE STREET, LONDON, ENGLAND, E.C.
Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO., ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities.—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

GALLEYS

WE ARE MAKERS OF THE BEST IN
QUALITY AND WORKMANSHIP, AND
HOLD THE BRITISH RECORD FOR THE
LARGEST VARIETY AND OUTPUT

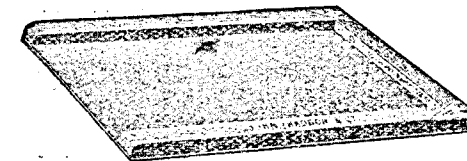
for **Lino**
Job or
Bookwork

*Speciality: The All-Brass Lino Galley, with Patent Clip, which can be
securely locked up at any point.*

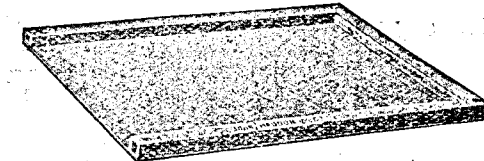


12-inch Lino Galleys, for 12 to 16 em matter.

ZINC BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.

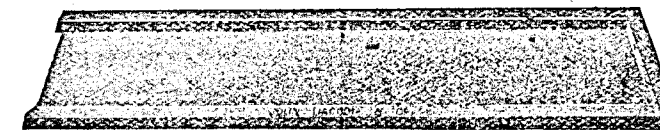


Zinc Bottom Job Galley—Half Lined.



Zinc Tube Galley.

BRASS BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Column Galley—Lined all round.

BRASS TUBE, ZINC TUBE, SOLID BRASS AND ZINC GALLEYS, ALL SIZES.

Rims one or both sides and head.

OUR JOB, COLUMN AND LINO GALLEYS ARE MADE IN ALL SIZES.

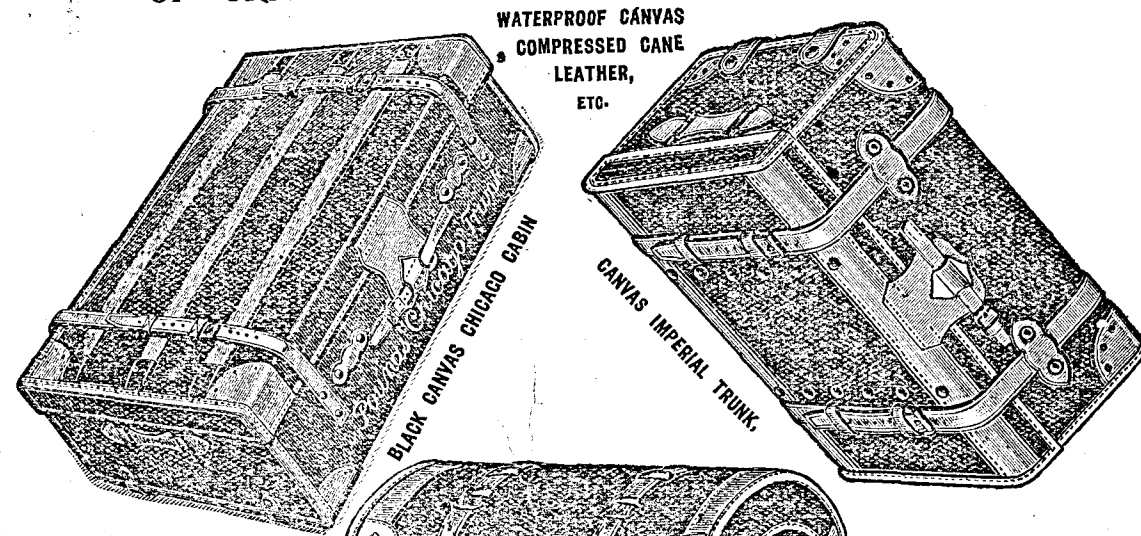
DETAILED PRICE LIST sent free on application to

JOHN HADDON & Co. Salisbury Square,
LONDON, E.C.

Displayed in the Haddon Type and Haddon Old Style. 12 pt. and 6 pt. Bamboo Border.

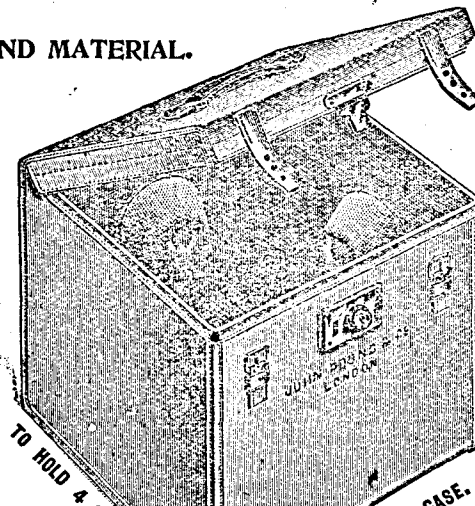
TELEGRAMS & CABLES
"POUND, LONDON"**JOHN POUND & Co.**
ACTUAL MAKERSA.B.C. CODE
4TH EDITION

OF TRAVELLING GOODS IN ALL MATERIALS.



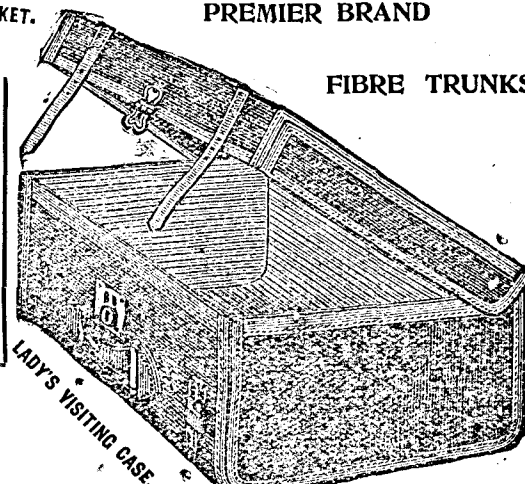
CABIN TRUNKS,
HAT AND COLLAR BOXES
FITTED
TRAVELLING ARTICLES,
IN EVERY SHAPE
AND MATERIAL.

BONNET CASES
TO HOLD 4 OR 6 HATS
MAKERS OF THE
WELL KNOWN



DRESS BASKET.

Write for
Illustrated
Catalogues
Free on
Application



LADY'S VISITING CASE.

PREMIER BRAND
FIBRE TRUNKS.

JOHN PIGGOTT, LTD.
The "COMPANION" Cycle.

SOLE

MAKERS.

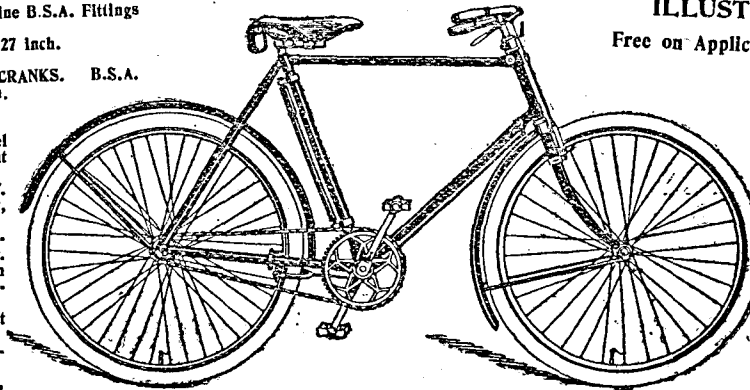
GENUINE B.S.A. FITTINGS.

SPECIFICATION:

FRAME. Built of genuine B.S.A. Fittings throughout.
SIZES. 21, 23, 25, and 27 inch.
HUBS. B.S.A.
CHAIN WHEEL AND CRANKS. B.S.A.
BRAKES. Latest Pattern.
Roller Levers.
HANDLE BAR. Raised.
FINISH Best Black Enamel neatly lined throughout in Gold.
TYRES. Dunlop, 28" x 1 1/4".
FREE WHEEL. Perry, Ball Bearing.
CHAIN. Perry or Brampton 1 inch pitch Roller.
SADDLE. Light, with Enamelled Springs, 3-coil.
MUDGUARDS. Light Detachable Steel.
PEDALS. B.S.A. Rat-Trap.
ACCESSORIES. Inflator, Clips, Wallet, Tools and Oil.

ILLUSTRATED LIST

Free on Application to—



Advertisement

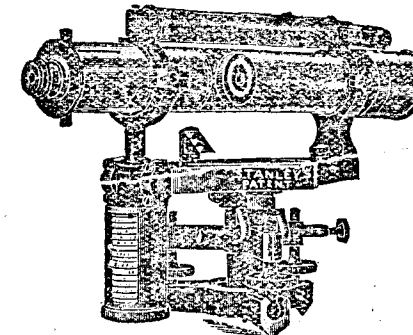
Department,

Reuter's

Agency.

[Please mention this Advertisement.]

CALCUTTA, BOMBAY, MADRAS, KARACHI, COLOMBO or RANGOON,
117 & 118, CHEAPSIDE AND MILK STREET, LONDON, E.C.

**STANLEY**

NUM REQUIRED.

Largest Selection UNNECESSARY.

SURVEYING AND DRAWING INSTRUMENTS made only.

Please send for our H. 24 Catalogue (Postage Glossy Surfaces.
compare our prices with those of other 12 Assorted
FIRST CLASS makers. Tints.

Gradiometer—Saves much time on
Railway and Irrigation works.
Descriptive pamphlet post free.

W. F. STANLEY & CO.,
GREAT TURNSTILE, HOLBORN, LONDON, E.C.



G. W. MUNT

BOX MAN

HER WAGNER,

ole Manufacturer,

STREET. LONDON, E.C.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 144 to 14 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,
TOBACCO TRADE ENGINEERS,
33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,

CIGARETTE SPECIALISTS,

35, ENDELL STREET, LONDON, W.C.

IN EVERY SHAPE MALCAJIK CIGARETTES.

TURKISH GRADES.

AND MATERIAL.

De Luxe.

Special.

Princessas.

ny's Turkish grades of Malcajik Cigarettes are made of very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO.

MALCAJIK VIRGINIA ROYAL CIGARETTES.

the very choicest Bright Virginia Tobacco.

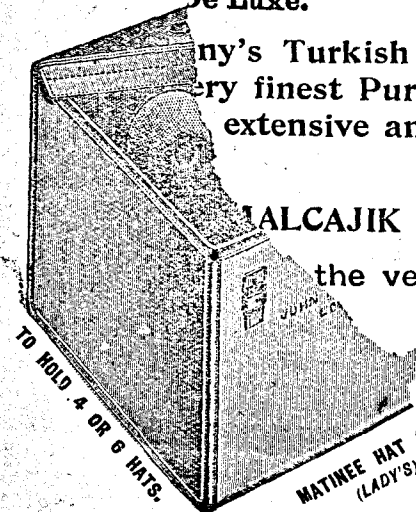
AND

CAJIK PIPE MIXTURE.

f a good Pipe Mixture. The finest ever made.

UGHOOT INDIA, THE EAST, BRITISH COLONIES, ETC.

through English Merchants.



"Pelican" and "Chin-Chin"

**WATERPROOF LIQUID DRAWING INKS.**

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1½-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

Pelican Colours

These Celebrated Artists' Water-Colours blend most perfectly when mixed, may be most evenly applied for washes without showing the slightest trace of Granulation, and have and retain unequalled Brilliance and Colouring.

Three Advantages:—

Superior Quality.

Larger Tubes.

Lower Price.

Test these claims by writing for descriptive colour card or price list.

Obtain a sample for trial purposes and then you will insist upon supplies of

Pelican Colours**TRANSPARENT COLOURS**for Tinting
PHOTOS POSTCARDS ETC**NO MEDIUM REQUIRED.**

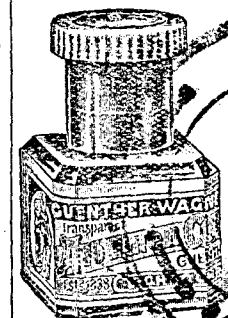
EXPERT KNOWLEDGE UNNECESSARY.

Two Grades only.

Matt Surfaces. Glossy Surfaces.

24 Assorted Tints. 12 Assorted Tints.

The Colours are intended for obtaining other and intermediate shades by mixing and diluting, and have always proved most satisfactory in use.



Obtainable of Artists, Colourmen and Photographic Dealers. If unable to obtain, apply to the nearest Agent's address and for Colour Card to

GÜNTHER WAGNER,

Sole Manufacturer,

80, MILTON STREET, LONDON, E.C.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

**DIESEL OIL ENGINES,
JEWELL WATER FILTERS,
VENTURI METERS.**

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD

153, QUEEN VICTORIA STREET, LONDON.

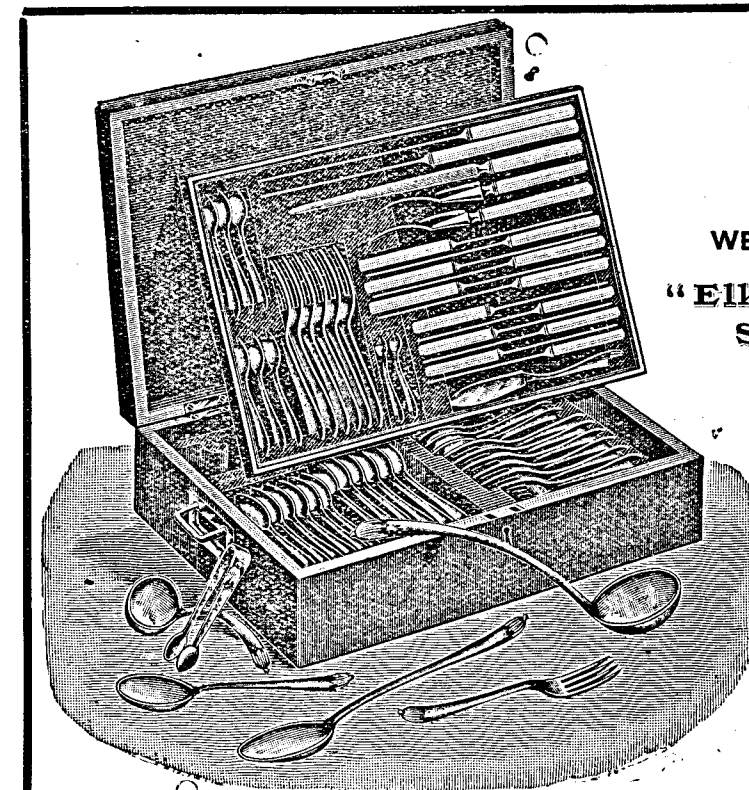
PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS, Large Stocks held
INDEPENDENT CONDENSERS. in Calcutta.

Large Stocks held AIR COMPRESSORS:
in Calcutta. WATER METERS,
COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,

MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

... Manufacturers of the well-known ...

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).

"DOUGLAS" GRAPHITE SPECIALITIES.

Flake Graphite, Graphite Paint, Graphite
Grease, Galvanizing Paint, Motor Lubricating
Oils and Greases.

AGENTS WANTED: INDIA, FAR EAST & COLONIES.

Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA MADRAS, KARACHI,
COLOMBO OR RANGOON.

Telegrams:—"Firmis, London."

Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES.

Manufacturers of every description of

Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

for

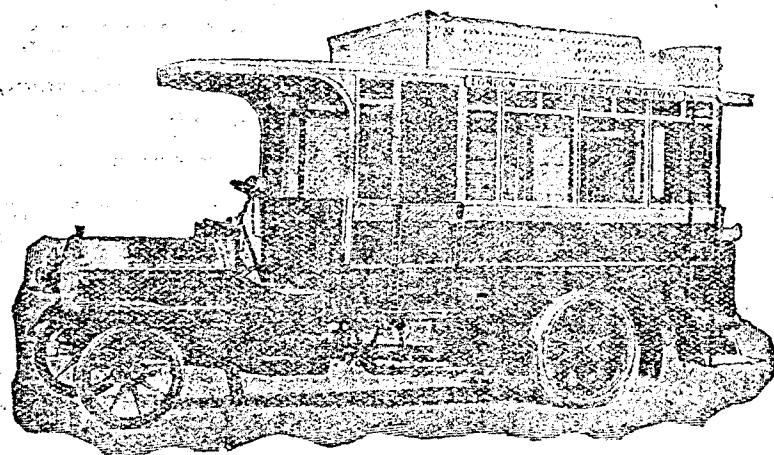
Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



Motor Lorries,

" Vans,

" Wagons,

" Tower Wagons,

" Mail Vans,

" Omnibuses,

" Charabanc,

" Waggonettes,

" Launches, &c.

LONDON & NORTH WESTERN RAILWAY OMNIBUS.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the
principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos.
Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern,
Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and
others. Particulars on application.

Immediate delivery of all types.

SANITARY PAINT COY., LTD.

THE MANUFACTURERS OF

"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"

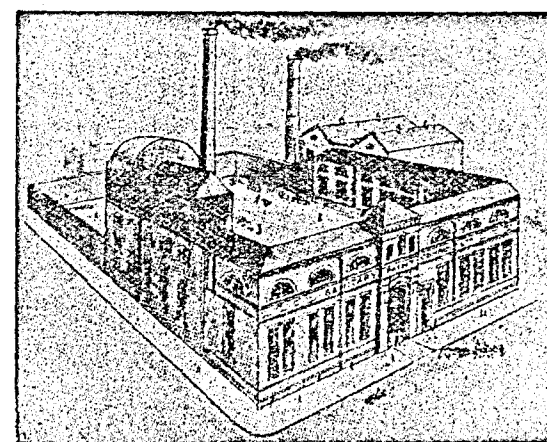


was received from the Calcutta

Exhibition in 1884,

and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.

Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
X X CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884.

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINO WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

They will serve you well, and we are confident they will do their best to please you.

CHEAPEST PAINT IN THE WORLD FOR ALL PURPOSES.
In use by the Largest Steamship Companies, Railway Companies and Gas Companies

THOMPSON'S "EMISSARY" ELASTIC NON-POISONOUS PAINTS.

One cwt. "Emissary" will cover 8,500 superficial feet, while one cwt. of red or white lead will only cover 1,500 superficial feet, the results being in favour of the "Emissary" Paints: (a) BY MORE PERFECT PROTECTION; (b) FOR A MUCH LONGER PERIOD OF TIME (c) AT LESS THAN ONE-THIRD OF THE COST.

It is the only absolutely Elastic Paint on the Market, as it will contract and expand in the same proportion as iron, from below the freezing point up to beyond 700 deg. Fah. It is absolutely non-corrosive. Metal that is thoroughly covered can never corrode, as the paint goes into the metal and not like ordinary paint simply remaining on the surface.

Marine Superintendents of some of the largest liners, Engineers, etc., say it is the best Paint they know of.

TRY IT AND YOU WILL SAY SO.

SOLE EXPORT AGENT FOR INDIA, BURMAH & CEYLON—

H. I. ROBERTS, M.I.Mech. E., 42, Castle Street, LIVERPOOL.

Agents in Calcutta Messrs. KINMOND & CO.

HOUSE OR OFFICE FURNITURE, ARTISTIC, DURABLE & INEXPENSIVE

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

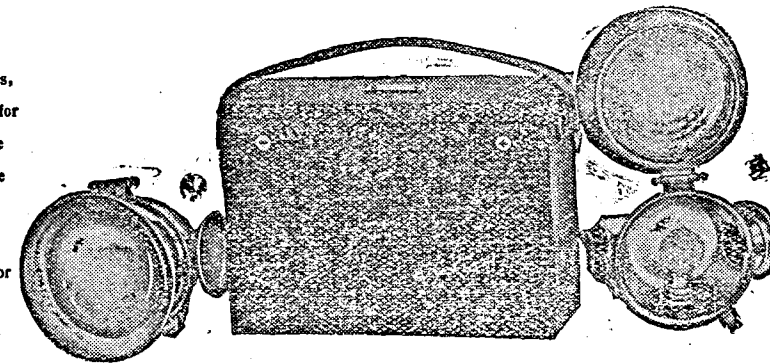
For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

THE GRATZE

IMPROVED PLANTÉ AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.
(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

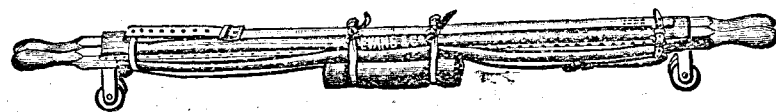
The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES, ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.

By Appointment to His Excellency the Governor of Bombay.
Suppliers to
HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING CO.,
SAFE & LOCK MAKERS, NEAR GAS WORKS, PAREL, BOMBAY.

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE.
Bombay, 12th September 1905

MESSRS. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.
(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

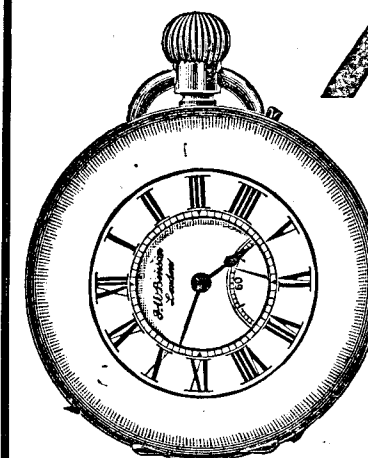
GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY.

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adut.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING CO., LTD.,
DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.



HARRIS & SHELDON LTD.

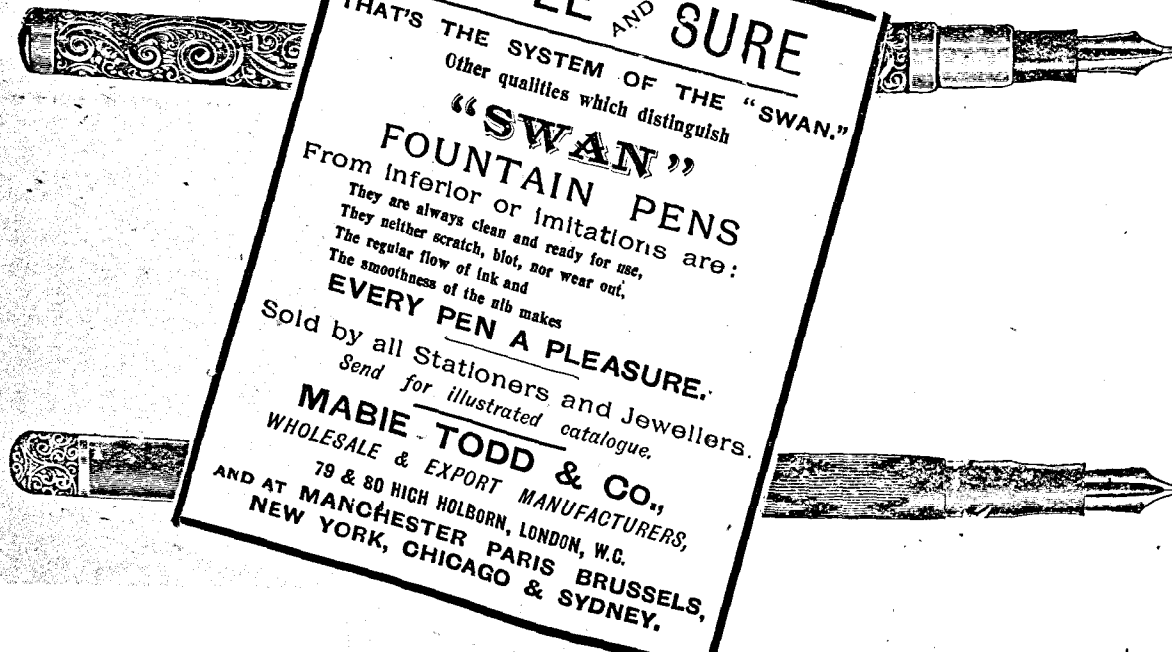
WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, 79, WOOD ST.; MANCHESTER, 18, THOMAS ST.; DUBLIN, 15, NICHOLSON ST.; GLASGOW, 7, QUEEN ST.

DEPOTS: CAPE TOWN & JOHANNESBURG; BERLIN, KRAUSENSTRASSE, 40.

TELEPHONE NO. 462-3



SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.



STANDS FOR

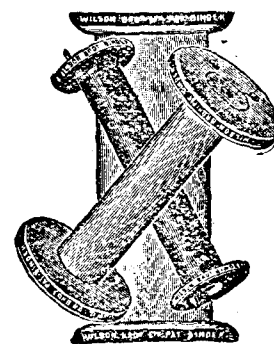
NELSON

THIS REPRESENTS [THE
WORLD'S FINEST SHOE POLISHES.

MANUFACTURED
SOLELY BY**G. H. NELSON,**CLARKE ROAD,
NORTHAMPTON,
ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

**WILSON BROS. BOBBIN CO., LTD.**

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORTON. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

BRANCHES:

Bangkok.	Colombo.	Ipoh (Perak Federated Malay States).	Madras.	Penang.
Batavia.	Foochow.	Karachi.	Manila.	Rangoon.
Bombay.	Hamburg.	Kobe.	Medan (Deli Sumatra).	Saigon.
Calcutta.	Hankow.	Kuala Lumpur.	New York.	Shanghai.
Cebu.	Hong-Kong.	Tientsin.	Yokohama.	Singapore.
Sourabaya.	Thaiping.			

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
5, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

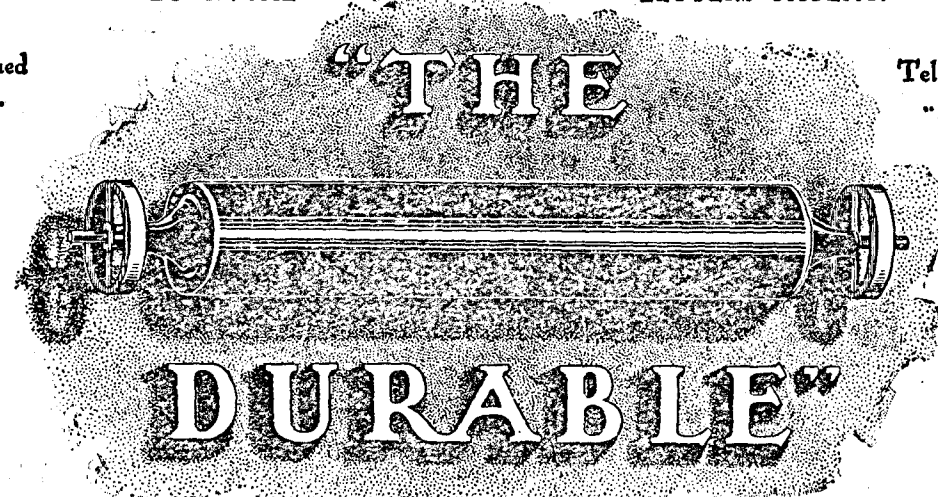
14, Charles Street, Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

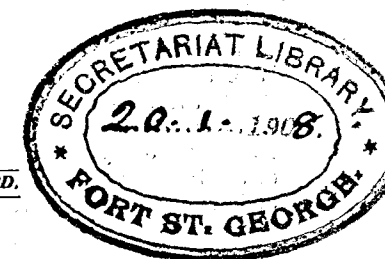
PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

CROP FORECAST: SESAMUM.

PUBLISHED WEEKLY.



REGISTERED.



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

VOL. VIII. No. 94.] CALCUTTA, THURSDAY, 16th JANUARY, 1908. [ANNAS 4.]

INDEX.

	PAGE
NOTES	113
NOTICES—	
Crop Forecast	119
Calls for Tenders	ib.
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Production and Consumption of Food Grains	120
CROP FORECAST—	
Sesamum	122
CHAMBERS OF COMMERCE	125
TARIFF CHANGES	126
SEASON AND CROP PROSPECTS	ib.
THE FAMINE	127
GERMAN TRADE IN PERSIA	128
OPENINGS FOR INDIAN TRADE	129
TOBACCO GROWING	130
MATCH INDUSTRY IN INDIA	132
THE JUTE TRADE OF 1907	133
ELECTRICAL DRIVING	ib.
LOCUSTS AND ZINC SHEETS	134
NICOTINE INSECTICIDES	135
COTTON GOODS TRADE	136
NEW REFERENCE BOOKS	137
TABLES—	
Spinning and Weaving Returns	138
Food Grains and Salt	139
Results of Auction Tea Sales in Calcutta	ib.
WEEKLY TRADE MOVEMENTS	140
Imports and Exports of Turpentine	141
DEPARTMENTAL PUBLICATIONS	142
ADVERTISEMENTS	143

NOTES.

The Presidency Bank rates are as follows:—

Calcutta	8	per cent.
Bombay	8	" "
Madras	8	" "

Exchange—1-3 $\frac{1}{4}$

New Rules to regulate the inspection of boilers and prime movers in the Central Provinces are published in the Central Provinces Gazette of the 11th instant.

The following are the comparative trade figures of the Nuskhi-Seistan trade route for October 1907 and 1906:—

Exports.

	1907.	1906.	Increase.	Decrease.
Afghanistan	187	1,268	...	1,081
Persia	33,952	84,541	...	50,589
Baluchistan	49,555	43,896	2,659	...

Imports.

	1907.	1906.	Increase.	Decrease.
Afghanistan	695	59,666	...	58,971
Persia	18,383	84,945	...	66,562
Baluchistan	59,859	11,698	48,161	...

Thus giving a net increase of Rs. 1,26,383 over those of the corresponding month of last year. These figures do not include any of the Siahband caravans.

In exercise of the powers conferred by Section 19 of the Sea Customs Act, 1878 (VIII of 1878), the Governor-General in Council is pleased to prohibit the taking by sea or by land of **Mhowra flowers** from any part of British India to any part of the Indian possessions of His Majesty the King of Portugal and Algarves.

Writing at the end of November last a Shiraz correspondent states that trade was then at a **standstill**. Even the Imperial bank had commenced to feel the influence of the hard times, and many of its creditors were pleading inability to pay on the ground of their villages having been pillaged.

We take the following commercial summary from the trade statistics of the Imperial Maritime Customs at **Tengyueh** during the September quarters 1907 and 1906:—

	1907.	1906.
Import	2,357	3,256
Export	563	744
Transit	2,547	2,173
TOTAL	5,467	6,173

Customs Revenue—

Import	•	Haikuan Taels	2,325	3,219
Export	•	•	988	475
Transit	•	•	1,729	1,702
		TOTAL	5,042	5,396

The first caravan down to Bhamo left before the middle of September. The rice crops in the district have been excellent. Previous references to this subject will be found in the *Indian Trade Journal* of July 25th and October 17th, 1907.

It has been decided to open a **Universal and International Exhibition at Brussels** in the month of April 1910. The projected Exhibition, which will last at least six months, will include, as to its chief divisions, the following groups: Fine arts; education; instruments and general methods connected with letters, sciences and arts; plant and general methods connected with machinery; electricity; civil engineering; agriculture, horticulture and arboriculture; forests; articles of food; mines and metallurgy; decoration and furnishing of public buildings and private houses; yarns, woven fabrics, and wearing apparel; chemical industry; miscellaneous industries; social economy; public health; practical education; trade and colonisation; land and sea forces; sports; and congresses and conferences. The principal Palace as well as the Halls of the Exhibition will be built of iron and covered with hard materials, and the Palace will be surrounded by a park, the grounds being connected with the

Belgian State Railway. A Commercial Bureau which will centralise information concerning the industries represented will be formed. The Government of India, however, have decided not to participate in the Exhibition.

Lieutenant-Colonel A. G. Begbie, presiding at a recent meeting, held in London, of the **Burma Railways Co., Ltd.**, stated that the Board had asked that the additional borrowing powers conferred on them be extended from £1,000,000 to £2,000,000, and that the rate of interest of the debenture stock be left to the discretion of the Board instead of being fixed at 3 per cent., the state of the money market not rendering it possible to place 3 per cent. stock on satisfactory terms. Referring to the issue of the debenture stock, Lieutenant-Colonel Begbie said that the overdraft on the Secretary of State for India had rapidly increased, and, if repayment was deferred, the amount of the company's liability would not be less than £800,000. The resolution to increase the debenture stock issue was carried. From the beginning of this year the **Madras Railway Company** has been taken over by the Government, the stockholders, however, retaining an interest in the new administration to the extent of £1,500,000. The report of the **Assam-Bengal Railway** for the half-year ended June 30th last states that the gross receipts amounted to Rs. 23,46,164, being an increase on those of the corresponding period of last year of Rs. 4,95,470, or nearly 27 per cent. The expansion in the receipts from goods traffic, which had risen from Rs. 8,57,432 to Rs. 11,65,464, or an increase of nearly 36 per cent., was due to the heavy importation of foreign rice to meet the scarcity arising from the failure of the local grain crops. The profit on last year's working of the **Champion Reef Gold Mining Co. of India** was £187,220, the product having been 104,324 oz. of bar gold from 179,234 tons of ore, and 27,011 oz. from 241,003 tons of tailings and slimes.

Advices from **Australia** which reached Calcutta this week state that the last of the **Melbourne wool sales** for 1907 was held on the 18th ultimo. Good merinoes and fine comebacks suitable for America were firm and active; for other merinoes the market was irregular. Among the leading sales effected were Glenisla xbd to 16½d.; Strathdownie and Corndale cbk and Macquarie River (Tasmania) merino to 16½d.; E. D. in block (Ross, Tasmania) merino to 15½d.; Rosebrook merino to 15d.; Eumeralla merino to 14½d. At the **Sydney wool sales** on the same date 8,312 bales were catalogued, and 7,034 sold. The market was exceptionally firm for all good wools, more particularly fine, well-grown, and sound lines, and superior lots ruled in sellers' favour under keen competition. Medium to good wools had animated bidding; but inferior, faulty, and badly got-up parcels were irregular and difficult to dispose of. Crossbreds, exceptionally fine, suitable for America, were lower. The competition for

scoured, except in odd cases, was very poor and clearances difficult to effect. The top prices were: Greasy, 15½d.; scoured, 21d. The last wool sale in Australia for last year was held in **Geelong** on the 20th ultimo when the market was very firm for the best merino, comeback, and fine crossbred wools. Several fresh orders for America had been in evidence the previous few days, and American buyers showed more determination in bidding for the best wools. No record prices were paid, though some of them were very good. Still 18d. for Stony Point and Argyle greasy merino fleeces and 17½d. for Green Hills comeback fleece may be considered sufficiently high prices. The date of the resumption of the Victorian wool sales after the New Year had not been finally settled when the mail left. The following table shows the total offerings and sales from July 1st, 1907, to the end of the year, compared with those of 1906:—

	1906.		1907.	
	Offered. Bales.	Sold. Bales.	Offered. Bales.	Sold. Bales.
Victoria	297,966	285,179	353,653	318,573
Sydney	368,837	363,266	438,000	385,000
Adelaide	109,204	102,396	121,157	100,020
Brisbane	53,007	47,016	67,605	57,813
	829,014	802,857	980,415	870,406

The increase in sales is thus about 68,000 bales, as compared with the sales to the end of 1906.

In their Report on the **Shanghai piece-goods market**, dated the 19th ultimo, Messrs. Noel Murray & Co. state:—"The continued decline in sterling rates of exchange is the only cause for the falling off in transactions during the interval, the further shrinkage of the gold value of the tael being so serious that holders are not disposed to sell except at more adequate prices. Exchange, in fact, is about 21 per cent. lower than it was three months ago. The much more favourable statistical position and the prospect of moderate supplies for the next few months have opened out possibilities which importers are inclined to make the most of, and so business is curtailed pending an advance to much more like the intrinsic value of the yarns. What business has been done shows what the firmness of holders has already accomplished. This furthers the reflection that the middlemen must always seem to have a good margin up their sleeves, as it is certainly improbable that the consumers in the country should be able almost at a moment's notice to increase their limits 5 to 10 per cent. and long before they have time to appreciate, as in the present case, the enormous difference which the sudden depreciation in the price of silver has made in the value of imported commodities. The small business reported only aggregates a total of 805 bales."

The resumed negotiations respecting the **British cotton dispute** have been broken off as the parties were unable to agree.

The number of bales of **cotton imported into the United Kingdom** during the week ended the 19th December, 1907, was 154,985 (including 164 bales British West Indian and 73 bales British West African) and the number imported during the fifty-one weeks ended the 19th December was 4,581,316 (including 6,233 bales British West Indian and 10,718 bales British West African). As regards exports, the figures are, for the week ended the 19th December, 13,688 bales, and for the fifty-one weeks 484,796 bales.

Messrs. Hubbard Brothers and Co. are still bullish about the **American cotton crop**, and their latest circular, dated December 13th, reiterates the warning of higher prices to come. They do not believe that the slackness in the cotton industry in America is more than a pause; they hold that the American spinners have missed their opportunity to buy cotton at reasonable prices, and that they have also allowed the best quality of the crop to pass into the hands of European spinners, and they insist on the power of the planter to withhold his cotton from the market.

According to a report by the United States Geological Survey, the **production of platinum in the United States** in 1906 exceeded, as regards both quantity and value, that for any previous year, amounting to 1,439 oz. valued at \$5,189 dols. This was an increase over 1905 of more than four-fold in quantity and more than eight-fold in value. The high price of platinum has exercised a beneficial effect upon production, in that platinumiferous gold dust has been received with more favour in the United States mints, so that the quantity of platinum recovered in gold refining has exceeded all previous records. A greatly increased production may be expected from California and Oregon. Reliable reports have been sent into the Geological Survey, and even reliable assays made, showing the occurrence of platinum in certain copper-nickel ores in South Western Utah and in Eastern Nevada.

We notice that Sir A. Hosie, in the course of his Report on the Foreign Trade of China for 1906, states that in 1905 India, Ceylon and Java sent to China 4,906,800 lbs. of tea, mostly dust, for blending with **China teas**, principally in the manufacture of brick and tablet tea; in 1906 they sent 8,767,200 lbs., an increase of 3,860,400 lbs., and if, as he imagines, this blend on export is classed as China tea the increase of 4,644,001 lbs. on the whole export of tea from China is due almost entirely to this cause. In 1906 Hankow alone exported as much as 7,847,066 lbs. of India, Ceylon and Java tea dust blended with brick and tablet tea; Kiukiang, which is another brick-tea manufacturing centre, imported 262,800 lbs. of Ceylon dust, but the customs returns of that port are silent as to the

quantity exported. The consular report for Foochow the third brick-tea centre, makes no reference to import or export.

Despite the heavy duty in force in Russia against Indian and Ceylon tea (Rs. 1-7-3 per lb.), a correspondent points out that the Russian consumer is drinking three times as much Ceylon tea and eight times as much Indian as he did a few years ago.

The *Manchester Guardian* of the 24th ultimo writes:—A quiet week has been passed in the copper market, and there is a slight improvement in values, viz., about 15s. per ton. The premium on three months' metal is maintained with steadiness at from 25s. to 30s. a ton. The *Ironmonger* states that contradictions have been received as to the drastic reduction in the American output; it is now affirmed that the production has been affected only to a slight degree by the fall in prices. It is, indeed, very difficult to know what to believe as to the proceedings of the American producers. A little while ago they claimed that a diminution of fully 50 per cent. would take place, and that the contraction in the demand would be entirely met by the contraction in the output. This position was, of course, regarded with suspicion as more or less exaggerated, but if we are to believe that the American output of copper is only "slightly" restricted bad times must be coming for

the copper trade. There can be no doubt whatever of the reality of contraction in consumption, and if no serious attempt is made to meet it we may easily see another £10 or even £20 drop in copper. With electrical industries largely in a state of suspended animation it is sheer folly to suppose that the world can absorb the quantity of metal which was recently being produced. Either drastic reduction in output or a long period of low prices is before us, and one or the other the market must have.

Writing on December 28th the *Ironmonger* says:—Following the sensational drop in prices of tin a smart recovery ensued, chiefly on account of bar covering in view of the holidays. The situation generally is much the same as before, the predominating factor being the unliquidated portion of the Chinese bull account and the withholding of supplies in the East. Estimates of the shipments to Europe and America in December vary from 4,000 to 4,600 tons, and 600 tons will, it is said, be shipped to China. Following upon the Singapore price coming £125 to £124 on the 23rd December there was a scramble of buying, and up to £126 was paid for three months; but the rise exhausted the anxiety to purchase, and there was a smart set-back again in the afternoon. On Tuesday the demand slackened, and the Eastern prices came lower. It is stated that the arrivals of metallic tin at Singapore and Penang from December 1 to 23 amounted to

4,900 tons, and the total for the month is expected to be 6,200 to 6,400 tons. This seems to be clear evidence that supplies have been held back at the mines or interior points.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of excise in the week ended the 21st December 1907, were as follows:—Wheat, 34s. 9d.; Barley 27s. 1d.; Oats, 18s. 3d.

The *Corn Trade News* gives the following summary of the world's crops as on the 24th ultimo:—**United States of America**—There are complaints of damage by Hessian fly and greenbugs, but only one State mentioned as infested; otherwise weather favourable and outlook maintained. **Argentina**—Weather turned fine and favourable after rainy period. Indications point to big crops. **Australia**—No change in export indications; charterers continue to take up tonnage. **India**—Latest cables give a dismal account of the agricultural outlook in Upper India, but news from the central region is not bad, and some native speculators have offered new crop wheat for shipment at high prices. **Russia**—Sharp frost set in, which is unfavourable for weakly crops. **Roumania**—Weather and crop news unfavourable; people generally less hopeful. **Hungary**—Official bulletin says seeding unfinished, germination unsatisfactory. **United Kingdom**—Occasional complaints loss of condition and decrease in acreage. **France and Germany**—Weather unseasonably mild, but no complaints of crops. **Italy**—Weather keeps too wet, some decrease acreage mentioned. **Spain and North Africa**—Reports continue quite favourable.

According to the *Manchester Guardian* the scare with regard to the action of the United States Steel Corporation in South Wales appears to be passing away. It was circumstantially reported that the Corporation had attempted to compel Welsh tinplate makers—or those who have sheet mills—to use American tinplate bars (billets for tinplate making) by a threat to withdraw American orders for plates from makers who used other than American raw material. The threat was accompanied by an invitation to pay for these tinplate bars about 10s. per ton more than the price for Continental material, or, say, £5 7s. 6d. per ton. Whatever may have been the facts of the case, it appears that the Welsh makers have been able to assert their independence and to buy their material in the cheapest market, or make it themselves if they be so inclined. The incident, however, may be taken to show that anxiety as to the possibility of disposing of the output of semi-steel is deepening in America, and that efforts will be made to

extend the foreign market. British makers are also threatened with severe competition from Germany.

The silk clearances at the Lyons Conditioning-house during the week ending 21st ultimo amounted to 126,229 kilos., as compared with 133,244 in the preceding week and 153,101 in the corresponding week of last year. We append the usual detailed comparison:—

Week ended Dec. 18.	THROWN.		Raw. Kilos.	Total. Kilos.
	Organisms. Kilos.	Trames. Kilos.		
1907	22,753	23,188	80,288	126,229
1906	19,420	24,438	109,243	153,101
1905	18,582	22,605	82,528	133,715
1904	18,364	22,822	113,861	155,047
1903	13,006	15,757	63,383	92,146
1902	17,781	19,223	89,053	126,057

Since the autumn the silk trade has had to contend against a series of adverse influences—the American financial crisis, the fall in Eastern exchanges, the general restriction of credit and the inertia of the great United States market for manufactured silks. All these have had a very depressing effect upon the European silk markets, in spite of the intrinsic soundness of the situation. Buyers are still pursuing their policy of temporisation, and the tone of the market at Lyons as the year draws to a close indicates a general weakness and discouragement.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 11th January, 1908—
In the Calcutta market—

Behar opium—Rs. 1,290; 1,307; 1,309; 1,310; 1,314; 1,304; 1,301.

Benares opium—Rs. 1,270; 1,285; 1,285; 1,285; 1,290; 1,280; 1,280.

The prices in the time bargains for the Behar opium of the 2nd sale of 1908 were Rs. 1,299; 1,316; 1,318; 1,318; 1,322; 1,312; 1,309.

In the China market—

At Hongkong (exchange Rs. 140 to 146 per \$100).

Behar opium—\$930; 925; 922½ and 930; 920; 925; 925; 930.

Benares opium—On the 7th instant \$905.

At Shanghai—(exchange Rs. 191 to 195 per 100 taels).

Behar opium—On the 8th instant 700 taels.

Benares opium—On the 8th and 10th instant 690 and 698 taels.

For the week ending 4th January, 1908—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,235; (new, 1905-06) Rs. 1,252 to 1,314; (old, 1904-05) Rs. 1,400; the latest prices at Hongkong and Shanghai were (new) Rs. 1,204 and 1,321; (old) Rs. 1,285 and 1,395, respectively.

It appears from the Resolution on the Report on the Department of Agriculture, **Central Provinces**, for the year 1907, that much useful work was done on the experimental farms during the year. At Nagpur the most important experiments carried out were those in connection with the rust-resisting capacities of wheat, which tended to show that the variety known as *bansi* is the most promising wheat for rust resistance and cropping power. The straw is, however, reputed to be brittle and to break under hailstones, and there appear to be several distinct strains of *bansi*, of varying qualities. Experiments for testing the residual value of manures tended to show that the residues of bulky organic manures are larger in unirrigated than in irrigated land; while an important series of experiments, the further progress of which will be watched with interest, suggested that nitrogenous fertilizers will be found to be the most valuable for cotton on the Nagpur soils. The uneven quality of the soil at Hoshangabad, and the scouring from which the plots suffer during the rains, greatly handicapped the experimental work at that station, but the preparation of the new land for cultivation demonstrated the usefulness of the Turnwrest plough for the eradication of *kans* grass. Good work continued to be done on the Raipur Farm in demonstrating the advantages of transplantation under irrigation. As the Director justly remarks, it is of the highest importance "to induce the cultivators to meet the great efforts that Government is making to spread irrigation in Chhattisgarh by a corresponding advance in their style of cultivation." A fair measure of success attended the various experiments made to discover suitable additions to the commercial crops of this Division, the most interesting being those connected with jute, the cultivation of which under the supervision of an expert from Dacca was attended with encouraging results.

Although no very tangible results have yet been reached in the endeavours made to improve the cultivation of cotton in the **Central Provinces**, it is possible now to determine more or less definitely the lines on which those endeavours should proceed for the future. The measures so far attempted have been the purchase and distribution of seed selected by managers of ginning factories, the purchase and distribution of selected *jari* seed from the owners of fields where the produce is exceptionally good, and the establishment of cotton seed-farms. The first two of these measures have not been

is sufficiently successful to warrant their continuance. The selection of seed by managers of ginning factories is conducted in too crude a method to secure a supply of seed appreciably superior to that ordinarily sown; and the *jari* seed specially selected failed to prove its superiority when sown in other tracts. On the other hand, the establishment of seed-farms, supplied with seed obtained by plant to plant selection, and supervised by agricultural Assistants, has met with a very encouraging measure of success, and the work of these farms is now on a sound basis. The difficulty of making selection really effective, owing to the lack of sufficiently trained Assistants, has yet to be overcome, but this should be merely a question of time. Experimental work was carried on last year at Nagpur and Akola in connection with manures, the trial of exotic varieties, hybridization, and the selection of seed from promising indigenous and exotic varieties. The manurial experiments have already been noticed. Of the exotic varieties, the only successful one was *bari*, an American variety acclimatized in Bengal, which is reported to have given a large outturn of very good cotton. The results of hybridization appear to have been indefinite, and the best type has not yet been secured.

We see that at a recent meeting of the Ceylon Agricultural Society the Secretary handed to each member present a sample of **sun-dried mango**, which had been prepared by Mr. Harry Roberts. The fruit was well received, nearly all who tasted it pronouncing it excellent. Mr. Roberts reported that the fruit he had used was that of the ordinary mango. It was first peeled and then sliced, about five slices being yielded by one fruit. It was then placed upon trays in the sun to dry, care being taken to allow free circulation of air. No sugar was used, and after two days the fruit was placed in double paper bags. Mr. Roberts thought that mangoes dried in this way might perhaps be placed on the mainland market to be used in the same way as dried apples. He thought that the trees on his own premises could produce a thousand pounds of dried fruit each year. Perhaps some mango-grower in India will give this method a trial on a commercial scale. There would probably be a fairly large market in almost all parts of the world for really good mango chips suitable for culinary purposes.

The area under **rice cultivation** in the fifteen principal rice-producing districts of **Burma** on the 31st ultimo is now reported to be 7,307,475 acres or an increase of 11,511 acres over last month's figures. The increase appears in the Pegu and Toungoo districts. The total fallow area now stands at 490,916 acres, a figure slightly below last month's total. The area destroyed by floods has slightly increased and now totals 68,009 acres. Changes from last month's estimated outturn per acre are

unimportant except in Thaton, where the Deputy Commissioner has raised his estimate considerably on figures obtained from crop measurements. The estimate from the whole area under report has however only risen 1 per cent., and now stands at 98. The grain appears to be threshing out well and should be heavy. The **surplus available for export** is now estimated at 2,518,000 tons of cargo rice equivalent to 42,677,956 cwt. of white rice.

In view of the protracted drought and **threatened failure of crops**, the recent rainfall is of peculiar interest and a telegraphic enquiry was addressed to the Director-General of Observatories as to the extent and quantity of the rainfall since January 1st. The reply, which has been received as we go to press, is as follows:—"Since January 1st, three inches of rain have fallen on the Madras Coast, North; two and a half inches in the North-West Frontier Province; one inch each in Bengal, the United Provinces and the Punjab; seven-eighths in Sind and Central India, East; half an inch in Rajputana, Hyderabad, South Madras, South-east; a quarter of an inch in Eastern Bengal and Assam, Gujarat, Malabar, Central India, West and the Central Provinces; and one-eighth in Burma and Mysore. There has been practically no rain in Berar, Konkan, Bombay, Deccan, Hyderabad (North), or the Madras Deccan."

The disastrous earthquakes at San Francisco and Kingston have resulted in **British fire insurance offices** under the "tariff" agreeing upon special "earthquake clauses," the chief of which runs thus:—"In consideration of the payment by the insured to the company of the sum of £ s. d. additional premium the company agrees, notwithstanding what is stated in the printed conditions of the policy to the contrary, that this insurance covers loss or damage occasioned by fire during or in consequence of an earthquake. It is agreed that in every case of loss or damage the insured must prove to the satisfaction of the company that no part of the loss or damage claimed for was caused otherwise than by fire." In all cases where the insurance is not subject to average there will be an additional clause declaring that the principle of average shall apply to loss or damage caused by fire during or in consequence of an earthquake. A schedule has been prepared fixing rates for "earthquake risk" in all parts of the world except the United States and Canada.

The **manufacture of calcium carbide** for use with acetylene lamps requires a large amount of power, and the article is now imported from abroad, chiefly from Norway, where cheap water-power is obtainable. Calcium carbide will, however, shortly be manufactured in England, at works adjoining the Yorkshire Electric Power Company's generating

station, near Dewsbury. The Company's mains will provide the necessary light and the several thousands of horse-power required for the manufacture of the carbide, at a price which, it is said, will compete successfully with the cheap water-power obtainable abroad. It is expected that the works will be in full operations early this year.

NOTICE.

CROP FORECAST.

THE general memorandum on the Groundnut crop of the season 1907-08 will appear in the *Indian Trade Journal* of the 23rd January, 1908. The gist of it in tabular form will be exhibited as usual at the street door of the office of the Director-General of Commercial Intelligence at No. 5, Clive Street, Calcutta, on the 22nd January at 4 P.M.

CALLS FOR TENDERS.

The Ordnance Officer in Charge, Allahabad Arsenal, is calling for tenders up to the 7th proximo for petty stores.

Army Rations.

The Divisional Contract Officer, Lahore, will receive tenders up to the 3rd proximo for the supply of meat at Ferozepore.

Kerosene.

Tenders are invited up to the 5th proximo by the Divisional Contract Officer, Lahore, for the supply of kerosene for the Peshawar, Rawalpindi and Lahore Divisions.

Petty Stores.

Tenders are invited up to the 8th proximo by the Ordnance Officer in Charge, Ferozepore Arsenal, for the supply of petty stores such as acids, cordage, gunnies, wool, kerosene, linseed and mustard oils.

Ordnance Stores.

Tenders are invited up to the 8th proximo by the Ordnance Officer in Charge, Fort William Arsenal, for the supply of petty stores, samples of which may be inspected at the arsenal.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Clive Street, Calcutta.)

Zinc Sheets.

(181)—A firm in Belgium, which furnishes bank references, desires to be placed in communication with importers of zinc sheets.

Industrial Machinery.

(182)—A Bombay firm desires (1) the addresses of manufacturers of oil refiners and purifiers (German); (2) oil mill machinery (American);

(3) linter carpets and linter yarn machinery (American); and (4) machinery and appliances for the production of a cotton seed oil butter substitute, casein, galalith, etc. (*English and American papers please copy.*)

Japanese Hosiery.

(183)—A well established hosiery mill in Japan requires the addresses of Calcutta importers of hosiery of various kinds.

Tea and Coffee.

(184)—A Canadian firm desires to be placed in communication with exporters of Indian and Ceylon coffee and tea.

Soy Beans.

(185)—A Berlin firm desires to be placed in communication with exporters of soy beans.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the Ante-Room till Wednesday, 22nd January, 1908:—

Parliamentary Publications.

Building Accidents Committee Report. Colonial Reports—No. 552—British Honduras, 1906. Local Taxation Returns (England & Wales), 1905-06. Manufactured Goods Exported and Imported (United Kingdom & Germany), 1882-1906. Treaty Series—No. 45 of 1907—Agreement between the United Kingdom and France respecting Commercial Travelers' Samples, signed at Paris October 23, 1907.

Foreign and Colonial Publications.

New South Wales—The Official Yearbook, 1905-06; Statistical Register—1906, Part III—Shipping; Part IV—Public Finance. Queensland—Vital Statistics, 1906. United States—Bureau of Entomology—Cir. No. 90—The White-Pine Weevil; Cir. No. 92—Mites and Lice on Poultry; Technical Series No. 12, Part IV—New General and Species of Aphelininae, with a Revised Table of Genera; Part V—The more Important Aleyrodidae Infesting Economic Plants, with description of a new species infesting the Orange; Bulletin No. 68, Part IV—The Lesser Peach Borer. Biological Survey—Cir. No. 61—Hawks and Owls from the standpoint of the Farmer. Forest Service—Cir. 111—Prolonging the Life of Mine Timbers; Cir. No. 113—Use of Dead Timber in the National Forests; Cir. No. 116—The Waning Hard Wood Supply and the Appalachian Forests.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted. A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, JANUARY 16, 1908.

PRODUCTION AND CONSUMPTION OF FOOD GRAINS.

CROP forecasts interest merchants firstly as disclosing the probable surplus of produce available for trade, and secondly as indicating the measure of prosperity likely to be attained by the people and the purchasing power likely to be developed by the country in respect of other commodities. To Government also they are necessarily interesting from these points of view, but more so as helping to determine the degree of material well-being to be looked for during the ensuing season.

Persons who study, in either of these aspects, the returns of area and yield, estimated or ascertained, relating to food crops, realise that the meaning of such returns remains very indefinite unless it be possible to compare them with the figures of internal consumption. And unfortunately it is, in a country like India, not practicable to apply that test with exactness, for the reason that none but the very rudest estimate of the domestic consumption can be

attempted. Various efforts towards this end have been made, and one of these undertaken after the cycle of bad years that followed 1895 estimated the figures for British India as follows:—

Population	229,767,000		
Food grain acres	192,223,000	= 81.5 % of total acreage.	
Outturn of food: Tons	65,195,000	= 344.57 kilos per acre.	
Non-food-crop area	43,561,000	= 18.5 % of total acreage.	
Consumption,	% of total	% of total	
	outturn.	consumption.	
Food	48,897,000*	= 75 % of total outturn	82.7
Seed	3,893,000	= 5.9 %	6.6
Fodder	3,470,000	= 5.3 %	5.9
Wastage	2,829,000	= 4.4 %	4.8
Total consumption	59,098,000		
Surplus	6,106,000	= 9.4 %	

* 231.87 kilos per head per annum or 0.635 kilos per head per diem. (N.B.—The kilo is used for purposes of comparison with other dietary studies in which that measure is commonly employed).

But all such attempts are beset with very great difficulties, and the results embody elements of considerable error. Some of these are roughly estimated in the foregoing statement. But as regards any particular year it is further necessary to bear in mind the additions to or withdrawals from stocks (which on occasion are enormous) and also the very serious destruction by weevil and other insect pests more particularly in the case of such stocks. There is no possibility of arriving at even an approximate estimate of stocks or of the total damage by weevil. And again it is impossible to compute the quantity of food derived from fruits, vegetables and dairy produce throughout the country and from fish on the coast line and along the banks of rivers and lakes. None of these factors is subject to statistical record, and indeed the important element of pulses is recorded only in acreage and without estimates of outturn.

In a primitive country the tendency of agriculture is to produce locally for immediate consumption, and it may be said that the great mass of the food grains of India is consumed without coming into sight in any statistically recordable movements of trade. It is true that in recent years the development of railway communications has diffused much more widely throughout India the influence of extraneous demand. Exportation to foreign countries or to other parts of India is consequently a much more powerful factor than it was; and when a shortage of external supplies induces a rise of price in places where an abundant harvest has been reaped, local consumers, who are morbidly critical of present conditions or incapable of looking beyond their private interests,

argue that the change is for the worse. This however is not the view of the consumers in tracts where the shortage exists, nor of the producers elsewhere who make good that shortage at a profit. Nor can it be shared by any one who has noticed how the new conditions have enabled cultivators, say, in Gujarat where deficiency of rainfall persisted through a series of years, to substitute for grain such crops as cotton, which require less moisture, and to

obtain in exchange for that form of produce all the grain they required and large profits in addition.

In the first place, the demand for food grains, developed by a given volume of population, is not constant under varying conditions of material prosperity. The physiological requirements of that population are, of course, virtually constant and might conceivably be stated in food grains; but the extent to which they can be satisfied varies.

	1897-98	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	Average of ten years.
(a) Area under wheat, acres in thousands	24,538	25,370	18,688	23,864	23,446	23,395	28,414	28,470	26,357	29,489	25,203
(b) Total estimated outturn plus imports tons	6,488,300	6,485,400	6,454,800	6,209,700	7,073,700	7,913,700	8,406,200	8,618,900	8,224,900	8,467,700	7,500,200
(c) Yield per acre for year	295	27	285	295	26	34	34	285	325	285	295
(d) Actual exports of year	156,900	1,026,600	528,400	45,000	406,700	574,700	1,359,700	2,229,100	1,006,300	864,500	619,800
(e) Consumption as estimated on ten years' figures	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400	6,680,400
(f) Acreage producing (e) at the rate of the year indicated at (c) in thousands	22,645	24,742	23,440	22,645	25,694	10,648	10,648	25,209	20,555	23,440	22,767
(g) Excess acreage (i.e. (a) less (f)) presumably producing for export in thousands	1,893	628	4,752	1,219	2,248	3,747	8,766	3,261	5,802	6,049	2,436
(h) (Years' theoretical exportable surplus [(b) less (e)] tons	192,100	195,000	225,600	470,700	393,300	1,233,300	1,725,800	1,938,500	1,544,500	1,787,300	619,800
(i) Extent to which (h) is greater or less than (d) actual	349,000	1,221,600	754,000	515,700	13,400	658,600	366,100	290,600	538,200	922,800	Nil
(j) Extent to which (h) is greater or less than (d) percentage	222	119	145	114.6	3	114	27	13	53	107	Nil

Human diet should contain the various constituents, not only in a certain aggregate quantity, but in certain relative proportions. The cereal diet on which the native population depends so largely is markedly deficient in nitrogenous constituents, with the effect that before physiological requirements can be satisfied enormous quantities of grain containing a wasteful excess of other constituents must be consumed. As the digestive capacity of the human being is limited, it may almost be said therefore that on such diet the physiological requirements cannot be satisfied and that the nutrition of the people in respect of nitrogen is in defect even when they are surfeited. When they are surfeited something like half of the non-nitrogenous food constituents are in excess. This quantity cannot be assimilated, and it follows that the system of nourishment is wasteful.

Under such conditions the consumption per head varies considerably with the increased or diminished purchasing power of different individuals or of the same individual in a prosperous or unfortunate season. There are good reasons for believing that an increase in the rate of internal consumption in various parts of India resulted from increased prosperity and contributed to the contraction in the exports of rice in 1906-07. The lowest estimate of the average daily consumption of rice per head is half a ser—say 1.03 lbs. And it has been shown in the annual Review of the Trade of India for the year in question that an increase of only one per cent. in this rate of consumption in Bengal alone would involve the consumption of an additional 94,500 tons. It will therefore be understood that, even with constancy in the factors of population,

acreage and yield, it would not be permissible to assume constancy in such surplus of all grains as may be available for exportation.

A further factor which it is necessary to bear in mind as affecting any single grain is that of substitution. The area under a given grain may be unchanged in successive years, but a shortage in other food crops would almost certainly contract the exportable surplus of the grain in question.

On the other hand, there is so great divergence in the seasons for the sowing of various food crops and in the conditions under which they are grown, that a failure in one grain may be largely redeemed by extended subsequent sowings of other grains. It then becomes merely a question of price whether that grain that is in defect may not be exported as largely as in years of successful and extended cultivation.

It has sometimes been suggested that we might arrive at an approximate estimate of the internal consumption of a particular grain and *per contra* of the exportable surplus in any particular year by taking averages over a number of years for (a) the area, (b) the estimated outturn *plus* imports, if any, (c) the yield per acre, (d) the exports, (e) the unexported balance of the estimated outturn. The statement on the preceding page for the last ten years will show, however, how little the actual exports in any one year agree with the theoretical exportable surplus in respect of wheat for instance.

If it be assumed for the moment that the estimates of production in that statement are correct and that the statistics of exports are right, then the average or constant quantity of wheat retained in the country and consumed is 133,600,000 cwts., or 6,680,000 tons. Deducting this from the outturn in any particular year, we ought to find the exportable surplus. But the export season for wheat falls partly in one statistical year and partly in another. Moreover, shortage or abundance, past or foreseen, may occasion additions to or withdrawals from stock. For these reasons if we would ascertain the supply really available in a given year we must average its estimated outturn with those for the year preceding it and the year following it. This has been done in the statement given, but the rate of yield per acre has been based upon the outturn for the single year. Deducting the constant theoretical consumption from the outturn, we find in the four first years successive minus quantities as the exportable surplus, although exportation took place in each of these years. Thus

while India might appear from this statement to have had an aggregate deficiency of wheat amounting to 1,083,400 tons, it exported in all 1,756,900 tons. The most extraordinary example of discrepancy is that furnished by year 1898-9, when India, with a theoretical minus exportable surplus of 195,000 tons, actually shipped 1,026,600 tons. The figures for the later years are more reconcilable, but it will be noticed that in 1904-5 the shipments exceeded by some 290,600 tons the quantity apparently available for export. It is fairly certain that the crop estimation in the later nineties was inaccurate; and the prime cause of the inaccuracy was the demoralization and pessimism resulting from successive famines which temporarily discredited most of the statistical standards.

These influences operate to some extent in all years in India as in other countries, and unfortunately they often affect the estimation of all food crops in a particular year. It is clear therefore that it is impossible to deduce from statistics of area and yield relating to any one kind of food grain in a particular year what quantity will be available for exportation from India.

CROP FORECAST.

SESAMUM.

Final General Memorandum on the SESAMUM (til or jinjili) crop of the season 1907-08

On the average of the five years ending 1905-06, the British Provinces that are dealt with in this memorandum carried about 70 per cent of the sesamum crop in British India.

The season as regards the early crop has been very unfavourable. In most parts of the country the weather at the sowing season was suitable, and this induced extended cultivation. But excessive rain damaged the crop at the outset in Bombay and the Central Provinces and Berar, while in these tracts and still more in the United Provinces and the Panjab the early cessation of the rains and the protracted drought greatly diminished the yield. In effect Madras alone estimates for an increased outturn somewhat in relation to the expansion of acreage.

The total area under sesamum (excluding Bengal which does not report at this season, but usually has about 500,000 acres) is reported as 4,024,000 acres as compared with 3,930,000 at the beginning of 1907. This shows a net increase of 94,000 acres or 2.4 per cent. The crop in British territory has apparently expanded by some 120,700 acres to a total of 2,970,800; but

this is to some extent offset by a diminution of 26,700 acres in the Native States.

The total outturn is now estimated at only 187,400 tons as compared with 425,300 tons last year. The decline of 237,900 tons represents a falling off of nearly 56 per cent. This is shared by British and Native territory. While British territory with 146,100 tons has a decline of 157,900 or nearly 52 per cent, the fall in the yield of the Native States amounts to 80,000 tons or 66 per cent.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate that percentage of the total area under sesamum in British India is ordinarily cultivated in that province.

United Provinces (20%).—The area under sesamum sown *unmixed* is reported to be 329,800 acres compared with 309,200 acres last year—an increase of 6.7 per cent, attributed to the favourable season for sowing. The autumn rains set in at the end of the third week of July and stopped at the close of August. In consequence of the prolonged drought since then, the crop either dried up or gave a very poor outturn. The total yield of the *unmixed* crop is estimated at 9,900 tons as against 36,200 tons last year—a decrease of 72.6 per cent. The area and yield of sesamum sown interspersed with other crops and largely retained for home consumption is roughly estimated at 900,000 acres and 30,000 tons respectively as compared with 775,000 acres and 90,000 tons last year.

Central Provinces and Berar (18.5%).—The total area is now reported to be 843,300 acres (747,500 in the Central Provinces and 95,800 in Berar) as compared with 807,900 acres (717,700 in the Central Provinces and 90,200 in Berar) last year—an increase of 4.3 per cent. The commencement of the season was generally propitious and favoured sowing operations both of the early and late varieties; but continuous and heavy rain damaged the plants and stunted the growth of the young seedlings in many districts. Further damage was subsequently caused by the early and continued cessation of the rains. The break did indeed afford facilities for sowing the *rabi* (late) crop; but this also later on suffered much from want of moisture. The showers received at the end of November somewhat improved the crop. The total yield is estimated to be 47,900 tons (37,800 in the Central Provinces and 10,100 in Berar) as compared with

70,400 tons (60,700 in the Central Provinces and 9,700 in Berar) last year—a decrease of 32 per cent.

Madras (17.2%). now reports 387,000 acres under sesamum in *raiayatwari* villages (about two-thirds of the province) up to the end of December—an increase of 8.4 per cent (30,000 acres) as compared with the corresponding date of last year; but a decrease of 18.7 per cent as compared with the quinquennial average. The condition of the crop is reported to be either good or fair. The yield is estimated to be 31,100 tons as against 29,600 tons reported at this date last year—an increase of 5 per cent. The total area reported from villages other than *raiayatwari* is 31,400 acres or about 2½ times more than the area reported for the corresponding period of last year, but the reports are incomplete. The yield of this area is at present estimated to be about 3,200 tons.

The British districts of **Bombay (8%)** and **Sind (2%)** report the total area sown to be 426,600 acres, which falls short of last year's area by 78,900 acres or 15.6 per cent. The Native States (including Baroda) report 568,300 acres as compared with 599,900 acres last year—a decrease of 5.3 per cent. The crop has suffered extensively through deficiency of late rains and has withered in many places, particularly in north Gujarat and east Deccan and Karnatak. Damage by disease and insects has also been reported from a few places. The total yield for Bombay and Sind is estimated to be 63,800 tons (22,500 in British districts and 41,300 in Native States), which is 66.5 per cent below last year's yield (190,300 tons). Of the total yield this year about 72 per cent is contributed by Gujarat and 18 per cent by Deccan.

Panjab (4%) reports the area to be 84,100 acres compared with 95,500 acres last year—a decrease of about 12 per cent. The shortage is attributed to the unsatisfactory character of the monsoon. The crop suffered severely from the early cessation of the rains, and a deficiency in the supply of water in inundation canals. The total yield is estimated at 4,700 tons as against 8,800 tons last year, this representing a decrease of 46.6 per cent.

Hyderabad reports 484,900 acres as compared with 480,000 acres last year—an increase of 1 per cent. The crop is reported to be poor except in one district, and is expected to yield 48 per cent of the normal as compared with 63 per cent last year.

FREDERICK NOEL-PATON,

Director-General of Commercial Intelligence.

Estimate of the Sesamum crop of the season 1907-08

PROVINCE		Area (in acres)					
		Of current year's crop (1907-08)	Of previous year's crop (1906-07)	Average of preceding		Percentage by which column 2 exceeds (+), or is less than (—), area in	
						Column 3	Column 4
				Five years	Ten years	5	6
1		2	3	4			
United Provinces	{ Pure	329,800	309,200	305,300	244,900	+ 6.7	+ 8.0
	{ Mixed	900,000	775,000	675,000	643,000	+ 16.1	+ 33.3
Central Provinces and Berar		843,300	807,900	897,000	869,800	+ 4.3	— 6.0
Madras		387,400	357,000	476,000	493,000	+ 8.4	— 18.7
Bombay (a)		944,300	1,049,500	906,700	776,700	— 10.0	+ 4.1
Sind (a)		50,600	55,900	102,500	121,900	— 9.5	— 50.6
Panjab		84,100	95,600	183,700	171,600	— 11.9	— 54.2
Hyderabad		484,900	480,400	539,300	454,400	+ 1.0	— 10.1
TOTAL	{ Pure	3,124,000	3,155,000	3,410,500	3,132,300	— 1.0	— 8.4
	{ Mixed	900,000	775,000	675,000	643,000	+ 16.1	+ 33.3
PROVINCE		Yield (in tons)					
		Estimated yield of current year, i.e., of area in column 2	Yield of previous year, i.e., of area in column 3	Average of preceding		Percentage by which column 7 exceeds (+), or is less than (—), yield in	
						Column 8	Column 9
				Five years	Ten years	10	11
1		7	8	9			
United Provinces	{ Pure	9,900	36,200	248,600	217,800	— 72.6	— 96.0
	{ Mixed	30,000	90,000	58,000	60,000	— 66.7	— 48.3
Central Provinces and Berar		47,900	70,400	68,900	63,500	— 32.0	— 30.5
Madras		31,100	29,600	40,400	41,100	+ 5.1	— 23.0
Bombay (a)		59,900	129,800	129,800	104,500	— 67.8	— 53.9
Sind (a)		3,900	4,300	6,200	7,200	— 9.3	— 37.1
Panjab		4,700	8,800	16,100	16,100	— 46.6	— 70.8
Hyderabad		48 per cent	63 per cent	...	...	...	...
		of normal					
TOTAL	{ Pure (b)	157,400	335,300	510,000	450,200	— 53.0	— 69.1
	{ Mixed	30,000	90,000	58,000	60,000	— 66.7	— 48.3

(a) Including Native States

(b) Excluding Hyderabad

NOTE.—(1) The estimates of the "mixed" crop, which refers to sesamum grown in the United Provinces in combination with other crops, are highly conjectural.

2) The estimates for Madras relate to sowings in raiyatwari villages up to the end of December

CHAMBERS OF COMMERCE.

KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on December 28th, 1907, the following business was transacted:—

Read letter, dated 9th December, 1907, from Seth Rewachand Khemaldas, forwarding for the information of the Chamber, copy of a joint letter signed by forty native grain merchants to the address of the District Traffic Superintendent, North-Western Railway, Karachi, complaining of the damage done by the use of hooks whilst unloading grain wagons at the City Station.

Resolution.—The District Traffic Superintendent, North-Western Railway, Karachi, to be addressed on the subject, a specimen hook now produced taken from a coolie being sent to him for his information. Seth Rewachand Khemchand to be informed of the action taken by the Chamber.

Read letter No. 66, dated 24th November, 1907, from the Accountant-General, Patiala State, Kasauli, stating that the payment of an illegitimate tax to railway officials, for the allotment of rolling stock for the transport of merchandise at rates which vary according to the demand and available supply constitutes together with other well known means of extorting money from traders and others a gross scandal; further, that now that the Indian Railway Commission will not visit India the matter ought to be agitated and representations made either to the Railway Board or the Department of Commerce and Industry.

Resolution.—The Committee recognize that corruption and extortion exist amongst members of the subordinate railway staff. The matter has frequently received the attention of members of the Chamber. The only remedy seems to be to bring to the notice of the railway authorities individual cases with proofs, so as to enable the offenders to be dealt with according to law. The Accountant General, Patiala State, to be informed accordingly.

Read letter, dated 28th November, 1907, from the Secretary, Bombay Chamber of Commerce, forwarding, for the information of the Chamber, a draft copy of an amended Bill for the Registration of Partnerships which his Committee have just submitted to the Government of India, stating that the provisions of the Bill have been most carefully considered after consulting his Chamber's Solicitors and taking Counsel's opinion and every endeavour has been made to meet the inherent difficulties of the case, and adding with reference to the Bill on this subject that has just been submitted to Government by the Bengal Chamber that though the two Chambers agree as to the desirability of legislation it will be observed they differ every materially on some important points.

Resolution.—To be referred to the Standing Sub-Committee for Local Affairs for early report.

Read letter, dated 29th November, 1907, from the Secretary, Manchester Chamber of Commerce,

stating that the attention of his Chamber having been drawn to certain awards on surveys on piece-goods by surveyors in India and Further East, such awards being irregular inasmuch as the surveyors included in their reports statements and opinions regarding points which were not within the subjects of reference to them, the Board of his Chamber resolved unanimously that it was not within the scope of their duties to interfere in particular cases and that they could only suggest to the Eastern Chambers the importance of survey reports being confined to the question or questions specifically in dispute and upon which the surveyors have been invited to make their award, and adding that it is confidently anticipated that this Chamber will be in sympathy with this view.

Resolution.—To be circulated amongst the members of the Chamber. The Secretary of the Manchester Chamber of Commerce to be informed of the action taken, also that this Chamber has no control over individual surveyors.

Read letter, dated 3rd December, 1907, from the Secretary, Punjab Chamber of Commerce, forwarding a copy of a circular issued by the Bombay Customs House in connection with the working of the Merchandise Marks Act and making remarks; and requesting an expression of opinion from the Committee of this Chamber on the expediency of a joint representation being made from the Chambers of Commerce to Government with the object of simplifying the Merchandise Marks Act.

Resolution.—The Punjab Chamber of Commerce to be informed that the Committee entirely concur with the views expressed and are prepared to make a joint representation on the subject.

BOMBAY MILLOWNERS' ASSOCIATION

The following excerpts are taken from the proceedings of the Committee of the Bombay Millowners' Association during the month of November, 1907:—

Read letter from the Postmaster-General, Bombay, asking for the opinion of the Association as to the proposed introduction of two new descriptions of Embossed one-anna Envelopes. It was explained that the existing oblong one-anna embossed envelope issued by the Post Office ($5\frac{1}{2} \times 3\frac{1}{4}$ inches) was a little too small, and that one measuring $6 \times 3\frac{1}{2}$ inches, i.e., the same size as the new half-anna commercial envelope recently introduced, would be suitable. It was also considered that the introduction of a stout one-anna envelope measuring 9×4 inches, which would hold papers up to the maximum weight allowed for the one-anna rate of letter postage would meet a public want and command a large sale.

Resolution.—Reply that the Association approve of the suggestions made by the Postmaster-General.

Read letter from the Bombay Government forwarding copy of a letter recently addressed by H. E. the Governor to the Press in this Presidency requesting their assistance in bringing to the notice of the people the simplest and most efficacious

precaution against plague, and inviting the co-operation of this Association towards this end.

Resolution.—Government to be informed that the Association will be pleased to afford H. E. the Governor in Council the fullest measure of support by all such means as may appear desirable and practicable in the circumstances. Copies of the Governor's letter to be circulated among members for their information and guidance.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The Board of Trade Journal, published on the 26th December, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

UNITED KINGDOM—UNITED STATES OF AMERICA.—Agreement respecting Commercial Travellers' Samples, and the United States Import Duty on British Works of Art.

UNITED KINGDOM—BULGARIA.—Ratification of the Anglo-Bulgarian Commercial Convention.

AUSTRALIAN COMMONWEALTH.—Decision respecting "Vapour Lamps" Free Importation of Minor Articles. Advertising Matter: Amended Regulations.

MONTSEERAT.—Revised Export Duties. Citrate of Lime Ordinance, 1907.

EGYPT.—Revised Valuation Tariff for Certain Metals. Valuation Tariff for Rangoon and Saigon Rice.

RUSSIA.—Period for Presenting Petitions against Customs Fines.

RUSSIA—ITALY.—New Treaty of Commerce and Navigation. Duties on Importation into Italy.

FRENCH INDO-CHINA.—Import Duty on Machines for the Extraction of Gold.

PORTUGAL—MOZAMBIQUE.—Disinfection of Imported Second-hand Clothing.

ROUMANIA.—Customs Decisions. Metals for re-casting. Certificates of Origin for Imported Sardines.

TURKEY.—Prohibition of Export of Wheat from certain Ports.

UNITED STATES OF AMERICA.—Labelling of Coffee from Dutch East Indies.

CHILE.—Suspension of Import Duties on Cattle and forthcoming Reduction Duties on certain Textiles, etc.

BRAZIL.—Regulations respecting Imported Food Products and Beverages.

—List A appended to the Resolution in the Finance and Commerce Department, No. 2537-S.R., dated the 9th June, 1898, specifies articles of iron and steel manufactured from imported raw material which may be purchased in India for the public service, subject to certain restrictions. The Governor-General in Council is pleased to direct that "Railway points and crossings with all the fittings for the same" shall be added to the list.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 4th JANUARY 1908.

Burma.—Slight rain fell in one district of Lower Burma. Reaping of the autumn rice crop is completed in some districts. Cultivation of miscellaneous spring crops is progressing. Crop prospects are good in Lower Burma. In Upper Burma prospects are fair in most districts though poor in parts of the precarious districts. The price of paddy has risen in four; and has fallen in seven districts.

Eastern Bengal and Assam.—Rainfall nil. Harvesting of winter rice, plucking of cotton, cultivation of spring crops and pruning and hoeing of tea are in progress. Prospects of standing crops are fair to good. Prices of common rice have fallen in one; and have risen in five districts. No scarcity is apprehended at present.

Bengal.—Another week has passed without rain, and the spring crops especially in Bihar are suffering. The weather has been cold but seasonable. Harvesting of winter rice has been completed in many districts and sugarcane pressing still goes on. The outturn of rice in Bankura is estimated at 54 per cent. of a normal crop. Irrigation of spring crops in the Sone canal area continues. In Orissa some *dalia* rice has been transplanted. *Kulthi* and *mung* are being harvested. Prospects of spring crops in the western portion of Lower Bengal are fair, but in the eastern portion they are below the average, except in Khulna where rape and mustard are doing well. In South Bihar in irrigated areas prospects are fair, and poppy is doing well; but in North Bihar through want of rain prospects are unfavourable. In Orissa *dalia* rice is doing well. The sugarcane crop in the Burdwan and Orissa Divisions is fair. Darbhanga alone reports a good outturn of winter rice. Stocks of grain are reported insufficient in Bankura, Nadia, Balasore, Palamau, the north of Murshidabad and portions of the Sonthal Parganas and Puri. In Bengal, Orissa and Chota Nagpur prices are stationary, but there has been a rise in Bihar probably due to the great export of grain to the United Provinces. Scarcity is apprehended in the Raipur, Khatra, Taldangra and Simlapal police divisions of Bankura, in Nadia, in the north of Murshidabad, in the Bhabhua and Sassaram subdivisions of Shahabad, the Darauli and Manjhi thanas of Saran, in Hazaribagh, Ranchi and Palamau and towards the end of the season in Birbhum, Jessore and Gya if no rain falls. Some gratuitous relief was given in the Chilka tracts in Puri. In Cuttack one test-work was attended by 134 men, 22 women and 13 children and gratuitous relief was given to 247 men, 1,402 women and 1,127 children. In Balasore one test-work was opened and attended by 250 men. Water is scarce in the north of Murshidabad and in the Dumraon thana of Shahabad. Fodder is scarce in Nadia and Monghyr. The condition of agricultural stock is good except in parts of Gya, Cuttack, Sambalpur, Hazaribagh, Ranchi, Palamau and Manbhum.

The report received from the Fendatory States of Orissa for the week ending the 28th December, 1907 shows that no rain fell during that period. Harvesting of winter paddy is almost completed. Sugarcane pressing is still going on in some States. Prospects of spring crops are unfavourable. The outturn of rice is below normal. Fodder and water are sufficient.

United Provinces.—No rain has fallen and it is everywhere urgently required. Prices have risen in almost all districts and considerably exceed scarcity rates. Trade is active and markets are sufficiently supplied by the aid of importation. There is still a sufficient demand for labour. Sowings of spring crops are nearing completion and irrigation continues. Spring crops have germinated well in all except a few districts but its future depends on rain during this month. Most of the western districts and Oudh report some damage to *arhar*, sugarcane and garden crops from frost. Sugarcane pressing and cotton picking continue. Poppy is doing well. Agricultural stock is generally in fair condition but the scarcity of fodder is beginning to be more severely felt. There is no marked general increase in crime nor other special features indicating distress. The numbers on relief are 168,859.

The weekly report on the famine and scarcity is as follows:—There is a further increase in the area affected by distress. Famine has been declared in Kheri and the hill portions of Mirzapur, including those portions of the Family Domains and in tahsil Karchhana of the Allahabad district. Gratuitous relief has been sanctioned in the Azamgarh, Fyzabad, Budaun and Hamirpur districts and five parganas of the Benares district. The health of those on relief is generally good except for a slight increase of beggars in Benares and Fyzabad cities. The usual signs of distress are absent. The general health of the people is good and private charity, active. The numbers on relief are:—On works 100,011; on gratuitous relief 68,848; total 168,859. There are relief works in five and test works in ten districts. The districts with the largest number on relief are Gonda 35,352; Bahraich 32,806; Mirzapur 20,875; Allahabad 18,525; and Jalaun 18,359. Prices are 8 to 10 seers per rupee.

Punjab.—Rainfall nil. Prices of food grains are above scarcity rates in all districts except Multan. Prices are still rising in many districts. Pressing of sugarcane and harvesting of *toria* are in progress. Sowings of spring crops are generally finished in Mianwali and Jhang; but still continue on irrigated areas in other districts. The condition of irrigated spring crops is good to average and of unirrigated bad. Unirrigated crops are withering in Hissar for want of rain. The opium crop is average in Lahore and Amritsar. The outturn of *toria* is generally average and of sugarcane below average. Sugarcane has been damaged by frost in Sialkot and by moth-borer and green-fly in Jullundur and *toria* by green-fly in Shahpur and Lyallpur; wheat is being damaged by rats in Lahore and Gujranwala

and by white ants in Lyallpur; rats are causing injury to gram in Lyallpur; and insects to turnips in Jhang. Cattle are suffering from overwork, cold and scarcity of fodder in Jullundur, Lahore and Sialkot. Cattle are in fair to poor condition in Shahpur. Pasturage and fodder are scarce in Delhi, Ambala, Sialkot, Gujranwala, Mianwali, Jhang, Lyallpur, Multan and in parts of Gurgaon, Lahore, Amritsar, Shahpur and Rawalpindi. Green fodder is not available in Ferozepur, Amritsar and Sialkot. The fodder supply is decreasing in Jullundur. Fodder is sufficient but getting dearer in Rohtak. The canal water supply is insufficient in Delhi and Lyallpur; the supply of water is also scarce in parts of Rawalpindi.

North-West Frontier Province.—No rain fell during the week. Rain is much needed throughout the Province. The weather is cloudy. Standing crops on irrigated lands are average but in unirrigated areas poor. In Dera Ismail Khan standing crops are poor. Sowings of spring crops are in progress on irrigated lands but early rain is required for unirrigated sowings. Pressing of sugarcane continues in the Peshawar and Bannu districts where the outturn is reported to be average. Water supply in canals is sufficient. Fodder is procurable except in some parts of Dera Ismail Khan where cattle are suffering. Prices are still rising owing to large exports down country and for want of rain. Prices:—wheat 8½ to 12; gram 10½ to 14; maize 10½ to 18; and bajra 10½ to 14½ seers per rupee.

Jammu.—Rain nil. Prices are still rising. Prices:—wheat from 8 to 14; and maize 10 to 20 seers per rupee. The condition of standing crops is fair in irrigated; and poor in other parts. Fodder is insufficient in Kathua, Samba, Udhampur, Basohli Ranbirsinghpura, Akhnur and in the Kandi circle of Jasmirgarh and Jammu tahsils. Rain is badly wanted.

Kashmir.—The weather is partially bright and severely cold. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, Jan. 14th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 13th instant:—

Slight rain has fallen in most districts. The harvesting of winter rice, and the pruning and hoeing of tea are in progress. The prospects of the standing crops are fair. Cattle disease is reported from five districts. The prices of common rice have fallen in two and risen in six districts. No scarcity is apprehended at present.

THE FAMINE.

Beneficial Rain.

The following is a copy of a telegram, dated 13th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

During the week ending 4th January rain fell

only in Madras and in one district of Lower Burma, but reports just received show that good general rain fell between the 10th and 12th instant in the whole of Northern India from Peshawar to Bombay, Nagpur and Calcutta. It is probable that this rain will extend into North-East India.

The Provincial reports received this week deal with the situation before the rainfall and indicate a marked increase in the demand for State relief, especially in the United Provinces and the neighbouring Native State of Baghelkhand. In the former there are now 100,000 persons on relief works and 68,848 in receipt of gratuitous relief. The area in which relief measures are required is extending, but owing partly to the demand for labour and partly to the promptitude with which measures were taken at the outset, the signs of distress that usually accompany a widespread famine have not appeared in a marked form, and the general health of the people is good.

In Central India the numbers on relief are :—works, 46,843 ; gratuitous relief, 3,045.

In Orissa the attendance on test works is still small, and there has been a slight decrease in the numbers in receipt of gratuitous relief, who, as before, are mostly women and children.

In the Central Provinces distress is not as yet severe and it has not been found necessary to open relief works, but ample employment is being provided to meet the slackening of the demand for agricultural labour that ordinarily occurs at this time of the year. Gratuitous relief is being given to 750 persons in one district and will be shortly extended to three other districts.

In the Panch Mahals, a district of Bombay 1,090 persons are employed on test works.

The total number of persons in receipt of State relief in the whole of India is now 223,782.

Prices continue high, with a tendency to rise ; and the dearness of food is much felt everywhere, especially by the urban population and by those who are in receipt of fixed incomes.

—The trade returns of the United Kingdom for December show an increase of £1,336,894 in imports and £1,332,561 in exports. The increases in imports are principally in grain, food and wool, and in exports in machinery, cotton and coal. The totals for the year 1907 are :—Imports £645,904,176 and exports £426,204,596, as compared with £607,880,500 and £375,575,338 in the preceding year. The total trade of the United Kingdom in 1907 was thus £1,072,108,782, by far the largest on record, and an increase over the previous year of £88,552,944 or 9 per cent. These figures do not include re-exports of foreign and colonial produce. The imports for the year increased 6.26 per cent., and the exports 13.5 per cent. The total trade per head of population was £24.7.

GERMAN TRADE IN PERSIA.

An Expert's Views.

THE following statement respecting the proposed development of German trade in Persia is based on a series of articles contributed to the *Frankfurter Zeitung* by Dr. Grothe, a German commercial expert who recently visited Persia: After discussing the geographical conditions and lines of communication of South-west Persia, the writer declares that, in view of the future influence in those regions which Germany will acquire by means of the Baghdad railway, and also in view of the growth of German shipping in the Persian Gulf, the district in question is one of great importance to German commercial interests. Hitherto, he says, South-west Persia has been neglected by Germans. There are but few German trading establishments in the district, and the writer urges that a business should be established at Kermanshah and Ispahan. Such an establishment would find an opening for the importation of European goods into Kermanshah, which has a central situation, and is therefore a good place for distribution. But it is not only in the import trade that such a house should concern itself. The export of carpets, wool, opium, and cotton from Ispahan would be a profitable undertaking. The province of Fars is rich in corn, tobacco, rice, and wine. The German chemical industry would find a good opening there by buying up land and cultivating the poppy and raising opium. It would also be an advantage were a German agent to be sent to Persia to encourage the import into that country of indigo and other dyes made in Germany. Such an agent should not be a merchant, but should have a thorough knowledge of the Persian carpet trade. He should make Ispahan his head-quarters, and establish sub-agencies at Hamadan, Sultanabad, Shiraz, and Kermanshah. A further field for German enterprise would be the establishment of a transport system for the carriage of goods along the Khanekin-Kermanshah-Hamadan, Sultanabad-Tehran, and Bushire-Shiraz-Ispahan roads. Such a system would be most beneficial, since Persian trade suffers much from the irregularity of the caravan service. If the German Orient Bank open branches in the southern towns, the activity of German industries will receive a valuable impulse.

—The Government of India have received the following telegram from the Governor General of Canada:—"Canadian Government have ordered during the continuance of the present condition of the Canadian labour market, immigrants shall be prohibited from landing unless they come from their country of birth or citizenship by continuous journey and on through tickets purchased before starting. Please give publicity to this order, informing steamship companies and newspapers."

OPENINGS FOR INDIAN TRADE.

Transport Service for Baghdad.

IN our issue of the 12th ultimo we furnished particulars of the openings that exist for Indian trade at Baghdad and in its neighbourhood; and to-day we are able to give some details regarding the possibility of opening up a motor car or other service for the transport of the goods that offer in that part of Persia.

The chief consideration in this connection is roads, and it is proposed to give a brief sketch of the chief roads leading from Baghdad, and to make a few remarks on these roads. In the first place, it should be understood that there is no such thing as a metalled road in the country; that there are no railways, and only one small tramway of about four miles in length; that the Tigris forms the chief commercial route south of Baghdad to Basrah, which is the port for ocean steamers; that north of Baghdad the Tigris is only used for traffic in a southerly direction, and that consequently, except between Baghdad and Basrah and between the north and Baghdad in a southerly direction, all the commerce of the country is dependent on animal transport. At present even wheeled transport is not used for the carriage of merchandise, and everything is carried on camels, mules, or donkeys. For passenger traffic carriages are used on some of the roads. It should also be understood that no accurate statistics can be quoted, because the authorities do not publish even such information as they possess. Further, there are no fixed rates for transport; these vary with the season, the demand, and the danger of animals being seized by the local authorities. The figures that follow must only be regarded as approximate but no better figures are available. The chief point is that there is a large amount of passengers and goods traffic to be carried, that motors would only have to compete with animal transport, and that the possible opening may be worth examination by an export.

Baghdad-Khanakin Road.

This is a portion of the important trade route between Baghdad and Kermanshah. Over this portion of the route carriages (like landaus) can be, and frequently are, driven. There is, however, no regular carriage service established on the road, and carriages are only used by a few comparatively rich travellers. Four mules or ponies are employed in each carriage. The distance is about 94 miles, and the cost of a carriage for the single journey costs about Rs. 52-8. The bulk of the passenger traffic is done on mules or ponies, the ordinary charge for a riding animal is about Rs. 7-8. Goods are all carried on pack animals. Estimates as to the average cost of carriage vary according to different authorities, and the charge for carrying goods of different kinds varies slightly. Further it is difficult to quote rates between Baghdad and Khanakin only, for the usual custom is to engage

animals from Baghdad to Kermanshah direct. Calculations based on 105 contracts actually made during the last five years by one British firm show the following to be average rates between Baghdad and Khanakin, after allowing for the difference in the distance of Khanakin and Kermanshah from Baghdad :—

Year.	Rate per ton
	Rs. A. P.
1902	34 9 3
1903	33 3 3
1904	34 10 3
1905	40 14 0
1906	49 11 0

The rate for 1907 has risen even higher than it was in 1906. The rate from Khanakin to Baghdad may be taken at about 50 per cent. lower, as the volume of trade in this direction is less than that in the opposite direction.

It is estimated that about 200,000 passengers pass over this road in a year, and that about 30,000 tons of merchandise goes eastward and half that quantity westward. On the first 31 miles of this road, counting from Baghdad, sixteen carriages are regularly employed. These carriages are harnessed to four mules or ponies and carry eight or nine persons besides the driver. The charge for a seat is about one rupee for 31 miles and about the same for 26 miles.

Baghdad-Kerballa Road.

The goods traffic on this road has not been estimated, but it is of little importance compared with the passenger traffic. Kerballa, and Najaf which lies beyond it, are the two most sacred shrines for Muhammadans of the Shiah sect. Pilgrims come in thousands from Russia, Persia, and India, and all have to pass over this road. On this road there are twenty carriages regularly running in all. Three relays of animals are used. The distance is about 60 miles. The ordinary rate per passenger works out at about two-thirds of an anna a mile.

Kerballa-Najaf Road.

The remarks on the Baghdad-Kerballa road apply to this road also, only the distance is about 40 miles and the rate for a passenger by carriage is about the same as from Baghdad to Kerballa.

Baghdad-Aleppo Road.

On this road there has recently been established a carriage service which does the journey in eight or nine days. The traffic on this road is not nearly so great as is the traffic on the roads to Khanakin and Kerballa, but it is composed of people who are better off and to whom time is more often a serious consideration.

It is unnecessary to refer to the other roads in any detail as no sane man would attempt to run motors on them till the experiment had first been proved a success on the roads mentioned above.

TOBACCO GROWING.**Lecture by J. N. Harper.**

THE following syllabus of an Illustrated Lecture on Tobacco Growing has been issued by the United States Department of Agriculture. It contains a number of simple hints that may be useful to persons experimenting with tobacco in India. We venture to reprint it with the list of references to which the bracketed figures in the text relate:—

Introduction.

Tobacco was first cultivated in America. The early explorers of this continent found the natives making use of tobacco for smoking, chewing, and medicinal purposes. Tobacco was cultivated by the first colonist in colonial Virginia, and as early as 1619 20,000 pounds of tobacco were shipped to England from this colony. (Ref. 1, p. 5.) Its consumption rapidly increased after this time, so that within a few years it became the leading export of Virginia and was one of the main sources of revenue for the people.

In 1731 the provinces of Virginia and Maryland exported \$1,875,000 worth of tobacco. (Ref. 1, p. 6.) Kentucky early became a leading tobacco State, and that Commonwealth now produces one-third of the entire yield of the product in the United States. Tobacco is now being grown in 25 States of the Union, 776,000 acres being devoted to this crop. More than 633,000,000 pounds were produced in the United States in 1905, the farm value of this crop being \$53,500,000. (Ref. 2, p. 717.)

Varieties.

Tobacco belongs to the Solanaceæ family, which includes, among other plants, Irish potatoes, tomatoes, red peppers, and jimson weeds. There are more than one hundred varieties of tobacco in cultivation. The leading varieties grown in America are the White Burley, Zimmer Spanish, Cuban, Orinoco, Connecticut Seed Leaf, Yellow Pryor, Havana Seed Leaf, and Sumatra Seed Leaf. (Ref. 3, p. 12.)

Selection for Seed.

No plant responds so readily to careful selection as does the tobacco plant. It is a plant that crosses readily, and to improve the seed it is necessary to place a sack over the flowers before the pistil is ready to receive the pollen, thus preventing insects from bringing pollen from undesirable plants and crossing. (Ref. 4, p. 19.) The first step in saving seed is to select the type of tobacco that one wishes to grow. It is easy to pick out a desirable tobacco plant, because all of its characteristics are before the eye. If one is breeding for a long leaf, a broad leaf, or a narrow leaf, or a plant that holds its leaves up well, or one that has long internodes, or short internodes, or one that has pointed leaves or round leaves, or one that has fine veins or coarse veins, or one that has width between veins, he can readily do so by selecting his plant and protecting its pistil from

cross-pollination. All lateral flowers should be pulled off, leaving only a few at the top. A few days before the pollen is ripe a sack should be placed over the flowers in order to prevent any possible cross-fertilization. (Ref. 5, p. 12.) If one wishes to cross or hybridize with some other plant, he can do so by taking the stamens out before the pollen is ripe and the day after applying to the flower from which the stamens were removed the pollen from another plant by means of a camel's-hair brush. All small leaves, suckers, and lateral branches immediately below the seed head proper should be carefully removed and the mouth of the bag tied around the stalk just under the lowest remaining branches. (Ref. 6, p. 229.) Many of the improved varieties of tobacco have been brought about by crossing standard varieties, and many of the standard varieties of tobacco such as the White Burley, have been improved by careful selection and preventing cross-pollination with undesirable plants.

The Plant Bed.

It is necessary to thoroughly prepare the soil in making preparation for a seed bed for young tobacco plants. The bed should be located in some well-protected place and should have southern exposure so as to obtain as much heat from the sun as possible. The bed should be burned thoroughly to destroy all weed seed and insect eggs, and this will also put the soil in good physical condition. (Ref. 14, p. 7.) The bed should be protected by being surrounded by boards and the upper side should be ditched to prevent water from flooding it. The bed should also be protected in the early spring by cotton canvas. The seed should be sown after the bed has been burned and plowed and thoroughly raked and has been rid of all stones and trash. The seed should be sown at the rate of 1 thimbleful to every 36 square feet. Before sowing the seed, the light ones should be separated from the heavy ones and only the heavy ones should be sown. This can be done by a recently invented apparatus which blows the light or chaffy ones out from the heavy ones. It has been proved that the plants grown from light seed produce not only a very small yield, but tobacco of inferior quality. (Ref. 7, p. 2.) Before sowing, the seed should be mixed with a good quantity of corn meal. This will dilute the seed to such an extent that it will be possible to sow them evenly and not too great a quantity to the bed. Four seeds to every square inch is sufficient. The seed should be tested for their germinating powers before sowing. This is done by placing a definite number of seeds, say 100, on a moist piece of blotting paper in a broad glass jar and keeping moist in a dark, warm place. In a few days all good seed will germinate. The seed should be sown early in the spring and raked in.

Transplanting.

The young tobacco plants should be heavily fertilized with nitrates and potash salts, and should,

be transplanted when the leaves are a little larger than a silver dollar. The earlier the tobacco is set out the better the quality and the greater the yield. Transplanting is usually done by hand, and when thus transplanted the setter should be careful that the hole is made deep enough to allow the roots of the plantlet to be perfectly straight down, otherwise a disease will set up that will greatly injure the plant. Machines are now being used to a considerable extent, and with their aid tobacco can be set out in dry weather and a good stand obtained. It is necessary to water the young plants when they are set out during dry weather.

Soil.

No plant is so affected by different types of soils as is the tobacco plant. The variety of the tobacco grown in a given locality depends upon the type of soil in that locality. (Ref. 16, pp. 8 to 18.) The texture of the soil seems to influence the character and quality of the tobacco more than does its chemical composition. Under given climatic conditions the class and type of tobacco depend upon the character of the soil upon which it is grown, especially on the physical properties, while the grade is dependent largely upon the cultivation and curing of the crop. (Ref. 17, p. 14.) If the texture of the soil is known, it is possible to say what type of tobacco is suited for that soil. Before the tobacco is set out the soil should be thoroughly prepared by deep plowing, rolling, and harrowing and the rows should be laid off at a uniform distance with a marker. If sod land is to be planted in tobacco it should be plowed early in the spring to give the sod time to thoroughly rot.

Fertilizing.

There is no plant that is so susceptible to fertilization as is tobacco. Its quality is greatly affected by fertilizers. It is a plant that requires large amounts of the potassium and nitrogen. The potassium should be in the form of a sulphate, as the chlorides are detrimental to its quality. Phosphorus increases the yield on most types of soils but has no effect on the quality of the tobacco. (Ref. 15, p. 140.) Tobacco cannot be grown for a number of years on the same soil, therefore it must be in a system of rotation with other crops. In the blue-grass region of Kentucky, where White Burley is grown entirely, it enters a rotation with corn, wheat, clover, timothy and blue grass, the fields remaining in blue grass for a long term of years. In other parts of the country where a number of other varieties are grown it is rotated with corn, wheat, and clover. Coarse and heavy manures are detrimental to the quality of the tobacco unless they are well rotted. Tobacco stems are an excellent fertilizer for tobacco, and as much as 1,500 to 2,000 pounds can be used to the acre.

Culture and Harvesting.

Tobacco should be planted in rows, varying from a distance of 3 to 4½ feet, depending upon

the variety, and the distance the plants are set in the row also depends upon the variety. Some varieties, as the White Burley, are set 15 to 20 inches, while others, as Yellow Pryor, are set 8½ feet.

The cultivation should be clean and shallow. The plants should be topped when they first begin to bloom. The number of leaves left varies from 16 to 24, depending upon the variety. (Ref. 19, p. 11.) All suckers should be pulled off before they get to be 6 inches long. Tobacco should never be cut before it is thoroughly ripe. This is indicated by the colour of the tobacco. It begins to turn yellow on ripening. The whole plants are either cut down with small knives made for the purpose or the ripe leaves are picked, leaving the others to ripen. The cigar-tobacco types are primed, whereas the heavy tobaccos and White Burleys are cut whole and placed on sticks. (Ref. 18, p. 28.) An hour or so after tobacco has been cut and placed on sticks it should be put on trestles in the field to prevent sunburn. It is best to leave on the trestles for a day or two before hauling to barn. (Ref. 11, p. 107.) Tobacco that is placed on sticks should always be hauled to the barn on tobacco frames rather than in bulk on an open wagon body.

Curing.

There are many styles of houses used for tobacco, depending upon the method of curing. The flue-cured tobacco is cured in a house that can be made almost air tight, with a ventilator in the top which can be closed. The Virginia Bright Leaf is cured in this way. The White Burley is cured entirely without artificial heat, requiring from five to six weeks in its curing. Barns in which tobacco is air cured should have lateral, horizontal ventilators rather than perpendicular ones, because the tobacco is not so liable to house burn. The flue-cured tobacco requires only a few days for its curing. (Ref. 20, pp. 3 to 15.) After tobacco has been thoroughly cured, it should be stripped and sorted into different grades, and after a certain time it should be put down in bulk for fermentation. The fermenting of tobacco is an art and the process of fermentation is due to enzymes rather than to bacteria as was once thought. (Ref. 9, p. 21.) These enzymes are destroyed when the temperature of the tobacco is raised above 152° F. (Ref. 21, p. 26.) Before tobacco is placed in hogsheads, it should be dried out and placed in case so that it will contain about 11 per cent. moisture. Fermentation takes place more rapidly at a high temperature than at a low temperature. The stripping, grading, and sorting should be done only by an expert. The dark, heavy export tobaccos are cured in close barns by an open fire under the tobacco and require close attention during all of the stages of curing. It is possible to cure the tobacco a bright yellow or a dark mahogany by simply varying the temperature and the humidity of the atmosphere and length of time in curing.

Quality.

The quality of the tobacco is judged largely by the burning qualities of the leaf, the elasticity, the flavour, the quality and colour of the stem, and the quality and the colour of the veins, the general texture and thickness of the leaf, the substance and nature of the gum in the leaf, the quality of the leaf whether coarse, harsh, fine or silky, and toughness and behaviour when handled, colour of the leaf, and the breadth of leaf, and proportion of stem, and the length of leaf from point to butt.

Composition.

The analysis of cured tobacco will vary considerably. However, the analysis of the crude ash is not very variable. Some tobaccos contain a large amount of nicotine, such as the Perique, while other varieties contain only a small amount of nicotine, as the Sumatra wrapper. (Ref. 8, pp. 359 and 360.)

Shading.

Where the soil texture and other conditions are favourable for the growth of tobacco, it can be grown successfully even where the weather conditions are not favourable for it, by being grown under canvas. Nearly all of the types of tobacco grown in the United States have been experimented with by this method. By growing tobacco under shade it will resist a drought, the soil retains the moisture, a very much larger yield is produced, the tobacco is of a finer quality, insect depredations are prevented, considerable labour is saved in cultivation, and the physical condition of the soil is greatly improved. Sunburn, injury due to heavy wind storms and rains, and injury from early and late frosts are also prevented. Undesirable cross pollination is lessened to a certain extent, the seasons are considerably prolonged, and few of the plants have to be reset, while the southern varieties can be grown farther north. (Ref. 22, p. 5.) It is questionable, however, whether it pays because of the great expense.

Diseases and Insects.

Tobacco is subject to a number of diseases, among them black spot, white rust, leaf blight, mildew and stem rot, mosaic disease, and wilt; and there are parasitic plants, such as broom rape, that do considerable damage. (Ref. 23, pp. 3 to 19.)

The wilt is a bacterial disease and can be detected by the discoloured vascular tissues of the stems. (Ref. 25, p. 91.) Rotation is the only means to prevent it. Most of the fungus diseases can be prevented by clean cultivation, clean seed bed, and some care taken in transplanting to discard all diseased seedlings. Applications of solutions of formalin (1½ pints formalin to 50 gallons of water) to plant beds to prevent bed rot (*Rhizoctonia*) have given results that were beneficial. (Ref. 10, p. 1.) The mosaic disease is probably a purely physiological one, caused by sudden changes in atmospheric conditions and soil conditions. (Ref. 26, p. 9.) Tobacco is attacked by a number of insects, chief among them are the northern tobacco worm (*Pro-*

toparce celeus) and the southern tobacco worm (*Protoparce carolina*). Insect depredations are prevented by use of Paris green spray (¼ pound to 30 gallons of water). (Ref. 28, p. 9, and Ref. 27, pp. 21 to 32.)

MATCH INDUSTRY IN INDIA.**Factory at Sholapur.**

MR. L. J. MOUNTFORD, I.C.S., Collector and District Magistrate, Sholapur, informs us that he recently paid a visit to an embryo match factory established in Sholapur by Mr. Gangadhar Ramchandra Mangrulkar. Considering that the entire process is performed by hand, the matches, he says, are quite satisfactory; and, although yet in its infancy, the enterprise is paying its way with a small profit. It is only a question of capital and improved appliances, we are told, before this small profit is turned into a large one. Mr. Mangrulkar employs 16 hands. The proprietor uses surya grass (*Xylia dolabriformis*). The supply is inexhaustible and the cost insignificant. A chaff-cutter, set at 2 inches, cuts the stalks to the required shape, which are then winnowed to get rid of grass, etc. These are then passed through 2 horizontal sieves, which retain only those stems that are of the correct thickness. These are then boiled in paraffin for 5 minutes and dried in a revolving drum. Some 24 lbs. of Burma paraffin go to 7,000 boxes of matches. They are then shaken through a horizontal sifter, which deposits the stems in horizontal layers. These layers are then put into a screw frame and the stems are now in a horizontal position, held tight by a screw, and are then ready for dipping. By an ingenious arrangement some of the closely packed steams are forced forward, so as to stand out from the mass (otherwise when dipped the compact mass would stick together) and are dipped in a solution of chlorate of potash, sulphate of arsenic, potash bichloride, powdered gypsum and gum arabic. About 6 lbs. of the mixture go to 7,000 boxes of 80 matches each. The ingredients are cheap. Chlorate of potash costs 4 annas per lb., sulphate of arsenic 8 annas per pound, and potash bichlorate 6 annas. The dipped matches are put in a drying frame; and the remainder in the screw frame go through a similar process.

The boxes are made of card board; the inner portion, which holds the matches, is cut and pressed by hand into a wooden socket which shapes it after being gummied. A man working 10 hours can make 1,000 inners or 3 to 4,000 outers. The proprietor is devising a hand machine which will turn out these boxes rapidly. The outers are put in a frame which holds a gross or so and are brushed over with sulphate of arsenic. Filling is done by hand and the boxes of matches sell at 13 annas per gross. This small factory, which, as we have said, is as yet in its infancy, yields a profit of some Rs. 4 per diem. In an early issue we shall give particulars of another match factory, which, aided by ample capital, conducts its business on a much larger scale.

THE JUTE TRADE OF 1907.**Dundee Point of View.**

In the course of a lengthy article reviewing the Jute Trade of 1907, the *Dundee Advertiser* says that the watering of jute was one of the principal causes of complaint with respect to the condition of arrivals at Dundee last season 1906. "The all but complete disappearance of the nefarious practice has to be recorded this season. It is the invariable testimony from the great collecting centres in the jute districts that the jute is coming to market in a perfectly dry and sound condition. Many ask by what means this vile proceeding has been cured. The answer is that it was so vile and so insane that it was bound in double quick time to work its own cure."

"Several marks which were first-rate last year and greatly thought of have capitulated this year, and are among the worst. Few, if any, consumers wish to get inferior jute, and thus receive an allowance upon it. They desire the right quality because otherwise their batching arrangements are upset, and endless troubles of all sorts ensue. Numerous spinners have been in a quandary through having jute tendered they could not by any possibility use, and meantime they are unable to sell it because of the loss entailed. How will these firms regard those marks in the future which are costing them so dearly now? Shippers must remember they have to pay for these defects in more ways than one, and be warned accordingly."

"The outstanding reason of the trouble is the want of the application of the chopper; in other phraseology, the amount of root left on the fibre is simply scandalous, and has necessitated the organising of a new department in a number of the mills for dealing with it. The ordinary drawbacks are also present in force—improper selection of quality, injury to quality through the want of steeping water, stunted and immature growth. Those users who are loaded with this rubbish have not their sorrows to seek this winter. Perhaps when balers are made to feel that this game is as hopeless as the watering, it will be ended. More is heard of light weight this season, and the shipper will have to watch his interests in this respect in taking delivery."

"The extent of the jute crop is a theme of perennial interest. The eagerness with which the first indications of the authorised figures are looked forward to has, as the years move on, not abated, but increased. True, the trade does not now require to hang on till the day of the publication of the forecast. The enumerations of the districts are given in anticipation of this, and a presumably reliable inkling of how the total will sum up can be obtained from them. Objections were raised to this plan of action, but they were over-ruled on the ground that it was desirable that the Dundee buyer should be as nearly abreast of the Calcutta man as he could be. Besides, the declaring of the particulars piecemeal should be of advantage in throwing early light upon the state of the crop in the several districts, and constituting a guide as to what the cumulative result will be."

ELECTRICAL DRIVING.**Its Use in Textile Mills.**

MR. H. W. WILSON read a paper before the Manchester section of the Institution of Electrical Engineers on the 26th November on the electrical operation of textile factories. The meeting was held in the Physical Laboratory at the University. Mr. Wilson first spoke of the rapid growth of electrical driving in cotton mills. Three years ago the actual horse-power of motors installed for driving textile factories in Great Britain was limited to a few hundreds, practically all in one mill, and only a very small fraction of the then total was actually in cotton mills. So far as it has been possible to estimate from answers to inquiries sent by the various firms interested, the total horse-power which will be installed and running by about the end of March, 1908, will be about 28,000 and this is almost entirely in cotton spinning mills. But in America the adoption of electrical driving has been much more rapid; there is something like 250,000 h.p. of motors installed in textile factories in the United States and in Canada, and the orders for machines received by one firm during the past half-year equalled the whole demand for them in England for the past three years.

Mr. Wilson referred to the "almost endless discussion in various newspapers" concerning the advantages or disadvantages of the electrical driving of textile machinery, chiefly that he might deprecate the use on both sides of exaggerated statements tending to prevent fair consideration of a question worthy of careful investigation. "There is also an unfortunate tendency," he continued, "on the part of the various electrical manufacturing firms who are carrying out work of this class to try and impress upon the minds of their customers that by some special system of their own they are inevitably bound to get better results than any of their competitors. Statements of this kind are hardly justifiable, as it is, of course, apparent that there cannot possibly be anything particularly novel in the design of the machines which are installed. Every one agrees that for work of the class under consideration a three-phase equipment has decided advantages over a direct-current, and in the absence of a satisfactory single-phase motor for anything except very low periodicities there is no doubt that the present general course of action will continue."

"It is quite obvious that an induction motor, either squirrel-cage or slip-ring, made by one manufacturer does not differ very materially in its performance from a machine of the same class made by another, and that provided the same guarantees as to the behaviour of the machines are given by any two firms, the results which will be obtained when in operation will be the same. It may appear unnecessary to emphasise this point so much, but it must be remembered that persons who are not electrical experts and have very little knowledge of the

actual design of electrical machinery are apt to be misled by manufacturers who state that theirs is the one and only system which will give perfect results in operation. There is no special system in the driving of a textile factory which will inevitably give the best results, but there is scope for the exercise of an immense amount of judgment and knowledge of the conditions to be met in the arrangement for the driving of the various textile machines."

Advantages and objections.

Mr. Wilson then dealt with certain advantages claimed for electrical driving, and mentioned that he had definite information proving that a better price can be obtained for the product of an electrically operated factory than for that of a mechanically driven one. He also spoke particularly of the greater steadiness of drive to be obtained under suitable conditions, with a subsequent permissible higher speed and increased output.

Afterwards he dealt with some of the objections to the electrical drive. Three years ago the main objections were—that the reliability of electrical driving had not been sufficiently proved; that the capital expenditure involved in the adoption of the electrical system was so great in comparison with mechanical driving as to put it out of court; that it was only advantageous in special cases or where the average load factor was poor; and that the efficiency of a mechanical drive was considerably higher than that of an electrical one. The first objection might be regarded as finally demolished in view of the admitted reliability of electrical machinery. The second objection might now be fairly definitely withdrawn from the list. Capital expenditure was, of course, high when a small factory was being considered, but with a large spinning mill of, say, 100,000 spindles, after making allowance for all the structural alterations which could be effected, there was absolutely no increased capital expenditure, and if the factory increased in size beyond this limit the electrical equipment would work out more cheaply than the mechanical. The important items, of course, were the total abolition of the rope race, which under ordinary conditions was an expensive structure, and the reduced cost of gearing.

The fourth objection was still brought forward with commendable regularity, and it was in the nature of the case a very difficult thing to disprove. The actual efficiency of an electrical system of driving could be ascertained easily, but the efficiency of a mechanical system under running conditions it was impossible to obtain accurately. It might be of interest to note that where a mill had been converted from a mechanical drive to an electrical one the i. h. p. of the prime movers had been reduced with the same machinery running, and this certainly tended to show that the efficiency of mechanical drives was not usually as great as stated by its advocates. The probability was, however, that as between a well laid-out electrical drive and a perfectly

modern mechanical drive there was very little difference indeed in the actual efficiency of transmission—that was as regards the total power delivered to the machines by the driving mechanism. This did not dispose of the fact that the motors delivered the power in a rather better manner—that is, at a more constant speed.

The remainder of Mr. Wilson's paper was concerned with a discussion of debatable topics, including the advantages and disadvantages of grouped and individual driving for the various classes of textile machines, the advantages and disadvantages of squirrel-cage and slip-ring motors respectively, and the consideration of the best type of prime mover where the factory has its own power plant.

LOCUSTS AND ZINC SHEETS.

An Ingenious device.

Locusts having of recent years increased alarmingly, in the Argentine Republic, and done enormous damage to the wheat, maize and linseed crops, the Government determined last year to take steps for the destruction of the pest. As a result of the expert advice which it obtained it was decided to make a novel experiment. The Argentine Government placed an order with the United Silesian Zinc Rolling Mills for 5,000 tons of zinc sheets. The works securing the order were new to this trade, but they managed to make a very good record in the matter of deliveries, the first lot of 450 casks (22½ tons) leaving Hamburg for Buenos Ayres on May 27, and regular shipments being made at a few days' interval to there and to Rosario. It seems curious to speak of zinc sheets being used for the extermination of locusts, but really there is nothing very strange about it. The sheets are up-ended, embedded in the ground, and placed in a line running across country, a trench being dug on either side of the sheet. When a locust swarm alights it eats its way along until it reaches the barrier of zinc sheets. Owing to the greasy surface of the metal the insects are unable to scale the sheets and the result is a dense accumulation in the trench. Then, by the aid of a few tins of kerosene and the application of a match, a holocaust is produced and the sheets remain unimpaired, ready for the next onslaught. Galvanised sheets have also been used for the same purpose, but although they are much less expensive than are zinc sheets they do not answer the purpose so well, besides which they suffer deterioration from exposure, which is not the case with zinc sheets. The idea of using this material is quite a novelty. In Northern Africa, where swarms of locusts are a perennial scourge, American cloth has been used in the same way with some success, the shiny surface affording no foothold to the adventurous *Orthoptera*, whose doom is hastened by the judicious use of the kerosene can.

The importance of the zinc-sheet industry in Silesia is to be gathered from the fact that there

are there nine rolling mills employing 1,100 workmen, and turning out annually some 70,000 tons, while the zinc mines employ 13,000 hands and produced in 1906 close upon 600,000 tons of calamine and zinc blende. The Silesian spelter works during 1906 had an output of 136,000 tons. The arrival of Silesia as a producer of zinc sheets upon a large scale brings a powerful competitor to the Belgian industry, and one which is already making itself felt especially in South Africa, where promptness of delivery and exactness of rolling are highly regarded.

NICOTINE INSECTICIDES.

WHEN dealing with the production of nicotine from duty-free tobacco we promised, says the *Chemist and Druggist*, to show the importance of this industry so far as the manufacture of horticultural insecticides and sheep-dips is concerned. It is well to recall the fact that denatured duty-free tobacco is also permitted to be used in making insecticides. One form of the denatured tobacco is made by adding to every 100 lbs. of dry leaf tobacco 15 lbs. of common salt, 10 lbs. of blue vitriol, and 2 lbs. of oil of turpentine. Then there is "hop powder," composed of 75 lbs. of finely powdered tobacco, 28 lbs. of sulphur, 5 lbs. of asafetida, and 3 lbs. of sago flour (added for "ear-marking" purposes). Insecticides are not restricted to sheep-wash and hop-powder. There is also a fumigant. This is a compound of 100 parts of snuff, 10 of ground hellebore, 18 of saltpetre, 6 of asafetida, 4 of cayenne, 2 of lamp-black, and 10 of sago flour. The last and latest approved insecticide is an "extract" which must contain 30 per cent. of soap. The manufacture of this is going ahead. Until 1904 extracts for insecticide purposes were not recognised in the annual return of the Government Laboratory, but the number of samples submitted rose from eight in 1904 to eighteen in 1907. The insecticide manufacturers do an export trade. To show that their businesses for home consumption and export are increasing, we may say that 1,644,780 lbs. of home-made tobacco refuse was operated upon in 1905-06, and the quantity rose to 1,813,319 lbs. in 1906-07—an increase of 10 per cent. Compared, however, with the quantity of tobacco "offal" produced in the tobacco factories last year—viz., 7,045,124 lbs.—the fact that only 25 per cent. of this was utilised in the insecticide bonded factories shows the capabilities of extension that this particular branch of chemical industry offers. The above figures include the quantity used by the nicotine manufacturers, and we are unaware of any statistics showing the extent of the trade of each description. The Customs compel the same conditions as to bonding in making insecticides as in making nicotine and exercise similar precautionary measures. For example, in order to prevent confusion, "wet insecticides"—washes and extracts—cannot be made at the same time with "dry insecticides"—powders

—unless the manufacture is conducted in separate compartments. Another precaution is the prior approval of all the ingredients, and, of course, the subsequent approval of the mixture when made. Refuse, and even the bags, must be destroyed. Crown locks are put on the store containing the approved ingredients for fear of substitution. It must be clearly understood that all the tobacco refuse which enters an insecticide factory is relieved of the tobacco duty, so that the various powders, etc., are produced cheaply. Pure tobacco juice is, however, obtained by manufacturers from the roll presses. Great pressure blackens tobacco and causes juice to exude. This juice is made from duty-paid tobacco, hence the Revenue authorities exercise no surveillance over it. As in nicotine manufacture, so in insecticide production, London and round about Liverpool are the only two places where the industry is carried on. The British Tobacco Co., Ltd., possess a nicotine factory near Arctic Road, Bootle, owned by the Imperial Tobacco Co., where insecticides are made. Messrs. Cope Bros. and the two "Morgan's Floors" are factories in Liverpool for the same purpose. In London Messrs. Whiffen's warehouse at Battersea, the Tobacco Juice Manufactory in Millwal Docks, and Fogg's Wharf, Shad Thames, are the places where nicotine is produced.

—The progress of the works at Nottoden, now being carried out by the Norwegian Hydro-electric Company, for the manufacture of artificial nitrates from the atmosphere, on the Birkeland and Eyde system, is described in a recent report to the *Frankfurt Gazette*. A generating station to provide 47,000 h. p. is being constructed on the Svaeglos. The natural fall at the point chosen, which amounts to 32·8 feet, is being increased by an embankment so as to yield a fall of about 154 feet. A conduit some 1,130 feet in length, which is mainly executed by tunnelling through the rock, conveys the water to the penstock chamber. The available volume of water amounts to 22,000 gallons per second. As the turbine house has to be built in the very narrow rocky defile, close against the foot of a precipice which is almost vertical, the method of taking the water from the head reservoir, instead of conveying it in the ordinary way through pipes, is by means of four perpendicular galleries driven through the solid rock down to the tunnel below which serves for the outflow from the turbines. These latter are four in number, each unit being from 10,000 to 12,000 h. p. The vertical shafts of the turbines are direct-coupled to the axles of the dynamos. The machines, which are among the largest and most powerful of the kind in Europe, are constructed by the firm of Voith, of Heidenheim, and will be ready to be started very shortly. The construction of the works (on a still more extensive scale and furnished with Norwegian waterpower) for the recovery of nitrogen from the atmosphere, and its conversion into artificial saltpetre in order to replace the Chili nitrates has already been taken in hand.

COTTON GOODS TRADE.

China's Imports.

In the course of his Report on the Foreign Trade of China for the year 1906, Sir A. Hosie gives the following particulars of the present condition, prospects and future of the cotton goods trade in China:—

The average annual quantity of plain cotton goods imported into China during the five years 1899-1903 was 14,751,857 pieces, and, although China was considerably disturbed in the north during 1900, this quantity may be taken as a basis for comparison with the imports of subsequent years, the first two of which were disorganised by the Russo-Japanese war in Manchuria. The actual imports in 1903 and 1904 were 13,602,460, and 12,640,084 pieces, the former being 1,145,397 pieces and the latter 2,111,773 pieces under the average of 1899-1903. *Ceteris paribus*, it might have been expected that China would make good this deficiency in 1905; in other words, that she would take some 17,000,000 pieces. But what actually happened? The import mounted to 27,724,980 pieces, or nearly 11,000,000 pieces more than expectations warranted, that is, an excess amounting to almost a whole year's supply; and the excessive import continued in 1906, which was credited with 20,247,223 pieces. During the two years 1905 and 1906, therefore, the excess import over the average of 1899-1903 was 18,468,489 pieces, which, after making due allowance for increased consumption, should suffice for the whole of 1907. Now Shanghai, the commercial metropolis, may be taken as an example of the conditions existing at the other great centres of China at the beginning of 1907. According to the returns of the Shanghai General Chamber of Commerce the stocks of plain cottons on December 31, 1903, were 3,672,728 pieces and on December 31, 1904, 2,594,975 pieces, while at the close of 1905 and 1906 there were 10,195,723 and 11,225,869 pieces respectively. The conditions which prevailed in Manchuria in 1904-06 have been blamed for these heavy stocks, and it may be well to examine if the blame is justified. The average annual import of plain cotton goods into Manchuria through the port of Newchwang during the five years from 1899-1903 was 1,639,144 pieces, the import in 1903, however, being as high as 2,004,698 pieces. In 1904 and 1905 it was 1,966,638 and 3,817,551 pieces, or 627,494 and 2,178,407 pieces above the average import, and it is hardly surprising that Newchwang was full of stocks at the close of 1905 and that the import of 1906, amounting to only 767,694 pieces, fell 871,450 pieces under the average. So much for what looks like over-stocking, but there was another reason. In the Chinese customs returns, 1906, Japan is credited with having supplied Manchuria through Newchwang with 580 pieces of grey shirtings, 2,440 pieces of grey sheetings and 30 pieces of drills, a total of 3,050 pieces, whereas in 1905 she supplied 89,128 pieces. Turning to the Japanese returns of trade for 1906, I find that Japan sent to Manchuria

in that year 12,550,297 yards of sheetings and shirtings and 125,514 yards of T-cloths, and assuming 40 and 24 yards to be the average length per piece of the former and latter respectively, the result is 313,757 pieces of sheetings and shirtings and 5,230 pieces of T-cloths so that 315,937 pieces of Japanese shirtings, sheetings and T-cloths passed into Manchuria in 1906 not through the port of Newchwang. The Japanese returns also give 9,118 pieces of gassed yarn tissues and 243,476 pieces of imitation nan-keens, as well as "other cotton tissues," whose value (1,300,063 yen) but not quantity is stated; but the curtailment of the Chinese customs returns of all ports except Tientsin, Shanghai, Hankow and, Canton renders it impossible to ascertain how many if any, of these goods passed through Newchwang.

Shanghai as a Trading Centre.

But there is still another reason why Shanghai is losing its grip of the trade of Northern China and Manchuria; 10 years ago the net value of foreign goods imported into Tientsin was close on 29,500,000 taels, of which nearly 23,000,000 taels came from Chinese ports and over 6,500,000 taels from foreign countries and Hongkong. In 1906, on the other hand, the value of Tientsin's net foreign imports was nearly 64,500,000 taels, of which nearly 24,750,000 taels were drawn from Chinese ports and over 39,500,000 taels from foreign countries and Hongkong. Of the foreign goods valued at 64,500,000 taels in 1906, Tientsin sent inland under transit pass a value of nearly 37,500,000 taels and of this sum Manchuria absorbed 4,391,307 taels, which, added to Chinwangtao's contribution of 775,469 taels, gives a total of 5,166,776 taels, and there can be no doubt that Tientsin and in a lesser degree Chinwangtao are now supplying Manchuria by rail with goods which in former years reached Newchwang by steamer from Shanghai. The trade channel is changing to the benefit of Tientsin.

It is unfortunate for this inquiry into Manchurian trade that the transit pass tables in the Chinese customs returns have since 1905 been reduced to a bald statement of values and provinces. In 1904, however, foreign goods of the value of only 633,658 taels were sent under transit pass from Tientsin into Manchuria and they included 41,662 pieces of plain cotton goods. Of this value Fengtien's share was 487,548 taels and Kirin's 146,110 taels, whereas in 1906 Kirin's share was 3,531,842 taels, Fengtien's 857,417 taels and Heilungchiang's 2,049 taels. This is a very significant fact, for K'uan-Ch'eng-tzu or Ch'ang-ch'un Fu, now the meeting place of the Chinese Eastern and South Manchurian Railways, is the greatest trade centre of the Kirin province and indeed of the whole of Central and Northern Manchuria. The future of the trade of Manchuria is a very interesting question, but I must return to cottons.

Fancy Cotton Fabrics.

Fancy cotton fabrics, with the exception of plain fast black Italians, all showed substantial increases, which were specially marked in

cambrics, lawns and muslins, lenos and balzarines, chintzes and plain cotton prints, printed T-cloths, Turkey-red cottons and dyed T-cloths, and plain and figured lastings. Printed drills, furnitures, twills, sateens, reps, etc., while ahead of 1905 in quantity, were less in value. The total quantity of these fancy cottons was 6,406,340 pieces of the value of 20,329,755 taels against 5,494,273 pieces valued at 19,284,896 taels in 1905. It is difficult to account for the decline of 233,024 pieces and a value of 974,450 taels in cotton Italians, for this beautiful material is a prime favourite in China.

Plain dyed shirtings, although nearly 30 per cent. in advance of the average import of the quinquennial period from 1901-05, fell off by 59,279 pieces as compared with 1905, but dyed, figured, brocaded and spotted shirtings regained some of the ground lost during the previous five years. Cotton Spanish stripes advanced over 100 per cent. as compared with the previous year, and the increase exceeded the average annual import for the three years from 1903-05. Plain, dyed and printed flannel dropped over 60 per cent. while the Japanese article rose by nearly 44 per cent. In striped flannel the process was reversed, the foreign article rose 42 per cent. and the Japanese fell 25 per cent. Fancy woven cottons jumped nearly 1,000,000 yards, and their value rose from 250,584 taels in 1905 to 308,387 taels in 1906. There was a slight rise in Japanese cotton cloth, but the silver value was less, while cotton crape more than maintained the quantity and value of 1905. Velvets have been steadily on the increase since 1904, and the import in 1906 exceeded 1905 by 2,929,910 yards. Velvetens dropped by 15,689 yards, but embossed velvetens and dyed velvet cords rose over 120 per cent. from 543,718 yards in 1905 to 1,209,928 yards in 1906. The import of cotton blankets fell from 1,080,170 yards in 1905 to 900,331 yards, but the Japanese returns give the export from Japan to Manchuria as 279,988 yards in 1906, while the Newchwang Chinese customs returns are silent as to any import. As I have already stated, these returns are now too curtailed to be of much statistical value. The great bulk of the cotton blanket trade is in German and Japanese hands; in 1905, Germany and Japan supplied respectively 479,403 and 272,626, or 752,029 of the total net import of 1,080,170, the United Kingdom's share being only 33,198. These were direct imports, for it is impossible to apportion the 135,189 which came from Hongkong. The United Kingdom supplied China direct with 748,910 dozen handkerchiefs of the net import of 925,468 dozens in 1905 raised to 1,060,406 dozens in 1906. In the former year Japan's contribution was 57,481 dozens and in 1906 49,491 dozens, but the Japanese returns state that Japan shipped to Manchuria 108,667 dozens in 1906, while the Newchwang returns give an import of 118,822 dozens without stating their origin. Honeycomb and huckaback towels to the number of 644,105 dozens were imported into China in 1906 as against 562,944 dozens in 1906. Japan's share was 250,045 dozens in 1905 and 343,386 dozens in 1906. Other towels numbered 735,630 and 863,565 dozens

respectively in 1905 and 1906. Japan is our great competitor in honeycomb and huckaback towels, and of the other towels 629,617 dozens of the 1905 import were of Japanese make. She sent 157,068 dozens of the honeycomb and huckaback variety (Turkish and honeycomb or huckaback) to Manchuria in 1906, while for the same year the total of all towels received in Manchuria through Newchwang is given in the Chinese returns as 154,126 dozens. The value of unclassified cotton goods rose from 437,362 taels in 1905 to 755,972 taels in 1906. The value in 1906 of all these cotton goods, exclusive of plain cottons, was 7,074,853 taels which, added to the value of the finer cottons (20,329,755 taels) given above, make a total of 27,404,608 against 27,320,865 taels in 1905.

Cotton Yarn.

The net import of cotton yarn into China in 1906 amounted to 338,829,600 lbs., or a drop of 1,676,665 lbs. as compared with the previous year. The consignments of the British mills totalled 4,093,467 lbs. against 2,911,600 lbs. in 1905 and were nearly 61 per cent. ahead of the previous five years' average; the product of the Hongkong mill rose 98 per cent.; the Indian and Japanese mills sent respectively 881,466, and 3,609,466 lbs. less; and the Tonking mills increased their shipments from 57,733 lbs. in 1905 to 1,268,933 lbs. in 1906. The percentages of supply were:—India 72 per cent., Japan 26 per cent. the United Kingdom 1.2 per cent., and the balance of 0.8 per cent. to Tonking and Hongkong. These are the Chinese customs figures, but the Japanese returns show that 4,962,236 catties or 6,616,315 lbs. of yarn were shipped from Japan to Manchuria in 1906, and, after deducting the recorded direct import of 262,933 lbs. through Newchwang, there is a balance of 6,353,382 lbs. to be credited to Japan, making her total export of yarn to China not 87,249,467 lbs., but 93,602,849 lbs. and increasing her percentage accordingly.

The condition of the foreign yarn market, which partially collapsed in Hongkong, was exceedingly strained in China during the year. Over-stocking, severe Japanese competition in Northern China and Manchuria, the diversion of Northern trade from Shanghai to Tientsin and the great increase in cotton mills in China may account for the heavy stocks which were held in Hongkong and Shanghai at the close of 1906.

NEW REFERENCE BOOKS.

THE POST OFFICE LONDON DIRECTORY, 1908.
With County Suburbs. 10x7, xxvi+3,510+
1,179 pp. Kelly's Directories, Limited.

THE NATAL WHO'S WHO.
An Illustrated Biographical Sketch-Book of
Natalians. 10x7, 223 pp.
Durban: The Natal Who's Who Publishing
Company. To be obtained in England from
E. and J. Hardy and Co., 30, 31, and 32,
Fleet-street, E.C.

FARM AND HOME YEAR-BOOK AND FARM-
TRADE DIRECTORY, 1908.
8x5, 294 pp. Farm and Home Co.

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in the Indian mills in November, 1907, compared with the corresponding period of 1905 and 1906 are published by the Commercial Intelligence Department:—

No. 1.—Abstract Statement of the Quantity (in pounds) of Yarn Spun.

	MONTH OF NOVEMBER			EIGHT MONTHS, APRIL TO NOVEMBER.		
	1905	1906	1907	1905	1906	1907
British India.						
Bombay	38,036,006	37,922,473	35,547,374	330,457,891	324,814,499	306,229,191
Madras	2,895,453	3,069,643	3,048,855	24,017,825	24,331,374	24,889,613
Bengal	4,253,938	3,975,404	4,111,385	33,888,475	31,360,818	27,274,050
United Provinces of Agra and Oudh (also Ajmer-Merwara)	3,000,020	2,724,838	3,043,114	22,330,567	22,741,666	24,012,096
Punjab	1,209,411	1,156,806	1,007,398	9,344,546	9,391,463	8,417,467
Central Provinces and Berar	2,217,074	2,041,978	2,088,510	19,503,974	17,883,137	18,370,713
TOTAL	51,611,902	50,891,142	48,846,636	439,543,278	430,522,457	409,193,130
Foreign Territory.						
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	2,046,711	1,771,861	1,851,905	17,204,725	15,770,989	15,983,199
GRAND TOTAL	53,658,613	52,663,003	50,698,541	456,748,003	446,293,446	425,176,329

No. 2.—Abstract Statement of the Quantity of Woven Goods Produced.

[N.B.—The weight in pounds represents the weight of all woven goods; the measure in yards represents the equivalent of the weight of the grey goods alone for 1905, but coloured goods are included in the yardage for 1905 and 1907.]

		MONTH OF NOVEMBER.			EIGHT MONTHS, APRIL TO NOVEMBER.		
		1905	1906	1907	1905	1906	1907
British India.							
Bombay	pounds	11,955,567	12,319,619	13,866,422	92,210,960	92,979,809	104,420,187
	yards	41,842,183	52,426,015	60,027,860	322,000,394	408,729,773	456,882,787
	dozens	51,866	66,083	55,701	250,313	428,372	471,835
Madras	pounds	681,799	721,950	615,726	5,571,305	5,313,102	5,177,812
	yards	1,075,770	2,410,770	2,010,972	8,527,581	17,994,599	16,938,208
	dozens	...	492	1,233	...	7,990	9,763
Bengal	pounds	43,353	103,287	325,796	425,536	848,054	1,209,109
	yards	205,142	431,850	1,067,630	1,611,034	3,751,378	4,879,644
United Provinces of Agra and Oudh (also Ajmer-Merwara)	pounds	637,281	490,310	646,575	4,974,910	4,756,644	5,405,623
	yards	2,398,387	1,932,820	2,459,744	18,936,161	19,516,760	21,380,049
	dozens	...	924	2,183	...	22,318	30,137
Punjab	pounds	18,317	25,784	36,020	177,991	241,328	292,458
	yards	44,638	77,726	97,064	492,765	729,538	802,880
	dozens	...	44	158	...	158	983
Central Provinces and Berar	pounds	643,883	708,056	619,337	5,620,400	4,894,459	5,170,360
	yards	1,993,990	2,825,757	2,548,704	16,686,363	19,809,657	21,168,925
	dozens	...	1,197	324	...	3,301	5,887
TOTAL	pounds	13,980,200	14,369,006	16,109,876	108,981,132	109,036,396	121,745,549
	yards	47,560,110	60,104,938	68,241,974	368,254,298	470,531,705	522,052,491
	dozens	51,866	68,740	59,487	250,313	462,139	518,605
Foreign Territory.							
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, and Wadhwan	pounds	657,093	614,709	684,192	4,753,339	4,575,746	4,947,504
	yards	2,519,023	2,229,054	2,634,186	18,701,117	17,676,877	18,954,762
GRAND TOTAL	pounds	14,637,293	14,983,715	16,794,068	113,734,471	113,612,142	126,693,053
	yards	50,079,133	62,333,992	70,876,160	386,955,415	488,208,582	541,007,253
	dozens	51,866	68,740	59,487	250,313	462,139	518,605

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the first half of December, 1907. (Prices are stated in annas and pies per ser=2·06 lbs.)

	Rice, common	Wheat	Barley	Jawar	Bajra	Ragi	Gram	Salt
	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.
BURMA—								
Rangoon	1 3	...	...	...	...	...	...	0 11
Toungoo	1 10	...	...	...	...	...	...	1 6
EASTERN BENGAL AND ASSAM—								
Rangpur	2 0	2 2	...	...	...	...	...	1 0
Backerganj	2 4	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 1	2 5	...	...	...	...	...	0 10
Patna	2 1	2 0	1 3	...	...	...	...	0 11
UNITED PROVINCES—								
Cawnpore	...	2 2	1 7	1 8	1 9	...	1 6	0 9
Fyzabad	...	2 2	1 9	1 7	...	...	1 7	0 11
Meerut	...	2 1	1 5	1 5	1 7	...	1 6	0 9
PANJAB—								
Delhi	...	2 0	1 5	1 7	1 11	...	1 5	0 9
Amritsar	...	1 11	1 3	1 5	1 7	...	1 3	0 7
Rawalpindi	...	1 9	1 3	1 2	1 5	...	1 4	0 7
SIND—								
Karachi	...	2 0	...	1 3	1 7	...	1 7	0 7
BOMBAY—								
Belgaum	...	1 10	...	1 3	1 3	...	...	0 11
Ahmadnagar	...	2 2	...	1 2	1 3	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 2	...	1 4	1 7	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	2 0	...	1 8	...	...	1 11	0 11
Nagpur	2 0	1 9	...	1 9	...	...	1 8	1 1
Raipur	1 9	1 11	...	...	...	...	1 8	1 1
MADRAS—								
Bellary	2 6	...	...	1 2	...	1 3	...	1 1
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 2	...	...	1 2	1 6	1 2	...	0 10

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.		SEASON 1906-07.	
	Sold in sale of 10th January.	Sold to 10th January.	Sold in sale of 11th January.	Sold to 11th January.
	Packages. Average price per lb.	Packages. Average price per lb.	Packages. Average price per lb.	Packages. Average price per lb.
	A. P.	A. P.	A. P.	A. P.
Assam	6,998	7 8-8	171,673	6 9-3
Cachar	5,143	6 11-7	138,298	5 3-4
Sylhet	4,593	6 11-7	108,518	6 2-6
Darjeeling	1,476	9 6	56,181	9 3-3
Doors	6,533	7 4-9	170,321	6 10
Terai	505	7 0-2	20,114	6 3-8
Chittagong	140	6 9-2	8,652	6 3
Chota-Nagpore	192	6 6-5	1,406	5 11
Kumaon and Kangra	188	6 7-4	4,607	6 1-6
Madras	9	7 4	294	6 1-7
Dehra Dun	...	...	204	6 3-3
Nepaul	...	...	247	6 9-3
TOTAL	25,777	7 5-2	680,215	6 11-4

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1907-08. Average price of 35,931 packages Dust* sold to 10th January 6 7-5
* On account of gardens which sell only that grade on this market.

WEEKLY TRADE MOVEMENTS.

For the week ending 11th January, 1908.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta, lbs.	427,272
Imports by sea into	Bombay "	187,743
	Madras "	448,905
Indian—	Calcutta "	398,732
Exports by sea from	Bombay "	2,054,482
	Madras "	5,000

Grey Piece Goods.

Imports by sea from	Calcutta, yds.	15,838,863
Foreign ports into	Bombay "	2,458,148
	Karachi "	769,327
	Madras "	1,080,582
	Rangoon "	264,660

White Piece Goods.

Imports by sea from	Calcutta, yds.	5,177,073
Foreign ports into	Bombay "	4,441,060
	Karachi "	2,007,738
	Madras "	143,962
	Rangoon "	2,031,832

Other Piece Goods.

Imports by sea from	Calcutta, yds.	3,179,346
Foreign ports into	Bombay "	2,951,167
	Karachi "	1,527,701
	Madras "	661,034
	Rangoon "	2,809,668

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, owt.	779
	Bombay "	4,242
	Karachi "	10,406
	Madras "	7,774

Raw Cotton.

Imports into Bombay	By sea owt.	10,715
	Coastwise "	24,087
	By rail "	242,281
Imports into Karachi by rail		42,791
" " Calcutta by rail and river*		562

JUTE.

Arrivals by all routes in	Calcutta, owt.*	482,426
Exports by sea from	Calcutta, Gunny bags, No.	8,806,700
	" cloth, yds.	15,276,400
	Jute, owt.	269,458
	Chittagong—Jute "	65,604

TEA.

Arrivals by all routes in	Calcutta, lbs.	2,986,313
Exports by sea from	Calcutta "	2,410,600
	Chittagong "	...

WHEAT.

Imports into	Calcutta by rail and river, owt.	...
	Karachi by rail "	5,076
	By sea "	5,481
	Bombay Coastwise "	20,660
	By rail "	3,831
Exports by sea from	Calcutta "	...
	Bombay "	750
	Karachi "	12,881

RICE.

Arrivals by all routes in	Calcutta, owt.	543,907
	Calcutta "	161,232
	Chittagong "	...
Exports by sea from	Bombay "	5,808
	Karachi "	6,081
	Madras "	...
	Rangoon "	190,201

LINSEED.

Imports into	Calcutta by rail and river, owt.	711
	By sea "	483
	Bombay Coastwise "	7
	By rail "	210
	Karachi by rail "	...
Exports by sea from	Calcutta "	22,448
	Bombay "	40,010
	Karachi "	...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river, owt.	1,882
	By sea "	...
	Bombay Coastwise "	757
	By rail "	446
	Karachi by rail "	24,001
Exports by sea from	Calcutta "	435
	Bombay "	4,921
	Karachi "	21,961

COTTON SEED.

Exports by sea from Bombay, owt.		14,540
----------------------------------	--	--------

* Figures incomplete.

KEROSENE OIL, WEEK ENDING 11th JANUARY, 1908.

Imports by sea into—	From			
	Bussela.	America.	All other foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	413,802	494,709
Bombay	39,562	80,907	...	39,562
Karachi	...	...	...	...
Madras	...	719,540	...	719,540
Exports by sea from Burma to				
			Bengal	galls.
			E. B. & Assam	434,706
			Bombay	714,048
			Sind	269,352
			Madras	548,300
			Indian Ports, Non-Br.	...
			Foreign Ports	...

IMPORTS OF SUGAR, WEEK ENDING 11th JANUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	TOTAL.
	owt.	owt.	owt.	owt.	owt.	owt.	owt.
United Kingdom	19	...	24	6	21	52	122
Germany	...	...	...	...	1,100	...	1,100
Austria-Hungary	...	...	8,490	8,456	...	...	16,946
Other European Countries	...	...	50	...	...	...	50
Java	41,078	...	75,032	25,650	...	37,467	179,327
Mauritius	15,341	...	60,748	...	...	...	76,089
Other Non-European Countries	...	...	2,648	...	717	...	3,365
					Total refined		278,899
					Total unrefined		4,560
					Grand Total, owt.		281,459

Statement showing the imports by sea of Turpentine from foreign countries into each province of British India in the year 1906-07.

	1906-07.											
	BENGAL.		EASTERN BENGAL AND ASSAM.		BOMBAY.		SIND.		MADRAS.		BURMA.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Gallons.	Rs.	Gallons.	Rs.	Gallons.	Rs.	Cwt.	Rs.	Gallons.	Rs.	Gallons.	Rs.
Imports from—												
United Kingdom	52,581	1,11,599	148	81	42,888	92,241	2,274	51,847	1,178	40,012	8,668	25,893
United States of America.	58,333	1,83,895	...	...	12,518	37,500	223	6,974	168	5,764	2,051	6,153
Germany	...	...	...	...	48	138	...	...	...	...	...	...
Cape of Good Hope.	12	36	...	...	...	...	...	...	...	...	...	...
Aden and Dependencies.	50	159	...	...	...	...	...	...	...	...	...	...
Western Australia.	1	30	...	...	...	...	...	...	...	...	...	...
	110,976	2,95,659	148	81	55,454	1,29,879	2,498	58,851	1,346	45,776	10,719	32,046
	(a)	(a)			(a)	(a)	(b)	(b)	(c)	(c)	(d)	(d)

(a) Exclusive of imports on Government account figures for which are not available.
 (b) Includes the imports on Government account (1,032 Cwts., valued at Rs. 26,786).
 (c) Includes imports on Government account.
 (d) There were no imports on Government account.

Statement showing the exports by sea of Turpentine from each province of British India to foreign countries in the year 1906-07.

	1906-07.	
	Quantity.	Value.
	Gals.	Rs.
Exports from Bombay Presidency—		
To British East Africa	24	50
Portuguese East Africa	45	123
" Persia	129	320
TOTAL	198	493
Exports from the Madras Presidency	...	...
" Burma	...	...
" Eastern Bengal and Assam.	...	...
N.B.—The figures of exports from Bengal and Sind are not available.		

—The Alexandria correspondent of the *Manchester Guardian*, writing on December 15th, says that a number of fresh failures have occurred mainly among the smaller agencies and commission firms, but the aggregate amount involved is substantial. "On the rolls of the Mixed Tribunals for the coming week figure 150 suits in the commercial division. In the midst of this depression it is highly satisfactory to learn that one of the most conspicuous failures of the year, that of Khalifa Naggar and Sons, is being arranged to the satisfaction of creditors. The firm has pledged itself to the full payment of its liabilities over a period of three years, with interest on debts at 3 per cent. per annum. A committee of five members has been appointed by the creditors for purposes of control. The ratification of the Courts will be sought for during the coming week. The arrangement has relieved the market of a subject of serious concern, oppressed as it was with the large amount of liabilities pending."

COMMERCIAL INTELLIGENCE DEPARTMENT,
INDIA.
DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. Rs. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. Rs. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (7a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in India. Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

- Notes on Sugar in India. R1-8. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
Regan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambray & Co., Calcutta.
R. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporewalla, Sons & Co., Bombay.
Radhabai Ataram Sagoon, Bombay.
Sundur Pandurang, Bombay.
V. Kalyanaram Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.
Bai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. B. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 8 0
To Non-Subscribers	" 10 0

POSTAGE:—

Abroad	per copy per annum 5 0
In India	" 2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 1 0
To Non-Subscribers	" 2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0
For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.	

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,
Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,

STANDARD BUILDINGS,

Dalhousie Square,

CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

¶ These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

¶ This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

¶ Write for full particulars and samples to

J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E. LONDON, ENGLAND.

MARTIN & CO.*Engineers and Contractors**Architects and Builders,*

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO.'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. **C. I. COLUMNS**

*Light Railway Material of every Description.***MARTIN & CO.**

6 AND 7 CLIVE STREET,
CALCUTTA.

B. MURATTI, Sons & Co.

(LIMITED).

MANCHESTER, LONDON, BERLIN, BRUSSELS, PARIS & CONSTANTINOPLE.

Purveyors to the French Regie and Several Other
European Government Monopolies.

THE PIONEERS OF TURKISH CIGARETTES IN EUROPE.

MANUFACTURERS OF THE WORLD-RENOWNED CIGARETTES

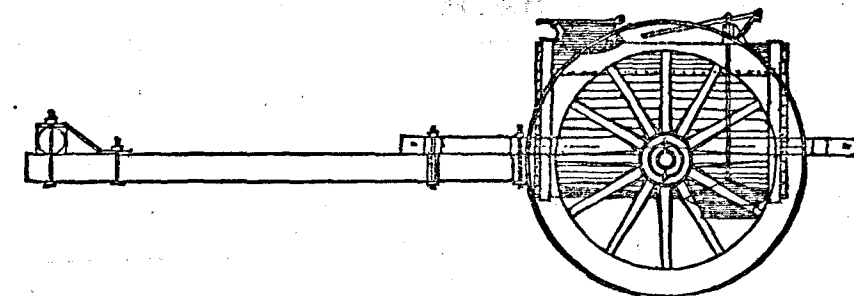
ARISTON & NEB-KA.

For price lists and particulars apply direct to—

B. MURATTI, Sons & Co., Ltd., Manchester, England.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., Ltd., MADRAS,
Government Contractors.

DELICIOUS **COFFEE**
RED
WHITE
& BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,
AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE No. 132.

G. W. MUNT & SONS,
WHOLESALE
BOX MANUFACTURERS
(EVERY DESCRIPTION),
LONDON,

ENGLAND.



THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

RELIABLE QUALITY ONLY. **PADMORE** Over 70 Years' Reputation.
BILLIARD TABLES

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham
CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.
Telegrams: Billiards, Birmingham. Tele: 1941.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway-Storekeepers, Mill Furnishers.
PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment

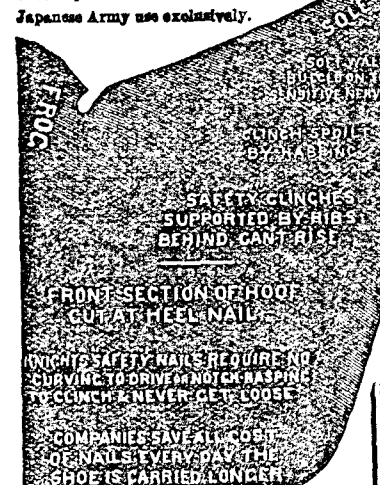
TO HIS MAJESTY KING EDWARD VII.

WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'

'SAFETY' HORSE NAILS
CONCAVE INSIDE
CONVEX OUTSIDE

Arch section, saves 'challenging' wrong-way-driving, notching, nail-pressure & breaking.
Extract from Mr. SHRAETHER'S Eminent Report:—

'I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'
Japanese Army use exclusively.



London and EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.
Telegrams: 'HOMENAIL LONDON' Telephone: No. 5018

LITTLE'S
"PHENYLE"
DISINFECTANT

The best & most powerful for all purposes.

THE MOST EFFECTIVE AND SAFEST DISINFECTANT
FOR THE BUBONIC PLAGUE.

ADOPTED BY THE INDIAN GOVERNMENT.

Cheap, economical, harmless and effective. A liberal use of this preparation prevents and arrests contagion in cases of Fever, Cholera, Scarletina, and kindred infectious diseases. Pronounced by an expert Committee (appointed by the U.S.A. Government) to be the BEST DISINFECTANT.

REFUSE IMITATIONS.

The Proprietors hereby give notice that action will immediately be taken against all infringements of "Phenyle."

Manufacturers and Proprietors:

MORRIS, LITTLE & SON, LTD., DONCASTER, ENGLAND.

Agents for Bengal Presidency:

M. M. FRASER & Co., 59, BENTINCK STREET, CALCUTTA.

Sole Agent for Sclode, Punjab, and N.W. Provinces:

MR. MUNCHERJEE MANECKJEE, MULTAN, LAHORE, ALLAHABAD
AND RAWALPINDI.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
in Gelatine.

Beechwood Brand awarded 4 Gold Medals
and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

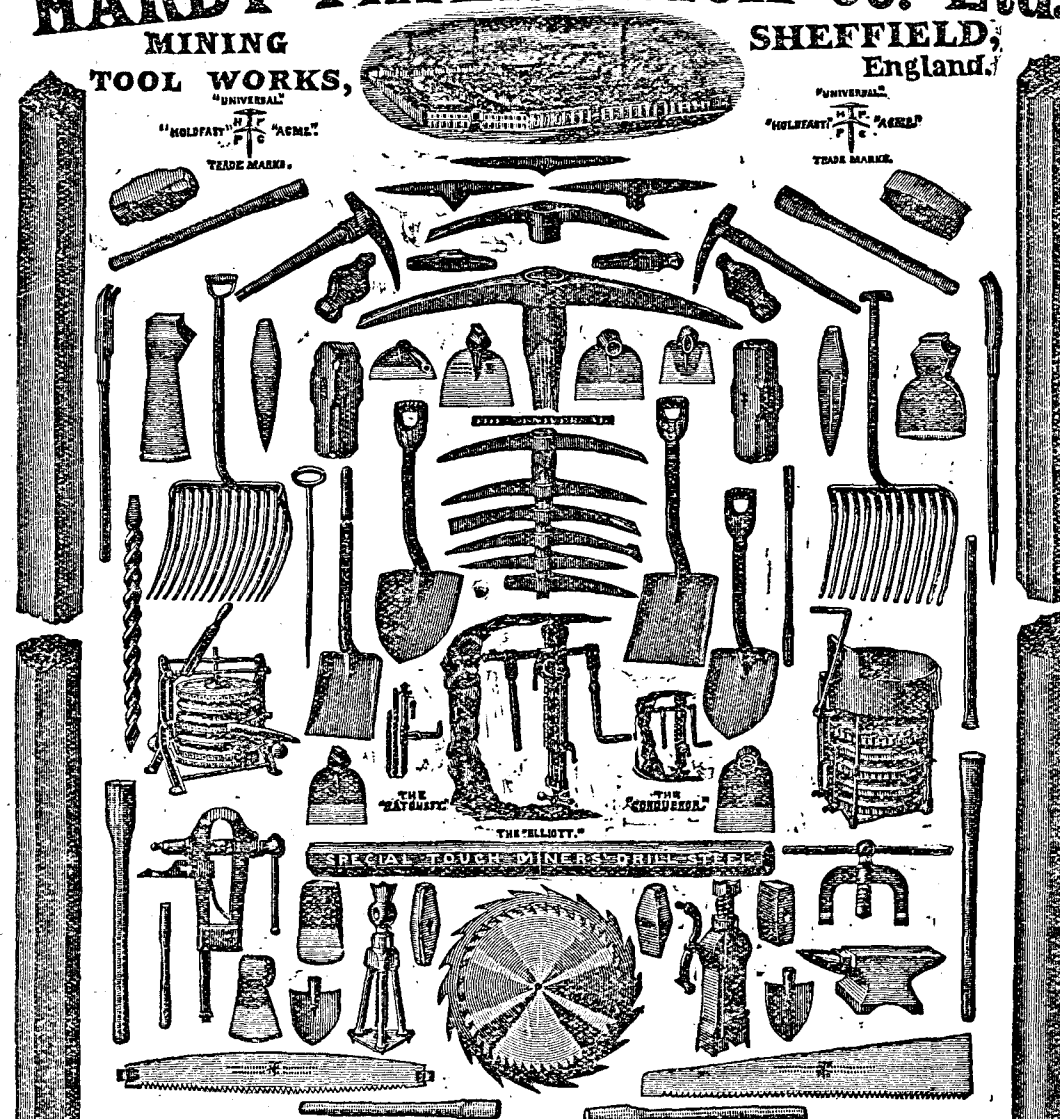
BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

HIGH-CLASS TOOLS FOR MINERS, CONTRACTORS, QUARRYMEN, AND AGRICULTURISTS.

TELEGRAPHIC ADDRESS: HARDY PICK, SHEFFIELD. TELEPHONE, NATIONAL 187

THE HARDY PATENT PICK Co. Ltd.,
MINING TOOL WORKS, SHEFFIELD, England.



MAKERS OF THE "UNIVERSAL" AND "ACME" MINING AND NAVY PICKS,
HAND & POWER BORING MACHINES FOR ROCK & COAL.
PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS,
AND ALL MINING, QUARRY, CONTRACTORS, AND AGRICULTURAL TOOLS.

SPECIAL TOUGH DRILL STEEL, SHEAR, CAST, AND BLISTER STEEL.
SAWS, FILES, AND RASPS.
IMPORTERS OF HICKORY HANDLES.

Office and Showrooms: 22, Queen Victoria Street, London, E.C.

"CHARLTON"

SILICATE

PAINT

Registered Patentees:

THE SILICATE PAINT Co.,

J. B. ORR & CO, LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,

RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,

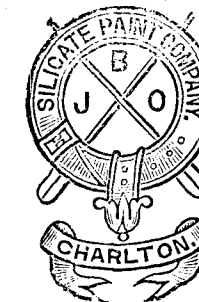
and for all

GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.

Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo

Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

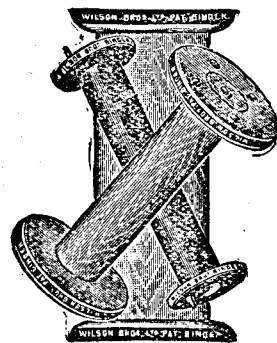
Bangkok.	Colombo.	BRANCHES:		Madras.	Penang.
Batavia.	Foochow.	Ipoh (Perak Feder-	ated Malay States).	Manila.	Rangoon.
Bombay.	Hamburg.	Karachi.	Medan (Deli	Sumatra).	Saigon.
Calcutta.	Hankow.	Kobe.	New York.	Shanghai.	Singapore.
Cebu.	Hong-Kong.	Kuala Lumpur.	Tientsin.	Yokohama.	
Sourabaya.	Thaiping.				

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
6, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.



WILSON BROS. BOBBIN Co., LTD.

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TADMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: N. WADIA & SONS,
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

VEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

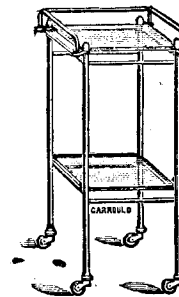
Garrould's

To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS AND
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

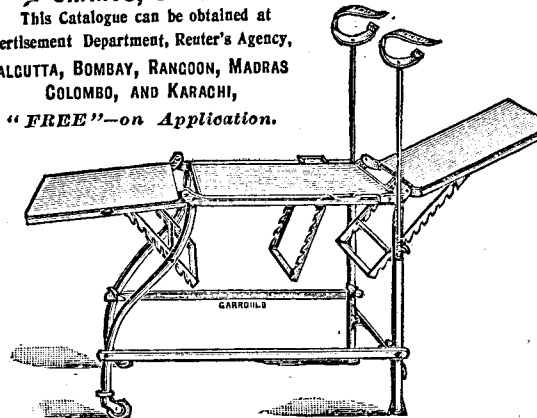
THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—
NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS,
OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLET, CLINICAL
THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS,
CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

This Catalogue can be obtained at
Advertisement Department, Reuter's Agency,
CALCUTTA, BOMBAY, RANGOON, MADRAS
COLOMBO, AND KARACHI,
"FREE"—on Application.



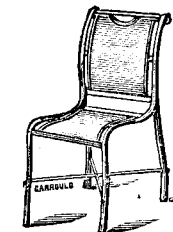
ANESTHETIC TABLE.

Size 14 in. by 14 in., with
two glass shelves, and
nickel-plated rail on three
sides.
Mounted on castors,
with rubber tyres.



Portable Operating Table designed by Dr. J. J. BUCHANAN.

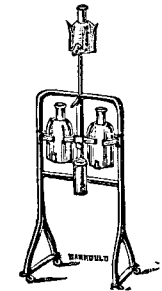
In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors,
complete with Nickel Plated Leg-rest—Will Fold up into a small space.



HOSPITAL CHAIR

(Aseptic).

Tabular frame,
enamelled white.



IRRIGATOR STAND.

Of wrought iron enamelled white, on rubber castors, with 1-gallon irrigator, adjustable to any height. Also two stoppered bottles for antiseptic solution, and cylindrical glass for filling irrigator.

E. & R. GARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

"WOODITE"

FOR VALVES, JOINT RINGS PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,
MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

THE LARGEST MILLS AND CARPENTER'S SHOP IN UPPER INDIA.

Door Frames, Doors, and
Windows, Ornamental
Woodwork and Camp Furniture.
Wheelwright's work a speciality.

THE EMPIRE ENGINEERING CO., LTD.

Apply for Prices and Catalogue.

Boxes, Pegs, Handles, and all kinds of Woodwork.

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
in all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO., ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities,—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

GALLEYS

for **Lino**
Job or
Bookwork

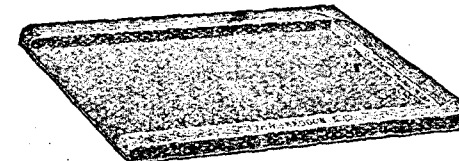
WE ARE MAKERS OF THE BEST IN
QUALITY AND WORKMANSHIP, AND
HOLD THE BRITISH RECORD FOR THE
LARGEST VARIETY AND OUTPUT

*Speciality: The All-Brass Lino Galley, with Patent Clip, which can be
securely locked up at any point.*

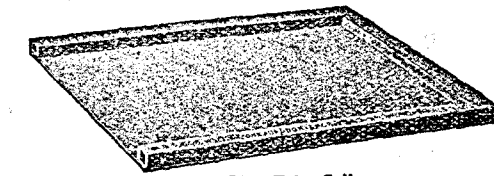


12-inch Lino Galleys, for 12 to 16 em matter.

ZINC BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.

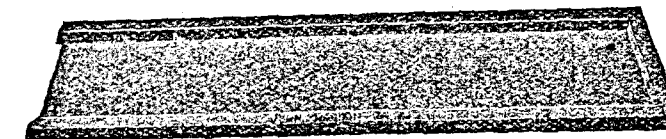


Zinc Bottom Job Galley—Half Lined.



Zinc Tube Galley.

BRASS BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Column Galley—Lined all round.

BRASS TUBE, ZINC TUBE, SOLID BRASS AND ZINC GALLEYS, ALL SIZES.
Rims one or both sides and head.

OUR JOB, COLUMN AND LINO GALLEYS ARE MADE IN ALL SIZES.

DETAILED PRICE LIST sent free on application to

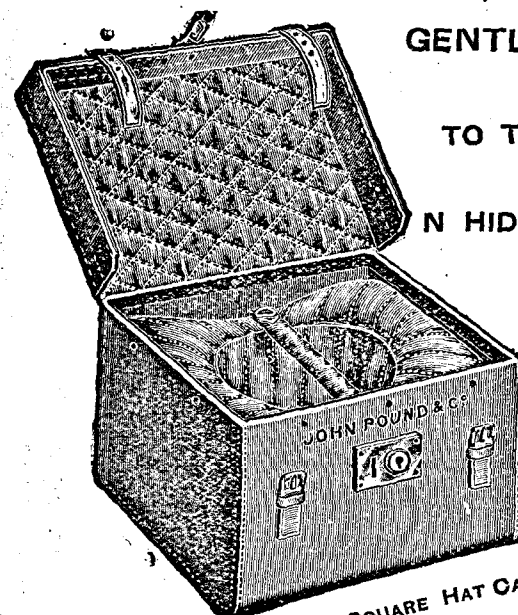
JOHN HADDON & Co. **Salisbury Square,**
LONDON, E.C.

TELEGRAMS & CABLES
"POUND, LONDON"

JOHN POUND & Co

A.B.C. CODE
4TH EDITION

OF TRAVELLING REQUISITES OF EVERY DESCRIPTION.

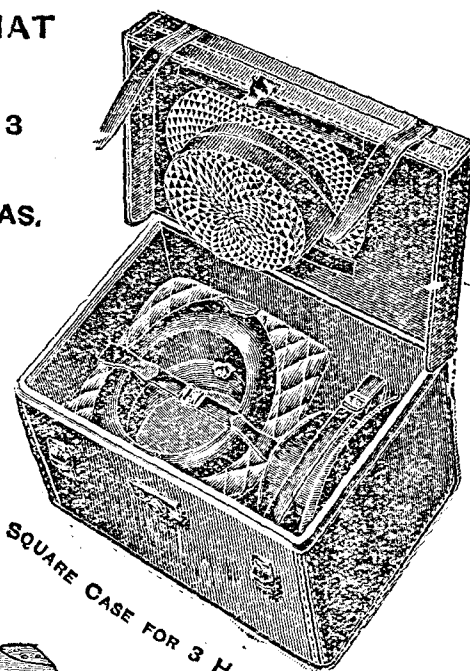


GENTLEMEN'S HAT
CASES

TO TAKE 1, 2, OR 3
HATS,

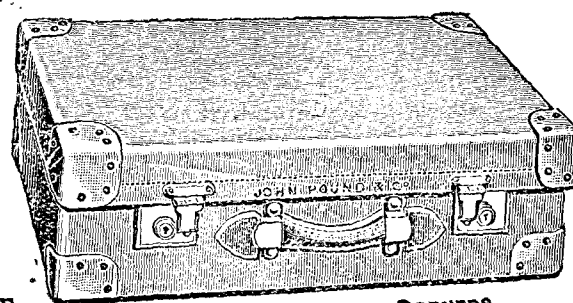
IN HIDE OR CANVAS.

WRITE FOR
ILLUSTRATED
CATALOGUES
FREE.



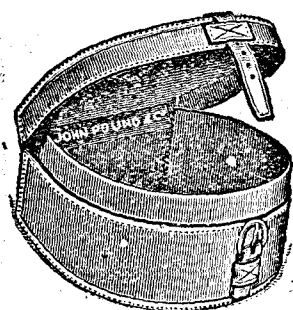
SINGLE SQUARE HAT CASE
SQUARE CASE FOR 3 HATS

CABIN TRUNKS,
PORTMANTEAUS,
DRESS TRUNKS,
&c., &c.,
IN LEATHER, CANVAS,
COMPRESSED CANE,
AND FIBRE

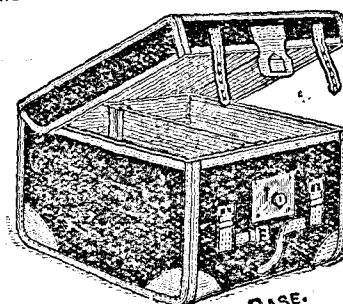


HIDE SUIT CASE WITH CORNERS.

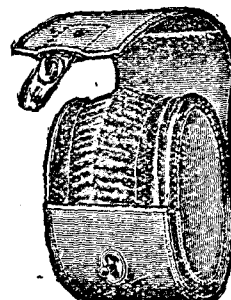
BAGS OF ALL
SHAPES & QUALITY
FITTED TRAVELLING
GOODS OF EVERY
DESCRIPTION.



COLLAR BOX.



SMALL CASE.

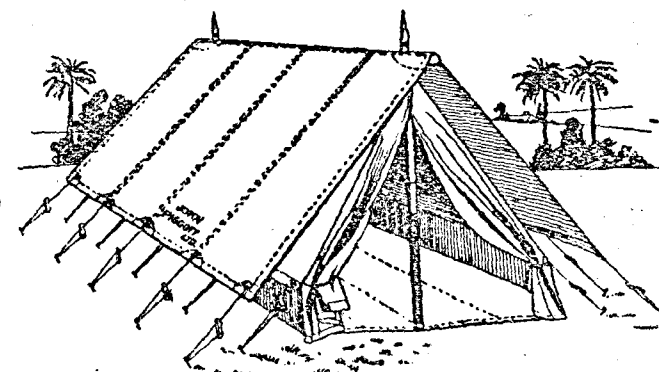


BRUSH CASE.

INDENT THROUGH AGENTS OR DIRECT.
81-84, LEADENHALL STREET, LONDON, E. C.

JOHN PIGGOTT, LTD., TENT-MANUFACTURERS.

EXPLORERS' TENTS,
BELL-TENTS,
FOLDING BEDSTEADS,
SLEEPING BAGS,
Etc., Etc



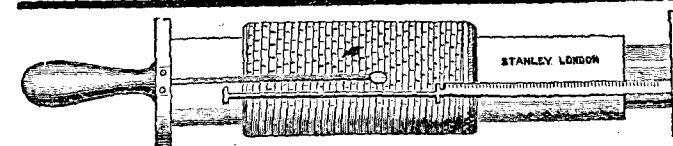
TENTS
FOR ALL
PURPOSES.
ESTIMATES
FREE.

ILLUSTRATED PRICE LIST

Free on application to Advertisement Department,
Reuter's Agency,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO or RANGOON.

117 & 118, CHEAPSIDE & MILK STREET, LONDON, E.C.



STANLEY,
LONDON.

Fuller's Slide Rule, equal to Straight Slide Rule 500 in. long.

Largest Manufacturers of . . .

SURVEYING AND DRAWING INSTRUMENTS IN THE WORLD.

Please send for our H. 24 Catalogue (Post Free) and compare our prices with those of other first class makers.

W. F. STANLEY & CO., LTD.,
GREAT TURNSTILE, HOLBORN,
LONDON, ENGLAND.

MARLBOROUGH'S SELF-TAUGHT SERIES

OF
FOREIGN LANGUAGES

Containing Travel-Talk for Railway, Steamboat, Customs, Hotel, Post
Office, Shopping, Amusements, Etc. Tables of Money, Weights and
Measures. Classified Vocabularies and Conversations with ENGLISH
PHONETIC PRONUNCIATION arranged for learning at a glance;
also Elementary Grammar.

FRENCH } Self-Taught. ITALIAN } Self-Taught.
GERMAN } SPANISH }

Sold by all BOOKSELLERS AND BOOKSTALLS.

For Complete List write for (A1) Catalogue.

London: E. MARLBOROUGH & Co., 51, Old Bailey, E.C.

BARLOW & Co.

Import and Export Merchants

and

Commission Agents

Agents:

United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd.

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 1/4 to 1/16 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,

TOBACCO TRADE ENGINEERS,

33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,

CIGARETTE SPECIALISTS,

35, ENDELL STREET, LONDON, W.C.

MALCAJIK CIGARETTES.

TURKISH GRADES.

De Luxe.

Special.

Princessas.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO

MALCAJIK VIRGINIA ROYAL CIGARETTES.

Made of the very choicest Bright Virginia Tobacco.

AND

MALCAJIK PIPE MIXTURE.

A revelation to lovers of a good Pipe Mixture. The finest ever made.

AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

Orders through English Merchants.



*"Pelican" and
"Chin-Chin"*



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

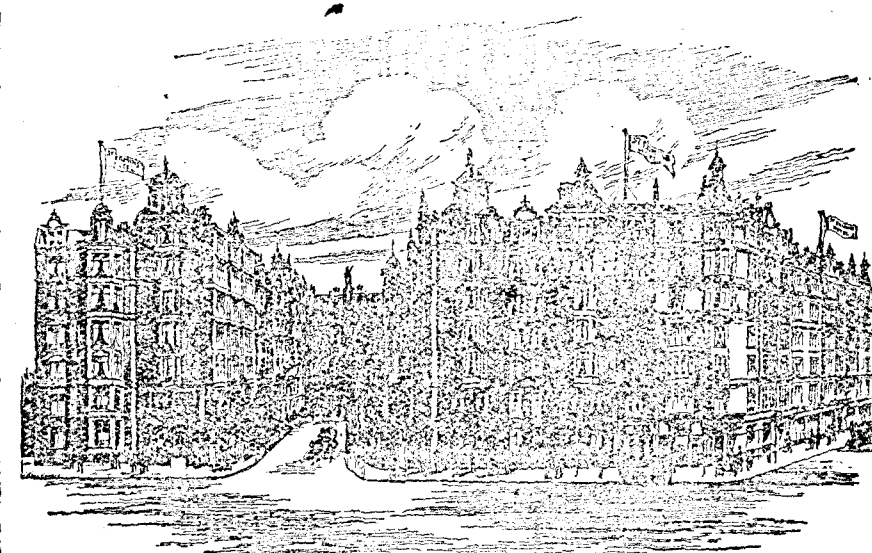
The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1 1/2-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

GÜNTHER WAGNER,

Sole Manufacturer,
80, MILTON STREET, LONDON, E.C.



**ST
ERMINS
HOTEL**

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Suites con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUF,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS;

Large Stocks held

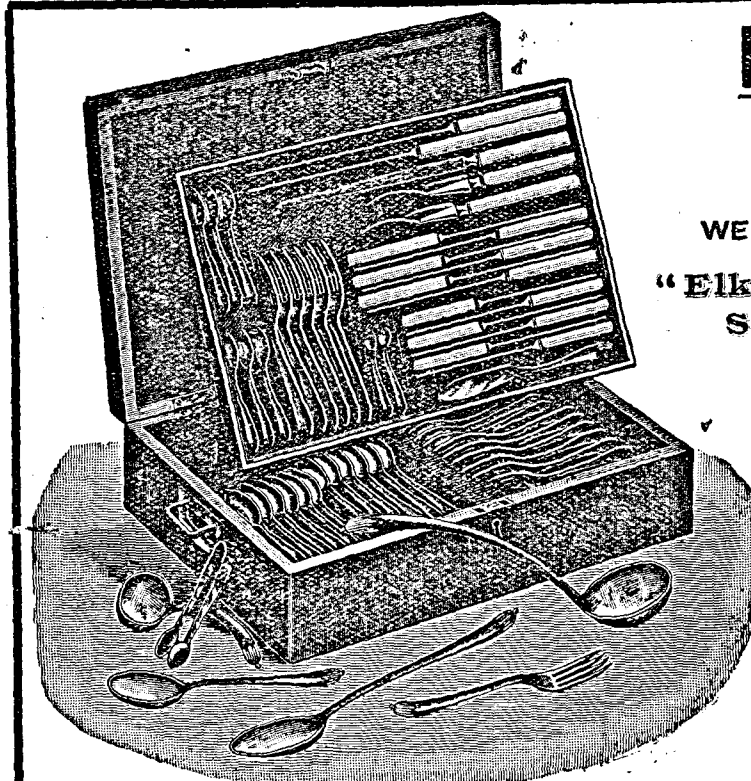
WATER METERS,

in Calcutta.

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,
MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

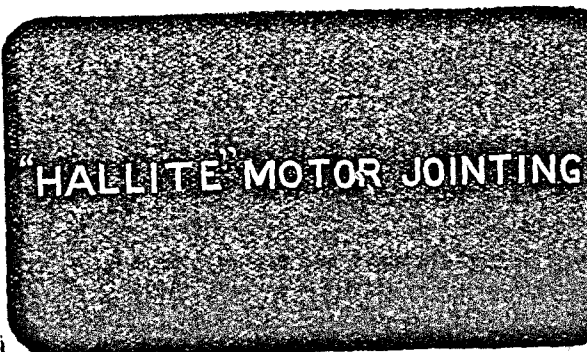
HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

Telegrams:—"Firmin, London."

Works:—Birmingham, Halesowen, London.



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT.
REUTER'S AGENCY.
AT THEIR
SEVERAL
BRANCHES.

Manufacturers of every description of

Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

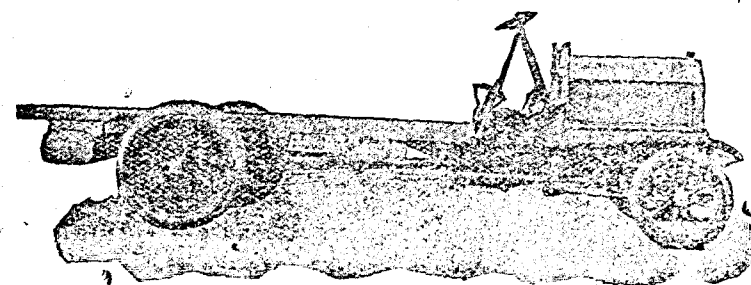
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



1907 LATEST TYPE CHASSIS.

Motor Lorries,

- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the
principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos.
Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern,
Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and
others. Particulars on application.

Immediate delivery of all types.

SANITARY PAINT COY., LTD.

THE MANUFACTURERS OF

"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"

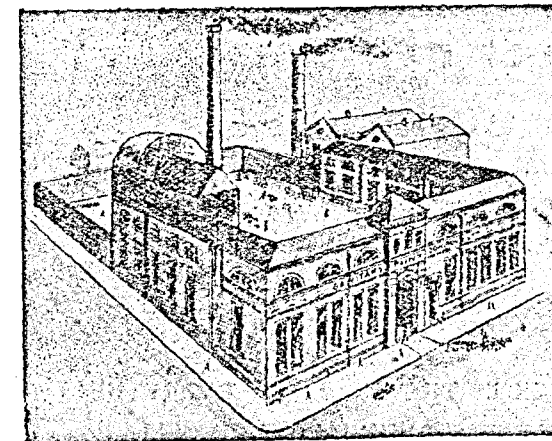


was received from the Calcutta

Exhibition in 1884,

and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.

Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINC WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

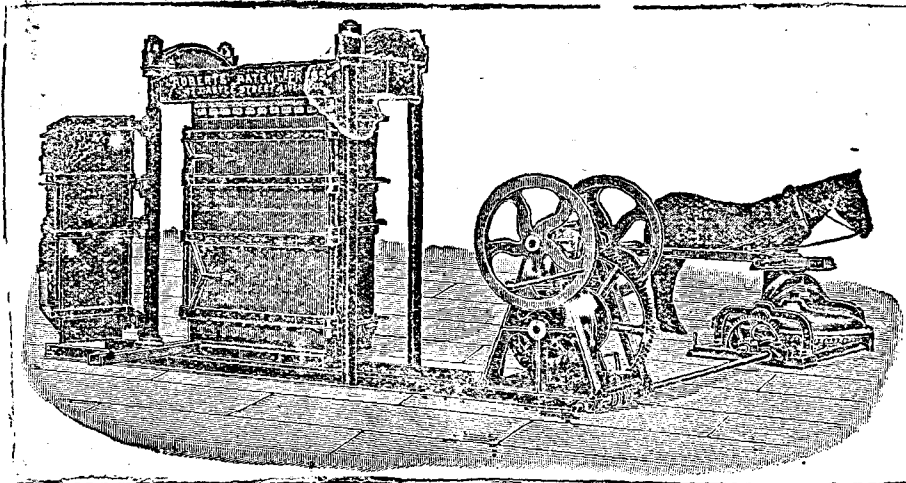
They will serve you well, and we are confident they will do their best to please you.

ROBERTS' PATENT BALING PRESSES

WITH PATENT SWINGING BOXES.

GRAND PRIZE,

Colonial and Indian Exhibition, Crystal Palace, 1905.



ALL SIZES
OF
PRESSES
MADE FOR
Hand, Steam,
Electric, Horse,
Bullock,
OR
Water Power.

H. I. ROBERTS,

VICTORIA CHAMBERS, 42, CASTLE STREET, LIVERPOOL, ENGLAND.
Sole Agents in Calcutta: Messrs. MARTIN & Co.

**HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE**

WARING & GILLOW, Ltd.*Decorative Artists to H. M. the King*

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's
Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS,
COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct,
164-180, Oxford Street, London.

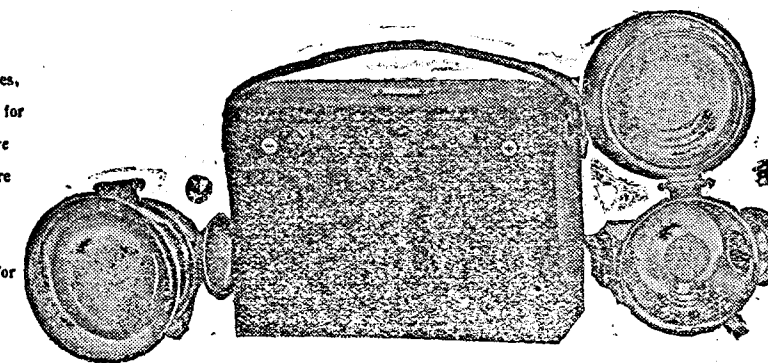
THE GRATZE**IMPROVED PLANT AND PASTE ACCUMULATORS:—**

BRITISH MANUFACTURE THROUGHOUT.

FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



Accumulator and Lamps for Carriage or Motor Lighting.

These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

**WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.**

*Electrical Appliances and Machinery of all description.***AGENTS WANTED.**

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.*Prices on Application.*

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,

OR FROM THE MANUFACTURERS DIRECT.

The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES, ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to

HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING CO.,
SAFE & LOCK MAKERS, NEAR GAS WORKS, PAREL, BOMBAY.

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE,

Bombay, 12th September 1905

MESSRS. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A, B, C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.

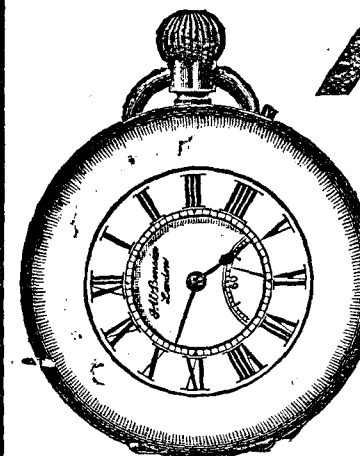
GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.



Special quotations for quantities.

BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adv.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING CO., LTD.,

DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, MANCHESTER, GLASGOW, DUBLIN, DEPOTS: CAPE TOWN, JOHANNESBURG, BERLIN, KRAUSENSTRASSE, 90.

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.

STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY
REALLY DAMP-PROOF
STONE KNOWN.

IT IS EXTENSIVELY
USED BY THE P. W. D.,
PORT COMMISSIONERS,
STATE RAILWAYS,
MUNICIPALITIES,
GOVERNMENT AND
JUTE AND COTTON MILL
COMPANIES.

AFTER 18 YEARS
IT IS STILL
WITHOUT A RIVAL.

The best floor known for Godowns, Offices, Dwelling Houses.
FOR PAVEMENTS IT CAN'T BE EQUALLED.
NO DUNNAGE NECESSARY IN GODOWNS WHERE THE INDIAN PATENT STONE IS USED.
For particulars, estimates and prices for plain & ornamental flooring
laid in situ or in tiles

Apply to—

BIRD & CO., MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
100-1, Clive Street, CALCUTTA.

E. T. MARLER

TRADE MARK

**LION
BRAND
PRINTING
INKS**

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

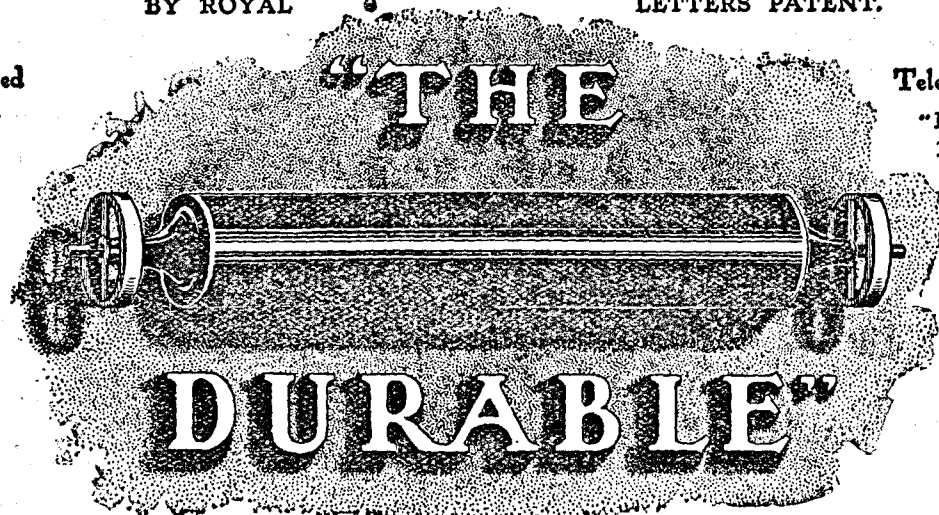
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:

"DURABLE-
ROLLERS.
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,

CROP FORECAST: GROUNDNUT.

PUBLISHED WEEKLY.



REGISTERED.



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

VOL. VIII. No. 95.] CALCUTTA, THURSDAY, 23rd JANUARY, 1908.

[ANNAS 4.]

INDEX.

	PAGE
NOTES	169
NOTICES—	
Calls for Tenders	177
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Grain Elevator System and Railway Traffic	178
TARIFF CHANGES	180
INDIAN COTTON SEED	ib.
MATCH INDUSTRY IN INDIA	181
CROP FORECAST—	
Groundnut	182
SEASON AND CROP PROSPECTS	184
THE FAMINE	185
PRICES OF COMMODITIES	186
THE COTTON FACTORIES OF AHMEDABAD	ib.
EUCALYPTUS TREES	188
THE TEA TRADE IN 1907	189
THE WORLD'S RUBBER TRADE	190
AMERICAN COTTON CROP	ib.
KUNLA CANAL PROJECT	191
SAMBALPUR TRADE	192
TRADE PROSPECTS IN SIAM	193
TEXTILE MILL CONSTRUCTION IN THE UNITED STATES IN 1907	ib.
THE OPIUM TRAFFIC	194
BET SUGAR INDUSTRY	195
THE SILK TRADE OF CHINA	196
THE FRENCH RIBBON INDUSTRY	197
TABLES—	
Sugar Imports	198
Imports of Cotton Yarns	ib.
WEEKLY TRADE MOVEMENTS	199
RESULTS OF AUCTION TEA SALES IN CALCUTTA	200
DEPARTMENTAL PUBLICATIONS	201
ADVERTISEMENTS	202

NOTES.

The Presidency Bank rates are as follows:—

Calcutta	9	per cent.
Bombay	8	" "
Madras	8	" "

Exchange—1-3 $\frac{1}{2}$

The changes of the Indian Bank rates during
the past year are interesting. They have been as
follows:—

Bengal, 1907.

January 1st	9 per cent.	July 4th	4 per cent.
April 18th	8 " "	July 25th	3 " "
April 25th	7 " "	September 12th	4 " "
May 2nd	6 " "	September 26th	5 " "
May 16th	5 " "	November 7th	6 " "

Bombay, 1907.

January 1st	9 per cent.	June 27th	5 per cent.
March 7th	8 " "	July 4th	4 " "
May 2nd	7 " "	August 1st	3 " "
May 9th	6 " "	November 8th	5 " "
June 6th	7 " "	December 12th	6 " "
June 20th	6 " "		

The averages of the bank rates have been for the
year 6.1 per cent. for Bengal and 5.76 for Bombay.
The changes in the Indian bank rates have been
less frequent than in 1906. Nine times has the
rate been changed this year in the case of Bengal and
ten in Bombay, as against 20 and 16, respectively,
in the previous year, the extremes, 9 and 3 per
cent., having been the same in each year. The
averages have been lower, however, in each
case, 6.1 and 5.76 per cent. this year, as against
6.42 and 6.26 per cent. respectively in 1906;

but they have been higher than in 1905 and 1904. Thus for 1905 the Bengal average was 5.09 and the Bombay average 5.01 per cent., and in 1904 4.87 and 4.84 per cent. respectively. The gold price of rupee paper has declined, the highest quotation in London being 65½ and the lowest 62½ in 1907, as against 66½ and 64½ respectively in 1906.

A statement of irrigation operations in the Punjab in connection with the Rabi (spring) crop of 1907-08 to the end of November last shows that the total area irrigated was 2,453,922 acres, as compared with 3,132,818 acres for the corresponding period of the previous year.

The Government of India have sanctioned an estimate amounting to Rs. 5,04,000 for the Siddapur tank project, Karnool district, Madras Presidency. The project provides for enlarging and improving an existing ruined tank on the Bavanasi river four miles east of Venkatapuram in the Karnool district. The tank is situated in the Nallamalai forest close to the foot of the hills, and has a catchment of 45 square miles. It has a bund about four miles long. There are numerous breaches in the bund, the largest of these being on the Bavanasi. It is proposed at present to improve only the southern part of the tank. The project, when completed, is expected to irrigate 4,250 acres, the land being reported to be extremely suitable for crops.

A Note on the traffic on navigable canals in the Madras Presidency, just issued, states that the total tonnage up and down the canals (Chilka Lake, Dumagudim, Godavari, Kistna, Buckingham, Karnool-Cuddapah, and Vedaranniyam) was, roughly, 1,128,432 during the year 1906-07, as against 1,061,799 during 1905-06. The value of goods carried is estimated at Rs. 4,69,71,052 as against Rs. 4,35,04,402 in the previous year. The number of passengers was 562,348, as against 561,172. The receipts for 1906-07 amounted to Rs. 2,07,443 as against Rs. 2,08,720 in 1905-06. The Note mentions that the "tonnage" and "value of goods" are merely approximations.

The sunn hemp crop in the Central Provinces this season is estimated as follows:—

Jubbulpore	12 annas; fibre somewhat stunted.
Seoni	10 ditto ditto.
Mandla	12 ditto average length.
Chhindwara	10 ditto somewhat stunted.
Narsinghpur	12 ditto average length.

There seems to be some uncertainty as to the varieties of this fibre grown in the Central Provinces. The tendency has been to attribute differences of fibre to differences of soil, cultivation, retting, etc.;

but a correspondent informs us that there is reason to suspect the growth of more than one variety. A special variety, for instance, called *Orotolaria termitifolia* appears to be grown around Jubbulpore, as distinguished from the common variety called *Orotolaria juncea*, which is more in evidence in other parts of these Provinces.

It was pointed out in last week's issue of the *Indian Trade Journal* that, in the opinion of Dundee importers of jute, "the amount of root left on the fibre is simply scandalous, and has necessitated the organising of a new department in a number of mills for dealing with it." Probably similar complaints are current in other jute importing centres. At all events, a meeting of the jute trade was held in the rooms of the Bengal Chamber of Commerce, Calcutta, last Friday to consider this matter, when it was resolved that the presence of more than 2½ per cent. of cuttings in a ton of jute (five bales) entitled the buyer to cancel the purchase. The meeting was unable to arrive at an acceptable definition of "clean jute," and hence proposals that any jute that was not clean might be rejected, and that a penalty should be inflicted on any admixture of cuttings up to 2½ per cent., were rejected.

The rates of postage and conditions applicable to parcels for the Ottoman offices in Turkey have been revised, and the rates and conditions that now apply to such parcels are given below:—Ottoman offices in Europe, through Egypt: Not over 3 lbs., Rs. 2-10-6; not over 7 lbs., Rs. 3-2-0; not over 11 lbs., Rs. 3-9-6. Ottoman offices in Asia, through Egypt: Not over 3 lbs., Rs. 2-13-0; not over 7 lbs., Rs. 3-4-6; not over 11 lbs., Rs. 3-12-0. Ottoman offices in Asia, through Egypt: Not over 3 lbs., Rs. 2-15-6; not over 7 lbs., Rs. 3-7-0; not over 11 lbs., Rs. 3-14-6. The following articles are prohibited:—Letters, arms, salt, tobacco-leaf, hashish, printing type, books, pamphlets, and other printed matter of an injurious nature, newspapers containing attacks on the Turkish Government, plants, bulb and flowers of every kind, parts of the vine, and imitation cigarette paper of the Imperial Ottoman "Regie." The transmission of the following articles is also temporarily prohibited:—Body-linen, clothes (already worn), wearing apparel, bedding that has been used, rags, baskets, bags, hides with wool or hair on them that have been used as rugs or mattresses, untanned and fresh hides, animal remains, claws, hoofs, bristles, human or animal hair, and raw silk or wool. In the case of parcels addressed to Turkey, which for any reason cannot be delivered to the addressees, the charges assessed by the Turkish authorities on account of customs duty are not cancelled. The return of such undeliverable parcels to the senders is subject, therefore, to the payment by the latter of these customs charges.

We see from a Post Office return, just published, that during the six months of the official year ending 30th September last 396,286,000 articles passed through the Indian Post Office, against 371,560,000 during the corresponding period of the previous year, or an increase of 6.65 per cent.

The postal authorities inform us that the rates of postage on parcels for Venezuela have been revised. The rate for a parcel not over 3 lbs. is now Rs. 3-9-6; not over 7 lbs., Rs. 4-1-0; and not over 11 lbs., Rs. 4-8-6. The other conditions applicable to parcels for Venezuela remain unaltered.

The Governor General in Council is pleased to appoint, with effect from the 1st February, 1908, Cawnpore, instead of Allahabad, to be the place of issue of Notes for the Circle comprising the territories administered by the Lieutenant-Governor of the United Provinces of Agra and Oudh.

The new form of registry of shipping, recently adopted by the Board of Trade, to be used when a vessel is to be registered as a British ship is published in the *Gazette of India* of the 18th instant. It is to be adopted in British India from the 1st July, 1908.

The next sale of opium will be held in the Government opium sale room, Calcutta, on the 4th proximo, when 1,950 chests each of Patna and Ghazipur opium will be offered.

The prices of opium per chest for the periods mentioned below were as follows:—
For the week ending 18th January, 1908—

In the Calcutta market—
Behar opium—Rs. 1,310; 1,322; 1,330; 1,318; 1,333; 1,359; 1,366.

Benares opium—Rs. 1,285; 1,300; 1,305; 1,295; 1,310; 1,340; 1,350.

The prices in the time bargains for the Behar opium of the 2nd sale of 1908 were Rs. 1,317; 1,329; 1,337; 1,325; 1,340; 1,366; 1,373.

In the China market—
At Hongkong (exchange Rs. 141½ to 143½ per \$100).

Behar opium—\$930; 927 and 927½; 925; 930; 925; 935; 940.

Benares opium—On the 13th and 17th instant \$907 and 915 respectively.

At Shanghai—(exchange Rs. 189 to 192 per 100 taels).

Behar opium—No quotations received.
Benares opium—No quotations received.

For the week ending 11th January, 1908—
In the Bombay market—

On the 5th and 6th instant (new, 1906-07)

Rs. 1,235 and Rs. 1,215 to 1,320; on the 6th and 10th instant (new, 1905-06) Rs. 1,252 to 1,314; and Rs. 1,270 to 1,348; on the 6th and 9th instant (old, 1904-05) Rs. 1,400 and Rs. 1,350 to 1,400, respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,287 and 1,321; (old) Rs. 1,358 and 1,395, respectively.

The Railway Board have sanctioned a railway survey being made, by the agency of the administration of the Jodhpur-Bikaner Railway, for a line of railway on the metre gauge from Mirpur Khas station on the British Section of the Jodhpur-Bikaner Railway to Jhudo, a distance of about 47½ miles. This survey will be known as the **Mirpur Khas-Jhudo Railway Survey**. The Railway Board have also sanctioned a survey being made by the agency of the Bombay, Baroda and Central India Railway Company for a railway on the 2' 6" gauge from Nadiad to Kapadvanj with an extension to Meghraj, via Malpur, and a branch from Malpur, via Lunavada, to Godra, a total length of about 112 miles. This survey will be known as the **Nadiad-Kapadvanj-Meghraj Railway Survey**.

Discussing the copper market on the 4th instant the *Ironmonger* says:—The standard copper market has worn a decidedly happy appearance, and with a steadily sustained demand prices have improved further. No doubt a good deal of the buying has been bear covering, but there has also been buying against sales of refined and in the direction of fresh speculative enterprise for the rise. American prices have stiffened too, but the underlying position of the market cannot be said to have altered much, if at all. Refined is firm in sympathy with standard, and sellers are inclined to hold off. An encouraging feature has been the active demand which has developed for India, fully 1,500 tons of yellow metal having been booked the last week or so at 6½d. Copper sheets have sold pretty well, but part of the business offered has gone to the Continent. Last week's shipments from New York, Baltimore, and Philadelphia were 5,385 tons. The sales of Chili bars on the West Coast comprised 25 tons of Lambert (Liverpool), 50 tons of Lota (Continental), and 50 tons of Urmeneta (Liverpool). Messrs. Merton's statistics disclose a further heavy increase in the visible supply, the total on December 31st being given as 19,710 tons, against 17,788 tons on December 16th and 15,789 tons on November 30th. The stocks of standard copper have increased from 7,104 tons a month ago to 9,822 tons on December 31st, and the total stocks from 10,189 tons to 13,060 tons. The month's supplies were 50,925 tons:—North America, 38,604 tons; Spain and Portugal, 1,720 tons; and other countries, 4,251 tons; the Chili shipments being 2,550 tons, and those from Australia 3,800 tons. The deliveries were 47,004 tons.

Discussing the tin market the *Ironmonger* of the 4th instant says:—Tin prices have advanced sharply owing to an improved sentiment driving bears to cover. There has also been fresh buying on the part of bulls, encouraged by the recent heavy drop in the price, and by the short shipments again advised for December. Heavy shipments to China and India are again in progress, 600 tons being so disposed of in December. About 1,500 tons of tin, it is said, were carried over at the end of the year. Chinese buying has again been evidenced, and the parties whose operations have been carried on so doggedly in face of untoward circumstances appear determined to make a further effort to make good their position. The restriction of American consumption has, however, left a weight upon the market which the prime movers in the scheme could hardly have calculated upon when laying their plans, and this is not likely to be relieved even should the United States tinplate mills resume their former activity. According to the statistics of Messrs. Ricard and Freiwald the visible supply on December 31st was 12,939 tons, a decrease during the month of 147 tons. The London spot, landing, and afloat total was 9,583 tons, against 8,474 tons a month ago, and 6,905 tons on December 31st, 1906. The spot stock is more than three times what it was a year ago. The Straits' shipments for December were 3,630 tons; 2,610 tons to London, 220 tons to America, and 800 tons to the Continent. Australia shipped 601 tons to London and the Continent and the Billiton sale released 187 tons. The December supplies were thus 4,418 tons. The deliveries are given as follows: London, 1,468 tons; Holland, 1,199 tons; America (estimated), 1,200 tons; and the Continent, except Holland, 698 tons.

The following table gives (in thousands) the acreage of the American cotton crop for the last ten years and the total crop, the figures being those of the *New York Financial Chronicle*; also the average prices of middling American for the season at Liverpool:—

	Acreage.	Crop in Bales.	Average price Mid. American. d.
1897-98	22,057	11,181	3.42
1898-99	23,174	11,235	3.23
1899-1900	24,175	9,439	4.80
1900-01	26,534	10,425	5.04
1901-02	27,874	10,701	4.71
1902-03	27,300	10,758	5.44
1903-04	28,996	10,124	6.92
1904-05	32,364	13,577	4.92
1905-06	28,808	11,320	6.95
1906-07	31,557	13,551	6.35
1907-08	33,079	...	...

The Government estimates of acreage are usually lower than those of the *Financial Chronicle*, and the

Department of Agriculture estimated the land planted up to May 25th, 1907, as 32,060,000 acres.

The following table, taken from Mr. Jones's Handbook, published in September, 1907, gives (in thousands) the spindles, looms, consumption of cotton, and operatives employed in each country according to the latest available estimates:—

Country.	Spindles.	Looms.	Consumption. Bales.	Hands employed.
Great Britain, 1907	52,585	*725	4,014	600
U. S. North, 1906	16,269	1340	2,544	1197
U. S. South, 1907	9,412	196	2,437	1121
Germany, 1906	†9,730	230	1,800	375
Russia, 1904	6,554	151	1,177	350
Poland, 1905	1,268	*12	325	*35
France, 1906	†6,750	110	990	95
Austria, 1906	†3,600	130	620	105
Hungary, 1905	250	4	43	8
Switzerland, 1907	1,550	18	112	19
Italy, 1906	†3,547	120	770	140
Spain, 1906	2,700	68	350	...
Portugal, 1906	1367	...	...	...
Belgium, 1906	†1,125	*24	160	15
Holland, 1907	382	21	67	17
Sweden, 1907	412	10	90	...
Norway, 1907	87	2	15	3
Denmark, 1906	60	...	18	...
Roumania, 1899	40	...	...	...
Turkey, 1905	80	...	23	...
Greece, 1906	97	2	15	...
Egypt, 1907	20	...	4	...
Asia Minor, 1905	60	...	18	...
India, 1906	5,279	52	2,023	208
China, 1904	620	2	200	...
Japan, 1906	1,450	9	873	85
Indo-China, 1905	64	...	...	...
Philippines, 1905	7	...	2	...
Brazil, 1906	733	*26	283	38
Argentina, 1906	10	3	...	...
Peru, 1904	...	1	...	...
Mexico, 1906	628	20	170	3
Canada, 1907	815	19	127	...
Total (estimated)	126,594	2,306	19,276	2,416

* Incomplete. † 1907 estimate. ‡ 1900 returns.

The number of bales of cotton imported into the United Kingdom during the week ended the 26th December, 1907, was 114,118 (including 20 bales British West Indian), and the number imported during the fifty-two weeks ended the 26th December was 4,695,485 (including 6,275 bales British West Indian and 10,716 bales British West African). As regards exports, the figures are, for the week ended the 26th December, 14,876 bales, and for the fifty-two weeks 499,522 bales.

The difficulty of arriving at an estimate of the extra factory consumption of cotton in India is well known, and, as often happens in such matters the persons who were loudest in asserting the accuracy of a particular estimate were those who had taken least care to examine the question. The consequence has been that various estimates have

been adopted by various disputants and co-operation between Government and the great commercial associations in the effort to check the accuracy of the cotton crop forecasts has been complicated by the intrusion of figures not accepted on all hands. It appeared evident that the first step towards the removal of this cause of embarrassment was to agree with the principal cotton association in India as to what figure might be taken as representing the extra-factory consumption with something like accuracy. The Director-General of Commercial Intelligence had an opportunity of discussing the matter with the Board of the Bombay Cotton Trade Association, Ltd., and it was agreed that 750,000 bales may be regarded as sufficiently near the truth. In future, therefore, this figure will be used in the Commercial Intelligence Department and also by the Bombay Cotton Trade Association, and it will, at all events, be possible for those seriously interested in the crop or the trade, whether officially or otherwise, to understand figures quoted by correspondents or in the public press. On the occasion of the discussion alluded to, it was also arranged that the calculation employed in this Department for ascertaining the consumption of cotton in mills should be generally adopted. The method of this calculation is to add 19 per cent. the weight of yarns produced, this being equivalent to a loss of about 16 per cent. on the cotton used in the mills. According to this calculation the consumption in the mills during 1906-07 would come to about 1,945,000 bales.

In their Report on the Shanghai piece-goods trade, dated the 2nd instant, Messrs. Noel Murray & Co. state that very little was done during the Christmas holidays, the sales reported of Indian spinnings only amounting to 555 bales, all for the River markets, prices keeping very firm, as under:—No. 10s. 50 bales, Union Spinning Girl \$75.00; No. 12s. 105 bales, Hope Mill \$73.50, and Currimbhoy (Mule) and Moon \$75.00; and No. 20s. 400 bales, Pabany Mills (Ring) \$88.00 and Ripon (Mule) \$89.00.

Messrs. Hubbard Brothers and Co., of New York, writing on December 17th, say that American spinners consider the Government cotton crop estimate to foreshadow a growth of more than 12,000,000 bales, and from this they deduce the conclusion that prices must fall as the marketing proceeds. They are astonished, therefore, to find that European spinners, and especially Continental ones, continue to take the best qualities of the crop at what seem to be extremely high prices. Messrs. Hubbard say, however:—"We believe the foreign spinner is taking a larger and more correct view of the result of shortage of the cotton crops of the United States and India. He is also giving thought to be changed financial and mental ability of the planter, a condition of independence of which we can find no parallel in history, and realises that the test of

strength may result in the planter's favour. So far his faith in the value of cotton has been accepted by the European spinner, while the American spinner is not looking ahead to a revival in industry and trade, but rather looking backward to a condition of which careful observers were sending him words of warning last spring." From recent news it appears that the American spinner is doing something to confirm his opinion on the course of prices by reducing his consumption.

The depression in the cotton drill trade continues very acute, says the *Manchester Guardian* of the 31st ultimo, and the majority of manufacturers have considerable difficulty in keeping their looms going with orders at the bare cost of production. Heavy makes, both ball and tape sized cloths, show no improvement, the Levant, usually a fair market for this class of goods, being still in an unsatisfactory condition. Business in the ordinary 29 in. and 30 in. drills for China is almost stagnant, and the recent reports from Shanghai give no indication of any immediate revival. Makers of low qualities of 26 in. sized drills report more inquiry from Calcutta and Karachi, but the prices offered are much below cost. Satin and Florentine drills for this market are depressed, with the exception of low qualities for bleaching. Striped finished makes for Colombo are in rather better request. The South African orders are principally for small lots of low-priced goods; fancy striped drills in 26 in. 36 yards are, however, fairly brisk for this market. Four shaft drills for dyeing are in some demand for the general colonial trade, but there is comparatively little inquiry from Australia. Goods for Canada are dull, but a revival is expected at the beginning of the coming year. Home-trade business is confined to small assortment purchases, although wholesale clothiers and makers-up are buying rather more freely for their spring trade.

The Punjab Government's Review of the Report on the Forest Administration of that province for the year 1906-07 states that the forest area was reduced by 30,657 acres, chiefly by transfer to the Colonisation Department or disforestation on account of the new colonies, but the new Pir Mahal plantation of 45,000 acres in the Chenab colony will be a valuable addition to the reserved forests of the province and help to compensate for the losses caused by the extension of irrigation. Experiments made by the Department during the year under report show that *eucalyptus* has been found unable to stand the cold of Simla or to bear the weight of snow in the hill divisions. The attempt to grow English fruit in Bashahr has been unsuccessful. The results of experiments directed to discover whether the distillation of turpentine can be continued without detriment to the timber of *pinus longifolia* are awaited with interest. The income of

the Department amounted to Rs. 15,65,000, being a decline of 12 per cent. on that of the previous year.

An important point noticed in the Review of the Report on the administration of the Forest Department, United Provinces, for the year ending June 30th, 1907, is the great drop in the value of sleepers. It may be mentioned that some years ago the market was flooded by an enormously increased output due to the utilisation of dead and fallen timber all over the Jaunsar division. The supply was much in excess of the demand and the contractors were left with large stocks on their hands. At the same time the competition of Australian wood forced down the prices still further, trees now selling for half the prices of a year ago. The results are seen in a drop in the value of timber turned out in the Western Circle from Rs. 11,23,577 to Rs. 8,21,808. It is believed, however, that the fall of prices is temporary and that Australian wood will not be able to compete for long on such favourable terms as at present with the wood from the United Provinces forests. Another point of commercial importance noticed in the Review is the manufacture of turpentine and resin, the profits from which increased from Rs. 13,055 in the previous year to Rs. 34,251 in the Naini Tal division during the year under report. It is of interest to note that the Department sent specimens of two kinds of wood to the Kota match factory, and both have been found suitable for matches and match-boxes. The question of wood-pulp for paper-making has been taken up, and an ample supply of wood suitable for the purpose is believed to exist; further, various woods, such as *Shisham*, *tun* and *jaman*, *khari* and *semal* are regarded as possible material for the manufacture of pulp, packing cases and other uses. In connection with the supply of limestone from forest areas, the question of reducing the royalty (in the Eastern Circle Rs. 10-8 per 100 maunds [maunds=82½ lbs.] of stone, and in Dehra Dun Rs. 12-8) is under consideration by the Government.

Certain forest officers have undertaken experimental cultivation of lac under observation, in the hope of ascertaining whether a clean lac would be obtained if gathering were postponed till the swarming of the larvæ (not insects) was complete. Arhar Dal has been recommended as a suitable host for the lac insect for experimental purposes, seeing that it quickly attains maturity. But in one instance a mistake was made in the sowing of the ordinary annual arhar; and it is important to point out that the Malwi Arhar is the right description to be sown. This plant lives for two or three years and lac may be grown on it from the second year.

Messrs. Reynolds & Sellers, in the course of their annual report for 1907, refer to the adultera-

tion of shellac with resin stating that the quality received in London is not so heavily adulterated as that shipped to the United States. That shipped to London is limited to the "resin clause," while the United States has been receiving shellac containing practically one-fourth of resin, which has naturally caused dissatisfaction. The market for second orange TN was steady for the first six months of the year at round about 212s. to 216s., but in that month a decline of 5s. occurred, and by September the market had tumbled to about 155s. Further pressure to realise during October helped the downward course to 130s., and a few shillings less was accepted in November for immediate cash. During December a steadier feeling was evident, and with better news from Calcutta it is anticipated that current prices will improve. Fine and fine second orange fell in sympathy with the lower grades, the buying almost throughout being of a hand-to-mouth character. Opening at 250s. to 255s., prices fell quite 100s. when the slump took place. Speculation for delivery centred principally in the May and August positions. With some difficulty in obtaining May tenders this month was exchanged (with a small margin) to August and when that month arrived further exchanges were made to October. Persistent offers on "c.i.f." terms at continually lower quotations broke the back of the market; the price so rapidly declining influenced would-be buyers, with the result that little business was done, everyone waiting developments. German-made shellac has not been a success in England, being practically boycotted by consumers. Buttons have not been an open market, and the business has been done on private terms. The shipments from Calcutta to all parts for the past season, November 1906 to October 1907, amount to 206,114 cases, against 159,857 cases and 155,510 cases during the two previous years. The United States have taken only 4,933 cases more than last year, while the United Kingdom has received 14,996 cases more, which partly accounts for the increase in stock.

We take the following significant paragraph from the *Chemist and Druggist* of the 4th instant:—Chemists as tea-sellers are interested in the remarkable change in taste which is taking place among tea-drinkers, China tea having again come into favour. From January to November 1907 the imports of China tea amounted to 15,769,027 lbs., against 12,175,126 lbs. in the corresponding period of 1906, and 8,851,612 lbs. were entered for home consumption, against 5,306,589 lbs. in 1906, the latter figures showing even more strongly how the popularity of China tea is growing. The figures are, of course, small in comparison with the bulk of tea consumed (254,072,098 lbs. in the eleven months), but they are the first indication of an upward movement. Dr. Andrew Wilson, in a letter to the *Daily Chronicle*, attributes the new preference to China tea being better suited to those who have digestive

troubles, and mentions the report of Dr. W. Scott Tebb, analyst to the Borough of Southwark, who has shown that "in Indian teas of various growths the percentage of tannin is 7.43, and in Ceylon teas 7.85. In China tea the percentage is 6.08, but in the latter estimate green tea is included with black tea, green tea being practically unused in Britain to-day. In some China teas the percentage of tannin sinks as low as 2.96." Chemists will, of course, take advantage of any public disposition to regard China tea as having some therapeutic property which is of benefit.

The decision of the United States Court to accord free entry to synthetic camphor which was announced in the *Indian Trade Journal* of December 26th (page 694), has given rise to much discussion in trade and chemical circles. It is anticipated that the relief from the payment of a duty of three annas per lb. will stimulate the importation, especially from Germany. On the other hand, American camphor refiners hope that the Federal Government will lodge an appeal against the decision of the District Court. If the judgment should be sustained in the highest court, the only remaining course to adopt would be to see that local interests were fully represented at the forthcoming revision of the tariff. It may be mentioned that several patents have been granted for the manufacture of synthetic camphor in the United States, and its manufacture there is merely a question of time.

The Governor-General in Council is pleased to prohibit absolutely the manufacture of salt in the Nasirabad tahsil of the Baluchistan Agency territories, and to prohibit absolutely the importation into, and the transit over, the tahsil of Nasirabad of salt produced or manufactured in the Kalat State.

The Department of Agriculture of Burma has issued the first of an interesting series of leaflets entitled "Cultivators' Leaflet No. 1" which gives directions as to the best methods of sowing and harvesting wheat in Burma. Wheat is generally grown without irrigation, but on very light soils it is often necessary to irrigate if good crops are desired. In most parts of Burma there is sufficient rainfall for all soils, except sand, so long as the land is cultivated at the proper time. The leaflet states that most soils in Burma will grow wheat, and there are large, at present uncultivated, areas of land on which wheat might not only be successfully grown but made to yield a handsome margin of profit to the cultivator. Further, wheat and grain grow well as a mixed crop. If manure is available, an application a short time before sowing would be very beneficial. Wheat, it is stated, grows specially well after pulses, that is, crops such as *pegyi*, *pegya*, *peyin*, *pebyugale*, gram, peas and beans.

The *Corn Trade News* gives the following summary of the world's crops as on the 31st ultimo:—**United States of America**—Crop outlook rather less favourable, cold weather without snow having been experienced west of the Mississippi. **Canada**—Further mention of a good area prepared for seeding in the spring. **Argentina**—Weather generally favourable, and latest surplus estimates are: Wheat 18,000,000 qrs., Linseed 5,500,000 qrs., Oats 3,000,000 qrs. **Australia**—Further rain reported, which splendid for pasture but unwelcome for wheat. **India**—First official estimate shows wheat acreage 8,000,000 acres short although all available irrigated land seeded. Season is still extremely unfavourable for rains still hold off. **Russia**—Outlook for winter wheat very bad, except in a few favoured districts. Rye doubtful, but much is under snow. **Roumania**—Milder weather, with some snow, giving seedings better chance. **Hungary**—Crop outlook improved with better weather. **United Kingdom, France and Germany**—Weather turned seasonably cold, with some snow. Crop reports generally favourable. **Italy**—Too much rain in North, otherwise reports favourable. **Spain**—No complaints. **North Africa**—Crop reports mostly favourable.

A correspondent interested in the prices obtainable for Australian wool writes as follows to the *Manchester Guardian*: "I can see that our markets are down a full penny per pound and I think even more, from the highest point, particularly for inferior kinds. Now owing to the absolute scarcity of the article I cannot help thinking that this fall is simply the outcome of the enormous quantities which at this season of the year are forced on for sale in the markets of Melbourne, Geelong, Sydney, Brisbane, and Adelaide. Fancy 32,000 bales being offered in Adelaide in one day! I expect this financial crash in America and consequently the increased tightness of money in England are adversely affecting the value of wool, and there may be a reduction in prices at the November-December auctions in London." Commenting on this the *Manchester Guardian* of December 30th says:—The foregoing shows that a shrewd observer with a long experience behind him may be utterly mistaken in forecasting the probable course of the market. A careful inspection of the price catalogues up to the middle of November does not, in our opinion, confirm our correspondent's view that a fall of a penny or more from the highest point had been established. So far as regards Geelong, where most of the high-class clips from Australia Felix, as West Victoria is called, are marketed, values did not average more in the disastrous season 1899-1900. No doubt these wools are as near perfection as it is possible to get them, but 9½d. even for the top lot of such a clip as the Carnham can only be described as a fancy price. The prices paid by buyers at the various Australian markets suggest some very serious considerations. The question now is how all these dear

wool is to be got rid of in the various consuming centres, here, on the Continent and the United States, without disaster. The opinion is expressed that unless the banks, who are responsible for much of the trouble by granting enormous credits to weak and reckless operators, now come forward and help their clients to hold their purchases, instead of forcing them upon an unwilling market, a much lower level of values, especially for merinos, will be reached in the near future.

Advices from Australia which reached Calcutta this week state that the sales of wool from July 1st to the end of December last amounted to 882,326 bales, an increase of 79,469 bales on the quantity sold during the corresponding period of 1906. The wool arrivals for the last week of December in New South Wales amounted to 17,000 bales, and in Victoria to 6,000 bales, being a decrease of 18,000 bales as compared with the previous week. The total arrivals of wool in New South Wales and Victoria from July 1st to the end of last year amounted to 1,051,447 bales, as compared with 1,060,836 bales in 1906.

The *Civil and Military Gazette* of the 14th January discusses in some detail the seeming decline in the trade between the Punjab and Kashmir as shown in the external land trade returns for the six months April to September 1907, and suggests that "the Commercial Intelligence Department, which publishes figures of this disconcerting sort, would enhance the value of the information by supplying the missing interpretation at once instead of waiting for many months to serve up the commentary cold in a belated annual report." The requisite explanation was duly given by starring the figures in question and placing at the foot of the same page a note in the following words—"Registration discontinued from July, 1907, the trade being considered internal." This is the usual manner of indicating such a change in the constitution of statistics; and the absence of criticism in our other contemporaries indicates that it was sufficient for careful persons.

Many mercantile firms who subscribe to this Journal omit to respond to notices appearing in our Enquiry column. We have ascertained in conversation with the heads of certain leading firms in Calcutta and Bombay that in their case this had arisen from the absence of any arrangement in their offices for the scrutiny of this column and the following up of suitable enquiries. In several cases some such arrangement has evidently been made with the immediate result of action on their part. Many of these enquiries received from private and official sources in India and abroad express the

desire of manufacturers and others to get into touch with persons in this country who would become agents for the sale or purchase of articles. An increasing number of these enquiries come from important firms abroad who desire to deal with firms of corresponding position in this country. But it is a rule in this Department not to communicate the name of any Indian firm to an enquirer without a request from such firm, for the reason that to do so might be held to give an opening for undue preference. We would suggest therefore that those firms in India who are prepared to take new business should make arrangements to have the Enquiry column watched regularly.

The Society of Motor Manufactures and Traders, which is the official body of the motor industry in the United Kingdom, and which organizes the Olympia Motor Exhibitions, is taking steps for the development of the trade by the organization of its Trade Information Department so as to be capable of dealing promptly with any enquiries with regard to motor goods. It must often happen, the Society believe, that the names and addresses of makers of certain classes of motor cars (especially for commercial purposes), motor agricultural machines, fire engines, stationary machinery, boats, component parts, and accessories of all kinds, or the makers of, or agents for, some particular type or brand of motor goods, are not known to those desiring to purchase or obtain particulars of same. In all such cases it is now only necessary for the enquirer to notify his requirements to the Society, Maxwell House, Arundel Street, Strand, London, W.C., when the same will be circulated to the traders manufacturing or dealing in the articles in question.

With effect from 1st April, 1908, the Government of the Punjab proposes to fix the following as the rates of duty leviable in respect of spirit removed from all distilleries, licensed in the Punjab, on each imperial gallon of the strength of London proof, to be increased or reduced in proportion as the strength of spirit exceeds or is less than London proof:—Coloured rum, brandy, whisky, gin (when prepared from a cane or malt spirit basis), Rs. 7; when spirits are not included in the foregoing categories, Rs. 4. Provided that a wholesale vendor of country spirit, paying duty on not less than one hundred gallons of such spirit at a time, with a view to its removal from such distillery to his premises of wholesale vend, is entitled to claim, over and above the quantity on which duty has been paid, a duty free allowance of spirit to be calculated as follows:—At 2 per cent. if the wholesale vend premises to which the spirit is being removed are situate within the limits of the district in which the distillery is licensed. At 5 per cent., if the premises to which the spirit is being removed are situate outside such limits.

NOTICES.

CALLS FOR TENDERS.
Miscellaneous Stores.

The Superintendent, Army Clothing Factory, Alipore, is calling for tenders up to the 18th proximo for miscellaneous stores.

Woollen and Cotton Sweepings.

Offers will be received up to the 3rd proximo by the Superintendent, Army Clothing Department, Alipore, for the purchase, during the official year 1908-09, of unsorted woollen and cotton sweepings.

Ropes.

The Store and Shipping Officer, Calcutta, is calling for tenders up to the 10th proximo for about 1,700 skeins of 360 feet of white hemp machine-made ropes of various sizes.

Army Rations.

The Divisional Supply and Transport Officer, Lucknow, is calling for tenders up to the 10th proximo for the supply of provisions for native troops and followers at Shillong, Manipur, Kohima, Dibrugarh and Sadiya during the year 1908-09.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Preserved Provisions.

(149)—A London firm of provision manufacturers desires to appoint agents in Calcutta, Bombay, Madras, Karachi and Aden and invites applications from suitable firms.

Kapoc.

(186)—A firm in Naples desires to be placed in communication with shippers of kapoc.

Paraffine.

(187)—An Italian firm requires the addresses of shippers of paraffine.

Grain Elevators.

(188)—The Director-General of Commercial Intelligence will be glad to receive from constructors of grain elevators information as to the probable cost of elevators and bins of various capacities for the storage and delivery of wheat. (*British and American papers please copy.*)

Sugar Bags and Hessians.

(189)—A Smyrna firm, furnishing references, desires to be placed in communication with firms exporting sugar bags and hessians.

Indian Yarns.

(190)—A firm doing business in Smyrna and furnishing references, requires the addresses of exporters of Indian yarns.

Cinchona Bark.

(191)—A London firm desires to be furnished with the addresses of exporters of cinchona bark.

Waste Products.

(192)—An English firm, which produces large quantities of waste, such as cotton waste, wool waste, hair, etc., for spinning purposes, requires the addresses of Indian importers.

Cotton Seed.

(193)—A firm in London desires to be placed in communication with exporters of cotton seed.

Miscellaneous Goods.

(194)—A London firm exporting sewing machines, cutlery, enamelled ware, musical instruments, buttons, military ornaments, the component parts of umbrellas, etc., desires to be placed in communication with dealers in this country.

Wool and Cotton Goods.

(195)—A firm in London requires the addresses of importers of woollen and cotton goods generally.

Leather Goods.

(196)—A London firm desires to be placed in touch with importers of leather goods.

Soap and Matches.

(197)—A firm in London wishes to be placed in communication with importers of soap and matches.

Cotton for Japan.

(198)—A Bombay firm desires to be furnished with the addresses of cotton importers in Japan.

Engineering Patent.

(199)—An English firm requires the addresses of marine engineers who may be in a position to handle a patent appliance for which protection is now being sought in India.

Cable Facilities.

(200) A company in Germany, which arranges for cabling to Europe and distributing multiple telegrams, market reports, etc., from abroad, desires to correspond with firms in India with a view to undertaking for them the functions stated.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Olive Street, where they will be displayed in the Ante-Room till Wednesday, 29th January, 1908:—

Parliamentary Publications.

Local Taxation Returns, Scotland, for 1905-06. "Options" and "Futures" Legislation respecting—Report by His Majesty's Ambassador to the United States of America.

Foreign and Colonial Publications.

Brazil—Annual Accounts of Trade, 1906. Canada—Weekly Trade Report, 16th and 23rd December, 1907; Monthly Trade Report, September, 1907. France—Rapport Au Ministre Des Finances—Administration Des Monnaies Et Medailles, 1907; Chabrieres, Morel and Company's Review of the Silk Market in 1907. Germany—Monthly Accounts of Trade, November, 1907. Mexico—Monthly Accounts of Trade, August, 1907. Boletín de Estadística Fiscal, 2nd half of 1905-06.

Indian Publications.

Agricultural Experiment Stations—Report for 1906-07:—(1) Burdwan; (2) Sripur; (3) Dumraon; and (4) Cuttack.

Diplomatic and Consular Report.

Bulgaria—Trade of Bulgaria for the year 1906.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, JANUARY 23, 1908.

GRAIN ELEVATOR SYSTEM AND RAILWAY TRAFFIC.

ONE of the prime advantages of the elevator system as applied to the wheat trade in the United States and Canada is that it secures the harvested grain against damage by climatic accident. In all countries it is a matter of difficulty and often one of impossibility to rail the whole outturn to ports of shipment and the consuming markets in the brief period within which it becomes available. In some countries this inconvenience is little felt for the reason that the whole crop, though garnered at one time, need not be moved at once. In others the private facilities for protection of produce from climatic influences are inadequate, and the harvest is taken at a season when the risk of damage by weather is becoming imminent. Consequently the holder of produce is constrained to send it forward at once, even at a sacrifice in price and in freight charges. If the railways are unable to carry his produce he considers himself aggrieved; but there

is a limit to the extent to which expenditure on railway communications and rolling stock, to meet a temporary rush of traffic, is reasonable or profitable either to the railways themselves or to the community as a whole. Railway facilities adequate to the movement of the whole commercial crop at or about the time of harvest would be altogether out of proportion to the requirements to be met during the rest of the year, and to the inward traffic during the harvest season. The capital expended on them would be used only in part, and it would be necessary to enhance the freight rates to make good the loss of income arising from inactivity. It might seem possible to restrict the enhancement to those descriptions of produce for the good of which the extra expenditure was primarily incurred. There are several practical obstacles and objections to doing so. In the first place it is extremely difficult to say what are the descriptions of produce falling under this category. In the second place it is impossible to say whether and to what extent, the trade in other commodities benefits from the outset by that increase of transportation facilities which had been made primarily for the good of produce. In the third place, the subsequent growth of inward traffic would introduce a new complication, inasmuch as a time would certainly arrive when it became unfair to levy the entire additional charges on produce. In the fourth place, these additional charges, if so levied, would be not only unfair, but so heavy as to injure the trade. In the fifth place, they would not secure the railway against loss, seeing that, in the event of a failure of crops, little produce might be moved. In the sixth place, it is an axiom in railway finance that it is impossible to say what is a fair and profitable rate for carriage of any single commodity. The reflex action of one trade upon another is palpable and yet so obscure that the only practical rule is to levy on each such charges as it can bear, regard being had to the solvency of the railway as a whole. Some interesting facts bearing on this question were given in an article on *Freights and Market Values* in our issue of 5th December, page 538.

If then there is a limit to the extent to which facilities can reasonably be afforded for the actual transport of produce at one season, it follows that unless such produce can be safely held till a later season there is a limit to the profitable production of it. The first condition of such safety is protection from weather.

In several important agricultural tracts the harvest season is followed by inclement weather. Some of

the wheat regions of North America are conspicuously subject to this condition, inasmuch as the winter is severe. The harvest in the North-West is taken about the end of August. Very large quantities of the grain are necessarily transported by water, and, as the great lakes become impassable about the 5th of December, there is intense pressure on railway transport in order to get produce down to the steamers before the last sailings. After 20th October the elevator companies buy only at reduced rates.

Those farmers whose land is beside a railway or who have abundant draught cattle have no difficulty in getting their produce away. But those who are more remote or less well equipped cannot do this. For between the harvesting and the onset of the frosts in November it is necessary that the land should be ploughed for the next crop. Moreover, the roads in many parts are so bad that haulage is very difficult until the frosts harden the surface. Consequently, large quantities of wheat are carried over the winter, and if no elevators existed it would be necessary to rely on storage methods costing much more than the 3½ cents per bushel, which is charged by the elevator companies. This would inevitably give rise to complaints about the inadequacy of transport. If, on the other hand, the elevators existed only in a material sense, such wheat as might be stored in them would be shut out of the markets for some months and it might happen that a fall in prices in the meantime occasioned heavy loss. To provide against this, the issue of negotiable certificates of storage is made an integral part of the elevator system. The wheat is commonly bought from the farmer by a middleman at a price subject to the condition that it must be certified to be of a certain grade. The various grades are defined by assessors under the Railroad and Warehouse Commission, which also appoints the inspectors who assign to one or other grade any wheat in transit for an elevator. The wheat is commonly inspected and "graded" while in wagons and without knowledge as to its original source. It is then railed to the elevator and is shot up irrespective of ownership (though in practice the owner is usually the elevator company) in a bin reserved for wheat of the grade to which it has been assigned. A receipt for a stated quantity of wheat of a specified grade is issued to the owner; and such receipts, being negotiable, may be dealt in as if they were in themselves merchandise. No receipts are issued otherwise than in respect of wheat actually received.

There is therefore on the market only a quantity of paper wheat corresponding with the quantity of actual wheat in existence. But the buying and selling of such certificates are not delayed till the arrival of the actual documents, nor are they confined to the persons who ultimately or at any time hold these documents. Enormous speculative transactions are carried out and settled by the payment of differences, while the total transactions in paper wheat are out of all proportion to the quantity of real wheat available for delivery. It has been stated in evidence before the United States Industrial Commission that the "bucket shops" of Chicago trade in some 30,000,000 bushels per diem.

The holder of a receipt may either sell and deliver it at once, or he may hold it till the market attains a level that satisfies or frightens him. In the end he usually sells his receipts, not to persons who use or ship or ever look at wheat, but to others who have made speculative contracts to deliver wheat to such persons. Ultimately the receipts drift into the hands of the persons who really want wheat. These persons present the receipts to the elevator companies and receive so much wheat of the grades specified; but it is no part of the scheme that this delivery should be made from the wheat in respect of which the receipt was issued.

This system, as will be seen, enables the holder of receipts to sell his title to wheat when he pleases irrespective of the presence of the wheat itself and without the use of samples. It renders much less awkward the predicament created by the presentation of the whole crop for transportation within a short period and by the early superintention of weather conditions dangerous to such produce as has not been removed or protected.

Now, it is interesting to note that all the characteristics of the natural situation here ascribed to the wheat traffic in North America are present in India. The simultaneous presentation of the entire commercial crop is common to almost all countries and crops. The inadequacy of any ordinary railway facilities for the immediate transportation of the crop so presented has been increasingly evident throughout the world in recent years. And while the winter in North America is singularly severe, the onset of the rains in India is a phenomenon not less singular in its intensity. If the harvesting of Indian wheat and seeds could be carried out under conditions that assured immunity from damage by rain, dew and weevil, the clamour for railway facilities would be

less loud, and holders of wheat could confidently retain their produce till the worst of the rains were past, and railways would be enabled to earn a more constant income on such rolling stock and other equipment as they supply. It becomes a question, therefore, whether it would not be more profitable to undertake expenditure on the erection of elevators than to add to other descriptions of railway equipment. It must be borne in mind that the initiative in the adoption of elevators in Canada came from the Canadian Pacific Railway. Certainly if a satisfactory elevator system in its entirety were established in India (possibly with the additional advantage of abolishing the loss from weevil as suggested in earlier issues of this Journal*), merchants could sell their receipts when the market met their views and send their produce forward into consumption at rates covering the loss of interest.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE Board of Trade Journal, published on the 2nd January, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Commerce Act, 1905. Trade description of Patent Medicines.—Proposed.

UNITED KINGDOM-MONTENEGRO.—Further Prolongation of Commercial Arrangement.

AUSTRALIAN COMMONWEALTH.—Valuation of Goods for Duty. Commerce Act. Inspection of Butter and Meat for Export. Spirit Act. Age provisions not applicable to certain Spirits.

DOMINION OF NEW ZEALAND.—Form of Certificate for Preference under "Tariff Act, 1907."

TURKEY.—Suspension of Import Duty on Corn.

ARGENTINE REPUBLIC.—Alcohol Surcharge on Fruits Preserved in Alcohol.

CHINA.—Leased Territory of Kwantung.—Duties on Goods Imported or Exported by Junk.

We give the following particulars of changes interesting to Indian Trade:—

TURKEY.

Import Duty on Corn—Suspension of.

The Board of Trade are in receipt, through the Foreign Office, of telegraphic information from His Majesty's Ambassador at Constantinople to the effect that the import duties on corn for the Salonica, Monastir and Kossovo Vilayets have been suspended for a period of two months at most.

**Indian Trade Journal*, Vol. IV, pages 96, 151, 206, 382, 611; Vol. VI, page 428.

INDIAN COTTON SEED : Its Industrial Possibilities.

THE series of articles on this subject which recently appeared in the *Indian Trade Journal* have been revised, brought up to date and issued by the Department in pamphlet form under the title at the head of this notice. Copies are obtainable from the Superintendent, Government Printing, India, at Hastings Street, Calcutta, at a cost of As. 12. The first chapter deals with the supply of cotton seed available in India, the exports, and the rise in prices arising largely from foreign demand. The second chapter goes fully into the constitution and analysis of Indian cotton seed of various kinds and compares it in respect of contents of oil, husk, meal, and lint with American and Egyptian seed. It discusses various processes of manufacture including the use of chemical solvents; and the third chapter suggests a means of preventing heating in the cake. The fourth chapter shows the extent of the remarkable rise in the price of cotton seed oil which has resulted in recent years from the wide recognition of its alimentary value. The constitution of the oil is explained with special reference to the stearines available for the manufacture of a substitute for the ghi or clarified butter so largely consumed in India. The melting points and other data about the various bodies are brought into comparison with records of temperature and other natural conditions encountered in this country. It is also shown that if all the potential cotton seed oil in India were converted into such a ghi-substitute it would furnish only about 4½ oz. per annum per head of the population. The reality of the demand for such a ghi-substitute as would satisfy Hindu prejudice is set forth in the fifth chapter with estimates of consumption, records of prices, etc., and a general account is given of the processes for the manufacture of such preparations. In the sixth chapter the dairy aspect of the industry is dealt with and some attempt is made to compute the quantity of milk required for the blending and flavouring of the cotton stearine, and the number of milch cattle that would have to be maintained. The utilization of the casein of the milk is also explained; and in the succeeding chapter an estimate is made of the maximum consumption by the dairy cattle of the cotton cake produced on the establishment. Incidentally all available data as to the feeding value of such cake are brought together; and it is shown that the practice common in India of feeding whole cotton seed to cattle is extremely wasteful. In the last chapter it is made clear that practically as well as theoretically cotton cake as a manure has great value and is as much superior to the whole seed for fertilizing purposes as for cattle feed. In this connection, full particulars are given of comparative tests made in the application of cake and seed to the cultivation of cotton in America. The pamphlet comprises a list of technical books on the subjects discussed, in order that persons disposed to prosecute the industry may go more fully into detail; and a complete subject-index is added to

facilitate reference to the text. A diagram is given as a frontispiece showing the cycle of product involved in the industry suggested.

It was desired to include in the pamphlet an estimate of the gross profit to be derived from a given expenditure on oilseeds of various Indian descriptions and their conversion into oil and cake without entering upon the further question of the manufacture of butter substitutes. But no reliable data of Indian quotations regarding certain of the oils and cakes involved are obtainable. It has, therefore, been necessary to be content with an approximation arrived at by assuming that the ratio borne by the prices of the quoted to the unquoted articles in India would be the same as is found to prevail in England. It is in fact probable that such a ratio would be found in both countries. We give the calculation below using the actual percentages recorded in the literature of the various subjects, adopting real Indian prices at a uniform date where such are available, and employing where necessary an estimated price founded on the assumption stated above. All the prices quoted are taken at a date when cotton seed was at Rs. 62 per ton. In the first column is shown the various quantity of the several oilseeds purchasable at that date for the sum of Rs. 62. The next columns give the percentages of oil and of cake yielded by seed of the specified description. The second pair of columns gives in pounds the yield of oil and cake obtainable from the stated quantity of such seed. The third pair of columns gives the value of the oil and cake respectively, and the fourth group shows, firstly, the total value of the products, secondly, the gross profit after deducting the original expenditure of Rs. 62, and, thirdly, the centesimal ratios of the gross profit on the other seeds to that on cotton seed:—

Purchased with Rs. 62.	Contain percent- ages.		Yield in pounds.		Value of products. Rs.		Total value of pro- ducts.	Net value of pro- ducts.	Rela- tion of Net values.
	Oil.	Cake.	Oil.	Cake.	Oil.	Cake.			
Cotton seed 1 ton	12.5	67.5	280	1,060	72.95	56	12.95	68.95	100
Linseed .34 "	30	70	228	534	62.44	28	88.44	26.44	39.49
Sesamum .25 "	47	53	283	297	60.94	12	72.94	10.94	16.34
Rapeseed .32 "	33	67	236	491	54.68	17.50	72.27	10.27	15.34

It will be seen that the calculation is altogether in favour of cotton seed; but it was not considered well to include in the pamphlet a calculation that treposes on an assumption possibly open to dispute.

—Sanction has been accorded to the construction of an extension, on the metre gauge, of the Dibru-Sadiya Railway from Talup station to Saikhowa Ghat on the south bank of the Brahmaputra river, a distance of 8.52 miles.

MATCH INDUSTRY IN INDIA.

Factories at Ellichpur and Kota.

THE article below, from the pen of Mr. C. E. Low, I.C.S., Nagpore, who is in charge of the Industrial Survey of the Central Provinces, supplements the particulars we gave in our last issue on the match industry of India:—

An interesting development of the modern industrial spirit among Indians is to be found in the Berar Match Manufacturing Company, Ltd., Ellichpur. The capital is Rs. 1,05,000 and was subscribed by local capitalists, mostly pleaders and owners of gins; a further some of Rs. 65,000 is to be raised on debentures. The manufactory is not yet making a profit, but the Company seem to have got over their original difficulties and should now do well. The materials used are salai wood (*Boswellia serrata*) for match splints and outside boxes, and maharuk (*Ailanthus excelsus*?) for inside boxes. The salai and waste timber are used as fuel. The salai is obtained from the Government forests of the Melghat on concession rates. Out of ½ths of a ton (a cart load) of salai, about 160 lbs. of good splints are prepared, and about 80 lbs. of second quality splints.

The plant of the company can prepare 80,000 boxes in a day of ten hours; but their frame-filling machinery is inadequate and can do only 43,000 a day. They are not yet working up even to this latter figure, but hope to do so almost immediately. They have raised their output to four boxes of 50 gross each, and hope to get it up to 6 boxes. When they do that, they will buy four more frame fillers costing Rs. 4,000 in all. They started with employes who had previous experience in some cases in match making factories, but no technical training whatever. They have replaced them now by locally trained men. A good deal of loss was incurred at first owing to inefficient workmen. Their machinery is worked by a 19 h.p. boiler and a 14 h.p. engine, looked after by a third-class certificated engineer, who does not know English. The chemist is a man from Baroda State but he has no technical training, though he seems intelligent. A great difficulty is that the ignition composition is affected by the moisture in the atmosphere. What will suit the Deccan is useless in Bombay.

The directors say that they can undersell at one within 100 miles of Ellichpur. Akot (a town about 30 miles off) and its surroundings, for instance, take 100 boxes of 50 gross in the year. The Japanese matches of similar quality to the Ellichpur ones sell at 15 pies a dozen to the consumer; but the Ellichpur ones sell at 12 pies. The sulphur friction matches are of good quality now: they were not at first. A box of 50 gross is sold to the Agents to the Company at Rs. 30. The railway freight on such a box is Rs. 8-8 from the sea to Amraoti. This gives locally-made matches an enormous advantage. The manager told me that

their profit is equal to this freight. The maharuk wood is obtained locally from the fields and gardens of cultivators. The supply is not unlimited. Salai wood is irregular and not very suitable. The directors say they can buy splints from Germany cheaper than they can make them locally. German wood (aspen or poplar) is much more suitable: All the machinery is German.

The directors think the ideal arrangements would be (1) a central splint factory in the Hill tracts of the Punjab, where poplars are plentiful; (2) dipping and box-making in local factories supplying a radius of 100 miles each. Wood is dearer to carry than splints, because so much is wasted in cutting splints and veneers. Boxes are dear to carry because they are so bulky. Matches are subjected to very heavy freights, because they are dangerous goods.

Another match factory at Kota in the Bilapur District is also now succeeding very well; it is a private venture of a local railway construction.

There are interesting lessons to be learned from the above details in regard to the need for technical education, and the supply of commercial information to the public by Government. The troublesome initial steps in training a staff and the loss from mistakes could have been saved, had a technical college and bureau for commercial information been available when the factory has started. A special need is for men trained in commercial chemistry, and for foremen mechanics capable of running a small engine or keeping machinery in good order. The Central Provinces Administration are considering the possibility of supplying this last desideratum.

CROP FORECAST.

GROUNDNUT.

General Memorandum on the GROUNDNUT crop of the season 1907-08 in Madras and Bombay

The Presidencies of Madras and Bombay to which this memorandum relates usually contain about 81 per cent and 19 per cent, respectively, of the entire reported area under groundnut in British India, to which however must be added the areas returned by the Bombay Native States. The seasonal conditions in the two Presidencies have been so different that the separate reports as summarised below must be read. The total area now returned is 668,600 acres as against 622,000 acres last year, and this shows a net expansion of 46,600 acres or 7.5 per cent. But the increase in area in Madras has not been on a par with its decrease in area, and is little more than the increase in the Bombay Native States alone, while the serious contraction of 15,200 tons in British Bombay is the total outturn at 259,100 tons as compared with 273,700 tons last

year. The falling off is therefore estimated at 14,600 tons or 5.3 per cent of last year's figures.

The Madras report describes the situation at the end of December, and relates only to *raiyatwari* villages (about two-thirds of the province). It shows an expansion of nearly 12 per cent as compared with the areas at the end of 1906; and the total of 572,000 acres exceeds the averages for the preceding five-years and ten-years periods by 38 and 89 per cent respectively. The probable yield of nuts in shell is estimated to be 200,000 tons as compared with 189,000 tons for last year—this representing an increase of 5.8 per cent.

The estimates received from Bombay are up to 15th December. The British districts report a total area of 76,600 acres as compared with 91,200 acres in the preceding year—a decrease of 16 per cent, attributed to the deficiency of early sowing rains. In the north the crop suffered through absence of late rains and deficiency of water in wells and canals. In the south the irrigated crop has done fairly well, but the dry crop has suffered through deficiency of moisture and is expected to yield only a poor outturn. Damage by disease has also been reported from a few places. The exotic variety which ripens early is reported to have fared better in the present season of scanty late rainfall. The Native States report 20,000 acres as against 19,800 acres last year—an increase of one per cent. The total yield is estimated to be 59,100 tons (48,200 in British districts and 10,900 in Native States) as compared with 84,700 tons (63,400 in British districts and 21,300 in Native States)—this representing a decrease of 30 per cent.

The quantities exported during nine months of this year and the whole of the five preceding years have been (in cwt.)—

Year	From Madras	From Bombay	From other Provinces	Total
1902-03	982,680	52,766	213	1,035,659
1903-04	1,827,243	91,439	3,300	1,921,982
1904-05	1,567,430	42,408	64,583	1,674,421
1905-06	1,117,037	149,559	107,618	1,374,214
1906-07	1,350,096	130,856	244,787	1,725,239
1907-08 (nine months)	891,125	72,587	77,575	1,041,287

FREDERICK NOEL-PATON,
Director-General of Commercial Intelligence.

Estimate of the Groundnut crop of the season 1907-08

PROVINCE	Area (in acres)					
	Of current year's crop (1907-08)	Of previous year's crop (1906-07)	Average of preceding		Percentage by which column 2 exceeds (+), or is less than (—), area in	
					Column 3	Column 4
			Five years	Ten years	5	6
1	2	3	4			
Madras	572,000	511,000	413,000	302,000	+11.9	+38.5
Bombay (a)	96,600	111,000	88,700	88,900	—12.9	+8.9
TOTAL	668,600	622,000	501,700	390,900	+7.5	+33.3

PROVINCE	Yield (in tons) of nuts in shell					
	Estimated yield of current year, i.e., of area in column 2	Yield of previous year, i.e., of area in column 3	Average of preceding		Percentage by which column 7 exceeds (+), or is less than (—), yield in	
					Column 8	Column 9
			Five years	Ten years	10	11
1	7	8	9			
Madras	200,000	189,000	(b) 163,000	(c)	+5.8	+22.7
Bombay (a)	59,100	84,700	63,900	54,800	—30.2	—7.5
TOTAL	259,100	273,700	226,900	...	—5.3	+14.2

(a) Including Native States

(b) Two years

(c) Not available

—During the period up to December 1st of last year France exported 134,151,000 fr. (£5,366,040) worth of automobiles, whereas during the same period of 1906 the figures were 126,450,000 fr. (£5,058,040). The imports for 1907 amounted to 7,637,000 fr. (£305,480), as against 7,664,000 fr. (£306,560) last year. The bicycle trade statistics are less reassuring. France exported last year in the same period only 4,999,000 fr. (£199,960) worth, as against 5,633,000 fr. (£225,320) in 1906 and 5,776,000 fr. (£231,104) in 1905. The case for motor-cycles is even less satisfactory, the figures for exports this year being 703,000 fr. (£28,120), as compared with 1,304,000 fr. (£52,160) for 1906. There is a marked increase in the importation of motor-cycles, last year's figures, 35,000 fr. (£1,400), being twice those of the previous year's, and nearly three times those of 1905.

—The British Vice-Consul at Sofia (Mr. G. O'B. Toulmin) reports that the silk industry of Bulgaria received a severe set-back in 1906, owing to the emigration of a large number of Greek hands employed in the only reeling factory in the Principality, and consequently the exportation of dry cocoons to Italy, France and Turkey, and of raw silk, almost all of which find its way to the London market, was less than in 1905. The present Government, however, have turned their serious attention to this industry, and have passed a special law for its encouragement. Concessions for monopoly of given areas are granted to intending builders of filatures free sites are offered, all rates and taxes are remitted and a 2 fr. bonus is to be paid by the Government for every 2 lb. of raw silk exported for a period of five years from the date of the first consignment.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 11TH JANUARY 1908.

Rajputana.—The rainfall in cents on the 10th and 11th January 1908 was as follows:—Bikaner 51, Jaisalmer 37, Udaipur 23, Dungarpur 18, Banswara 34, Partabgarh 37, Bundi 42, Tonk 67, Shahpura 25, Kotah 37, Jhalawar 50, Jaipur 79, Kishangarh 60, Alwar 105, Karauli 80, Bharatpur 129, and Dholpur 105; also between 50 and 75 in Ajmer and Beawar and in Jodhpur. In many States the rainfall in districts was heavier; there were also useful showers in Sirohi. This rain is likely to be of the greatest benefit to standing crops. Damage from frost to cotton is reported in Kishangarh and Kotah; and to grain in a few villages of Banswara. The condition of cattle is generally good. The fodder and water-supply are sufficient. Food stocks supplemented by imports are adequate. Prices show a rise of 2½ seers in Partabgarh; 1½ seers in Jaisalmer; and 1 seer in Banswara and Shahpura—but these quotations were probably taken before the rainfall had affected the market and it is hoped that next week prices may be easier.

Central India.—Rain fell in all Agencies. The falls were:—from 100 cents to 130 cents in parts of Gwalior; from 100 cents to 140 cents in parts of Bundelkhand; an average of 50 cents in Malwa; and from 10 to 34 cents in parts of Bhopawar; there was slight rain all over Baghelkhand. Spring sowings continue in irrigable land in Gwalior where irrigation of germinated crops is in progress. Harvesting of autumn crops is in progress in Bhopawar; and is finished in Baghelkhand. Prospects of spring crops are indifferent in Baghelkhand; and fair to good elsewhere. Agricultural stock is fair to good, except in parts of Gwalior and Bhopawar. Fodder is scarce in parts of a few parganas of Gwalior; indifferent in Baghelkhand; and sufficient elsewhere. Prices of food grains continue high. Weeding and watering of opium are in progress in Gwalior, Malwa and Bhopal. The numbers on relief are:—in Rewa on works 55,236; on gratuitous relief 4,014; total 59,250; in Nagod on works 2,238; on gratuitous relief 389; total 2,627; in Jaso on works 628; on gratuitous relief 43; total 671. The recent rain has improved the prospects of the spring crops and the general position.

Central Provinces.—Rain fell during the week in all districts except Akola and Buldana but in Nimar and the districts of Berar it was confined to scattered falls in outlying tahsils. One inch of rain was received in Damoh, Mandla, Lakhnadon and Chhindwara; while in the remaining districts the rainfall did not exceed 36 cents, the heaviest falls being in Narsinghpur, Saugor, Jubbulpore and Drug. Threshing and winnowing of autumn crops were in full swing and cotton picking continues. Spring crops are generally in good condition and fair in Damoh, Chhindwara, Bhandara, Akola and Yeotmal. The recent showers have greatly improved prospects in several districts. In Jubbulpore the spring crop

is expected to give a full outturn. Field embankments are being raised in parts of Bilaspur and preparation of land for the ensuing season has been started in Buldana and Yeotmal. Fodder and water are sufficient, but fodder is dear in Saugor and is getting scarce in the Darwha and Yeotmal taluks. No insufficiency of works for labourers is reported anywhere except from the Chhindwara jagirs. Prices of staple food grains remained stationary in all districts. The price of wheat remained unchanged nearly everywhere but rose in all districts of Chhattisgarh *juar* in Hoshangabad; wheat in Bhandara and Bilaspur; and wheat, gram and *juar* in Akola became dearer by one seer; elsewhere prices fluctuated slightly exhibiting a tendency to rise.

Feudatory States.—Half an inch of rain fell at Kawardha and parts of Khairagarh; while Rajnandgaon, Sakti and Udaipur received light showers. Threshing and winnowing of autumn crops, pressing of sugarcane and picking of cotton were in progress. The condition of spring crops is generally good but prospects are unfavourable in Sirguja. Fodder and water are sufficient. The price of wheat, rice and *kodon* in Khairagarh; and of rice in Sakti rose by one seer; wheat in Sakti, gram in Sirguja and rice in Korea became dearer by 2 seers; wheat rose by 4 seers in Udaipur.

The weekly report on the famine and scarcity is as follows:—Distress is nowhere acute but is increasing in Damoh. Relief is at present confined to the Damoh and Nimar districts, relief of weavers has commenced in the latter district. Village relief is being started in Betul. No general wandering is reported but slight deterioration has been noticed amongst workers in Damoh. Agricultural operations are practically over and an increased demand for employment has arisen. Village works are being opened where necessary. The condition of the people is good and the measures taken sufficient. The public health is satisfactory. Numbers on relief works nil; on gratuitous relief including weavers 1,547; total 1,547.

Bombay.—Slight rain fell during the week in parts of Sind, Gujrat, and Konkan, West Khandesh, Nasik, Poona, Kathiawar, Baroda, Palanpur, Cutch, Mahi Kantha and Rewa Kantha; the rain was beneficial to crops in parts of Sind. Standing spring crops are withering for want of moisture in parts of Ahmedabad, the Panch Mahals, Broach, Khandesh, Nasik, Ahmednagar, Poona, Sholapur, Bijapur and Baroda; elsewhere crops are in good condition except for slight damage by insects in parts of Broach; by rain and frost in parts of Palanpur; and by rats in parts of Baroda. Threshing of autumn crops is in progress in parts of Sind, Kaira, the Konkan, Khandesh, Nasik, Ahmednagar, Kathiawar, Palanpur, Baroda and Rewa Kantha. Cotton picking is progressing in parts of Thar and Parkar, Broach, Surat, West Khandesh, Nasik, Bijapur, Kathiawar and Rewa Kantha. The supply of fodder is adequate except in parts of Ahmedabad, Kaira, East Khandesh, Sholapur, and Baroda. Agricultural stock is generally in good

condition and sufficient except in parts of Ahmednagar, Poona, Sholapur, Satara and Cutch. The supply of drinking water is sufficient except in parts of East Khandesh and Sholapur. Water for irrigation is insufficient in parts of Surat, the Deccan and Kathiawar. The quantity of food grains purchasable per rupee is in Sind 30 to 52 per cent.; in Gujrat 25 to 68 per cent.; in the Konkan 21 to 32 per cent.; in the Deccan 32 to 51 per cent.; and in the Karnatak 25 to 85 per cent. less than the normal. Prices are rising. Stocks of grain are generally adequate. The demand for labour is sufficient and wages are normal. Emigration from the Panch Mahals, Ahmednagar, Sholapur and Bijapur continues. The cultivating and labouring classes are in fair condition. Six test works are in progress in the Panch Mahals with 843 persons on relief on the last day of the week ending the 11th instant.

Hyderabad.—No rain. The weather is partially cloudy. The heavy dews have been beneficial to the spring crops which are generally in fair condition. The price of *juar* has slightly risen in parts owing to increased exports. The increase in exports is due to high prices in parts of British India owing to the scarcity of grain. Prices:—wheat 5½; coarse rice 6½; and *juar* 11½ seers per rupee. *Juar* is selling in Hyderabad City at 13 seers per rupee; the highest price in the districts is 9 seers in five talukas.

Mysore.—Prices of food grains are generally steady. Standing crops are in good condition and crops are being harvested. Prospects of the season are good, but rain is needed in parts of Mysore and Chitaldrug. Cattle are healthy. Water and fodder are available.

Coorg.—Picking of coffee and reaping of rice continue. Prices of food grains are stationary. The public health is fair. Water and fodder for cattle are sufficient. Agricultural prospects are good.

Madras.—The rainfall was above the average in Godavari, Kistna, Guntur, South Arcot, Coimbatore and the Nilgiris; up to the average in the Vizagapatam littoral, Tanjore, Madura and Tinnevely; and nil elsewhere. Irrigation supplies are insufficient in parts of all districts except Guntur, Cuddapah, Chingleput, Coimbatore, Tinnevely, Malabar, South Canara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress in parts. Standing crops are generally fair but some in parts of Bellary, Cuddapah, Tanjore, and Madura are withering; and some in parts of Coimbatore require more rain. Harvests continue with outturn poor to normal. Pasture is generally sufficient except in parts of the Circars, the Deccan and Salem. Fodder is scanty in parts of Ganjam, Kistna, Nellore, Salem, and Tanjore. The condition of cattle is generally good. The price of rice is stationary in thirteen districts; has fallen in three; and has risen in seven. The prices of millets have fluctuated as follows:—*Ragi* is stationary in eight districts; has fallen in six; and has risen in seven. *Cholam* is stationary in one district; has fallen in six; and has risen in seven. *Cumbu* is stationary in three districts; has

fallen in five; and has risen in seven. The public health is generally good. Prospects are generally fair but more rain is required in some districts. The condition of the labouring classes is good and employment is procurable. Prices are high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

EASTERN BENGAL AND ASSAM.

Crop Prospects. (By Telegram.)

Shillong, Jan. 21st.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 20th instant:—

Slight rain has fallen in all districts, except the Lushai Hills, Darang, Nowgong, Sibsagar, Lakhimpur and the Garo Hills.

The standing crops have been improved by the recent rains, and prospects are now fair to good.

The harvesting of winter rice is approaching completion.

The pruning and hoeing of tea are in progress. Cattle disease is reported from five districts.

Prices of common rice have fallen in five and risen in six districts.

No scarcity is apprehended at present.

THE FAMINE.

Improved Prospects.

The following is a copy of a telegram, dated 20th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

The general rain which fell between the 10th and 12th throughout Northern India has much improved the prospects of the standing crops and has enabled further sowings to be undertaken. It has also checked the upward tendency of prices, which have fallen, though very slightly, in several provinces.

Notwithstanding the improvement in the future outlook the existing distress is becoming more acute. The immediate effect indeed of the rain in the United Provinces has been to lessen the demand for labour in the fields owing to the cessation of irrigation, and there has been a further large increase in the number on relief which are now: works, 137,379, gratuitous relief, 104,456.

The area in which relief measures are required continues to extend. A few wanderers have been noticed, especially in the Faizabad Division, and there is some increase in petty crime.

In the Native States of Baghelkhand, the rain was slight and the prospect of spring crops are indifferent.

The demand for State relief is increasing, the numbers being now: works, 58,102; gratuitous relief, 4,446.

In Orissa there are 446 people on test works and the numbers in receipt of gratuitous relief have risen rapidly, being now 6,747.

In the Central Provinces there was good rain in the tracts which are most severely affected, but the distress, though not yet acute, is increasing; and there are now 1,547 persons in receipt of gratuitous relief. Agricultural operations are practically over, and there is an increased demand for employment. Village works are being opened where necessary.

In the Panch Mahals district of Bombay the number on test works has fallen to 843.

The total number of persons in receipt of State relief in the whole of India is now 313,996.

PRICES OF COMMODITIES.

The following are the index-numbers of the prices of forty-five commodities, compiled by Mr. A. Sauerbeck, for November, 1907, the average of the eleven years 1867-1877 being 100:—

Average.	Monthly Numbers.
1878-1887 = 79	February, 1895 = 60.0
1887-1896 = 68	July, 1896 = 59.2
1890-1899 = 63	July, 1900 = 76.2
1897-1906 = 70	December, 1901 = 68.4
	November, 1906 = 78.6
1883 = 82	December, 1906 = 79.7
1896 = 61	March, 1907 = 80.0
1900 = 75	May, 1907 = 82.0
1901 = 70	June, 1907 = 82.0
1902 = 69	July, 1907 = 81.1
1903 = 69	August, 1907 = 79.4
1904 = 70	September, 1907 = 79.1
1905 = 72	October, 1907 = 78.8
1906 = 77	November, 1907 = 76.7

The tendency has been lower for most articles; even articles of food—wheat, maize and bacon—have been easier. Among minerals we have to record a decline of 2s. to 3s. per ton for iron; copper fell from £66 to £62½ per ton, tin from £146 to £135, and lead from £18½ to £16½ per ton. House coal in London was also cheaper, while the export average for coal is still on a high level. Cotton experienced considerable fluctuations, according to the reports about the crop; flax and silk were cheaper, and jute and wool ruled distinctly lower. In the group of "sundry materials" hides were depressed, and palm oil and linseed oil declined.

Silver has again been cheaper; the prices and index-numbers compare thus (60.84d. per oz. being the parity of 1 gold to 15½ silver=100):—

Average.	Index.
Average, 1897-1906 = 38½d.	= 63.8
Average, 1897-1906 = 27½d.	= 41.6
Average, 1893 = 35½d.	= 58.6
Average, 1902 = 24½d.	= 39.6
Lowest, November, 1902 = 21½d.	= 35.6
End December, 1904 = 28½d.	= 46.6
End March, 1905 = 25½d.	= 42.4
End December, 1906 = 32½d.	= 53.1
End October, 1907 = 27½d.	= 45.3
End November, 1907 = 26½d.	= 43.8

THE COTTON FACTORIES OF AHMEDABAD.

A correspondent writes as follows to the *Economist*:—

The Indian cotton industry is almost exclusively located in Western India. In 1905-06 there were 203 Indian cotton mills with a capital of £11,700,000, most of them in Bombay city. Ahmedabad comes next with 35, and new factories are constantly springing up. Ahmedabad is a town of over 200,000 inhabitants, situated in Northern Gujarat, at a distance of 310 miles from Bombay. It is now the centre of a flourishing cotton industry. Some mill-owners consider they have had a bad year if their profits are only 25 per cent., and one at least owns to an income of £40,000. There are no English mill-owners in Ahmedabad—the Hindus have practically a monopoly. However, the mill about to be described is owned by Parsees, who are, of course, a much smaller fraction of the population than in Bombay.

Like most of its competitors, it stands a little way from the city. It has only been open for two months, and is not yet completed but 240 looms and 300 hands are busily at work. It is intended to have 450 looms. Everything has been done to achieve success. In contrast with many Indian undertakings, where cheapness is more regarded than quality, no expense has been spared. The machinery is all of the best English make. The spinning department is supplied by Platt Bros., of Oldham; the weaving by Hooking, of Bury; and the engine-room by Hick, Hargreaves, Bolton. The buildings are well built, light, and airy. Ahmedabad is increasing by leaps and bounds, and the price of building material is rising in a corresponding degree. Bricks now cost about 14 rupees per thousand as against 8 rupees ten years ago, and the cost of building a mill is some 30 per cent. more than it was formerly. Most of the Ahmedabad mills burn wood, but this one uses coal exclusively, although the cost is heavy. The Bengal coal which is employed costs about 6 rupees at the pit's mouth, but by the time it reaches Ahmedabad it costs 18 rupees per ton. This coal comes by rail. It cannot be said that the Bombay, Baroda, and Central India Railway does much for the development of industries. Possessing a monopoly in land carriage, it seems determined to crush competition by sea. Sir F. Sely has given several facts to illustrate this contention, and one of these may be instanced. The port of Broach is about six miles further from Bombay than Ankleshwar, and yet the company charges for carrying coal from Bombay to Broach only Rs. 1-10 per maund, while the charge to Ankleshwar (the shorter distance) is Rs. 2-4. Of course, there is no object in shipping coal to Bombay via Broach because Bombay is also a port, but if coal could be conveyed chiefly from Broach to Ahmedabad it would be a great boon. The Kathiawar ports are also left undeveloped.

This mill spins the raw cotton into yarn, and weaves it into coarse cloth, which is used for dhoties (loin

cloths). Only the coarsest cloth is manufactured here, but drill and other superior kinds are made in both Ahmedabad and Bombay. The lowest cost is about 2 annas a yard. The market for this stuff is chiefly Indian, especially the Central Provinces and Berar, but an export trade is done with Penang and Singapore.

The workpeople appear to be healthy, and consumption is said to be rare. An ordinary workman gets about 6 annas a day; women and children, of course, less. Six annas is respectable wage in India, for a man can support a wife and family on three. A family with several members employed in a mill would be very comfortable. The Parsee manager remarked that the women are fairly intelligent, but added that "even when they are intelligent they are very lazy." Indeed, what Adam Smith called "sauntering" is the chief drawback to Indian labour. The Indian has no notion of working hard at a job and getting it done, greatly preferring to rest while he works. Whatever the nominal day may be there will always be a large percentage to deduct for going out into the yard and loitering there, for time spent in chattering and other dilatory devices. Those who are employed in superintending machinery get from 1 to 2 rupees a day. A common practice of the workman, when he has earned a little money, is to retire to his village and live a life of leisure till it is all spent, and his frugal habits make this period long. Consequently, there is always a scarcity of labour, and so while people in the districts are perishing from hunger employers in the towns are losing opportunities for want of workman.

It is, perhaps, worth while to consider whether this scarcity can be remedied, and whether the mill-owners themselves could not take measures which would have the effect of increasing the supply. There is one matter which, as yet, has not received sufficient attention from the Factory Commission. That is the drink question. Intemperance in alcohol is not a serious question in India generally. Public opinion is against it, and most Indians are remarkably abstemious, both in eating and drinking. But the mill population, careless, comparatively well paid, and having little self-respect, are just the people to fall victims to the temptations of drink. Now the Government policy is to put the sale of drink under proper control and at the same time to raise a revenue, and while reasonable people will not sympathise with a fanatical outcry against the authorities for profiting by the sale of liquor, few will deny that the consideration of profit is apt to come before the more important one of repressing excessive drinking. The sight of drunken men is, unfortunately, more common than it was ten years ago. The right of selling drink is sometimes, perhaps usually, sold to the highest bidder. The question of population is the guiding consideration—so many shops are allowed to such and such a population. But there are many other points that ought to be considered; and the mere fact that there are a few thousand people in a

certain locality ought not to be a reason for planting one or more drink shops among them. The mill-owners ought to be consulted; the substantial inhabitant and the licensing official should visit the district personally, and until there is shown to be a widespread desire a license ought not to be granted merely because a dealer offers a high price. As long as officials are commended for the amount they raise by excise so long will the evil continue. Again, the drinking place ought to be in full view of the public road, because many people would not drink if their neighbours were watching them, and, if possible, no shop should be allowed within a certain radius of a mill. Further, there should be a fixed time for paying wages, say, 6 o'clock on Saturday, and from that hour all shops should be closed till next morning. Such measures would greatly decrease the drinking habit. They would probably be welcomed by mill-owners, for nothing causes more irregularity than drunkenness.

To take precautions for the general welfare of the hands would be far better than raising their wages. At present they are much better paid than the class from which they spring, and have as much money as they are capable of spending wisely. When their status has been raised they will deserve and obtain higher wages. It would probably be a good thing to insist on each mill-owner supplying a school master, and to make it compulsory to give two hours' instruction before beginning work. The two hours should form eight hours six days' work—i.e., if the child's day was eight hours six should be for work and two for school, and 20 or 25 per cent. might be deducted from the wage. Housing is another important question which will receive full attention from the Commission.

But the most controversial of the subjects, and the one to which the inquiry owes its existence, is that of the hours of labour. Opinions vary very greatly, but among people not interested in mills there seems to be a pretty general agreement that the hours are much too long. At the mill in question the working day is from sunrise to sunset. This is an improvement on many establishments which have the electric light, and can work to any hour, and are also more difficult to supervise. But even here, in the hot weather, it would be possible to work for about 15 hours. Before the Commissioners at Ahmedabad some very strange evidence was given by the Collector. In his opinion eight and-a-half hours spent at home by mill-hands were enough, considering the class from which the people were taken. This would give about fifteen hours as a reasonable day's work, and he justified this by remarking that cultivators worked quite as long. He did not explain how a cultivator in December could find light to work from five in the morning till half-past eight at night; in fact, even in June daylight does not last as long. The analogy is, of course, worthless. An agricultural labourer is

* On the other hand, the Civil Surgeon considered that 13½ hours' actual work was enough, and many even of those connected with the industry were in favour of a 12 hours' day.

in the fresh air all day; he is frequently cultivating his own land, and he has no foreman. Such labourers usually sleep several hours at mid-day in the hot weather. The witness did not for a moment support a twelve hours' day, and did not think the health of factory operatives compared unfavourably with that of other labourers. In this last point opinion is almost unanimous against him. The City Magistrate remarked that the health of the operatives was declining and their general health becoming worse. As regards education, the Collector's views were not more enlightened. The class from which mill operatives came did not receive education, generally speaking, and why should mill-owners be forced to provide education? Why give education to children who were going to work all their lives in a mill?

It is possible to hold that a large extension of education to agricultural children is not at present desirable, because it tends to draw them from useful agricultural pursuits to less useful clerical employment; but children who have to work all their lives in a mill are the very ones who most need education. If the children are left ignorant and brutal, large, lawless classes will grow up in every city, and drinking and gambling will be their chief amusements. England has suffered enough by thinking that anything was good enough for children who were going to spend all their lives in a mill, and there is no reason why India should follow the example.

It is to be hoped that the Commission will make a definite settlement of the question. It has the confidence of the public, and in the comparative infancy of the industry it would be no difficult matter. The principle that what is beneficial to the hands is also beneficial to the masters has been learned in Lancashire, for when Lord Shaftesbury began his labours the state of the workers was pitiable, and the prosperity of the cotton industry has gone on advancing through a long series of Factory Acts. At present labour in India is alike ill-paid, scarce, and bad, and its efficiency will not greatly improve as long as the workers are over-worked, ill-housed and ill-educated. An 11 hours' day in winter and a 13 hours' day in summer would perhaps be acceptable, and would obviate the need for electric light, which nearly all mill-owners dislike. It is also to be hoped that the Commission will make strong recommendations about the necessity of providing good houses and restricting the drink traffic. If the masters realise that they have a direct interest in the welfare of their men, and take a wider view of it than the mere paying them full wages, if they aim at raising their general status, physical, intellectual, and moral, both work and workers will improve.

—The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 28th December, 1907, were as follows:—Wheat, 34s. 6d.; Barley, 26s. 10d.; and Oats, 18s. 0d.

EUCALYPTUS TREES.

Economic Uses.

EUCALYPTUS trees are becoming widely known in India but the virtues of their timber are not generally recognized. The following extract from Circular No. 59 of the United States Forest Service describes the economic uses of the Blue Gum, the best known species of eucalypt. The circular gives directions as to the propagation, planting and care of the young tree and refutes the common idea that the propagation of the seed is difficult. Reference is made to the fact that eucalypts are peculiarly sensitive to frost, few being able to survive a temperature below 20°F.

The wood of blue gum is very heavy, hard, strong, and tough, but it is not durable in contact with the soil. It is close-grained, and is split with difficulty after it has dried. It is less elastic than hickory, but it has been demonstrated by mechanical tests that seasoned blue gum timber is very little inferior in strength and stiffness to the best second growth hickory. In appearance it closely resembles the wood of hickory and ash. Blue gum timber is utilized for a great variety of purposes in California. The wood is excellent for fuel, and in the treeless valleys has been the chief fuel supply for many years. In southern California the steady demand renders commercial planting for fuel very profitable. Eucalyptus timber has been extensively used in California for wharf piling. Blue gum piles are in use in nearly every port on the California coast, and extended trial has shown that they resist the attacks of marine borers which destroy timber in sea water longer than other species commonly used for piling. Blue gum timber has also been used to some extent for fence posts and telephone poles. The wood is not suitable for this purpose, however, on account of its short life in the ground. Seasoned posts last a little longer than green posts, and timber cut from the heart is more durable than sapwood. Blue gum timber has been used to a limited extent to determine its value for railroad ties. The results thus far obtained indicate that it compares favourably with second-grade pine tie timber. In case blue gum ties gain a place in the market it may be profitable to plant the tree for that purpose. However, if commercial plantations are to be established for ties, sugar gum should be used in preference to blue gum, on account of its greater strength and its greater durability in contact with the soil.

Strength and Toughness.

In recent years blue gum has been manufactured into lumber, and has come into favour for many uses. Its strength and toughness have led to its use as a material for vehicle constructions with very satisfactory results. A just appreciation of the qualities of gum timber will encourage extensive commercial planting, and so furnish an important source of hardwood timber supply for the Pacific coast. The lumber has been extensively used for vehicle stock and for the wooden parts of agricul-

tural implements. It is also made into insulator pins for electric wiring, and is used for furniture and cabinetwork, hardwood flooring, trip-hammer beams, the levers of windlasses, and the blocking for oil and wine presses, wood paving, pulley blocks, and belt wheels.

The extensive utilization of gum lumber has hitherto been prevented chiefly by the scanty supply of timber of merchantable size and by the difficulty experienced in seasoning the lumber without warping and checking. It is believed, however, that in the seasoning of gum no greater difficulties will be encountered than in the seasoning of any other hardwood of similar density and strength.

The esteem in which eucalyptus timber is held in California is based upon the exclusive use of blue gum. In Australia, however, this species is considered inferior in strength and timber value to several other eucalypts. Strength tests of the timber of blue gum and other eucalypts grown in California have sustained this opinion. It is therefore probable that eucalypts are destined to enjoy yet greater favour when these other species become more widely used.

A product of considerable importance derived from blue gum is the oil distilled from the leaves. Eucalyptus oil is recognized as a valuable drug and is extensively used by pharmacists and physicians.

Eucalypts Windbreaks.

In many valleys of California eucalyptus windbreaks are considered absolutely necessary to insure the successful production of crops. They have been most extensively used to safeguard citrus orchards from strong and destructive winds in southern California, but they are now being established also for the protection of vineyards and orchards of deciduous fruits, olives, and walnuts. The blue gum excels other species for windbreak purposes on account of its height and the rapidity of its growth. The tall shafts of the trees bend before the wind and act as a cushion to deflect it upward over an orchard, whereas ordinary windbreak trees form a more solid wall and the wind draws downward, forming eddies near the leeward side.

Eucalyptus windbreaks planted every quarter mile across level country will give effective protection. Near the foot-hills the belts should be planted closer, since winds blowing down from the mountains gather greater velocity. Through orchards they should generally be planted at intervals of about 200 feet. Where winds are very severe, double or triple rows of trees should be planted. The best spacing of blue gum trees for protective planting is 4 feet apart each way. In double rows the trees of one row should be planted opposite the centre of the spaces in the other. The most effective windbreak protection is secured by a combination of Monterey cypress and blue gum. The trees of each species should be planted in separate rows rather than alternated in a single line. The cypress row will then form a dense understory, closing up the lower openings left by the shed branches of the faster growing eucalypts.

Objection is often made to the blue gum for protective planting on account of its wide rooting habit. It is true that a windbreak draws much moisture from the soil, so that the adjoining rows of orchard trees are often rendered less productive. Wide extension of the roots may, however, be readily limited without injury to the windbreak. At a distance of from 6 to 10 feet from the windbreak a trench parallel to the trees should be dug to a depth of 3 or 4 feet, cutting off the surface roots of the gum trees. Such trenches should then be refilled, but should be reopened every second year.

THE TEA TRADE IN 1907.

MESSRS. Gow, Wilson, and Stanton, in their review of the production, consumption, and marketing of tea during the past year, mention the fact that the average price of tea has been higher than in any year since 1899. That would seem to imply good results for all producers, but this must be qualified because the advance in price occurred chiefly in connection with common grades. The main advantage has consequently been secured by growers of low-grade teas, and producers of the medium and higher qualities may have experienced a less prosperous season relatively than those depending on the cheaper kinds. Taking the industry as a whole, however, Messrs. Gow, Wilson, and Stanton believe that the depression which has ruled for many years has at length passed away, production having expanded only to a small extent during the twelve months, while consumption has materially increased. The prospects for producers seems very good also, since the advance in consumption will probably continue awhile, but the little planting on new areas has taken place to increase the future production. The reduction of the duty in the United Kingdom had the effect of further increasing the home consumption, even by comparison with the great increase in 1906. Messrs. Gow, Wilson, and Stanton think that, other opinions to the contrary, the limit has not yet been reached, and that continued efforts should be made to secure a further reduction of the duty which would, they think, impart a new stimulus to the consumption. One of the most remarkable features, it appears, has been the great expansion of the use of British teas in foreign countries during the past two years, and this has occurred in spite of the differential duty of 1½d. per lb. imposed against British teas entering Russia *via* Europe. The foreign consumption rose from 129,884,250 lbs. in 1905 to 162,461,824 lbs. in 1906, and about 171,500,000 lbs. in 1907. When it is remembered that in 1890 the total foreign consumption of Indian and Ceylon tea was only 14,001,132 lbs. the progress made is really startling, and much credit is due, it is asserted, to the energy with which these new markets have been exploited. The quality of Indian tea in 1907 has not been quite up to the standard of 1906, but the average price realised was 832d. as

compared with 7.48d. in 1906, and 7.80d. in 1905. Ceylon teas have exhibited no great change in quality, the average price realised in the past three years was 1907, 8.00d.; 1906, 7.19d.; and 1905, 6.99d. It is added that the output in India for the current season is likely to be rather below last year, while there has been an increase from Ceylon, the total from the two countries being about 417,909,335 lbs., while the year's consumption was about 422,637,000 lbs.

THE WORLD'S FUR TRADE.

ARE fur-bearing animals becoming extinct? At this time of the year especially many will learn with relief that the fur trade of America is larger to-day than ever before. It is true, says the American Vice-Consul of Magdeburg, in a recent report to the Department of Commerce, that the buffalo no longer comes into consideration as a fur-bearing animal, and the beaver is also nearly extinct in most countries. The sea otter which formerly furnished 100,000 furs annually, now yields but 400 at the highest, and the seal is also becoming rare, as the number of sealskins has decreased from 100,000 to 10,000 yearly. But other fur-bearing animals have taken the place of these. More money is now earned on skunk, muskrat, and fox furs than ever before on beavers, sea otters, seals and other rare furs. The writer also gives some interesting information about the three great fur markets of the world—London, Leipzig, and Nijni-Novgorod—and particularly about the Leipzig market. This latter is held at Easter time, and attracts buyers from all parts of the world. For although Germany furnishes no fur-bearing animals, whole towns and cities are engaged in the preparation of the raw skins. Austria and Russia produce the best squirrel skins for lining, and these are all sent to Germany to be dressed. "The secret of this dressing," says the Vice-Consul "lies partially in drawing the fat out of the skins without soiling the fur, which is of great importance in the case of ermine, white fox, and polar bear furs. Many dressers finish the furs with poor fat instead of butter, or do not properly remove the unpleasant odour, as they do not treat the skins with mahogany shavings." That Germany also takes the foremost place in the colouring of all sheepskins is attributed to the composition of the German river water and to the properties of the German clay. At the sales in London an average of \$ 5,000,000 worth of raw furs are disposed of annually. The principal sale in Nijni-Novgorod takes place in August, and there are sold the Asiatic furs, such as Persian lambs and astrachans, Mongolian goat-skins, and Siberian sables, ermine, rare squirrel furs, and, in very small quantities, otters and seals. There are also sent annually to the sales at Leipzig and Nijni-Novgorod 200,000 English foxskins, 500,000 German foxskins, 300,000 Russian foxskins, 90,000 American red foxskins, and over 50,000 Alaskan foxskins of all sorts.

AMERICAN COTTON CROP.

Supply and Distribution.

THE actual facts and figures regarding the supply and distribution of the American cotton crop in the past season have already been given sufficient publicity to render further reproduction from the new Bulletin of the United States Department of Commerce and Labor unnecessary. But the following passages describing some of the elements of error in the statistics will be read with interest by those who have to contend with similar and other difficulties in India:—

The supply of cotton in the United States for the year ending August 31st, 1907, was 15,025,720 bales, as compared with 13,055,260 for 1906. The increase of practically 2,000,000 bales is due to the large crop grown in 1906, and, to a small extent, to increased import of cotton. The consumption of cotton in this country in 1907 was about 75,000 bales larger than in the preceding year, and the exports 1,740,224 bales greater. The stocks held by manufacturers show increases from 184,060 bales to 311,307 in the "cotton growing states" and from 496,411 to 705,431 in "all other states."

The data for the several items of the distribution statistics have been carefully collected, but in gathering the statistics of "stocks" in the possession of merchants, buyers, cottonseed-oil mills, ginners, and growers, some estimates are involved, as it is impracticable for the agents of the Bureau to make a house to house canvass. However, the statistics of these stocks presented have been secured through careful enquiries made by the agents at the time of making the canvas for cotton ginned to September 1st.

Some Discrepancies.

If the statistics of stocks of cotton held on August 31st, 1907, are accepted as being approximately correct, there is a discrepancy of 375,856 bales in accounting for a supply equal to the distribution. Among the causes which may be responsible for this discrepancy are: (1) Rebaled samples, commonly called "city crop." (2) An overstatement or duplication by manufacturers of stocks held at the close of the year. Notwithstanding the endeavours made to impress manufacturers and other holders of cotton with the necessity of returning stocks in accordance with the segregations made by the Bureau, it may be that slight duplications have resulted from the fact that manufacturers reported in their stocks cotton held for them by warehousemen, who in turn reported it in their holdings. As the Census plan becomes better understood such inaccuracies will annually decrease. (3) An understatement by ginners and dilinters of the quantity of cotton produced in 1906, due, it is believed, in the main, to the inability of these agencies to estimate accurately, at the time of the last canvass of the season in March, the quantity of cotton remaining

KUMLA CANAL PROJECT.

History and Origin of the Project.

THIS matter has again come to the fore and is now under the consideration of the Government of Bengal. From a Report just issued by that Government we learn that after the famine of 1873-74, numerous irrigation schemes were proposed for the protection of the tract of country known as North Tirhoot. The whole district was surveyed, and projects prepared to command very nearly the entire tract. The tract of country lying between the Kumla and Kosi Rivers was to have been irrigated by canals taking off from both these rivers; and the eastern portion up to the Bulan River was to have been irrigated by a canal taking off from the Kosi River. This scheme was abandoned owing to the extraordinary extent to which the river bed had been shifting within recent years. The present scheme, from the Kumla River on the west to the Bulan, remained for consideration.

The Kumla scheme consisted originally, in 1877, of two parts—(a) a main canal $12\frac{1}{2}$ miles long, and 3 distributaries, commanding some 460 square miles of country and estimated to cost Rs. 9,36,250; (b) consisted of an extension of the main canal to the Bulan River, with a distributary and sub-distributary, to cost a further sum of Rs. 2,41,352, and providing irrigation for another 149 square miles of country. The discharges on which these projects were prepared were 900 cusecs in ordinary years, and 500 cusecs in dry years. In 1901, the scheme was curtailed to the first portion (a) of a main canal and three distributaries there being no evidence of a greater supply than 600 cusecs in a very dry year being obtainable. The estimates were also revised and amounted to Rs. 10,41,000, irrigating on an average 60,000 acres in ordinary years, 50,000 acres in dry years and 40,000 acres in very dry years.

Irrigation Commission's Views.

The Irrigation Commission, after hearing evidence and considering the plans and papers of the projects, were of the opinion—(a) that the people would take water on an average once in four years; (b) that the river afforded a reliable discharge, though small in quantity, in very dry years; (c) that its construction would involve a much smaller risk compared to the other or Bagmati scheme. The Commission finally recommended "that a detailed estimate of the scheme should now be prepared, and that if the cost per acre is not much greater than now anticipated (viz. a little over Rs. 20) or not more than Rs. 25 per acre, it should be sanctioned and put in hand as soon as funds can be made available."

In 1904, a survey party resurveyed and levelled along the alignment of the 1877 project. A fresh survey of the Kumla River at the site of proposed weir was also made, but no enquiries or surveys were instituted in Nepal Territory except a survey for a piece of land to be exchanged with

to be ginned and the quantity of linters to be saved from reginning cottonseed of the growth of 1906.

It is impracticable to state with any degree of confidence just what part of the discrepancy should be charged to each of the agencies named, but it is known that a large part is attributable to the first cause. From the time a bale of cotton leaves the ginnery until it reaches the consumer it is "sampled" a number of times; that is, a small quantity of the fibre is extracted from the bale for use in determining its value, and these samples, with cotton otherwise lost from the original package, are rebaled and counted in the statistics of exports, consumption and of stocks. These bales, however, become a duplication in a system using for its basis of supply a count of the bales at the gineries before any samples have been removed. The amount of this rebaled cotton in a crop as large as that of 1906 is estimated by some authorities at as much as 150,000 bales. The quantity of cotton so duplicated, together with discrepancies which may be due to other causes, amounting to 375,856 bales, is shown separately. Under the circumstances this discrepancy in a supply amounting to more than 15,000,000 bales indicates a remarkably close approximation to the facts, and the Bureau is gratified with the co-operation which has been rendered by producers, ginners, manufacturers, and other holders of cotton. The results for the season demonstrate that with accurate and carefully prepared returns from all agencies involved, the annual cotton reports will increase in value as a means of furnishing accurate knowledge relative to the cotton industry.

Method of Collecting Reports.

The plan of collecting reports of cotton production through the ginners is not only a reliable one if full returns can be secured, but it enables a segregation with regard to the year of growth and the locality where grown not possible under other systems. Furthermore, the reports collected through this system, showing the crop of the preceding year, are issued as early as April 1st, a saving in time of some five months over the commercial system, through which full reports cannot be secured until after August 31st, the close of the commercial year. Again, by full reports of cotton ginned to specified dates during the season it is possible to make comparisons of the statistics of one year with those of the same date in preceding years, and thus to judge of the volume of successive crops with a degree of accuracy not otherwise possible.

The production report, compiled from returns of ginners, and its complement, that on the supply and distribution of cotton, become mutual checks on each other. The segregation of stocks at the end of the year, made possible under this system, is unique and desirable, as it shows the quantity of cotton in the possession of each general class of holders, and furnishes trustworthy information as to the present available supply.

the Nepal Government on the left bank required for training the river above to weir. Mr. C. A. White, Superintending Engineer of the Gandak Circle, under whose instructions the surveys were made, inspected the Kumla River from Jaynagar, in Darbhanga district, at the proposed site of head-works to Barmujhia within 5 or 6 miles of the foot of the low hills lying immediately below the Himalayas, in Nepal. He was of the following opinion (*vide* note on the Kumla River in Nepal, dated 4th December 1904): "the Kumla River from where it leaves the hills down to the British boundary, wanders about at will through a flat country which is below high flood level, and the soil being of a very light nature offers no opposition to the vagaries of the river. Much the same conditions prevail in British territory in the district of Darbhanga. A glance at the map shows that the whole district is covered with old channels of the Kumla River. Considering this and the limited area available at Jaynagar for training works, even if the Nepal Government consents to the exchange of land asked for, I think it would be hazardous to construct works at Jaynagar."

The Best Site.

There remains no other alternative for a better site for a weir below Jaynagar where the river course has an established bed and bank and of better regimen; for, the most suitable site above Manmohan Ghat and some 9 or 10 miles below Jaynagar gives no command for an alignment of a main canal and distributaries over that portion of the country which is in the greatest need of irrigation at times of drought. This strip of country is best served by the present alignment, which is identical with that surveyed in 1877.

The plans and papers were submitted to Government of India at this stage, and in reply (*vide* No. 414 I. of 22nd March 1906, paragraph (4)), it was stated "although there was no urgency about these schemes, time and money are apt to be wasted, unless these are carried out to a definite conclusion. It is, therefore, desirable to complete the investigations, and then decide whether they are works which can be recommended for sanction on their merits or reserved for famine relief, or whether they cannot be recommended at all."

Orders on the points raised by the Government of India in the preceding paragraph will be issued by the Government of Bengal in due course.

—According to a United States Consular Report the latest obtainable figures show that the number of vessels built in Germany in 1907 was 760 of 398,171 registered tons, against 646 of 310,771 registered tons in 1905, and 535 of 267,991 registered tons in 1904. Among the vessels, built in 1906 were 11 men-of-war of 3,831 registered tons. In addition to the foregoing there were built in foreign countries on orders for German firms 119 vessels of 122,245 registered tons.

SAMBALPUR TRADE. The Ryot's Cost of Living.

We have been furnished with a note on the economic and commercial features of the Sambalpur district, written by Mr. B. R. Mehta, I.C.S. For the purpose of determining the normal cost of living of the ryot, Mr. Mehta considers that roughly speaking, three divisions may be made. These divisions are, first, the towns of Sambalpur and Bargarh; secondly, the places affected by the railway; and, thirdly, the remainder of the district. In the towns of Sambalpur and Bargarh and especially in the urban portion of the municipal areas, the cost of living is considerably higher now than it used to be. The rise in price of land, the municipal tax, the octroi duties, the cartage of foodstuffs from the villages, and the profits of the middleman, etc., render the daily expenses of one person at least Rs. 9 a month, or about four annas six pies a day. Before the establishment of the Bengal-Nagpur line in the Sambalpur district, in 1892, rice from the district used to be exported to Cuttack, and through Cuttack to other districts in the Orissa Division by means of country boats; and the river was instrumental in the growth of the villagers' prosperity. The establishment of the railway has diverted this prosperity. All places in the immediate vicinity of the railway have gained, specially Jharsuguda, which was then a small insignificant hamlet surrounded by jungles, and is now a very prosperous village. The facility afforded by the railway for the export of rice rendered rice less available in these villages and there was a consequent increase in the price of rice and so in the cost of living.

What applies to rice applies also with less force to other district produce, and it may be accepted that the less the cost of cartage the greater the effect on the village. On the average the cost of living in all places close to a railway station or along the railway line may approximately be put down as Rs. 7-8 a month or about 4 annas a day.

In the interior villages, especially many in the Bargarh sub-division, where owing to the high charge of carriage and other reasons there is little or no demand for exporting rice, and consequently where the rice grown is consumed, the price is low and the cost of living is equally so. There it is estimated to be about Rs. 5-10 a month or 3 annas a day.

In the towns of Sambalpur and Bargarh, says Mr. Mehta, many people have of late (that is for the last ten or twelve years) taken to drinking tea. In the villages, the use of tea by even the higher classes (such as zemindars) is exceptional. There are some people, such as Goantias and others, who take tea. Smoking is prevalent throughout the district. One noticeable fact is that the *hooka* is now almost unknown.

Imported sugar is largely used in the two towns of the district and in Jharsuguda; being, however, much less used in the villages in which there is an extensive demand for the locally manufactured sugar

and "gur," as a belief is prevalent that imported sugar is refined through bone charcoal.

The advantages of manuring are not understood by the villagers. Cowdung is practically the only manure used, though bones for manuring are available in appreciable quantities.

The old method of transportation of goods by boats has necessarily been ousted by the railway, but carts are largely used owing to the improved condition of the roads. Loading and unloading have been rendered easy by the influx into the district of a large number of Mundas and Kols.

The growth of trade and the increasing demand from outside render the storing of produce impossible. Storing is done in towns in brick-built godowns where foodstuffs are kept in gunny bags. In the villages foodstuffs are stored in the old-fashioned round *golas* built on thick wooden planks, the wood preventing damp and the entry of rats, snakes, etc.

TRADE PROSPECTS IN SIAM.

A correspondent states that trade generally, which had been slack before the King's return, is brightening up wonderfully, and as a phenomenally good rice crop has just been harvested prospects generally are good. The teak industry also promises well, as a very copious rainfall has ensured large quantities of logs coming down to the mills. Siam now has its own bank, which is quite a thriving institution, and is carried on under a special Royal Charter, and quite a lot of new enterprises are now well under weigh. Amongst these is a paper mill, which goes to Manchester for its plant, and several syndicates are planting Para rubber on a big scale. The planting of cotton on a considerable extent has been now abandoned, and although in some districts small cultivators grow a little, the quantity is so small that it can in nowise affect the market.

Of course the tin mining industry in the Siamese Malay States is fairly prosperous, despite a recent drop in prices, but new mining schemes in Siam should be regarded with grave caution. Still, as a field for the investment of capital, Siam certainly promises well. One Bangkok company, whose shares were originally issued at 80 ticals, or about Rs. 90, now finds ready buyers for them at 600 ticals, or Rs. 667-8. It pays a fixed dividend of 12 per cent. and usually distributes a bonus of from 30 to 40 per cent. per annum. Another little concern, formed to run launches up the Menam river, in three years paid 122 per cent. on its capital, and shares are now, of course, unobtainable. These are rather picked instances, but they certainly tend to show how the country progresses and the possibilities for making good investments. Germany has just shown her estimation of the place by appointing a Minister Plenipotentiary in place of a Minister Resident; France has regular Commercial Attachés to her Legation, and even Russia has a Minister Plenipotentiary with Rs. 60,000 a year when there are not a dozen other Russians in the country.

TEXTILE MILL CONSTRUCTION IN THE UNITED STATES IN 1907.

THE following particulars of textile mill construction in the United States in 1907 are taken from the December issue of the *Textile World Record* (Boston, Mass.):—

Two hundred and sixty-two new mills are reported as having been built in the United States in 1907, as compared with 303 in 1906, divided as follows:—

	1903.	1904.	1905.	1906.	1907.
Cotton . . .	81	48	33	74	64
Woollen . . .	65	45	38	56	25
Knitting . . .	105	111	79	103	83
Silk . . .	58	49	53	36	51
Miscellaneous . . .	25	37	42	34	39
TOTAL . . .	334	290	245	303	262

An increase is found in the number of new silk mills, but cotton, woollen and knitting mills show decreases. This slackening in new mill construction is explained by the shortage of skilled help that has prevailed up to almost the end of the year. This shortage has existed not only in mills, but in machine shops, and new mill enterprises have been held back not only by the probability of difficulty in getting help to operate them, but by the actual difficulty in getting help to build the machines with which to equip them. The decrease in new mill construction, it is added, can, consequently, be ascribed to prosperity rather than taken as an indication of a slackening in the textile trade.

The tendency of the various branches of textile manufacture to concentrate is plainly seen in the record of 1907. The South and New England claim all but 10,000 of the 418,000 cotton spindles, and all but 100 of the 13,524 cotton looms. New England and the Middle States have 21 of the 25 new woollen and worsted mills. The Middle States alone have 49 of the 83 knitting mills. Three States, New Jersey, Pennsylvania and New York, have 47 of the 51 silk mills.

The following table shows the number of spindles in new cotton mills for the last seven years:—

	New England.	Southern States.	Middle and Western States.	TOTALS.
1901 . . .	30,000	259,360	2,064	291,424
1902 . . .	347,320	490,256	25,000	862,576
1903 . . .	135,000	281,752	...	416,752
1904 . . .	61,184	155,472	...	216,656
1905 . . .	100,800	97,920	...	198,720
1906 . . .	171,000	294,956	27,040	492,996
1907 . . .	113,000	294,745	10,250	417,995

THE OPIUM TRAFFIC.

Chinese vs. Indian Opium.

DISCUSSING the opium traffic in his Report on the Foreign Trade of China for the year 1906, Sir A. Hosie says:—

In my report for 1905 I tried to show that the import of foreign opium was on the decline and that, in face of the increasing consumption of the native drug, its doom in China was sealed. The increase in the net import from 51,890 piculs (6,918,666 lbs.) in 1905 to 54,225 piculs (7,230,000 lbs.) in 1906 would at first sight appear to belie my prediction, but several events occurred in China and in India in 1906 which sufficiently explain the increase. The Statistical Secretary of the Imperial Maritime Customs, in reviewing the trade of China for the year, says:—"Opium increased in consumption from 51,920 to 54,117 piculs. The consumption of Bengal opium increased from 34,195 to 38,953 piculs owing to the lower reserve price placed upon it at the auction sales in India, while Malwa and Persian fell from 17,725 to 15,164 piculs, the consumption being restricted from the competition of the lower-priced Bengal drug and the still lower-priced opium of Chinese origin. At the end of the year, upon the issue of the anti-opium regulations, prices fell all round about 5 per cent. for Malwa and 8 per cent. for Bengal." It is necessary to explain that the word consumption in the above quotation is used in its trade sense and means the net importation which has passed out of customs hands at each port during the year. It does not mean that the opium has actually been smoked. That, however, is a small matter. The two important events which occurred during the year were (1) the extension in June of the uniform tax of 115 Kuping taels per picul on native opium to the whole of the 18 provinces; and (2) the issue on September 20 of an anti-opium edict followed by regulations providing for the abolition in China of opium cultivation within a period of 10 years, the closing of opium dens, the differentiation and licensing of opium smokers with a view to the curtailment and ending of the habit, the inspection of opium shops, the establishment of anti-opium societies, the preparation and provision of anti-opium medicines, and negotiation with the Treaty Powers interested for the purpose of obtaining a diminution of the supply of foreign opium *pari passu* with the diminution of the native drug to be effected in China.

The Opium Tax.

The extension of the uniform tax on native opium, the lowering of the reserve price in India, and the drop caused by the anti-opium regulations had the effect of bringing the price of the cheaper varieties of Indian opium much nearer the price of the product of China, with the result that while Malwa declined in import by 1,500 chests, Patna and Benares rose 2,558 and 2,172 chests, respectively. At the same time Persian fell from 1,690 to 795 chests. At the port of Chungking in Szechuan, the

greatest opium-producing province in the Empire, there was a hitch in the taxation which caused a check in the export of native opium. Even after the tax was made uniform two taxes were "charged," an export duty of 20 Haikuan taels at Chungking and the uniform tax of 115 Kuping taels at Ichang, and the Commissioner of Customs at the former says:—"This double levy naturally checked the export from Chungking and greatly effected our revenue." It is not possible to say how far this checked the flow of opium from Szechuan and Yunnan, but the export from both provinces through Changking fell from 14,525 piculs in 1905 to 12,125 piculs in 1906—a decrease in excess of the increased import of the foreign drug into China. There was one part of China where Indian opium proved to be cheaper than the native drug. The Commissioner of Customs at Newchwang writes that "the price of Manchurian opium was so high in consequence of a moderate supply, some difficulty in getting it to the port safely and a reported unusual demand at Harbin, that foreign opium was much cheaper and nearly 100 piculs were imported, chiefly Patna."

Native Opium.

In former reports I have explained the difficulties that beset the path of the inquirer into the production and distribution of native opium in China. So far as the export to foreign countries is concerned, the Imperial Maritime Customs have full cognisance of the trade, but their knowledge of the internal trade and the information they are able to impart on the subject are necessarily scant. Ichang, however, which is the gate to Western China, is the port whither much of the native opium from the Western and South-Western Provinces is brought by junk for distribution and, as the Customs exercise control over the junk traffic, one instinctively turns to the report of the Commissioner of Customs at Ichang for details and is not disappointed. His remarks which I quote below, explain not merely the system of taxation; they give the total amount of opium which descended the Yangtze in 1906 and the apportionment of the revenue therefrom between the Central and Provincial Governments. He writes: "The eight provinces kaochuan systems had not been in operation for a whole year before a change took place. In June the Hu Pu established a uniform single tax on opium for the whole Empire. This tax, called tungshui, is levied at a total rate of 115 Kuping taels (Chengshui, 100 Kuping taels; and Chingfei, 15 Kuping taels) per picul irrespective of the mode of carriage, i.e., whether junk or steamer borne. As before with kaochuan so with tungshui, the Imperial Maritime Customs were charged with the collection of tungshui on all native opium declared for shipment by steamer, as far as such had not already paid tungshui at another port or to a native collectorate. One great change was, however, introduced by the new system, namely, all the other taxes whatsoever formerly levied on opium including the Ichang customs duty of 52

Haikuan taels per picul, were abolished, and, consequently, the Ichang customs revenue collection for the second half-year showed a great falling off. Up to December 31st, 1906, 635,753 Kuping taels were collected as tungshui by the Ichang customs. In order to compensate the Hupeh provincial authorities for the loss in revenue the Hu Pu came to an agreement with the Hukwang Viceroy, in accordance with which, out of the tungshui collection, 32 Haikuan taels per picul on all opium up to a maximum quantity of 11,803 piculs per year passed through the Ichang customs had to be remitted to the Ichang Customs Taotai for transmission to the Hupeh exchequer, and the rest had to go to the Hu Pu. Thus out of the total tungshui collection 287,471 Haikuan taels were remitted to the Taotai. The abolition of the differential rate of duty—in favour of junk-borne opium—according to the mode of carriage, has proved a boon for the steamship companies, and some 9,468 piculs of opium, which has paid tungshui at the native collectorate, subsequently passed the Imperial Maritime Customs for export by steamer. The quantity of native opium that passed through the foreign customs during the year was 16,583 piculs as against 14,690 piculs in 1905. The shipments through the native customs were 25,304 piculs as compared with 21,621 piculs in 1905. Thus the total transactions amount to 41,887 piculs as against 36,311 piculs in 1905. These figures represent, of course, only the quantities junk-shipped to Ichang by the Yangtze route, and do not include the considerable quantities which no doubt continue to enter Hunan and the southern provinces by the land routes. The fact, however, that river-borne opium has steadily increased is no doubt a direct result of the uniform taxation—tungshui—now in force."

The following table shows that, if there was a check at Chungking, there was no interruption in the flow of native opium from the east of Szechuan to Ichang:—

	QUANTITY.					
	1901.	1902.	1903.	1904.	1905.	1906.
	Piculs.	Piculs.	Piculs.	Piculs.	Piculs.	Piculs.
PASSED—						
Foreign customs	15,877	6,722	5,794	Piculs.	14,690	16,583
Native "	14,708	15,376	19,094	25,578	21,621	25,304
TOTAL	30,585	22,098	24,888	36,356	36,311	41,887

The above figures indicate that there was an increase in the export of opium from Western China of 5,576 piculs by the Yangtze route, but whether it was an actual increase or merely a diversion from

other routes it is impossible to say. The export from Mengtzu to Tonkin rose from 2,987 piculs in 1905 to 4,012 piculs in 1906, an increase of 1,025 piculs. I am not in possession of the export figures from Lungchow and Ssumao to Tonkin, which are usually trifling, nor have I a return for 1906 of the usual considerable export from South-Western China by the West River to Wuchow, for consumption in the provinces of Kwangtung and Kwangsi. There was an export of 160 piculs of native opium from Shanghai to Formosa for the use of Chinese smokers in the island. The total export from China to foreign countries (Tonkin and Formosa) in 1906 is given as 4,730 piculs against 3,209 piculs in 1905.

BEET SUGAR INDUSTRY.

In a report from Liege the United States Consul says it seems that the beet sugar situation this season is far from satisfactory, and that both the farmers and the sugar manufacturers have good grounds for uneasiness. The beet crop is stated to be decidedly short, and the percentage of sugar, which it was hoped would be rather larger than usual, proves to be much below the average heretofore obtained. The period of sugar-making will be short, and as prices are disastrously low it is expected that more than one sugar factory will be obliged to suspend operations for next year. The effects of the Brussels Sugar Convention have not, so far, been favourable to the industry as had been anticipated.

There appears to be some hope that through the acceptance of the terms of the Brussels Convention on the part of the Russian Government prices may take a more favourable turn. Such a result, however, although within the range of possibility, can hardly be counted upon as a probability. On the other hand, it is reported that at a recent meeting of the Société des Agriculteurs du Nord the following resolutions, already agreed upon by the Syndicate of Sugar Manufacturers of France concerning the additional Act of the Brussels Conference had been adopted:—

First, considering that the renewal of the Brussels Convention could only tend to further aggravate the already precarious position of the French sugar manufacturers, the Committee of the sugar syndicate is of the opinion that the ratification of the additional Act should be made subordinate to the acceptance of the Brussels Convention by all the sugar-producing nations of Europe and to the lowering of the French Excise tax on sugar to the level adopted by Germany.

Second, the Committee expresses the wish that the French Government would take steps to introduce a system of giving bounties for what be termed denatured sugar that serves as food for cattle.

THE SILK TRADE OF CHINA.

"Best Silk in the World."

SIR A. HOSIE, Commercial Attaché, furnishes the following details of China's silk trade:—

Chinese silk is the best silk in the world on account of its whiteness, lustre, and the fineness of its filament. It is, moreover, something in the nature of a gift to the peasantry of several provinces, owing to the fact that the women and children of the family attend to the rearing and feeding of the silkworms and that the production makes little or no encroachment on the time of the breadwinner. It is regrettable that such a gift is not fully appreciated. Silk is one of the very few products of the Empire in which official China is occasionally interested, and that only indirectly. From time to time there is a free distribution by the authorities of mulberry saplings to encourage extended cultivation of the tree, whose velvety leaf is unrivalled in any other country. Attempts have been made to introduce it into Europe, but it has refused to yield such a fine leaf in its new home. In some of the eastern silk-producing provinces it is tended with great care: it is annually manured with the silt dug from canals and waterways, but little attention is paid to the silkworm which feeds upon its leaves. The latter is badly diseased, and the only thing that prevents the extinction of the race is the hatching of twice the number of worms required to be fed, and the removal at each stage of the weak and the diseased.

Careless Methods.

Mr. Beretta, the manager of a large silk filature at Shanghai, to whom I am indebted for much valuable information on the subject of silk, informs me that with a diseased worm and the careless system of rearing adopted by the Chinese, it not infrequently happens that 15 per cent. of the cocoons are unreliable, that only 30 per cent. are of No. 1 grade while the balance is made up of Nos. 2, 3 and 4 grades and doubles. He estimates that 1 oz. of Chinese eggs yields about 30 lbs. of cocoons at the best, while the same eggs accurately crossed and reared in Italy would yield 60 to 70 lbs., of which at least 70 per cent. would be No. 1 grade, while Italian yellow crossed races yield as much as 110 to 120 lbs. He states that the nurseries are insufficiently protected, and that a very promising crop is sometimes ruined to the extent of 50 to 60 per cent. by a couple of days of stormy weather in the very last period of rearing. He is of opinion that if China adopted a rational system of egg selection and rearing, the annual production of silk, which he now places at 250,000 piculs, about 40 per cent. of which goes abroad, could easily be increased by 50 per cent. in 15 years. His opinion may be gathered from the following sentence:—"Disease in the worms, lack of properly built nurseries, and prejudices and superstitions go far to hinder the production of a cocoon which is the best I have ever seen in my 40 years' silk career."

But there are other faults in the silk business besides neglect and carelessness. It has become a not uncommon practice to kill the worm before it has ceased spinning because the dead worm and the silk it has spun are heavier than the finished cocoon and the chrysalis, and it is weight that makes the price. Again, so keen is the competition up-country for cocoons by agents of the Shanghai filatures that cocoons in which the worms may still be heard spinning are frequently placed on the market, with the result that the spinning is never completed.

Two Great Silk Markets.

Shanghai and Canton are the two great silk markets of China, the former drawing its supplies from the provinces of Kiangsu and Chekiang, as well as from Shantung, Manchuria and Ssichuan, the latter from the Kwangtung province and an inconsiderable quantity from Kwangsi. I have already stated that the silk crop suffered from the wet and cold spring experience in the seaboard provinces. This, combined with a high exchange, did not conduce to business, but a brisk demand arose in Europe and America in the latter half of the year, higher prices were forthcoming, and much which would under ordinary conditions have been used in the country found a ready market at handsome prices. There can be no doubt that the consumption of silk is increasing within the Empire and that in 1906 the foreign market curtailed the home supply.

The value of all silk and silk products exported abroad in 1906 was 71,295,525 Haikuan taels (£11,734,055) against 70,393,833 Haikuan taels (£10,588,406) in 1905, an increase of nearly 1,000,000 taels, but close on £1,200,000 in gold when the high rate of exchange for the year is applied to the whole value of the export. Raw white silk increased by 393,866 lbs., was over 15 per cent. less than the average of the previous five years. The increase was at Shanghai. White filature silk gained 63,200 lbs. compared with 1905, and the increase is credited to Canton. Yellow silk rose by 155,734 lbs., but the export from Ssichuan across the Burmese frontier, never of any great value, fell from 65,466 to 63,066 lbs. There was very little difference in the case of wild silk, while cocoons, and especially refuse silk, showed considerable decreases. The weight of piecegoods was 80,800 lbs. less and Shantung pongees 54,000 lbs. more than in 1905. The total weight of all silk and silk products, with the exception of unclassified, which increased in value from £126,498 to £181,965, was 30,505,530 lbs. in 1906 against 32,510,130 lbs. in 1905, a decrease of over 2,000,000 lbs. and a still greater decline when compared with the previous five years' average. Yellow and wild were the only two silks which compared favourably with that average.

Steam Filatures.

There are about 100 steam filatures, large and small, in the Canton province, several scattered

throughout the silk districts of Central China, 27 in Shanghai and 4 in Northern China. The 27 Shanghai filatures have an aggregate of 9,024 bassines and employ about 23,000 women and girls, who are engaged in picking, cleaning and reeling the cocoons and in sorting and combing out the waste. In addition to engineers, etc., about 1,000 coolies are also employed. The wages of the girls and women range from 12 to 33 c. per day, and it is safe to say that the annual native labour bill for these 27 filatures does not fall short of 2,000,060 dol. Wuhsi (generally spelt Woosieh or Wusieh) in Kiangsu and Shao-hsing in Chekiang are the great markets which supply Shanghai with cocoons. At these two places the cocoons are bought alive and baked but the Shanghai-Nanking Railway, now under construction and completed last year as far as Wuhsi will in all probability enable the live cocoons to be carried by rail to Shanghai, where they will be baked or, preferably, steamed, for the up-country treatment is apt to detract from the colour of the silk. Shao-hsing cocoons are the more expensive, costing when dried about 140 taels per picul laid down in Shanghai against about 125 taels for Wuhsi cocoons; but at Shao-hsing the doubles are removed, while the Wuhsi doubles have to be weeded out at Shanghai. I understand that the doubles are largely exported as waste silk to Japan, where some system of reeling them has been invented. About 5-10 piculs of Wuhsi and 4-6 piculs of Shao-hsing cocoons are respectively used in reeling 1 picul of filature silk, and the annual output of one bassine is 1.25 to 1.50 piculs.

THE FRENCH RIBBON INDUSTRY.

The production of ribbons at St. Etienne amounted in value, in 1906, to £4,000,000, being an increase of £750 over the previous year. The value of the exports was somewhat over £1,250,000, or an increase of £400,000 as compared with 1905. Ribbons are exported from St. Etienne more or less all over the world, but the countries which are the largest purchasers are England, Germany, United States, Canada, Argentine Republic, China, Italy, and Spain. The present number of looms in St. Etienne and the vicinity is estimated at 75,000. The number of ribbon manufactures is about 170, but they are not all confined to the city, a large number being scattered through the small towns of the Departments of the Loire, Haute Loire and the Isere. According to the American Consul at St. Etienne, within the last few years electric motor power has been distributed, not only to the large ribbon factories of the region, but also to every weaver who works at home. Hitherto the weavers who generally possess from two to three looms, did all the work by hand, but now hand-made ribbons may be considered a thing of the past. The output has consequently

increased, and the wages are a little better than some years ago. The weavers, as a class, are sober and intelligent men, living frugal lives, and they seem totally absorbed in their trade. A large number are not only proprietors of their looms, but also of their houses, and it may be said that many quarters of St. Etienne were built by them. A model weaver's home consists of three rooms, one long and large enough to contain three looms, two family rooms, one of which is the kitchen, eating, and bedroom combined; the other is the bedroom, and contains the best household furniture. The homes are always clean and neat, presenting frequently a contrast with those of workmen of other trades. Their diet consists of soup, morning and evening, made of a curious mixture of bread, potatoes and cabbage to which a slice of bacon is added to give it a flavour. The dinner is composed of meat, vegetables, cheese, coffee, and a quart of red wine, while the supper is made up of soup, the remainder of the dinner and the usual bottle of wine. As will be seen the French weaver lives fairly well, but without any extravagance. The earnings of a weaver are difficult to calculate, but five shillings and sixpence per day may be considered as an average for the year round. At some seasons he will earn as much as eight shillings and sixpence to twelve shillings and sixpence a day, while at others he will not make more than two shillings and six pence, or his looms may be idle for a few days. In the factories the work is more regular, but frequently short time is imposed for obvious reasons. The ribbon industry, depending entirely on the caprices of fashion, is subject to constant fluctuation. The prominence given to St. Etienne in the production of ribbons is due to two factors, one of which is the nature of its water, which, free from any mineral substance is chemically pure, and excellent for dyeing purposes. It is thus that the most delicate shades or tints can be produced to almost perfection. The number of dyeing establishments in the city of St. Etienne is 21, and those houses not only supply the local needs but execute large orders from Lyons and elsewhere. The second reason is that of the well-known special aptitudes of the weavers. The weaver of St. Etienne is by nature an artist in his trade. Handed down from father to son, all the secrets of the industry, the delicate manipulation of the threads on the looms, and the varied combinations of the design to obtain the most artistic effects are and will remain the distinctive and attractive features of the St. Etienne ribbon industry. St. Etienne, with its 150,000 inhabitants, possesses other industries, which, although less known perhaps than ribbon making, yet are sufficiently important to give employment to thousands of workmen, and contribute materially to the prosperity of the city. Among these may be mentioned coal mines, iron and steel foundries, gun making, hardware of various kinds, bicycles, etc.

SUGAR IMPORTS.

Imports of Foreign Sugar (excluding confectionery and molasses) into British India in the month of December, 1907, and in the nine months ending December, 1907, compared with the corresponding periods of the previous year. The statement shows, so far as possible, the original sources of all such sugar imported:—

Countries of production of total imports.	Share of each country in the total imports in Dec., 1906.	Share of each country in the total imports in Dec., 1907.	Share in the nine months ending Dec., 1906.	Share in the nine months ending Dec., 1907.	Countries of production of total imports.	Share of each country in the total imports in Dec., 1906.	Share of each country in the total imports in Dec., 1907.	Share in the nine months ending Dec., 1906.	Share in the nine months ending Dec., 1907.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Austria-Hungary	209,946	50,940	1,457,810	472,002	South America	...	6	18,090	8,354
Belgium	351	412	103,154	1,076	China	384	249	4,646	3,685
Denmark	...	8	...	8	India	...	...	...	66
France	63	29	23,700	9,589	Japan	...	...	4	...
Germany	1,946	697	1,647,469	47,205	Java	150,692	693,650	2,841,731	5,279,582
Holland	113	60	475	287	Philippines	...	...	...	400
Italy	...	...	4	4	Straits Settlements	424	315	2,593	10,740
Spain	...	...	3	200	Australia	...	...	9	...
Egypt	...	...	69	...	From non-producing countries. Origin unknown	7	6	290	166
Mauritius	154,354	215,884	1,572,904	1,892,599					
Réunion	...	...	109,471	11,377					
West Indies	2	13	5,074	5,176					
					TOTAL	518,282	962,269	7,787,496	7,642,516

Quantity of Beet and Cane Sugar imported by sea from foreign countries into each province of British India for the month of December, 1907, compared with the corresponding period of the year 1906:—

PROVINCES.	Beet Sugar.		Cane Sugar.		TOTAL.	
	1906.	1907.	1906.	1907.	1906.	1907.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	6,555	42	133,090	319,437	139,645	319,479
Eastern Bengal and Assam	...	...	1	...	1	...
Bombay	55,056	18,878	159,462	333,159	214,518	352,037
Sind	146,898	31,324	11,774	208,962	158,672	240,236
Madras	2,746	1,061	443	2,532	3,189	3,593
Burma	1,167	844	1,090	46,030	2,257	46,874
TOTAL	212,422	52,149	305,860	910,120	518,282	962,269

IMPORTS OF COTTON YARNS.

Quantity of Cotton Yarn No. 31 and higher counts imported into each province of British India in the month of December, 1907:—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Mule and Water, Nos. 31 to 40	170,800	...	212,403	33,000	181,500	...	597,703
" " 41 to 50	63,500	...	40,600	...	32,500	...	136,600
" " above No. 50	140,855	...	88,334	...	46,330	...	275,519
Orange, red and other colours, Nos. 31 to 40.	273,911	...	280,730	98,955	275,600	19,000	948,196
Orange, red and other colours, Nos. 41 to 50.	56,476	...	40,395	...	4,000	36,800	137,671
Orange, red and other colours, above No. 50.	6,961	...	26,561	...	40,655	4,422	78,599
TOTAL	712,503	...	689,023	131,955	580,585	60,222	2,174,288

WEEKLY TRADE MOVEMENTS.
For the week ending 18th January, 1908.

COTTON GOODS.	
Twist and Yarn.	
Foreign—Imports by sea into	Calcutta, lbs. 416,657
	Bombay " 244,313
	Madras " 13,100
Indian—Exports by sea from	Calcutta " 255,280
	Bombay " 4,877,385
	Madras " ...
Grey Piece Goods.	
Imports by sea from	Calcutta, yds. 19,868,405
Foreign ports into	Bombay " 4,186,814
	Karachi " 1,136,069
	Madras " 1,929,858
	Rangoon " 79,177
White Piece Goods.	
Imports by sea from	Calcutta, yds. 5,040,335
Foreign ports into	Bombay " 5,285,173
	Karachi " 5,647,810
	Madras " 312,186
	Rangoon " 478,636
Other Piece Goods.	
Imports by sea from	Calcutta, yds. 2,859,690
Foreign ports into	Bombay " 4,205,035
	Karachi " 2,264,541
	Madras " 515,558
	Rangoon " 433,024
Piece Goods.	
(Indian and Foreign.)	
Despatches by rail from	Calcutta, owt. 13,233
	Bombay " 3,374
	Karachi " 13,149
	Madras " 2,945
Raw Cotton.	
Imports into Bombay	By sea owt. 2,442
	Coastwise " 23,410
	By rail " 266,464
Imports into Karachi by rail	" 47,524
" " Calcutta by rail and river*	" 7,106

* B. N. Ry. figures not received.

JUTE.	
Arrivals by all routes in	Calcutta, owt.* 426,424
Exports by sea from	Gunny bags, No. 7,354,070
	Calcutta " cloth, yds. 14,481,715
	Jute, owt. 314,544
	Chittagong—Jute " 24,264
TEA.	
Arrivals by all routes in	Calcutta, lbs. 2,084,039
Exports by sea from	Calcutta " 2,719,528
	Chittagong " 770,280
WHEAT.	
Imports into	Calcutta by rail and river, owt. 51,520
	Karachi by rail " 65,048
	Bombay " By sea " 785
	Coastwise " 14,657
	By rail " 2,987
	Calcutta " 535
Exports by sea from	Bombay " 116
	Karachi " 6,937
RICE.	
Arrivals by all routes in	Calcutta, owt. 454,157
	Calcutta " 51,312
	Chittagong " 504
	Bombay " 4,736
Exports by sea from	Karachi " 6,084
	Madras " 343,316
	Rangoon " ...
LINSEED.	
Imports into	Calcutta by rail and river, owt. 10,966
	By sea " 102
	Coastwise " 2
	By rail " 1,677
	Karachi by rail " 14,027
Exports by sea from	Calcutta " 22,522
	Bombay " ...
	Karachi " ...
RAPE AND MUSTARD SEED.	
Imports into	Calcutta by rail and river, owt. 8,650
	By sea " 39
	Coastwise " 825
	By rail " 15,499
	Karachi by rail " 15
Exports by sea from	Calcutta " 58,704
	Bombay " ...
	Karachi " ...
COTTON SEED.	
Exports by sea from Bombay, owt.	86,574

KEROSENE OIL, WEEK ENDING 18th JANUARY, 1908.

Imports by sea into—	FROM			TOTAL.
	Russia.	America.	All other foreign countries.	
	galls.	galls.	galls.	galls.
Calcutta	23,781	970,730	...	970,730
Bombay	...	1,025	...	24,806
Karachi	...	336	...	336
Madras	...	...	...	1,200
Exports by sea from Burma to				
			Bengal	
			E. B. & Assam	
			Bombay	
			Sind	
			Madras	
			Indian Ports, Non-Br.	
			Foreign Ports	

IMPORTS OF SUGAR, WEEK ENDING 18th JANUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	
United Kingdom	15	...	65	...	14	25	119
Germany	...	...	...	1,250	...	1,050	2,300
Austria-Hungary	...	...	12,293	5,875	...	...	18,168
Other European Countries	...	...	...	...	...	...	...
Java	200,130	...	14,443	28,501	...	...	243,074
Mauritius	...	...	15,730	2,570	...	...	18,300
Other Non-European Countries	...	...	4,166	298	...	...	4,464
				Total refined			286,425
				Total unrefined			970
				Grand Total, cwt.			287,395

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 17th January.		Sold to 17th January.		Sold in sale of 22nd January.		Sold to 22nd January.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.
Assam	5,227	7 5 6	176,914	7 6	6,139	8 10	152,519	8 9 2
Cachar	4,696	6 8 9	142,994	6 2 9	6,697	5 2 4	134,698	4 5
Sylhet	3,573	6 8 3	112,091	6 2 8	4,073	5 1 4	100,439	4 2 5
Darjeeling	417	7 18 8	56,611	9 3 2	731	9 8 9	54,844	8 10 1
Doars	4,703	7 1 5	175,125	6 10 1	7,865	6 3 7	181,084	5 7
Teral	979	6 5 5	21,093	6 3 8	1,161	4 9 9	32,879	4 4 1
Chittagong	170	6 6 4	8,522	6 3 1	671	5 3	12,217	4 4
Chota-Nagpore	31	5 8 5	1,437	5 11	...	...	1,446	4 6
Kumson and Kangra	11	6 0	4,618	6 1 6	214	6 0	377	5 7 8
Madras	...	...	294	6 1 7	197	6 1 3	536	5 4 3
Dehra Dun	...	...	204	6 3 3	...	...	50	5 0
Nepaul	...	...	247	6 9 3	269	4 3	488	3 11 4
TOTAL	19,807	7 0	700,150	6 11 4	27,917	6 0	671,575	5 7

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1907-08. Average price of 37,364 packages Dust* sold to 17th January A. P. 6 7 2
* On account of gardens which sell only that grade on this market.

—Arising out of a question about the failure of a hydraulic ram to work, the expert of an American exchange points out that a trouble commonly found with rams, especially when they have been used for some time, is their becoming water-logged in the air chamber. This is manifest by a loss of energy and can be obviated by unscrewing the bolts which hold the air chamber down and allowing the water to escape. When this is done it will probably be advisable to paint the inside of the air chamber with a coating of asphaltum paint, as all the air chambers are coated with this material before leaving the factory. This, however, need only be done after years of use, for many rams have worked satisfactorily with no repairing for twenty years.

—It would appear from a notice in the *Chemical Trade Journal* that considerable activity is being

shown in Cumberland in the production of wolfram and scheelite, and that the Carrock mines have recently been sold to the Cumbrian Mining Company, Ltd. The ores here raised were tried some years ago by Mushet, the inventor of the self-hardening steel, who wrote adversely as to the contents in phosphoric acid, which he considered prohibited their use, but more recent analyses tend to prove that the mineral is free from phosphorus and sulphur. Plant is now being put down at the Carrock mines to deal with the ore, which is found in the quartz. In the Eskdale range, prospecting for wolfram is also in hand, and rich ores are stated to have been found. The deposition is said to be erratic, and, as in the case of plumbago, there are frequently no "leads" or "strings," or other indications of the presence of the ore. Though this district has been mined for hundreds of years, the ores of wolfram were till quite lately unworked.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2s.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2s.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. Rs. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. Rs. (10s.)
4. Annual Statement of the Coasting Trade and Navigation of British India. Rs. (8s.)
5. Accounts of the Trade of Aden. As. 10. (2s.)
6. Accounts of the Trade carried by Rail and River in India. Rs. 12. (6s.)
7. Report on the Rail-borne and River-borne Trade of Bengal. Rs. (7s.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. Rs. 8. (3s.)
9. Prices and Wages in India. Rs. 8. (9s.)
10. Financial and Commercial Statistics of British India. Rs. (12s.)
11. Judicial and Administrative Statistics of British India. Rs. (10s.)
12. Agricultural Statistics of India. Rs. 3. (13s.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2s.)
14. Production of Tea in India. As. 8. (2s.)
15. Note on the production of Coal in India. As. 12. (3s.)
16. Note on the production of Coffee in India. As. 4. (1s.)
17. List of Joint Stock Companies in British India for 1905. Rs. (2s.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2s.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2s.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2s.)
21. Statistics of Cotton Spinning and Weaving in India Cotton Mills. As. 2. (1s.)

MISCELLANEOUS.

Notes on Sugar in India. Rs. 8. (2s.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambay & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoon, Bombay.
Sundar Pandurang, Bombay.
V. Kalyanaram Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.
Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	8 0
To Non-Subscribers	"	10 0

POSTAGE:—

Abroad	per copy per annum	5 0
In India	"	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	1 0
To Non-Subscribers	"	2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " half-year	35 0
" " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0

The above charges apply also to back numbers.

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

G. W. MUNT & SONS,

WHOLESALE

BOX MANUFACTURERS

(EVERY DESCRIPTION),
LONDON,

ENGLAND.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

¶ These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

¶ This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

¶ Write for full particulars and samples to
J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E.
LONDON, ENGLAND.

MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,

TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT.

As used for the Foundations of

VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S

BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. C. I. COLUMNS

Light Railway Material of every Description.

MARTIN & CO.

6 AND 7 CLIVE STREET,

CALCUTTA.

B. MURATTI, Sons & Co.

(LIMITED).

MANCHESTER, LONDON, BERLIN, BRUSSELS, PARIS & CONSTANTINOPLE.

Purveyors to the French Regie and Several Other European Government Monopolies.

THE PIONEERS OF TURKISH CIGARETTES IN EUROPE.

MANUFACTURERS OF THE WORLD-RENOWNED CIGARETTES

ARISTON & NEB-KA.

For price lists and particulars apply direct to—

B. MURATTI, Sons & Co., Ltd., Manchester, England.

HOUSE OR OFFICE FURNITURE, ARTISTIC, DURABLE & INEXPENSIVE WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

DELICIOUS COFFEE RED WHITE & BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,
AWNINGS AND WAGON SHEETS.
Contractors to Arsenals, Government, and Royal Indian Marine

AGENTS FOR
SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSION PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE No. 132.



BARLOW & Co.
Import and Export Merchants

and
Commission Agents

Agents:

United Alkali Co., Ltd.—Fertilizers.
Sulphur.

The Summerlee Iron Co., Ltd.
Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

THURSTON'S

The Parent
House of
the
Trade.

BILLIARD TABLES

By Appoint-
ment to
His Majesty
King
Edward VII.

Thurston's 'Perfect' Low Cushions

FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

RELIABLE
QUALITY
ONLY.

PADMORE

Over
70 Years'
Reputation.

BILLIARD TABLES

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.

CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.

PROPRIETORS OF

SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
 As supplied to
 The Government
 Experimental
 Farms.
 From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

*Price List and Membership rules
 free on Application.*

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment

TO HIS MAJESTY KING EDWARD VII.

**WORLD'S HUMANE HORSE NAIL,
 KNIGHT'S PATENT 'SAFETY.'**

'SAFETY' HORSE NAILS
 CONCAVE INSIDE
 CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
 Extract from Mr. SHEATH'S Eminent Report:-

'I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'
 Japanese Army use exclusively.

SHOE
ROD
SAFETY CLINCHES
 SUPPORTED BY RIBS
 BEHIND CANT-HOSE
FRONT SECTION OF HOOF
CUT AT HEEL NAIL
KNIGHT'S SAFETY NAILS REQUIRE NO
CURVING TO DRIVE, NOTCH TAPPING
TO CLINCH, NEVER GET LOOSE
COMPANIES HAVE A GOOD
SOFT NAILS IN EVERY PART
SHOE IS CARRIED LONGER

London and EXPORT BRANCH,
 4 Upper St. Martin's Lane, W.C.
 Telegrams: 'HORSE NAIL LONDON' No. 5013

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,

DONCASTER, ENGLAND.

Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically in Gelatine.

Beechwood Brand awarded 4 Gold Medals and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

"CHARLTON"

SILICATE

PAINT

Registered Patentees:

THE SILICATE PAINT CO.,

J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

Silicate Paint is unexcelled for:

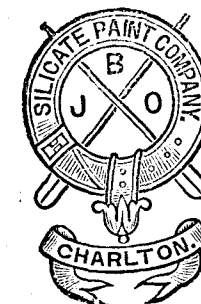
BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
 RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,

and for all
 GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
 AND
 TRADE MARK.

NON-POISONOUS PAINT.
 FREE FROM LEAD,
 ARSENIC,
 OR
 COPPER COLOURS.



MAXIMUM
 DURABILITY
 AND
 COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.
 Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo.
 Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

—A SAFE AND EFFICIENT—
Antiseptic, Deodoriser and Germicide
 IS THE WORLD-RENOUNDED
CREPHOL
Disinfectant.

Destroys effectually all Noxious Microbes existing in AIR, SOIL, and WATER.
 Renders innocuous the Gases which produce Disease.

Extracts from Reports by

Dr. A. B. GRIFFITHS, Ph.D., F.R.S.E.,

The Eminent Bacteriologist—

"In conclusion, I am justified in stating that Crephol Powder is a most powerful germicide or disinfectant, and that it readily destroys disease-producing and other microbes. It will be found invaluable for drains, stables, streets, and for general household purposes."

R. MARLOTH, Ph.D., M.A.,

Professor of Chemistry, CAPE TOWN, SOUTH AFRICA—

"This means that Crephol possesses, generally speaking, the same disinfecting power as PURE Carbolic Acid."

A. SELWYN BROWN,

Analyst and Assayer, SYDNEY, N. S. W.—

"The Fluid Disinfectant is in every way an excellent preparation, and I can recommend it with the greatest confidence as a safe, powerful, and cleanly disinfectant and germicide."

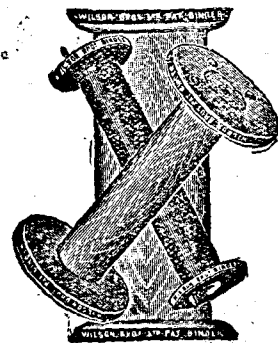
Sole Agent for India: **H. I. ROBERTS, 42, Castle Street, Liverpool.**

Calcutta Agents: Messrs. KINMOND & Co.

Sole Agents in Karachi: Messrs. B. R. HERMAN & Co.

Sole Agents in Madras: Messrs. McDOWELL & Co., Ltd.

Bombay Agents:—KINMOND & Co.



WILSON BROS. BOBBIN Co., LTD.

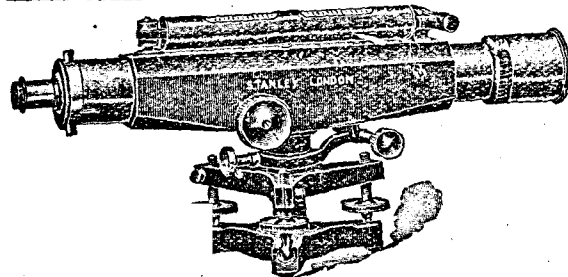
LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
 BRANCH WORKS: TODMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: **N. WADIA & SONS,**
 BELLA VISTA OFFICE,
 CUMBALLA HILL, BOMBAY.



STANLEY,

LONDON.

Largest Manufacturers of

SURVEYING AND DRAWING INSTRUMENTS IN THE WORLD.

Please send for our H. 24 Catalogue (Post Free) and compare our prices with those of other

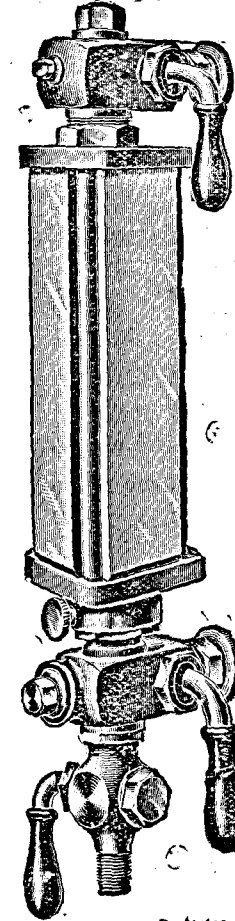
FIRST CLASS makers.

W. F. STANLEY & CO., LTD.,

GREAT TURNSTILE, HOLBORN, LONDON, ENGLAND.

Engineer's Level (Patent). The strongest and most compact level yet made. Permanent adjustment.

Showing Protector in Position.



Gauge Glass Protector.

"EUREKA"
GAUGE GLASSES

ESTABLISHED 1853.

MAKERS OF THE NEW GAUGE GLASSES

"S.H.P."

FOR SPECIAL HIGH-PRESSURE BOILERS.

SEND FOR CIRCULARS AND TESTIMONIALS.

JOSEPH TOMEY & SONS, LD

GLASS TUBE WORKS,

Catherine Street, Aston, BIRMINGHAM.

LONDON WAREHOUSE AND SHOWROOMS—88, HATTON GARDEN, E.C.

"WOODITE"

FOR VALVES, JOINT RINGS PUMP CUPS, RAM RINGS, PACKING RINGS, AND
 PATENT WOODITE CONICAL GAUGE GLASS RINGS.
 IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H.M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,
 MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

SANITARY ENGINEERS

Water works and Sewage systems. Engines, Tanks, and Fittings. Septic Tank systems a speciality. Light Railways for refuse removal.

THE EMPIRE ENGINEERING CO., LTD

New patent Receptacles and Lorries, Improved carts, Latrines, and Conservancy Appliances of all kinds.

Apply for Illustrated Catalogue to

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypes,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
in all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO.,

ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities,—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST-IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

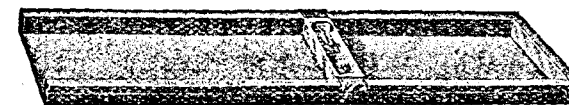
Before placing your orders please write us for quotations.
112, MISSION ROW, CALCUTTA.

GALLEYS

WE ARE MAKERS OF THE BEST IN
QUALITY AND WORKMANSHIP, AND
HOLD THE BRITISH RECORD FOR THE
LARGEST VARIETY AND OUTPUT

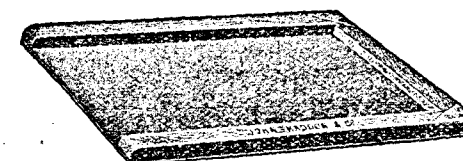
for **Lino**
Job or
Bookwork

Speciality: The All-Brass Lino Galley, with Patent Clip, which can be
securely locked up at any point.

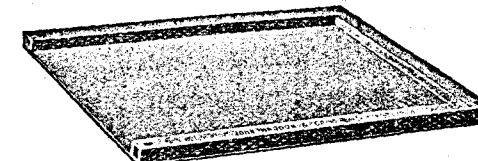


12-inch Lino Galleys, for 12 to 16 em matter.

ZINC BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.

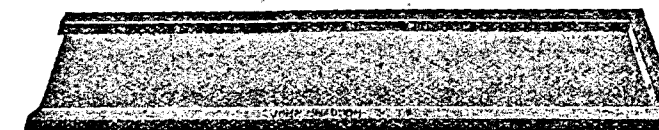


Zinc Bottom Job Galley—Half Lined.



Zinc Tube Galley.

BRASS BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Column Galley—Lined all round.

BRASS TUBE, ZINC TUBE, SOLID BRASS AND ZINC GALLEYS, ALL SIZES.

Rims one or both sides and head.

OUR JOB, COLUMN AND LINO GALLEYS ARE MADE IN ALL SIZES.

DETAILED PRICE LIST sent free on application to

JOHN HADDON & Co. Salisbury Square,
LONDON, E.C.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 1/4 to 1/16 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,
TOBACCO TRADE ENGINEERS,
33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,
CIGARETTE SPECIALISTS,
35, ENDELL STREET, LONDON, W.C.
MALCAJIK CIGARETTES.

TURKISH GRADES.

De Luxe.

Special.

Princessas.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO

MALCAJIK VIRGINIA ROYAL CIGARETTES.

Made of the very choicest Bright Virginia Tobacco.

AND

MALCAJIK PIPE MIXTURE.

A revelation to lovers of a good Pipe Mixture. The finest ever made.

AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

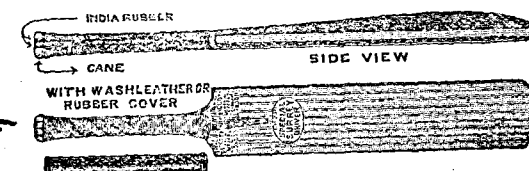
Orders through English Merchants.

JOHN PIGGOTT, LTD.

MANUFACTURERS OF ALL KINDS OF

CRICKET REQUISITES.

SOLE MAKERS
OF THE WORLD
FAMOUS



"SURREY DRIVER"
CRICKET
BAT

The Surrey Driver Bat is strongly recommended to all Cricketers. The wonderful GRIP obtained by the peculiar construction of the handle, together with its marvellous balance and driving powers, renders it the most popular bat of the day. C. B. FRY says:—JOHN PIGGOTT'S "SURREY DRIVER" is a good Bat.—Captain.

Cricket Balls, Leg-Guards, Batting and Wicket-keeping Gloves, etc.

ILLUSTRATED PRICE LIST

Free on application to

Advertisement Department, Reuter's Agency, Bombay, Calcutta,
Madras, Colombo, Karachi or Rangoon.

[Please mention this Advertisement.]

117 & 118, CHEAPSIDE AND MILK STREET, LONDON, E.C.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

BRANCHES:
Bangkok. Colombo. Ipoh (Perak Feder- Madras. Penang.
Batavia. Foochow. ated Malay States). Manila. Rangoon.
Bombay. Hamburg. Karachi. Medan (Deli. Saigon.
Calcutta. Hankow. Kobe. Sumatra). Shanghai.
Cebu. Hong-Kong. Kwa Lumpur. New York. Singapore.
Sourabaya. Taiping. Tientsin. Yokohama.

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
5, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS:

Large Stocks held

WATER METERS,

in Calcutta.

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



"Pelican" and
"Chin-Chin"



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1½-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

ÜNTHER WAGNER,

Sole Manufacturer,
80, MILTON STREET, LONDON, E.C.,



ST.
ERMINS
HOTEL

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Ermlaites," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmin, London."
Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,
Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES,

Manufacturers of every description of

**Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery**

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

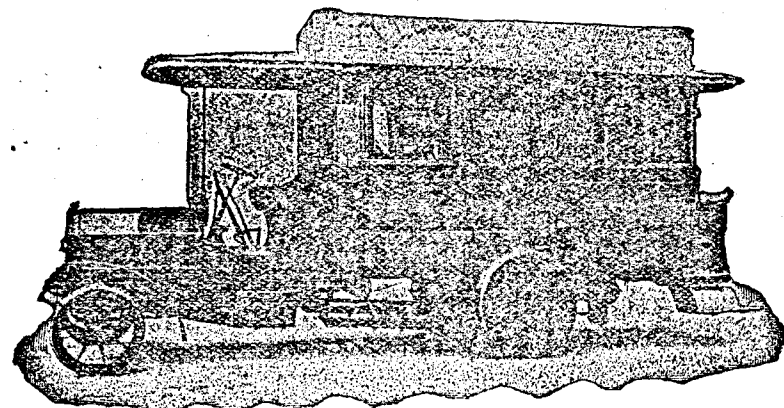
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C



Motor Lorries,

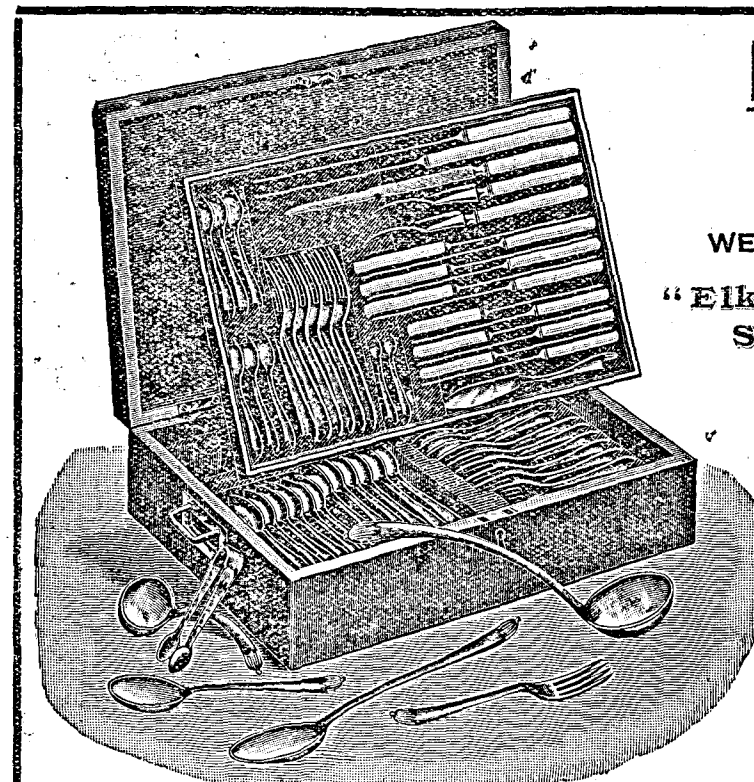
- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.

GLASGOW & SOUTH WESTERN RAILWAY MOTOR OMNIBUS.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.



**ELKINGTON
PLATE**

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,
MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

HALLITE-DOUGLAS,
LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).

"DOUGLAS" GRAPHITE SPECIALITIES.

Flake Graphite, Graphite Paint, Graphite
Grease, Galvanizing Paint, Motor Lubricating
Oils and Greases.

AGENTS WANTED: INDIA, FAR EAST & COLONIES.

Catalogues can be obtained from

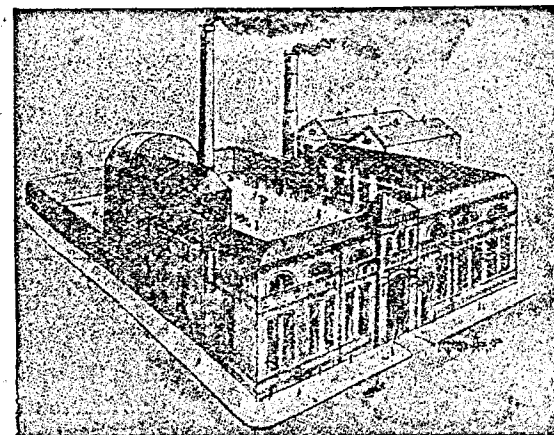
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI
COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints" was received from the Calcutta Exhibition in 1884, and is the guarantee of the excellence of our Manufactures.

This certificate is, and always has been, in the possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.
Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
x x CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—
Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

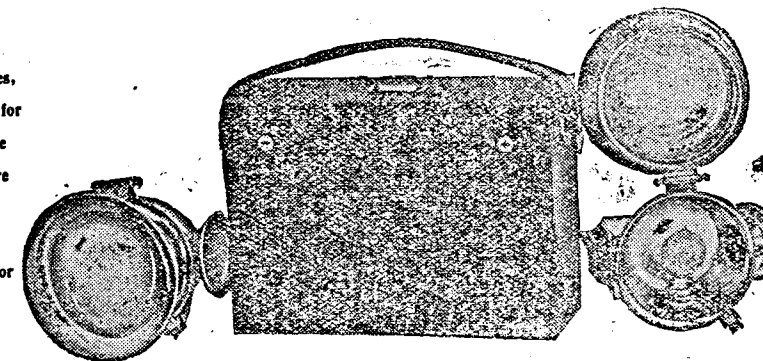
FOR . . .
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZING WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

They will serve you well, and we are confident they will do their best to please you.

→ THE GRATZE ←
IMPROVED PLANTE AND PASTE ACCUMULATORS :—
BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.
(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



Accumulator and Lamps for Carriage or Motor Lighting.

These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches :—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works :
44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES. ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to

HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING
SAFE & LOCK MAKERS NEAR GAS WORKS PAREL BOMBAY

FIRE AND BURGLAR

RESISTING SAFES AND LOCKS.

Highest awards at all Exhibitions.

TESTIMONIAL.

PUBLIC WORKS OFFICE,

Bombay, 12th September 1905.

MESSRS. GODREJ & BOYCE have supplied two strong room doors for the Coin Vaults in the Paper Currency Building, Bombay. They are of good design and excellent workmanship, and compare very favourably with more expensive doors of English manufacture. The locks manufactured by this firm are all that can be desired. They are moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

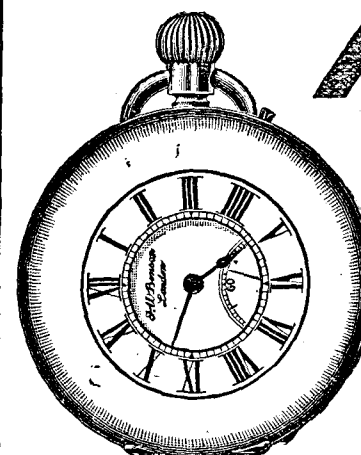
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA

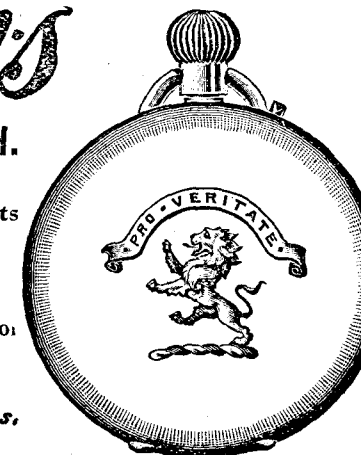


Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.



Special quotations for quantities.

BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adv.] LONDON, ENGLAND

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING CO., LTD., DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD.

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, MANCHESTER, DUBLIN, GLASGOW, etc.

DEPOTS: CAPE TOWN, JOHANNESBURG, BERLIN, etc.

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish "SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & Co.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.

STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY ARTIFICIAL STONE WITH AN ESTABLISHED REPUTATION OF 25 YEARS.	EXCLUSIVELY USED BY THE P. W. D., PORT COMMISSIONERS, MUNICIPALITIES, RAILWAYS, JUTE AND COTTON MILL COMPANIES.	FOR DURABILITY AND FOR BEING SANITARY, DAMP, VERMIN AND FIRE PROOF.
--	--	--

The Floor PAR EXCELLENCE for Dwelling Houses, Footpaths, Godowns, Coach Houses, Stables, Mills and Factories.

For illustrated sheet, particulars, estimates and prices for plain and ornamental flooring laid IN SITU or in tiles and for copies of testimonials, analysis and tests,

Apply to— **BIRD & Co.,** MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
101-1, Clive Street, CALCUTTA.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

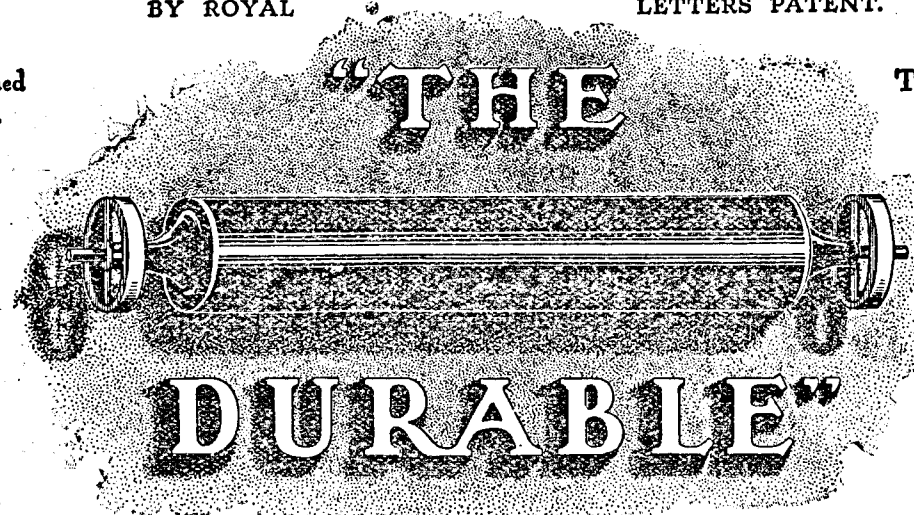
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:
"DURABLE-
ROLLERS."
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE
"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

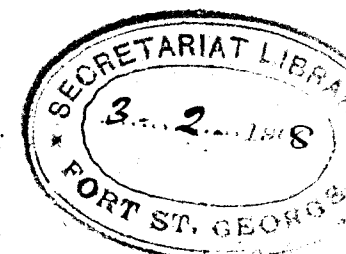
Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

PUBLISHED WEEKLY.



REGISTERED



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

[VOL. VIII. No. 96.] CALCUTTA, THURSDAY, 30th JANUARY, 1908.

[ANNAS 4.]

INDEX.

	PAGE
NOTES	225
NOTICES—	
Enquiries	233
Calls for Tenders	ib.
Books of Reference	ib.
LEADER—	
Production and Consumption of Food Grains	234
CHAMBERS OF COMMERCE	236
TARIFF CHANGES	239
SEASON AND CROP PROSPECTS	ib.
THE FAMINE	241
INDIAN AGRICULTURE	ib.
NEW NORWEGIAN FERTILIZER	242
AMERICAN COPPER INDUSTRY	ib.
COFFEE VALORIZATION	243
ECONOMIC POSITION IN GERMANY	245
NEW REFERENCE BOOKS	ib.
FOREIGN TRADE OF THE UNITED KINGDOM	246
TABLES—	
Land Trade of British India	250
Sea-borne Trade in British India	252
Food Grains and Salt	253
WEEKLY TRADE MOVEMENTS	254
RESULTS OF AUCTION TEA SALES IN CALCUTTA	255
DEPARTMENTAL PUBLICATIONS	256
ADVERTISEMENTS	257

NOTES.

The Presidency Bank rates are as follows:—

Calcutta	9	per cent.
Bombay	8	" "
Madras	8	" "

Exchange—1-3 1/8

We hear that considerable inconvenience has been caused in trade circles in **Bushire** by the discovery of considerable numbers of counterfeit krans in circulation. Dollars are also being counterfeited, and it is believed that the work is being done on a certain island in the vicinity of **Lingah**.

It is reported on good authority that about the middle of the present month a serious difficulty arose at certain ports on the **Persian Mekran coast** through the action of the **Baluch Mirs**, who ejected the regular customs authorities and forcibly levied duties on their own account. British traders have, we believe, been advised to furnish lists of goods imported, but to pay no duties for the present.

In reply to a question put by the Hon. **Babu Gajadhar Prasad** at the meeting of the **Bengal Legislative Council** held on the 25th instant, regarding the great inconvenience caused by the diversity of the weights and measures used in **Bengal and Bihar**, the Hon. Mr. **Oldham** said:—"This question has already received the full consideration of Government, and it has been decided with the

consent of the Government of India, to amend the Bengal Municipal Act, III of 1884, so as to take permissive power for Commissioners of Municipalities at their discretion to enforce the use of Government standards of weights and measures in Municipal areas."

The prize of Rs. 125 for the best factory handloom offered by the third Indian Industrial Conference has been awarded to the "New Churchill Loom," exhibited by Mr. Churchill, of Ahmednagar. This loom is worked by foot. The weaver sits on a bicycle seat, so arranged that he can work by pressing his feet straight down and so obtain the greatest advantage in working with the least exertion on the muscles. There are no wheels to turn the shaft, but a leather band, connected with the ends of the foot-levers, goes round the shaft and turns it round alternately backwards and forwards and works the sheds as well as the sley, a curving double spring with ball-bearings controlling the speed. The prize of Rs. 125 for the best cottage loom was awarded to the "Sayaji Poor Man's Loom," priced at Rs. 25 to Rs. 30 according to size. It is said to be suitable for all work that can be done on the ordinary country loom, the outturn being more than doubled.

At the Indian Industrial Conference held at Surat last month, the Cambay stone industry, which is one of very long standing, formed the subject of an interesting paper read by Rao Bahadur Madhavaram Harnarayan, Dewan of Cambay State. "Cambay stone" is not found in the soil, as the term seems to suggest, but includes different varieties of stones manufactured in Cambay for various articles of use and ornament. The chief of these stones is an agate, which, in its natural state, is of a dull, cloudy brown or yellow colour. Other stones popular with the Cambay lapidaries are varieties of jasper, chocolate stone, lapis lazuli and black stone. The Dewan described fully the processes of manufacture, such as sawing, chiselling and polishing, and enumerated the great variety of articles made by those engaged in the industry. It should be added that the industry supports about 2,300 men, about one-sixteenth of the total population. The total value of stones imported annually is estimated at from Rs. 3,000 to Rs. 5,000, but it is illustrative of the high profits made to mention that the value of articles manufactured amounts annually to nearly two lakhs of rupees.

The total area irrigated in Sind during the year 1906-07 was 3,877,535 acres, as compared with 3,693,314 acres in the previous year.

We have received a copy of the current Mauritius Tariff of Customs and Harbour Dues, which may be inspected in this office.

The following are the comparative trade figures of the Nuskhi-Seistan trade route for November and for the eight months ended November, 1907 and 1906 :—

Exports.

	Nov. 1907.	Nov. 1906.	Eight months ended Nov. 1907.	Eight months ended Nov. 1906.	Total increase.	Total decrease.
Afghanistan	39,091	...	44,745	15,503	20,243	...
Persia	71,913	32,702	3,04,755	1,63,377	1,21,378	...
Baluchistan	60,257	10,919	2,84,315	2,20,150	59,189	...

Imports.

	Nov. 1907.	Nov. 1906.	Eight months ended Nov. 1907.	Eight months ended Nov. 1906.	Total increase.	Total decrease.
Afghanistan	4,200	8,183	9,067	1,19,430	...	1,10,372
Persia	22,510	14,114	1,73,039	1,20,232	46,757	...
Baluchistan	78,558	1,927	3,28,104	1,97,054	1,30,450	...

The net increase for the whole period under report is Rs. 2,75,614 over the figures for the corresponding period of 1906. Exports in all cases show an all-round increase, and so do imports except in the case of Afghanistan, which marks a heavy decline.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 25th January, 1908—

In the Calcutta market—

Behar opium—Rs. 1,360; 1,370; 1,353; 1,355; 1,346; 1,347.

Benares opium—Rs. 1,350; 1,355; 1,340; 1,340; 1,335; 1,335.

The prices in the time bargains for the Behar opium of the 2nd sale of 1908 were Rs. 1,367; 1,377; 1,360; 1,362; 1,353; 1,354.

In the China market—

At Hongkong (exchange Rs. 142½ to 143½ per \$100).

Behar opium—\$945 and 950; 950; 950; 955; 957½; 955; 955.

Benares opium—On the 19th, 20th and 22nd instant \$935; 947; and 950, respectively.

At Shanghai—(exchange Rs. 191 per 100 taels).

Behar opium—On the 20th instant 722 and 726 taels.

Benares opium—On the 20th instant 718 and 722 taels.

For the week ending 18th January, 1908—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,215 to 1,320; (new, 1905-06) Rs. 1,270 to 1,348; (old, 1904-05) Rs. 1,350 to 1,400; the latest prices at Hongkong and Shanghai, respectively, were (new) Rs. 1,287 and 1,363; (old) Rs. 1,358 and 1,440.

An estimate of the value of German grain crops for the past year shows a considerable gain

over the two previous years. The aggregate value of the wheat, rye, barley, and oats crops reached £246,880,000, as compared with £201,376,000 for 1906, and £180,737,000 for 1905. The gain is due in great part to the higher prices prevailing this year, wheat being rated at 221 marks per ton, against 172 and 170 marks respectively for 1906 and 1905; rye at 203, against 158 and 160 marks; barley at 173, against 157 and 153 marks; and oats at 173, against 159 and 153 marks. The wheat crop last year amounted to 3,479,000 tons, against 9,939,000 tons in 1906; rye to 9,757,000 tons, against 9,625,000; barley to 3,497,000 tons, against 3,111,000 tons; and oats to 9,149,000 tons, against 6,546,000 tons.

The *Corn Trade News* gives the following summary of the world's crops as on the 7th instant:—**United States of America**—Occasional complaints Hessian fly, otherwise favourable. **Argentina**—Some complaints damage to southern crop, but generally outlook for Wheat, Oats and Linseed maintained; Maize threatened by increasing swarms of locusts. **Australia**—Indications about unchanged. **India**—Rainless in northern region, where main crop grown, prospects for further seedings becoming poor; Central India and Bengal fair. **Russia**—Severe weather experienced, crop prospects naturally unimproved. **Roumania**—Frost followed snowstorm, fields partially covered but no damage feared as frost not very severe. **Austria-Hungary**—Weather very severe, which must have tried crops greatly. **France**—Severe frost with some snow; crops generally satisfactory. **Germany and Belgium**—Severe frost, without snow, which not favourable for crops, but no special complaints. **United Kingdom**—Weather milder after hard frost; late seedings somewhat nipped. **Italy, Spain and North Africa**—Reports are mostly favourable.

The past year has been an eventful one for the grain and flour market. It has been marked by periods of intense excitement, recalling, write Messrs. Dunlop Brothers in their report, the memorable "Leiter boom" of 1898, and resulting in the advance of the price of breadstuffs to a level with which we have long been unfamiliar. Moreover, it is thought that but for the American crisis and the subsequent raising of our Bank rate, even higher prices than those recorded would have followed the alarming reports of shortages in the great wheat crops of the world. The fact that this was the case "is evidence of the unusual strength attributed to the wheat situation." The first four months of the year were fairly quiet, with small demand and low prices, although in February the severe weather in Europe stimulated the market somewhat. At the beginning of May, however, the American Bureau report announced the very low condition of the winter crop. At the same time the seeding operations for the spring crop, both in the

States and in Canada, were very backward; and the reports from Russia, Germany, and Hungary were all unfavourable. The result of this alarming position is thus described in Messrs. Dunlop's review of the year:—"America, now thoroughly alarmed, moved quickly, and, amid scenes of wild excitement, sensational advances were recorded in the price of wheat on the New York and Chicago speculative markets. An enormous business was likewise effected in London and Liverpool, partly on Continental account, in both parcels and cargoes, Australian white wheat getting special attention. Meantime our own market, exercising a degree of caution that often defeats its intention, had allowed stocks to run too low, and buyers were now in evidence, with the result that a fairly active trade transpired, particularly in flour, at prices showing an advance of 4s. to 5s. per sack from January rates, while Manitoban wheats were quite 5s. 6d. per qr. dearer when so compared." The following months were comparatively quiet, with low prices, but an upward movement reached an exciting climax in October, when adverse reports were received relating to the growing wheat crops of India and Australia. Meantime the States and Canada had secured their diminished crops; Russia's was also poor, but that of France was liberal and of good quality. The wheat crop of the United Kingdom, contrary to all expectations, proved to be large and of fine quality—a very notable result. With regard to the present outlook, Messrs. Dunlop write: "It may be safely affirmed that the wheat position, as it now presents itself, is an altogether unusual one, and gives promise of interesting, perhaps even startling, developments in the New Year."

The following statement shows the exports of Rice from Saigon in the fourth quarter and in the twelve months ending 31st December, 1907, compared with the corresponding period of the years 1905-06 :—

Countries to which exported.	Fourth quarter of			Twelve months ending 31st December,		
	1905	1906	1907	1905	1906	1907
	Tons	Tons	Tons	Tons	Tons	Tons
China	895	30,994	20,863	35,316	120,541	526,786
Philippines	26,833	28,987	26,797	141,080	105,740	95,945
Japan	5,938	...	12,262	66,679	66,816	84,208
Java	13,360	20,012	31,131	31,078	76,483	57,185
Europe	19,155	34,762	39,548	96,956	148,917	210,953
Other countries	1,856	13,440	14,786	19,277	33,779	51,541
Total	67,856	128,125	151,337	390,392	545,285	1,026,513

The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes during December, 1907,

amounted to 3,456,321 tons, and the tonnage cleared to 4,561,696 tons, as against 3,414,990 tons entered, and 4,223,289 tons cleared during December, 1906. With regard to the coasting trade, the tonnage entered with cargoes during December, 1907, amounted to 2,381,914 tons, and the tonnage cleared to 2,321,145 tons, as against 2,563,058 tons entered, and 2,516,552 tons cleared in December, 1906. The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes, during the year ended 31st December, 1907, amounted to 41,402,510 tons, and the tonnage cleared to 57,583,044 tons, as against 41,595,514 tons entered and 54,298,674 tons cleared during the year 1906. With regard to the coasting trade, the tonnage entered with cargoes during the year ended 31st December, 1907, amounted to 31,078,887 tons, and the tonnage cleared to 30,682,977 tons, as against 32,768,950 tons entered and 32,315,382 tons cleared during the preceding year.

Evidence given in South Africa before the sub-committee of the Royal Commission on Shipping Rings is said to be of a most conflicting nature. From a perusal of the evidence, it is clear that the real hardship, as far as the inland states are concerned, lies not so much in ocean freights as in the high railway rates at present prevailing in South Africa. For example, a ton of galvanised iron is carried from London to Durban for 25s., whereas £5 10s. is the railway rate from Durban to Johannesburg; the ocean freight on a bag of rice by the same route is 3s. 6½d., while the railway charge for taking it to Johannesburg is 8s. 7½d. When one recalls that the distance from London to Natal is about 7,000 miles, and from Durban to Johannesburg only 483 miles, the great disproportion is at once apparent. There seems to be no doubt that a large number of the merchants are in favour of the present service, because they can depend on receiving their goods at regular intervals owing to the fixity of sailings from England.

Some reference has been made on a previous occasion, says the *Times* engineering supplement of January 8th, to the activity which has recently taken place in the cultivation of rubber trees in the Malay States, Ceylon, and India, and the fear has been expressed in certain quarters that too much rubber planting was being carried out, and that the markets would be swamped. Those who have not taken the trouble to examine the latest statistics point to the heavy fall in the price of rubber, which has declined from 5s. 2d. per lb. for best Para, the value last year, to the present quotation of 3s. 5d., as the first indication of this over-production. As a matter of fact, Asia is only sending out about three per cent. of the world's supply of rubber, while America contributes 68 per cent. and tropical Africa 34 per cent. In Malaya, where the planting of rubber has made very great progress in

the last few years, it is estimated by Mr. J. B. Carruthers, the Government Botanist, that on January 1st of the past year there were nearly 86,000 acres of rubber plantations on 242 different estates, and he asserts that if all the rubber now planted in the States should grow vigorously without the loss of a single tree until the end of 1912, when the whole of the trees ought to be in bearing, the Federated Malay States would then be producing about one-seventeenth of the world's estimated requirements at that date. This is based on the average of 1½ lb. per tree and allowing 10 per cent. as the probable annual increase in the consumption of rubber, a rate which is likely to be exceeded at the present fall in prices. Asiatic rubber can, it is asserted, be placed on the London market at a cost of less than one-half of that needed to procure the wild rubber from the forests of South America.

We see from the Resolution on the Report on Forest Administration in Eastern Bengal and Assam in 1906-07 that the area of the reserves increased by 247 square miles and now stands at 6,250 square miles, or 6·3 per cent. of the area for the whole province. Reservations aggregating 220 square miles were effected in the Chittagong, Cachar, and Nowgong divisions, the adoption of forest survey figures added 27·4 square miles, while an area of one square mile was disforested in Jalpaiguri and thrown open for ordinary cultivation. There was a serious fall in the revenue demand from the Charduar rubber plantations owing to a strike among the tappers, which lasted for some weeks. The plantation contains 2,754 acres of *ficus elastica* and nurseries to permit of large extensions are maintained. During the year 679 plants were put out to fill up vacancies, 223 miles of inspection paths and 233 miles for rubber and blood lines were cleared. The question of the disposal of the plantations is still under consideration. Major Cole, the Superintendent, Lushai Hills, is endeavouring, with, apparently, every prospect of success, to introduce the cultivation of *ficus elastica* into his district. Five Lushais were sent to Charduar for a practical course of instruction and are now teaching the Lushais. Over 60 seed beds have been prepared. The possibility of cultivating *Hevea Brasiliensis* in these hills is also to be considered. The gross forest revenue amounted to Rs. 13,09,480, and the expenditure to Rs. 7,10,734.

Mr. William Thomson, president, presiding at a meeting of the Dundee Chamber, on December 26th, remarked that for a good part of last year the jute trade was good. At the beginning of the year jute rose to an unprecedented value, and more than double the average of the previous nine years, but there was now a return to a price lower than that average. The violent fall in prices and sudden fluctuation had brought a severe loss to many in the trade, and business latterly had been anything but

profitable. There had been a good supply of raw material, both jute and flax, and the export demand, on the whole, compared favourably with the previous year. In the flax trade, the difference in the value of the raw material tended towards lower prices, but this had not affected the prices of yarn and cloth, for which there was a good demand. With prices giving way, production had to be curtailed, and the depression which had set in was intensified by the financial trouble in the United States and advances in the bank rate.

The Russian flax and jute trade has increased very rapidly during the last few years, and there are those who say that Russia will be the linen-producing country of the future. Russian crashes and towelling have established a name for themselves in European markets, and neither British nor French makers can compete successfully in these particular lines. Lille is a large customer of Russia both for raw material and fabrics. With the object of affording greater facilities a through service of goods trains has been established between Russia and the district served by the lines of the Northern Railway of France. The trains will be made up at Moscow, St. Petersburg, and Warsaw with waggons specially suited for carrying flax and linen in trusses. After leaving Russian territory they will travel over the German lines, through Belgium, and so to Lille, where they will be distributed over the linen-manufacturing area. These through trains will bring the flax fields of Russia into close touch with the spindles and looms of the valley of the Lys.

The *Ironmonger* of the 11th instant has the following comments on the copper market:—Up till Wednesday (January 8th) standard copper advanced steadily with a firm tone, sellers being reluctant and buyers pretty eager. To all appearance American news was regarded as more encouraging, but it is doubtful whether the position has improved there to such an extent as to warrant the slightest advance in prices. Of course rumours have been floating about calculated to frighten "bears" to cover; for instance, that America may at any time come into the London market to buy back copper and so forth. If America does so it will be merely in pursuance of a policy of manipulation which, if indulged in, can have only the usual fate of transatlantic juggling with copper. Still, as the rumours emanate from high quarters it might be well to scrutinise the position closely. We are absolutely convinced that production in the United States has not been shut down to anything like the extent currently stated, and we are also convinced that present output there is far in excess of consumption. These facts may be ignored or distorted for market purposes, but they are the hard facts which in the long run determine prices. If the Americans are wise they will drop market-rigging for a bit and turn their attention to running square enterprises

in a square way. It will be all the better for them and for their commercial relations abroad. Last year's history of the United States is a record of financial and commercial "thimble-rigging." India has bought a little yellow metal, paying 6½d. and 6¾d., but the demand has been decidedly less active. Strong sheets have been quiet. A fair inquiry has been met with for tubes but not much business has resulted. Last week's shipments from New York, Baltimore, and Philadelphia to Europe were 7,383 tons. The sales of Chili bars on the West Coast include 100 tons of Lota (Liverpool), 25 tons of Lambert (Continental), 150 tons of Catemu, 100 tons of Urmeneta (Liverpool), and 50 tons of Calama (Liverpool). The Tinto Co. have made some sales at about £66.

As regards the tin market, the same paper says:—There has been a sharp run up in prices, due in part to a natural reaction after the heavy fall and in part also to some "bear" covering. Option dealings have been fairly large, and the account in this direction is usually regarded as complicated. There was one sale in a line of 500 tons "put and call" at £12 a ton for three months, and a good share of the dealing at one time and another seemed to be transactions in connection with options. Eastern prices have been advanced but the future of the market is by no means rosy. The signs are, indeed, regarded by not a few as ominous. Chinese buying has been in evidence again, and there has also been selling by Eastern interests in Singapore and Penang as well as in London. America has bought a little, and this was seized as an opportunity for lifting prices, but generally the buying for transatlantic account was regarded as being of a speculative nature. At any rate, the largest consumers assert that they will not require to buy tin for several months to come. This may be "bluff," of course, but the statement has been made definitely and reiterated. It is certain that American consumption will be very small for several months, and there is no reason whatever to think that there will be any scarcity of tin for a very long time even should the Straits supplies continue to be manipulated. For the first week of January the shipments were 1,275 tons; part of this no doubt consists of tin in steamers which could not get away last month owing to the holidays. The statistics at the end of January are bound to be bad, with a probable increase of considerably over 2,000 tons in the visible supply. Some people place the increase at a much higher figure, but we prefer to take what we believe is a conservative view.

We are informed by the postal authorities that with effect from the 1st proximo the sender of value-payable articles will be required to make the following entries on the article itself:—(i) the letters "V. P.," followed by an entry in figures and words of the amount for remittance to the sender, and (ii) the sender's name and address. In the

case of railway receipt notes posted open for transmission as value-payable articles these entries should be made either on the back of the railway receipt note or on a separate piece of paper securely affixed by the sender to the back of the railway receipt note.

Referring to the notice in the *Indian Trade Journal* of the 5th ultimo respecting the discovery of manganese at Fifield (N. S. W.), the *Sydney Morning Herald* describes another deposit about 18 miles from Orange (N. S. W.), which is being worked by a syndicate, in the following terms:—"It is an outcropping manganese lode, beneath which is a red oxide of iron formation 2 ft. 6 in. in width in the form of fairly fine powder. The surface formation is said to carry about 75 per cent. of manganese, 2 dwt. of gold, and 4 ozs. of silver; the red oxide shows traces only of gold and silver. The powdery deposit is in two distinct seams of colouration—one purple and the other brown. Portion of the deposit is intermixed with small lenticular veins of unoxidised red hematite, and is said, when ground up, to be richest in colouration. The Standard Paint Co. of Sydney are experimenting with a parcel of eight tons of the material for paint manufacture, and the syndicate is said to be in negotiation with a German Company to take a shipment of manganese, while other orders have been received. Some copper has been disclosed in the assays. Very little development work has been done on the property so far, but the assay value proclaims the deposit as being a valuable one."

The following figures represent the quantity and the value of gold and silver imported from, and exported to, foreign countries, into and from British India, during the month of December, 1907:—The total imports of gold were 95,061 oz. valued at Rs. 59,55,116; of these 65,927 oz. valued at Rs. 42,32,290 represented bullion; and 29,134 oz. valued at Rs. 15,97,334 represented sovereigns and other British gold coin; and 2,152 oz. valued at Rs. 1,25,492 represented other coined gold. The total exports of gold were 69,739 oz. valued at Rs. 39,88,059; of these 68,225 oz. valued at Rs. 39,00,291 represented bullion; and 633 oz. valued at Rs. 37,515 represented sovereigns and other British gold coin; and 881 oz. valued at Rs. 50,253 represented other coined gold. The total imports of silver were 5,007,756 oz. valued at Rs. 91,19,343; of these 4,690,509 oz. valued at Rs. 82,73,361 represented bar; and 317,224 oz. valued at Rs. 8,45,933 represented Government of India rupees; and 23 oz. valued at Rs. 49 represented other coin. The total exports of silver were 1,849,757* oz. valued at Rs. 36,15,010; of these 183,831* oz. valued at Rs. 3,90,478 represented bullion; and 387,382 oz. valued at Rs. 10,33,020 represented Government of India rupee; and

1,211,923 oz. valued at Rs. 20,61,726 represented British dollars; and 66,621 oz. valued at Rs. 1,29,786 represented other coin. In this month the net imports of gold amounted to 19.7 lakhs of rupees, and of silver to 55.04 lakhs. The figures marked with an asterisk* are defective, the weight of certain postal parcels not being declared by the Post Office.

Particulars are published regarding a new textile fibre introduced into Brazil. This fibre, recently discovered and cultivated in the State of Rio de Janeiro, under the name of "lin Perini," has already begun to be exported abroad. It shares the good qualities of flax and hemp. Messrs. Righmit and Perini have shipped to Europe twelve bales of fibre and eight of tow: sixteen further bales were also shipped. The crop of "lin Perini" secured at Rodeio and Boa-Vista (Rio State) has amounted to 600 tons. The important London house of Fry Miers has already expended considerable sums in exploiting this new industry. The first samples of the new fibre sold at £40 per ton.

A demonstration of motor harvesting was made recently in Lincolnshire, which is claimed to have broken the world's record. In four hours it seems standing wheat was converted into flour for the baker, if not into bread, as one account intimates. A local newspaper gives the following details:—An acre of standing corn was cut, bound, thrashed, and ground by the motive power of an agricultural tractor working with a petrol engine. At 11-35 in the morning the tractor started its work by taking the thrashing drum into the corn-field. Five minutes later it began to draw two harvesters through the corn. Half-a-dozen men walking behind stooked it, and in exactly fifteen minutes what had been an acre of growing corn was standing on the field cut and stooked ready to be placed on the cart. By one o'clock the corn was lying at the side of the thrashing drum. After luncheon the thrasher got to work, being driven by a belt from the tractor, and soon the flour began to come from the mill, which was being worked off a pulley on the thrashing drum. A move was made to another field, where ploughing took place, a three-blade plough cutting three furrows 2 in. deep and 7 in. wide. A cultivator and a drill were then both hooked on behind, and at 5-30 an acre was ready for the harrow, which had completed its work by 6-45. Deducting the interval for luncheon and a stop due to overheated bearing, the net time taken to accomplish this remarkable harvesting feat was six hours and forty minutes. All the machinery used was British made, excepting the harvesters, and they came from Canada.

The reports of the cotton harvest in Russian Central Asia are unsatisfactory. There is expected

to be a deficit of 20 per cent. in Khokand, as compared with the harvest of last year. The result at Andizhan is expected to be inferior to that of last year by some 30 per cent. to 40 per cent.; but here the finer fibre will suffer only to the extent of about 25 per cent. Again, there is a 40 per cent. decline looked for in the Chodzhenst and Samarkand districts. Generally the decline in Bokhara will be 30 per cent., with a deficit of only 15 per cent. in the finer fibre, and in the Transcasian district, Merv, the decline is calculated at 30 per cent. to 35 per cent. The state of things in Transcaucasia is still worse, where a large quantity is ungathered because of a fall of snow on December 2nd, under which a large amount of cotton now lies.

The *British Trade Journal* of January 1st writes:—Some discussion has arisen with reference to the trade in cotton between India and Japan, it having been reported that the Japanese will not purchase any cotton brought from India in English vessels. It was at first supposed that Government subsidies to Japanese steamship companies were at the bottom of the trouble, but we learn that this is not the case, the Japanese vessels running between India and Japan not being supported by any Government funds. The *modus operandi* is by means of a syndicate or combine among Japanese cotton spinners, under the name of the "Rengokai." The members of this have arranged to purchase all their cotton in Bombay on the co-operative principle, and they have provided that it shall be conveyed to Japan under the Japanese flag as far as Japanese steamers can carry it. Hence it is impossible to sell any cotton in Japan except through the medium of the "Rengokai" monopoly.

Mr. J. Kidyer, of Oldham, has prepared an interesting analysis of the profits earned during last year in the British cotton-spinning trade. They establish a fresh record of profit-making. Mr. Kidyer takes one hundred companies having a share capital of £3,722,780 invested, together with £2,377,466 borrowed capital, either by way of mortgages, debentures, or upon short date loans. Thus the hundred companies are not all among the best, or most up-to-date companies possessing the newest plants; they include mills that have been in existence over thirty years. The capital employed by these one hundred companies has earned, after making allowance for wear and tear of plant, £1,321,157 net profit, or nearly 35½ per cent. This gives an average profit per company of £13,211 against £6,555 for 1906. The dividends and bonuses show great improvement, the average being 15½ against 9½ per cent. paid last year. If the interest at the rate of 4 per cent. is allowed on the £2,377,466 borrowed capital, or say, £96,000, the total profit earned on the combined share and loan capital of £6,100,246 would have amounted to £1,417,157, which works out to nearly 23½ per cent. on the total capital em-

ployed. It was said above that the one hundred companies which give these remarkable results are not a selection of all the best-equipped companies. For instance, an examination of eighty other companies of modern erection and equipment, which never disclose trade profits, reveals an average dividend and bonuses declared of over 17½ per cent. against the 15½ of the one hundred companies which issue accounts. The situation throughout last year was so favourable that a large number of new mills are being erected, and before the end of this year the output will be materially increased, though the out-look for 1908 is said to be much less reassuring than it was for the past year.

H. M. Commercial Attaché at Yokohama (Mr. E. F. Crowe) has forwarded an extract from the *Japan Gazette* containing a resumé of a circular issued by the Kobe Customs officials, which, after pointing out that the increased Customs duty has largely added to the amount of the duty imposed on goods, states that this has led some merchants to forge or alter the invoices of goods in an attempt to partly evade the payment of the duty. The circular goes on to say that the Customs authorities hope to frustrate such fraudulent practices by the strict examination of the quantity and value of goods, but the trouble involved in such examination will greatly impede the rapid transaction of Customs business. Unless some step of this kind is taken, however, goods passed by dishonest means will damage honest merchants and impede the natural development of trade. The Customs authorities, adds the circular, have been doing their utmost to expedite the passage of goods through the Customs, and the Superintendent regrets to be compelled to resort to such measures as searching the offices of merchants to obtain evidence. He will be bound, however, to take such a course if practices are continued which militate against the right of the State to collect duties imposed by law. Recently a few business offices have been subjected to the domiciliary visit of the Customs authorities.

The British engineering trades have had a very good year. The previous year's impetus has not yet died away, and the export figures for 1907 constitute a record in the history of the trade. But the present outlook, in the opinion of Messrs. Matheson and Grant, is "uncertain and gloomy." "The pinch" of dear money "is felt chiefly in the United States and Germany," although "the industrial undertakings and new ventures in all countries on which the engineering trades depend are embarrassed and retarded." A notable feature of the year's record was a revival in the construction of spinning, weaving, and other machinery used in the manufacture of textiles. Particularly has this been felt by the manufacturers of machinery used in the linen factories of Belfast and elsewhere. There has also been a great demand for locomotives and

rolling-stock on most of the world's railways. The report also speaks of a decline in the price of coal as almost certain to occur shortly. The export of coal during the past year has been abnormally large, and the wages paid to miners are the highest for ten years past.

Mr. Lloyd George, speaking at Cardiff, said the depression in the United States and Germany was likely to spread to Great Britain, but he was confident it would not be severe.

According to recent information, a factory is being equipped in Japan to produce five tons of celluloid and half a ton of artificial silk daily. Celluloid, as is well known, is made by treating nitro-cellulose with camphor, and Japan, including Formosa, furnishes about four-fifths of the world's supply of camphor, which is, moreover, a Japanese State monopoly for export purposes, and is constantly rising in price. The best artificial silk is that produced by the Chardonnet process which likewise makes use of nitro-cellulose as a raw material, and it is asserted that Japan, although a large silk-producing country, has hitherto imported a considerable quantity of the artificial silk, which is used in Kyoto for making tapestries, screens, and embroideries. It will thus be possible for the new company to employ its raw material either for the preparation of celluloid or for artificial silk in accordance with the state of the market.

A Berlin correspondent states that at the Berlin Automobile Exhibition held in December, 1907, a 100-h.p. motor of extraordinary lightness and construction attracted much attention. Another production of this description is a 120-h.p. motor of only 85 kg. weight, constructed by two Swiss engineers, Messrs. Dufaux, of Geneva. This motor is made up of 20 cylinders mounted in five groups on a crank shaft, carrying five cranks, which rotates at 1,500 r.p.m. Each group is made up of two double acting tandem cylinders. The cooling is effected by water circulation. Both the pistons and piston rods are hollow, and are cooled by a continual air current in their interior. The water and air circulation is effected by a high-speed pump and centrifugal ventilator. Lubrication is accomplished by three oil-circulating pumps which draw the oil into a common reservoir, from which it is injected into a distribution pipe provided with adjustable sight feed lubricators. Each pump is further provided with an output regulator. Cranks, valve rods, cam shafts, and cams are all hollow.

The German potash industry has had a rather unsatisfactory year. After the heavy losses in share values in 1906, aggregating about £4,250,000,

there was a further considerable shrinkage last year. The companies in this industry are divided into regular joint-stock companies, of which there are 20, and so-called *Gewerkschaften*, of which there are 24. (The peculiarity of the *Gewerkschaft* is that its shares, or *Kuxe*, have no nominal value, but each one represents the one-thousandth part of the property). The average reduction in the price of the former class of shares last year was 38 per cent., while the aggregate loss on the second class was about £2,000,000. Besides these, there are many undertakings that have not yet reached the producing stage. At least 100 such shares are dealt in by banks and brokers, and the shrinkage in their value has been proportionately still greater than with the producing concerns. Altogether the losses last year have been probably as great as in 1906. On the other hand, the position of the Potash Syndicate has been improved by taking in the independent works which had begun to offer a dangerous competition for its products. Many new concerns, however, are sinking shafts, and will reach the producing stage within a few years, and then the renewal of the Syndicate can only be effected by making wide concessions in the way of allotments to these new-comers.

The record of the past year shows many factors unfavourable to the Chilean nitrate industry. In the early part of the year the weather conditions in Europe, and later the prolonged strike of Hamburg stevedores, operated against consumption. In the States the lack of supplies during three months of the year caused American consumption also to fall below the expected amount, while the financial conditions prevailing in America and Germany, and more specially the crisis in Chili, unfavourably affected the market. And, as Messrs. W. Montgomery and Company write in their half-yearly report, it cannot be a matter for surprise that the usual replenishing of interior stocks on the Continent towards the end of the year was considerably curtailed by reason of the high rates for money. Thus the purchases of nitrate in all parts of the world during the past year have been comparatively disappointing, showing, as they do, the smallest increase upon that of the preceding year for the last five years. The Chilean strike which disorganised the working of the nitrate ports early in the year, with the subsequent encounters between the strikers and the military, causing much loss of life, and the financial difficulties in which the Chilean Government became involved, injure the nitrate industry considerably. Several Chilean companies have been obliged to go into liquidation through the higher costs and difficulties in production, rendering it impossible for them to fulfil old contracts made long since at comparatively low prices. Since writing the above, it has been officially announced that the labour trouble at Iquique has completely ceased, and that work is proceeding as usual throughout the nitrate districts and ports.

The French Consul at Mosul states that two merchants there have been successfully engaged in the exportation of albumen and the yolk of eggs, a branch of commerce which, he states, is capable of considerable development. The eggs, bought in the surrounding villages, are delivered in Mosul at from 2f. to 2-30f. a hundred. The yolks are separated from the whites, carefully mixed with 1 per cent. of boric acid and 10 per cent. of sea salt, and immediately put into the casks. The casks when filled contain some 10,000 yolks, and weigh about 200 kilos. The exports of egg-yolk from Mosul in 1907 amounted to 150 tons, valued approximately at 20,000f. (about £800). In the preparation of albumen a proportion of from $\frac{1}{2}$ to 1 per cent. of acetic acid is added to the whites of the eggs, which are then dried in the sun. The exports of albumen during 1907 amounted to thirty cases (of 150 kilos. each), valued at about 18,000f. (£720). The chief difficulty with which the trade has to contend is the lack of direct means of transport. The cases at present are sent from Mosul to Bagdad; from Bagdad they are forwarded to Bassorah by English or Turkish steamers, and from Bassorah to Marseilles by the "Hamburg-Amerika" or "Anglo-Arabian" line.

NOTICES.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Apatite, Bauxite, Columbite.

(201)—A correspondent requires the addresses of purchasers of apatite, bauxite and columbite, more particularly those of firms dealing in bauxite for the extraction of oxide of alumina and those who manufacture aluminium from the oxide. (*British and American papers please copy.*)

Grain Bags.

(202)—A South African Agent requires quotations, c. i. f. Natal, for of 2½ to 3 lb. grain bags in bales of 200 to 300.

Corks.

(203)—A French firm manufacturing corks desires an agent in India.

Linseed Oil and Oilcake.

(204)—An Indian firm desires the addresses of dealers in linseed oil and oil cake.

CALLS FOR TENDERS.

Firewood.

The Divisional Contract Officer, Quetta, is calling for tenders up to March 16th, 1908, for the supply of 230,000 maunds of firewood in billets or logs.

Miscellaneous.

The Station Supply Officer, Quetta, is calling for tenders under various headings, particulars of which may be obtained from him.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the ante-room till Wednesday, 5th February, 1908:—

Parliamentary Publications.

Board of Agriculture and Fisheries—Annual Report of Proceedings under the Sale of Food and Drugs Acts, the Merchandise Marks Acts, the Fertilisers and Feeding Stuffs Acts, and the Board of Agriculture Act for the year 1906. Trade of the United Kingdom—Monthly Account, December, 1907. Trade with New Zealand—Report upon the Conditions and Prospects of British Trade in New Zealand by the Advisory Committee of the Board of Trade on Commercial Intelligence; based upon information collected by their Commissioner, Mr. R. J. Jeffray.

Foreign and Colonial Publications.

Australia—The New Zealand Official Yearbook for 1907; Victorian Yearbook, 1906-07; Summary of Production Statistics of the Commonwealth of Australia, 1901 to 1906. Denmark—Annuaire Statistique, 1907; Importation et Exportation du Danemark en 1906. Italy—Bollettino del Ministero degli Affari Esteri, General numbers 348 to 352 of 1907; Monthly Account of Trade, September, 1907. Spain—Monthly Account of Trade, November, 1907. United States—Monthly Summary of Commerce and Finance, October, 1907; Monthly Consular and Trade Reports, December, 1907; Report of the Secretary of Agriculture, 1907; Farmers' Bulletin No. 307—Roselle: Its Culture and Uses; No. 309—Experiment Station Work, September, 1907; No. 312—A Successful Southern Hay Farm; Bureau of Statistics—Bulletin No. 56—Corn Crops of the United States, 1866—1906; No. 57—Wheat; No. 58—Oat; and No. 59—Barley Crops of the United States, 1866—1906.

Diplomatic and Consular Report.

Sweden—Finances of Sweden for the years 1905-08.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted. A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Turaporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, JANUARY 30, 1908.

PRODUCTION AND CONSUMPTION OF FOOD GRAINS.

In an article on the Production and Consumption of Grains in our issue of 16th January we showed that it is impossible to deduce from statistics of area and yield relating to one particular kind of food grain what quantity is consumed or what will be available for export. The question arises whether it is feasible to do this with regard to all food grains taken collectively.

This could only be done, if at all, by reducing the various food grains to one common term, and the only common term for such a purpose is their food value. It was pointed out in the earlier article that food grains do not contain the various principles of diet in the proper proportions, and that they vary greatly not only as regards absolute alimentary value, but as regards the degree of approximation to the correct proportion spoken of. This latter consideration must be disregarded; and the error in respect of it cannot be so great, or

uniformly in the same sense, as other errors that are inevitable. Setting it aside, it is possible to show the absolute alimentary values (commonly called fuel values) of the various Indian food grains. These are commonly stated in "calories" or units of energy. The alimentary requirements of human beings of different races have been ascertained in a general way and are likewise stated in calories. It is therefore possible to compare the total alimentary values of the food grain crops of India with the total alimentary requirements of the population. This should at all events eliminate such error as arises from the substitution of one food grain for another. It does not help us in the least as regards such possible expansion of individual consumption in the presence of increased wealth as was discussed in our article of 16th January. And in carrying out any such calculation we must allow for the fact explained in the same article, that something like a half of the food constituents of a grain diet is wasted. If, however, we deduct the alimentary value of the food grains exported from that of the food grains produced and then compare the balance with the total alimentary requirements of the population (due allowance being made for the wastage referred to) we should be able to say in a general way what proportion of those alimentary requirements is served by foods other than cereals, or, in other words, what is the real importance of cereals in the minimum diet of the country as a whole.

From this study it is also hoped that there will issue some rough idea of what may be called the unit of value in India.

The unit of energy in physics and physiology is the calorie or that measure of energy which when applied under certain conditions is capable of raising 1 gramme of water through 1° centigrade of heat. This is a measure doubly conventional, in that it involves two conventional measures, 1 gramme and 1° centigrade, and establishes a relation between them. Thus heat is stated in terms of relation between matter on the one hand and a property of matter (called energy) on the other. But heat is not on this account called a relation.

It ought to be possible to arrive by a similar course of reasoning at a conception and a statement of that measure of energy which, when applied under certain conditions, produces a stated measure of "value." But in order to define what is meant here by a unit of value it is necessary to touch superficially on one or two rather abstruse questions

A just comprehension of the term "value" in its strict sense is the first essential in the study of economics; and some of the best known writers on that subject have unfortunately misconstrued it. Value, like energy or heat or utility, is a property of matter; but, like the others, it can be measured only in relation to something else and stated in terms of something else. This has led some writers into the error of discussing and indeed defining it as a relation.

Utility and value are distinct; but both repose ultimately on potential energy in some form. Value is not only distinguished but differentiated from utility by the idea of exchange or transferability which is inherent in it. Utility in an article relates only to the owner or owners. It is proportionate to the measure of energy which the article can conserve, confer, or procure. In other words, utility is potential energy in relation to the owner; while value is potential utility in relation to a person other than the owner. An article may have utility without having value. No article such as falls fully within the scope of economic laws can have value without utility. Articles of luxury have value without utility in the economic sense. But in the first place they derive their value from superfluity of wealth; and superfluity is that which is not subject to the containing force of economic laws. In the case of articles that possess no utility the factor that determines value is, under conditions of competition, the amount of energy expended in the production of such articles. It is entertaining to discuss such exceptions in their proper place; but to confound exceptions with main principles could only create obscurity. In this paper therefore value is discussed only in its strict theoretical sense and in relation to commodities that have a constant and useful relation to economic production.

In such commodities value is dependent on and proportionate to the measure of absolute utility. No one desiring an article will advisedly give full value for it, seeing that if he did so there would be no good in making the exchange. Therefore exchange is customarily made at rates that do not strictly indicate value. That which is given in exchange is known as the price; and price therefore not only is distinct from value, but is almost necessarily different from it in amount. The extent to which price is inferior to value is commonly determined by the mean between the energy to be

conserved by the use of the article concerned and the energy expended in producing it.

Price, representing this mean, is commonly stated in money and, colloquially, price is accepted as synonymous with value. This, of course, it is not; and, with a full knowledge of all the data, it is possible to state in terms of money the value of either the potential or the expended energy vested in the article exchanged. That is to say, we may know, on the one hand, what is the maximum price that could without loss be paid for it and, on the other, the minimum price that could without loss be accepted for it. This, however, is not permanently possible. Values are not commonly recorded, but prices are; so, in practice, price is and must be usually accepted as an approximate presentation of value.

Since then we can ascertain, on the one hand, the measure of energy contained in a given quantity of a stated food and, on the other hand, the measure of money that is customarily paid for that quantity of food, it is possible to equate energy to terms of money and say how much is paid for a given measure of physical energy.

Physiologists again have ascertained approximately the measure of energy required to maintain a human being of a given type under stated conditions for a specified period of time. It is therefore possible to calculate, with somewhat less exact approximation, the sum of money requisite to procure that measure of energy.

It is not pretended that the measure of energy found by physiologists to suffice as regards diet, represents the whole physical requirements under all conditions. It presupposes certain stated conditions as regards housing, clothing, climate, etc. It therefore does not comprise provision for these, and may seem to be incomplete to that extent. But in this it is exactly on a par with the methods pursued in determining the units of heat or of any other property of matter. Certain conditions in respect of initial temperature, immunity from disturbing influences, etc., are invariably prescribed; and in the present study average conditions of protection from weather are assumed.

The application of these principles must be discussed in a later article.

—The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 4th January, 1908, were as follows:—Wheat, 35s. 1d.; Barley, 26s. 9d.; and Oats, 18s. 4d.

CHAMBERS OF COMMERCE.

BENGAL.

We take the following items from the Abstract of the Proceedings of the Bengal Chamber of Commerce for the month of December 1907 :—

At their meeting on the 10th December, the Committee had before them a letter from the Accountant-General of the Patiala State, drawing attention to the **corruption and extortion** which are alleged to be prevalent among the lower grades of **Railway servants** throughout India. The Accountant-General had hoped that the matter would be brought to the notice of the Indian Railway Finance Committee. But as the Committee were not coming to India, he suggested that the Chamber should approach either the Railway Board or the Department of Commerce and Industry respecting it. He instanced particular cases which had occurred in the Patiala State and forwarded extracts from newspapers commenting upon them. The opinion was also expressed by the Accountant-General that the grievance which the public have generally throughout the country against the Railway Administrations, though a very old one, is very real. The payment of an illegitimate tax to Railway servants for allotment of rolling-stock, together with other well-known means of extorting money from traders and others, constituted a scandal which ought to be removed.

The Committee approached the Railway Board on the subject after consideration of it. They were quite unacquainted with the particular cases mentioned in the letter, and they did not desire to comment or to remark upon them. But the general question was one of great public importance, and they thought that it had doubtless already engaged the attention of the Board. If the evil were really as widely spread as it was generally alleged to be, they recognised that to remedy it would be a problem of great difficulty. At the same time, if a full enquiry had not been already made into the actual facts, they suggested that such might be undertaken; and, if any remedial measures could be then proposed, a serious attempt might be made to institute them.

During the month, the Committee have had under consideration a proposal with reference to the **new Eastern Mail Contract**. In accordance with the terms of this agreement, the mail service between Brindisi and Bombay is accelerated by eight hours. It has been remarked that this acceleration will be of no service to Calcutta or to Bombay; and the suggestion has been made that it should be utilised by making the departure eight hours later from London. The advantages of this change would be :— (a) that it would permit of letters being posted at a later hour in the provinces. The closing hour in Glasgow, for example, instead of being 9-30 A.M., might be 2 or 3 P.M.; and the closing hour in the midlands, instead of being in the early part of the after-noon, might be postponed to evening; and (b) it would permit of those London weekly newspapers, which are published early on Saturday morning,

catching the Eastern Mail, instead of just missing it each week by a few hours as at present. The Glasgow and Manchester Chambers of Commerce had, it was understood, represented the matter to the British Post Master General.

It was the opinion of the Committee that the proposal might not be altogether to the advantage of Calcutta. They were inclined to think that possibly under the new contract the steamers might arrive in Bombay sufficiently early to admit of the mails reaching Calcutta by Saturday morning. This was, of course, on the presumption that the P. & O. Co. would continue to be ahead of the schedule time as they are now. If there was a probability of such an anticipation being realised, the Committee would not be disposed to support an arrangement by which the advantage of the acceleration would be taken on the other side. They have since been informed that the British Post Office do not regard the proposal favourably.

The suggestion that the Committee should undertake the publication of a **daily statement of the arrivals of produce in Calcutta** was mentioned in the Abstract for the month of October. On the 2nd November they submitted it to the members of the Chamber, stating that the annual cost of the undertaking was estimated at about Rs. 7,000 per annum. This amount would have to be met by subscriptions; and if, say, seventy-five copies were subscribed for, a rate of Rs. 8 per mensem for a single copy daily would suffice. From the replies received to this circular, the Committee learnt that not more than twenty-two copies of the statement were required by members. This would mean that the subscription would have to be fixed at about Rs. 25 monthly to cover the cost of preparing, printing and distributing the statement. Such a rate was obviously too high, and there was not, the Committee thought, any likelihood of members consenting to pay it. If the original rate of Rs. 8 were adhered to, the Chamber would have to be responsible for a deficit of about Rs. 2,000 annually. This risk the Committee did not consider themselves justified in taking; and they accordingly decided to inform members that the project had been abandoned, as it had not been sufficiently well supported.

It was recently brought before the notice of the Committee that difficulties are experienced by importers in connection with the **Customs duty** on material used in **electric power transmission plant**. These difficulties seem to occur with regard to the term "component parts" of machinery which is used in the Tariff Act. According to the Act, machinery and the component parts thereof are admitted free of duty. But instances were quoted in which copper or aluminium conductors, insulators, electric motor starting-boxes, and other parts of electrical machinery were charged. The same question was taken up by the Madras Chamber of Commerce by whom the suggestion was made to Government that a special tariff for electrical plant should be drawn up. In writing to the Governmen

of India on the 30th November, the Committee of the Bengal Chamber supported this proposal. There seem to them to be no doubt that under the existing law the Collectors of Customs are bound to levy duty on such appliances as those mentioned above. For, although these appliances are, in the ordinary sense of the term, "component parts" of machines, according to the Tariff Act they are not such. They are classed as instruments, etc., and duty is levied upon them. The Committee of the Madras Chamber have been asked by Government to define their proposal more precisely, and the question is understood to be now engaging attention.

BOMBAY.

The following extracts are taken from the Proceedings of the Committee of the Bombay Chamber of Commerce for the month of December, 1907 :—

Read letter, dated 30th November, 1907, from the Government of India, with reference to the Committee recently appointed by the India Office to enquire and report on the **Methods of Financing Indian Railways**, with special reference to the complaints of inadequate arrangements for the traffic—goods and passenger—offering itself, and also to report on the constitution and working of the Railway Board. The Government of India stated that if the Chamber desired to make any representation on the points remitted to the Committee for enquiry, the same should be sent direct to the Railway Finance Committee in London.

Resolution.—In addressing the Railway Finance Committee, regret should be expressed at the abandonment of the projected deputation to India, as it was felt that written statements could never convey information as fully as personal enquiries on the spot and contact with the people out here would have done. As to the other points under consideration, the Committee of the Chamber considered that the amounts allotted in recent years for construction and equipment had not been sufficient for the needs of the country and for the development of the trade.

With regard to existing contracts, the Committee were of opinion that these were limited to too short a period, and they considered that they should be prolonged to, say, 50 years, with a view to making railways more attractive for purposes of investment.

As regards the Railway Board, the Committee considered that it would be advantageous not only to allow the Board a free hand in general administrative work, but to entirely separate it from the Department of Commerce and Industry, and to give the President a seat in the Council.

Read letter, dated 31st October, 1907, from the Government of Bombay, forwarding, for such action as may seem desirable, a copy of Government Resolution, No. 6533, regarding the **Enlargement of Legislative Councils** and connected questions.

Resolution.—In addressing Government it should be pointed out that on the proposed enlarged Imperial Legislative Council the resident non-official

European was not represented, and that this point was one which, in the opinion of the Committee, required further consideration; for, as a body, the non-official Europeans in this country were educated men with wide experience, and moreover had important interests in India as holders of property, many besides being landowners; and their interests were in many ways identical with the people amongst whom they lived and traded.

The Committee were quite at one with Government in their desire that, by interesting a large number of people in public affairs, the motives and intentions of Government should become better known, and if this end could be attained by the elective system, which it was now proposed to enlarge, Government and the community generally would be benefitted. As to whether true and disinterested representatives of the different bodies it was proposed to create could be secured by election, the Committee somewhat doubted, and they agreed therefore in the alternative put forward that Government should reserve to themselves considerable powers of nomination.

The Committee noted with satisfaction the views of the Government of India on the "discursive and unfruitful character" of the Budget debates both in the Imperial and Provincial Councils, and they entirely agreed with Government that such changes should be made as would make the debates less unreal, and bring them into closer relation with the financial policy and administrative decisions of the Government.

Read letter, dated 5th December, 1907, from the Government of Bombay, forwarding, for such action as may seem desirable, a copy of a Press Note issued by Government at the request of the **Royal Commission on Decentralization** for the guidance of persons desirous of appearing as witnesses before the Commission.

Resolution.—Copies of the papers to be circulated for the information of Members.

With reference to communications which have lately appeared in the press regarding a Circular said to have been issued by the Bombay Customs House with reference to infringements of the **Merchandise Marks Act** by traders up-country, the Committee addressed the Custom House Authorities in the matter and found that no Circular of the kind mentioned had been promulgated in Bombay under the authority of the Collector of Customs, who further stated that he had no intention of proposing or sanctioning any alteration in the present form of procedure. The Committee of the Chamber moreover do not propose to make any representation to Government with the object of modifying the present provisions of the Act.

KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on January 14th, the following items came up for consideration :—

Read joint letter, dated 18th December, 1907, signed by Newamal and seven other metal merchants,

Karachi, enclosing copy of a letter which they have addressed to the District Traffic Superintendent, North-Western Railway, Karachi, setting forth their grievances with regard to the delay that occurs in booking goods by the North-Western Railway. The signatories add that as the points raised in their representation affect the trade of the Port they hope that the Chamber will see their way to take such steps as they may deem expedient.

Read Report, dated 14th January, 1908, of the Sub-Committee appointed under the Committee's Resolution No. 11 of 28th December, 1907, on the proposed alterations in the rules governing the working of the Bunder Head Station.

The Sub-Committee consider that the proposal to close the sheds against all goods which the sender is not ready to weigh over immediately on arrival of the cart at the shed and the provision of more scales and weighing clerks, if put in practice, would hardly work for various reasons mentioned. As regards the opening of the sheds at 11 A.M. instead of 8 A.M. and closing at 8 P.M. instead of 4 P.M. the Sub-Committee understand the early hours are convenient for firms and forwarding agents and the late afternoon suits the native merchants and therefore the most suitable hours are from 8 A.M. to 8 P.M., but this not being practicable for the Railway to do with the present staff, the Sub-Committee are of opinion that until such time as a properly arranged despatching station has been provided, the present procedure be adhered to, but that in order to cope with the traffic (1) the number of scales and weighing clerks should be increased and (2) the sheds should be kept open from 8 A.M. to 8 P.M. continuously, this being made possible by a double shift of receiving and despatching staff. The Sub-Committee also remark that though the import trade of the port has more than doubled within the last ten years the Bunder Station has remained the same as regards shape and size, and that the increased revenue would more than enable the Railway to meet the increased expenditure necessitated by the above proposals.

Resolution.—(a) The Native Merchants to be informed that the North-Western Railway have already consulted the Chamber with the object of improving the conditions of working at the Bunder Head Station, that the Chamber have given the matter their consideration, and that a representation to the Railway has now been made.

(b) The Committee concur with the Sub-Committee's Report. The District Traffic Superintendent to be addressed accordingly.

Read Report, dated 7th January, 1908, of the Sub-Committee for Local Affairs, on the amended Bill for the Registration of Partnerships submitted by the Bombay Chamber to the Government of India, referred to the Sub-Committee under the Committee's Resolution No. 9 of 28th December, 1907. The Sub-Committee are of opinion that as the proposals of both the Bengal and Bombay Chambers, supported by their respective counsels, are now before the Government of India, the

Chamber should, in the meantime, not move in the matter beyond acknowledging the Bombay Chamber's letter and expressing themselves in favour of legislation on the point.

Resolution.—The Committee agrees with the Sub-Committee's Report. The Bombay Chamber to be informed accordingly.

Read letter No. 9267, dated 17th December, 1907, from the Acting Director of Public Instruction, Poona, intimating that it is the intention of the Government of India to offer in the Bombay Presidency one and, possibly, two scholarships to enable natives of the country to study some industry in England, and giving the conditions under which these scholarships will be granted. The Director invites the Chamber to suggest in connection with what industry or industries a scholarship or scholarships should be offered next year.

Resolution.—The Director of Public Instruction to be informed that the flour milling industry is probably the only one in Sind that at present affords opportunity for a scholarship on the conditions proposed by Government.

Read letter signed by certain Steamer Agents, inviting the attention of the Chamber to the very serious shortage of rolling stock at Keamari which has completely paralysed the work of discharge of steamers lying at the wharves and which is causing great inconvenience and loss to all concerned. Also read telegrams exchanged on the subject between the Chamber and the Manager, North Western Railway, Lahore.

Read letter, dated 11th January, 1908, from Messrs. Donald Graham & Co., stating that the North Western Railway was unable on that day to book any packages from the Bunder Station for despatch up-country for lack of accommodation consequent on the shortage of rolling stock, that this state of affairs is causing serious inconvenience to trade, and that the Chamber should therefore make a strong representation on the subject.

Resolution.—(a) The Manager's telegram is not considered satisfactory. A letter to the Manager to be drafted and submitted to the Committee for approval, pointing out that the distribution of rolling stock over the North Western Railway has recently become so detrimental to the requirements of Karachi, that trade has become paralysed.

(b) A copy of the Manager's telegram of the 12th instant and of the above Resolution to be sent to Messrs. Donald Graham & Co.

Read letter, dated 30th December, 1907, from the District Traffic Superintendent, North Western Railway, Karachi, intimating that under instruction from the Traffic Superintendent, Lahore, the time allowed free of wharfage on goods unloaded at Karachi City Inward Yard has been extended to 48 hours from the 1st January, 1908, instead of 3 hours.

Resolution.—To be acknowledged, circulated and recorded.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The Board of Trade Journal, published on the 9th January, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Commerce Regulations respecting the Export of Leather.

NEW ZEALAND, COOK, ETC., ISLANDS.—New Zealand Tariff Act of 1907 applicable in the Cook, etc., Islands.

SOUTH AFRICA.—Customs Decisions.

NATAL.—Regulations respecting the Shipment of Bonded Goods for Export of Ships' Stores.

MAURITIUS.—Rates of Exchange for Assessment of *ad valorem* Duties during 1908. Prohibition of the Importation of certain Articles from Delagoa Bay and Beira.

EGYPT.—Revised Valuation Tariff for Hemp and Jute Cloth, Sacks and Twine.

GERMANY.—Continuation of Most-Favoured Nation Treatment to the United Kingdom. Liability of Cigarette Paper in whole Sheets to Duty under the Cigarette Tax Law.

BELGIUM.—Tariff Modifications introduced by the Budget Law.

SPAIN.—SPANISH POSSESSIONS IN THE GULF OF GUINEA.—Forthcoming New Customs Tariff. Sur-tax on Alcoholic Liquids imported into Fernando Po.

ROUMANIA-BULGARIA.—New Commercial Treaty between the above Countries.

UNITED STATES OF AMERICA.—Examination of Packages of Imported Merchandise prior to Entry prohibited. Customs Decisions.

MEXICO.—Forthcoming Increase of Import Duty on Sugar.

—The extent of the export of cocoa from Ecuador is not, perhaps, generally recognised. In his report just issued (cd. 3,727-29) Mr. Consul Cartwright says that the record crop of cocoa so far has been that of 1904, when the quantity available for export was 562,810 quintals, or, say, 25,000 tons. The following year gave 459,293 quintals, or a little less than 21,000 tons. This short produce was, however, more than compensated for by the regular and rapid increase in value. The average price of cocoa in 1905 was 30 sucres, or about £3 per 50 kilos f.o.b. Guayaquil. In 1906 this had been increased to an average of 34 sucres or £3 8s., and now in 1907 a still further increase of nearly 40 per cent. has taken place, the average price for the year being 47 sucres, or £4 14s. per 50 kilos. This has been of great benefit to the agricultural and commercial interests of Ecuador, and has largely increased the value of its exports. The Government duties are not *ad valorem* but per weight exported, so that the financial position of the executive has not improved in the same proportion as prices have appreciated.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 18th JANUARY, 1908.

Burma.—Slight showers fell during the week in four of the northern districts and in the Chin Hills. In Lower Burma reaping of the winter rice crop is nearly completed and threshing and winnowing are progressing satisfactorily. In Upper Burma harvesting of the winter rice crop is going on and transplanting of spring rice is in progress. The winter rice crop of Lower Burma promises a good outturn. In Upper Burma the winter rice crop on irrigated lands and in the wet zone is fair, but on unirrigated lands of the dry zone rice has failed and dry crops are poor except groundnut and cotton. Spring crops promise fairly. The price of unhusked rice has fallen in five; and has risen in six districts.

Eastern Bengal and Assam.—Slight rain fell in all districts except the Lushai hills, Darrang, Nowgong, Sibsagar, Lakhimpur and the Garo hills. Standing crops have improved by the recent rains and prospects are now fair to good. Harvesting of winter rice is approaching completion. Pruning and hoeing of tea are in progress. Prices of common rice have fallen in five and have risen in six districts. No scarcity is apprehended at present.

Bengal.—At the beginning of the week many districts received a little more rain and the weather has been cold and cloudy throughout the Province. The prospects of the spring crop have greatly improved, and in South Bihar owing to the recent rain it has been found possible to do some more sowings. Insects have caused considerable damage in the Barh sub-division of Patna. In South Bihar poppy is doing well. Sugarcane prospects are fair and the remainder of the winter rice crop has been harvested. Insufficient stocks of food-grains are reported in Bankura, Nadia, Murshidabad, Balasore, Palamau, and the Deoghar sub-division of the Sonthal Parganas. Prices have ceased to rise, and in Bihar the fall is probably due to decreased export. In the north of Murshidabad there is still a scarcity of water. Scarcity is apprehended in Nadia, Murshidabad, the Bhabhua and Sasaram sub-divisions of Shahabad, the Darauli and Manjhi thanas of Saran, Ranchi, Palamau, Birbhum and Jessore. One test-work was opened at Bankura. In Cuttack the test-work was attended by 299 men, 84 women and 16 children; total 399. Gratuitous relief was given to 1,394 men, 3,196 women and 3,324 children; total 7,914; in Balasore 224 men attended the test-work. In Puri 1,461 attended the test-work; and gratuitous relief was given to 104 men, 304 women and 185 children. The total number on test-works in Bengal is 2,084; and in receipt of gratuitous relief 8,507.

The report of the Feudatory States of Orissa for the week ending the 11th January shows that during that period no rain fell and the prospects of the spring crop were not very favourable.

United Provinces.—Rain has fallen in 41 districts in quantities varying from a few cents to more than an inch. A few districts report that more

rain is required. The weather has been exceptionally cold with fog and heavy dews and it is believed that this has been very beneficial to wheat, barley and gram, though it is stated that it has affected sarson and arhar now in flower. The rain has enabled further spring sowing to be made, especially in the hill districts. General prospects of spring crops where shown are good and they are being weeded. Pressing of sugarcane continues and land is being prepared for sowing of sugarcane and extra crops. Prices have fallen slightly in eighteen districts, and elsewhere are stationary but are still considerably in excess of scarcity rates. Markets are generally sufficiently stocked and importation of grain continues. There has been a slight decrease in the demand for field labour owing to the rain. The condition of agricultural stock is fair but excessive cold is reported to have caused some mortality among cattle in Shahjahanpur and Hardoi, and probably this has happened elsewhere. The rain has not yet appreciably affected the fodder supply which is scarce.

The weekly report on the famine and scarcity is as follows:—Prospects have been improved by further rainfall during the week but prices remain very high and distress is steadily increasing. Famine has been declared in Muttra and gratuitous relief has been sanctioned in Bijnor. The numbers on relief continue to rise but the intense cold has caused some fluctuation in the numbers from day to day. The general condition of the people is good and of those on relief fair, but the cold has been severely felt. Blankets have been supplied by charitable subscription in several districts and Rs. 50,000 allotted from the Indian People's Famine Trust is being utilized in providing blankets for the poor. There has been some increase in petty crime. A few immigrants from Native States have been noticed in Agra and Hamirpur; and emigration on a larger scale than usual is reported from Jaunpur and Basti. Private charity is active. 5,044 persons are on relief in the Balrampur estates. The numbers on Government relief are:—on works 151,742; dependants on work 29,216; on test works 5,373; on gratuitous relief at homes 120,263; at poor houses 4,566; total 311,160. Prices are at $8\frac{1}{2}$ to $10\frac{1}{2}$ seers per rupee.

Punjab.—Good rain has fallen in Ambala; and light to moderate rain in parts of Lahore, Shahpur, Rawalpindi and Mianwali. Prices of food grains are falling slightly in 6 and are rising in 7 districts, but are still above scarcity rates except in Multan. Pressing of sugarcane and harvesting of toria continue. Owing to the recent rainfall sowings of barley and tara mira (radish) are being made on unirrigated lands in northern, central and submontane districts. Wheat is also being sown in a few districts. The condition of irrigated crops is generally good to fair; and of unirrigated average to poor, but the latter have greatly improved in consequence of the recent rainfall. The opium crop is average in Lahore and Amritsar. The outturn of sugarcane is average to below average. Young spring crops have been slightly damaged by rats in

parts of Lahore; and turnips by green-fly in Jhang. The potato crop has been injured by frost in Amritsar. Cattle are in poor condition in Gujranwala and are suffering from overwork and scarcity of fodder in Sialkot. Fodder is scarce in Delhi, Lahore, Sialkot, Gujranwala, Mianwali, Lyallpur, Jhang and Multan and in parts of Gurgaon, Ambala, Shahpur and Rawalpindi. Green fodder is not procurable in Ferozepur, Amritsar, and Sialkot. Sugarcane is being used as fodder in the last named district. In Rohtak fodder is sufficient but is getting dearer. The canal water supply is insufficient in Delhi and Lyallpur.

North-West Frontier Province.—Slight showers fell during the week in Peshawar and Bannu. The weather is still cloudy. The condition of standing crops on irrigated and unirrigated areas has much improved by the recent rains. Considerable spring sowings are being made on unirrigated lands. Pressing of sugarcane continued in Peshawar and Bannu and the outturn was average. The water supply is ample and irrigation from the Paharpur canal continues. Fodder is sufficient. The condition of cattle in Dera Ismail Khan is average; elsewhere it is good. The health of the people is generally good. Prices except in Peshawar are falling slightly owing to the recent rains. Prices—wheat from 8 to 12; gram $10\frac{1}{2}$ to 14; maize 12 to $12\frac{5}{16}$ to 18; and bajra $11\frac{1}{2}$ to 13 seers per rupee.

Jammu.—Slight rain fell during the week. Prices are stationary. Prices—wheat has fallen and is now 8 to 14; and maize 10 to 20 seers per rupee. The condition of standing crops is fair. Fodder is insufficient in Kathua, Samba, Udhampur, Basohli, Ranbirsinghpura, Akhnur, Jammu, Bhimber, Kotli and in the Kandi Circle of the Jasmirgarh tehsil. The recent rains have been most beneficial to standing crops.

Kashmir.—The weather is partially bright and cloudy. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, Jan. 28th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 27th instant:—

Slight rain has fallen in the Mymensingh and Assam districts except Cachar, the Naga and Lushai Hills and Goalpara.

The prospects of the standing crops are fair to good.

The preparation of land for early rice and jute has commenced.

The pressing of sugarcane and the gathering of mustard are going on.

The pruning and hoeing of tea are in progress, but hoeing has been interfered with in Lakhimpur for want of rain.

The harvesting of winter rice is nearly finished. Cattle disease is reported from four districts. The prices of common rice have risen in two and have fallen in six districts. No scarcity is apprehended at present.

THE FAMINE.

Viceroy's Report.

The following is a copy of a telegram, dated 27th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

Rain fell during week in every province, except Bombay. For the most part it was light, but it was fairly heavy in some districts of the Punjab, the United Provinces and Madras.

The improvement in the prospects of the spring harvest is maintained, and further sowings are still being made. Most of the affected areas, however, show a steady increase in the numbers on relief. In the United Provinces there are now 186,331 persons on relief works, and 124,829 persons in receipt of gratuitous relief. There has been some further increase in petty crime. The condition of the people is fair on relief, but the intense cold has been severely felt. Blankets, purchased from charitable subscriptions and from a grant made by the Indian People's Famine Trust, are being distributed.

In Central India, the numbers on relief are now: works, 65,566; gratuitous relief, 4,185.

Slight rain fell in the Baghelkhand Agency, but prospects of the spring harvest are still poor and fodder is becoming scarce.

In Orissa there has been a further increase in the numbers on relief, which are now: test works, 2,084; gratuitous relief, 8,507. A test work has been opened in one district of Bengal.

In the Central Provinces prospects have improved owing to rain, and the spring crops are in good condition generally. It has not been found necessary yet to open relief works, but special relief is being given to 1,327 weavers and gratuitous relief to 841 people.

In the Panch Mahals district of Bombay, the number on test works has risen to 1,788.

The total number of persons in receipt of State relief in the whole of India is now 395,458.

Prices have fallen slightly in parts of Northern and Central India, but are still very high everywhere and the recent rain has not, on the whole, had any very marked effect.

The rice crops in Burma will, it is estimated, give a practically full normal yield.

—The production of spelter (crude metallic zinc) in the United States in 1906 is reported by the Geological Survey as 224,770 tons (of 2,240 lbs.). This production, which includes 25,076 tons of spelter obtained from the smelting of foreign ores, shows an increase of 20,921 tons or 10.3 cent. over that of the preceding year and is the largest in the history of the industry.

INDIAN AGRICULTURE.

Fibre Machines.

The October issue of the *Agricultural Journal of India*, which has just been received, contains the following papers:—

The Development of Sisal Hemp Cultivation in India—Harold H. Mann, D.Sc.

Autumn Rice or Aman Paddy Experiments at Bardwan, in Bengal—F. Smith, B.Sc., F.R.A.S.

The Improvement of Cotton in Sind—T. F. Main, B.Sc., F.R.A.S.

Practical Remedies for Insect Pests—H. Maxwell-Lefroy, M.A., F.E.S., F.Z.S.

The Government Cattle Farm, Hissar, Punjab (with Plates)—J. W. A. Morgan, M.R.C.V.S.

The Tse-tse Fly in India—H. Maxwell-Lefroy, M.A., F.E.S., F.Z.S.

A Contrast between the Agriculture of Egypt and of Sind—G. S. Henderson, N.D.A., N.D.D.

Notes.
Literature.

Dr. Mann's paper upon the development of Sisal Hemp Cultivation in India is good. He gives useful instructions for planting and cultivation, and in a later para reviews and generally reaffirms the estimate of cost of production in India which he made some years ago. He puts the cost of Indian sisal hemp delivered in London at £14 to £15 per ton and comparison of this rate with the London prices quoted by him (about £33) justifies his belief that the industry is likely to be remunerative. The paper also contains notes upon the relative efficiency of the various machines now in the market for the preparation of the fibre.

In this connection, we see it stated in the Proceedings of the Agri-Horticultural Society of Madras for July to September last, just published, that a Madras firm has placed on the market an agave decorticator for which is claimed simplicity in structure, a fair outturn of cleaned fibre, facility of transport, and cheapness. The machine, of which a photograph is given, receives two leaves at a time, will decorticate 6,500 lbs. of leaves per day of ten hours, and yield from 3 to 4 per cent. of cleaned fibre, while another $1\frac{1}{2}$ to 2 per cent. of fibre may be recovered from the waste. The machine may be driven by hand or bullock gear, but preferably by a $1\frac{1}{2}$ h.p. oil engine, and costs Rs. 375. Mr. M. E. Couchman, Director of Agriculture, Madras, it is said, witnessed a practical test with one of these machines, and expressed himself satisfied with the result.

Of Mr. Lefroy's two papers, that on the Remedies for Insect Pests is the more useful, though his view as to the improbability of the introduction of the Tse-tse fly into India is reassuring.

Readers of the *Agricultural Journal* will find among the "Notes" at the end of the volume many pieces of useful information and reviews of agricultural works recently published.

—The Maritime Customs revenue of China for 1907 is estimated at 33,500,000 taels, which is equivalent to £5,443,750, the average sterling value of the tael during the year having been 39d.

NEW NORWEGIAN FERTILIZER.

Method of Manufacture.

UNITED STATES Consul Jonson, reporting from Bergen on the new phosphoric acid fertilizers produced in Norway, reference to which was made in the *Indian Trade Journal* of December 19th (p. 640), says that, though frequently requested to give information as to the fertilizer works at Odda, he had until the present time been unable to learn the process employed, as the greatest secrecy had been maintained. However, a similar factory will soon be started at Bergen, for which application had been made to the municipality for electrical power, and it is desired to use 900 kilowatts of electricity. To reduce this to horse-power the amount should be divided by 0.733, which gives 1,223 horse-power. It is estimated that in producing 15,000 tons of fertilizer about 20,000 tons of apatite and from 2,000 to 3,000 tons of corallian are required. Apatite is a phosphoric acid phosphate consisting of phosphoric acid and fluorine or chloride of lime. The phosphoric acid is obtained in Norway. After having undergone several chemical processes and mixture with other substances, the desired fertilizer is secured and phosphoric-chalk manure. Viborgfosfat has for several years been manufactured at the Gellivara mines, where much apatite is found. Soda was used in the manufacture, but it so increased in price that it had to be discontinued two years ago. Difosfat, or, rather, dicalciumfosfat, has been experimentally produced in Sweden. The process was invented by the Swedish lecturer, Palmer. The production has about the same components as viborgfosfat. Several official reports have been published concerning the culture trials which have been made with these fertilizing substances, especially those from Sweden. Several trials have also been made in Norway, at Aas Agricultural High School and elsewhere. The results of the trials showed that difosfat and viborgfosfat are considerably more effective than tomasfat and somewhat better than superphosphate, though the difference between the two last named is not so great. In superphosphate the phosphoric acid is soluble in water; therefore it is quickly effective, but should a severe rain shower occur just after it had been spread over the ground a large portion of it would be washed away. In difosfat the phosphoric acid is found in a form which is not soluble in water, but only by the organic acids in the earth and plants. It therefore acts more slowly than superphosphate, but with much better results. Riiber's method of manufacturing difosfat and viborgfosfat is much superior to those previously discovered. The raw materials which are necessary, besides apatite and corallian, are secured by cooking salt. The process of manufacture is electrolytic; that is, the combinations in which matter occurs in nature are split by the action of electricity, and new combinations come into existence which become soluble and can be taken up by plants as nutritive substance. The

corallian found at Bodo, being very porous, is particularly adapted as raw material for the manufacture of the new fertilizer. The market for such fertilizer is so large that any amount of it can be manufactured without risk of overproduction, especially when the article can be sold at such a low price that the peasants find it profitable to use it. What is not used in Norway can be sold abroad. The trial test is to be continued at Christiania upon a somewhat higher standard.

AMERICAN COPPER INDUSTRY.

Steady Decrease in Output.

In the United States copper industry, the year 1907 was conspicuous for extreme changes. The chief features were, first, enormous consumption during January, February and March; second, reduced production compensated, early in the year, by unprecedented imports; third, decreased exports for eight months, reflecting smaller foreign smelting because of the prevalence of the highest prices in thirty-four years; fourth, steady and heavy increase for nine months in consumption to the smallest annual rate in ten years; fifth, the most drastic reduction in output ever attempted; sixth, enormous exports from September to reduce the heavy accumulations of stocks; and, last, the development of new mines, with the lowest productive cost known.

The greatest break in prices ever suffered—7 annas per pound, from 13½ annas to 6½ annas per pound in the space of a few months—gave birth to an alleged combination of the largest producing interests in the United States to maintain the market on the basis of 6½ annas for electrolytic; that is, at a level to permit a profit of ½ anna per pound.

The year 1907 began with consumption at the highest rate ever known, being estimated at 75,000,000 pounds in January; but the reaction which overtook all business interests checked consumption, which fell to scarcely more than 20,000,000 pounds per month during the last three months of the year.

Official returns estimate the total copper production of the United States at 798,869,000 pounds during the year 1907, as compared with 917,805,682 in the previous year.

The following table gives the copper output of the world during the years specified:—

Year.	Gross tons.	Year.	Gross tons.
1899 .	463,693	1904 .	649,300
1900 .	486,999	1905 .	701,252
1901 .	517,865	1906 .	760,000
1902 .	548,604	1907 .	715,000
1903 .	586,143		

—The number of bales of cotton imported into the United Kingdom during the week ended the 2nd January, 1908, was 166,492 (including 234 bales British West Indian and 168 bales British West African), and the exports during the same week amounted to 14,055 bales.

COFFEE VALORIZATION.

Official Account.

THE General Commissioner of the Government of San Paulo, Brazil, stationed at Antwerp, has just issued an elaborate and finely illustrated explanation describing the valorization of coffee in Brazil. The report does not go into definite details regarding the amount of coffee deposited as collateral for loans, but it nevertheless gives some interesting information regarding the methods and reasons for valorization. To bring the report up to date it is necessary to note that between 8,000,000 and 9,000,000 bags of coffee are in warehouse in the chief coffee ports of the world as collateral for loans amounting to about Rs. 25,00,00,000. The original loans were to expire on December 31st of last year, but in September it was officially announced that arrangements had been completed to continue the loans until the coffee was "claimed by the market," in other words, needed for consumption. With this explanation in mind the Commissioner's statement may be regarded as complete to date. In part he says:—

For the period 1899-1907 we see that in 1901-1902 the consumption of coffee reached 14,000,000 bags, whereas the world's crop for the same year exceeded this demand by about 8,000,000 bags. Since then consumption has increased, and from 14 millions in 1901-02 has reached 17 millions in 1906-07. The crop gathered during the year 1906 and put on the market (crop 1906-07) may be estimated at 20½ to 23½ million bags. It will therefore only exceed the consumption of the corresponding period by 3½ to 6½ million bags. The stocks of coffee, which, before the crop of 1901-02, were 6 million bags, rose after that year's crop to 14 million bags (6 existing plus 8); but, during the four following years (1902-03, 1903-04, 1904-05, 1905-06), the consumption exceeded production by about 5 million bags, so that stocks on 1st July last were only about 9½ million bags. Prices had varied between 29 and 56 francs per 50 kilogrammes.

For the quinquennial period 1906-07 to 1910-11 we shall see the same phenomenon as that witnessed during the period of 1901-02 to 1905-06. The production of the period 1906-07 will not, as a matter of fact, be lower than 20½ to 23½ million bags, a figure comparable with that of 1901-02.

We do not in any way exaggerate the importance of the present crop. Everybody knows in fact that all circumstances have been most favourable, and that all climatic conditions have co-operated to attain this result.

One may cast a doubt upon our contention and urge that the crop of 1906 was terminated before that of 1901, but it must not be forgotten that the railways now are better equipped for the transport of coffee. In proof of this it is sufficient to point out that the San Paulo Railway Company, running between Jundiaby and Santos, through St. Paulo has doubled its lines of rails; that the Paulista line has nearly doubled the extent of its lines between Campinas and Jundiaby, and that the Mogyana and

the Sorocabana, which were badly organized in 1901, now possess a very excellent service and dispose of a material (locomotives and trucks for merchandise) of much greater importance. Further, the need for ready money has compelled planters to send their coffees with all possible dispatch to Santos.

Four Coming Crops.

Let us now show that the four coming crops (1907-08 to 1910-11) may—in regard to their importance—come very near to those four small crops which followed the unusual crops of 1901-02. Several reasons enable us to predict that the four next approaching crops will be rather weak. In the first place, about four years ago, a law was passed which imposed a prohibitive tax on the planting of fresh coffee trees. As a consequence of this law no further plantings, so to speak, have been subsequently made in San Paulo. In 1901-02 there were about 685 million trees, 140 millions of which were too young to yield any fruit, being only from one to four years of age. After the application of the law the number of coffee trees was reduced, owing to various causes. First of all, there were many which fell victims to heavy frost; many succumbed to drought; others again perished owing to want of proper cultivation, and lastly, many of the old trees disappeared in the natural course of decay. It has been calculated that in six years, and for the reasons just stated, twelve per cent. of the trees of 1901-02 no longer exist, which makes a decrease of two per cent. annually. Consequently, for the years to follow one may only rely upon the production of about 600 million coffee trees.

During the four years which followed the crop of 1901-02 the average production of each tree in the State of San Paulo was about 720 grammes. The figure for the four next crops seems to be rather exaggerated, and in support of this we refer to letters which we have received from well informed planters, and upon the report of the commission appointed by the Secretary of Agriculture for the State of San Paulo, together with the Agricultural Commissions of 170 districts, to estimate the coming crop, that of 1907-08. According to the well drawn up report this crop will show a strong decrease in quantity. This decrease must be ascribed to the exhaustion of the coffee trees which have furnished just previously a bumper crop, and which besides have subsequently suffered from the effects of drought. To establish our estimates of the four next crops we shall certainly not go beyond the truth in relying upon an average production of 720 grammes per tree. Knowing that 600 million full bearing trees actually exist, we reach a figure for the State of San Paulo alone—showing an annual average production of 7½ million bags.

The other Brazilian States and the other producing countries having rather a tendency to diminish their production, we may without fear of mistake adopt the preceding averages. That will give us then for the four years of the period 1907-08 to

1910-11, a total of 59½ million bags, which, added to the 20½ or 23½ millions of the 1906-07 crop, will give a total of 83 million bags for the quinquennial production of 1906-11. Let us admit for the moment, although it is assuredly not the case, that the consumption does not increase and always remains at 17½ million bags. We have, then, for the period of five years 1906-07 to 1910-11, a consumption of 87½ million bags, that is to say, four or five million bags in excess of the production. The stocks, which, on the 1st of July 1906, were 9½ million bags will be reduced in 1911 to 4 or 5 millions. Now, with a stock of about 7 millions and a consumption of 11 million bags, we have seen the price go up to 56 francs. Moreover, with stocks equivalent to 30 per cent. of the consumption the average prices in general have been 97 francs. It is thus evident that in 1911, with a stock of 4 or 5 millions and a consumption exceeding 17½ millions, the prices should unavoidably rise higher than the cost of production.

Surplus Coffee.

This fact established, the wisest measures to adopt as was actually done in Brazil—would be to retire from the market a part of the actual surplus and to distribute it over the four next years, in the same way as the eight millions excess in 1901-02 were divided over the four years which followed that crop. It is, therefore, if we accept the simile of an old story, one year of "fat kine" followed by four years of "lean kine."

We have tried to demonstrate that in 1911 stocks will be so small that the cost price will be readily exceeded by the selling price. We think that we are even within the truth, since in our calculation we have not taken into consideration the unforeseen circumstances which might diminish the importance of the four subsequent crops. A simple meteorological phenomenon, for instance, a slight frost, a cold wind, an excess of temperature or a shower at the blossoming season, would be sufficient to diminish the production. So that the figures we have adopted will have a tendency to be diminished rather than increased.

Relying on the conjectures indicated, the Governments of the copper producing States, supported by the President of the Federal Government of Brazil and by the bulk of the people's representatives, have resolved upon the valorization of coffee. In doing this they have no other object in view but the protection of the country's agriculture by assisting the Coffee trade to withstand those extensive speculations which so often have an influence on prices, and are really prejudicial to the consumer.

Valorization has, besides, a tendency to level prices, and is not at all a trust, as some people have endeavoured to convince us. The whole question has called forth a certain number of criticisms, but their authors have not taken into account some of the most important considerations affecting the subject.

Brazil really furnishes three-fourths of the world's production of coffee; it is therefore in a position to dictate to the markets. This is more the case, inasmuch as the other producing countries, even at prices three times higher than those actually obtained, could not increase their supplies to an appreciable extent; and, even supposing that they possessed the enormous capital and the labour necessary for such increased production, they would still be obliged to wait six years before the coffee trees yielded full crops.

The success of coffee cultivation depends indeed upon the possession of suitable soil, of forests which have been cleared. The coffee tree is an exacting plant, not only in regard to climate and the qualities of the soil in which it grows, but also in regard to the exposure of the ground.

Brazil is the only country in the whole world which can and does supply these exigencies. It is only necessary to take a map and follow on it the isothermal lines in order to be convinced of this statement. One will see that there are indeed some small islands and some districts on the mainland where coffee may be produced, but the remainder of the regions comprised within the productive zones consists of deserts or of rocky lands, unsuitable and unhealthy.

Then, again, for the successful cultivation of coffee, one must be able to count upon sufficient labour for the gathering of the crops and of capital for the erection of drying sheds, factories and workmen's dwellings. One must be able to utilize waterways and railways for the transport of the coffee and seaports properly equipped for loading the cargoes.

—Few people have any idea of the remarkable depreciation which has taken place in British securities during the last two years, and of the extraordinary increase of British investments abroad. Sir Joseph Lawrence has put into pamphlet form some figures on the subject, based on the official returns issued by the Income Tax Commissioners and on the monthly estimates prepared by the *Bankers' Magazine*. According to these authorities, the observed depreciation in 325 representative securities, between January, 1906, and November, 1907, has been not less than £443,500,000. The same rate of depreciation extending over all the securities quoted on the Stock Exchange would make the total depreciation in all public securities not less than £1,100,000,000, all of which has taken place during the past two years. Coincident with this movement there has been a remarkable increase in identified incomes assessed to income tax; and in the financial year ending March 31st, 1906, the increase in incomes identified as coming from foreign sources was £7,837,000. Capitalising this at 5 per cent., it is clear that in a single year "foreign" investments must have increased by more than £150,000,000.

ECONOMIC POSITION IN GERMANY.

The following extracts from a despatch received by the Foreign Office from H. M. Consul-General at Frankfurt-on-Main (Sir Francis Oppenheimer) may be of interest:—

Industrial credits have been reduced as far as possible. The high discount rates have checked the inclination for further industrial loans, and have prevented the thoughts even of the issue of new companies, so that in this respect undue risks are at present greatly reduced; whereas former commercial crises revealed the fact that commercial credits had been granted with an absolutely unwarrantable levity, experts seem confident that from this point of view the immediate future harbours no danger.

During the present times the tendency of syndication, which has for years characterised German commercial life, fosters a feeling of re-assurance because, during the receding commercial tide, syndicates prevent any disastrous drifting.

There is a consensus of opinion that the various leading syndicates at present have their trades well in hand, and are successfully pursuing a coolheaded policy, to which its members and the public have for years become accustomed, and which, in spite of notorious drawbacks, neither would be very willing to see abandoned.

A further moment of stability is introduced into the market by the very considerable orders which have been placed by the State Railways, by the naval and military authorities—orders so considerable that they have secured to a number of industries contracts demanding ample employment over a considerable span of time.

The concentration in the banking world, which tended to transfer great influence into a few hands has greatly facilitated a survey of the actual situation. The trend of the market could thus be more easily gauged, and when the moment for caution had come, caution could be practised.

It cannot be denied that the present financial situation, if it continues, harbours some distant sources of danger.

If many works as stated are at present working without profit, they are enabled to do so in consequence of the excellent times which have only just come to an end, and which have rendered possible the acquisition of new labour-saving plant and the accumulation of very considerable reserves. The present policy of work without immediate profit is encouraged by general expectation that money will become cheaper again early in the New Year; with a reduction of the discount rate, there will be a revival of profit, however small. The present policy is also pursued, because manufacturers are anxious to keep their workmen; there has been for years and there will be again scarcity of labour, and more especially of skilled labour, when orders return. Should the hope of cheaper money early in 1908 fail, this policy of resigned waiting will have to come to an end, and the labour market will first betray the coming storm.

If, contrary to all hopes, the bank rate should continue abnormally high, even beyond these cold months of the year, when all building is stopped from natural causes, a serious crisis may originate in and with the building trade, which has been watched not without misgivings for some time past. Building and more especially building on speculation, generally works with borrowed money. The rate of interest for mortgages has been gradually rising. Even first-class mortgages can no longer be had at 3½ and 3¾ per cent.; the rate of interest averages 4 per cent. for the best and reaches 5 per cent. and over for the others. Even at these rates money is no longer to be had; unless, with the change of the season, a change takes place, all inducement for a revival of the building activity will fail. Such a calamity would affect all the dependent trades, such as stone, cement, wood, iron, glass, etc. It is not improbable that in some towns an exaggerated speculation of older date will lead in any case to some "Krach" in building sites and financial catastrophes in the building trade.

NEW REFERENCE BOOKS.

TRANSACTIONS OF THE ROYAL SCOTTISH ARBORICULTURAL SOCIETY.

Volume XXI. Part I, January, 1908. Lieutenant-Colonel F. BAILEY, Hon. Editor ROBERT GALLOWAY, Secretary and Treasurer. 8½ x 5½, 120 pp. 3s.

Edinburgh: Douglas and Foulis.

AMERICAN BUSINESS ENTERPRISE.

A Study in Industrial Organization. A Report to the Electors of the Gartside Scholarships on the results of a tour in the United States in 1906-07. By DOUGLAS KNOOP. (Publications of the University of Manchester: Economic Series, No. VIII Gartside Reports on Industry and Commerce, No. 5.) 9 x 5½, xii + 112 pp. 1s. 6d. net

Manchester: University Press.

THE RATE OF INTEREST.

Its Nature, Determination, and Relation to Economic Phenomena. By IRVING FISHER, PH.D. 3½ x 5½, xii + 442 pp. 12s. 6d. net

The Macmillan Company.

BANK RATE.

The Banker's Vade Mecum. (First year of Publication January 1, 1908.) Compiled by A. H. GIBSON. 9½ x 6, 69 pp. 2s. 6d. net

Halifax: J. Jackson, 1, Lord-st. London: Simpkin, Marshall.

PRACTICAL COAL-MINING.

By Leading Experts in Mining and Engineering under the Editorship of W. S. BOULTON, B.Sc., F.G.S., Divisional Volume IV. 10½ x 6½, pp. 193-401.

The Gresham Publishing Company.

COAL MINING.

By D. BURNS and G. L. KERR. Part II., Explosives and Blasting; Transmission of Power. 9½ x 6½, pp. 100-273. 2s. net.

Whittaker.

MOVING LOADS ON RAILWAY UNDER-BRIDGES.

By H. BAMFORD, M.Sc., A.M., INST.C.E., etc. 8½ x 6½, 78 pp. 4s. 6d. net.

Whittaker.

FOREIGN TRADE OF THE UNITED KINGDOM IN DECEMBER, 1907.

I.—GENERAL.

The trade returns for December, 1907, when compared with those for the corresponding month of 1906, show increases in the value of the Imports into the United Kingdom, and of the Exports of British produce, but a decrease in the Exports of Foreign and Colonial merchandise.

The value of the Imports in December, 1907, was £56,002,396, an increase of £1,330,894, or 2·4 per cent, as compared with December, 1906, whilst the total Exports amounted to £39,461,708 or an increase of £306,461. The Exports of British produce show an increase of £1,332,561, or 4·2 per cent., as compared with December, 1906, whilst there is a decrease of £1,026,100 or 13·2 per cent., in the Exports of Foreign and Colonial merchandise.

II.—IMPORTS.

The following table shows the value of the Imports for December, 1907, as compared with the corresponding months of 1906 and 1905, according to the different categories of merchandise.

Imports of Foreign and Colonial Merchandise.*

	MONTH ENDED 31ST DECEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	5,719,024	4,790,393	5,827,375	+ 1,036,982	+ 108,351
B. Meat, including animals for food	4,555,294	4,179,229	4,058,412	— 120,817	— 496,882
C. Other food and drink—					
1. Non-dutiable	5,687,100	5,737,905	5,628,016	— 109,889	— 59,084
2. Dutiable	4,075,409	4,050,096	4,058,123	+ 608,027	+ 582,714
D. Tobacco	302,992	464,586	575,508	+ 110,922	+ 272,516
Total, Class I.	20,339,819	19,222,209	20,747,434	+ 1,525,225	+ 407,615
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	2,638	12,160	465	— 11,695	— 2,173
B. Iron ore, scrap iron, and steel	506,178	576,003	492,132	— 83,871	— 14,046
C. Other metallic ores	767,935	804,064	670,103	— 133,961	— 97,892
D. Wood and timber	1,511,536	1,682,278	1,769,451	+ 87,173	+ 257,915
E. Cotton	8,069,323	9,292,567	9,595,991	+ 303,424	+ 1,526,668
F. Wool	2,236,994	2,677,786	3,385,154	+ 707,768	+ 1,148,560
G. Other textile materials	1,946,850	2,787,618	1,778,072	— 1,009,546	— 168,778
H. Oil seeds, nuts, oils, fats, and gums	2,012,068	2,029,091	2,174,261	+ 145,170	+ 162,173
I. Hides and undressed skins	696,768	722,097	730,520	+ 8,423	+ 33,752
J. Materials for paper making	330,110	387,283	549,039	+ 161,756	+ 218,929
K. Miscellaneous	2,040,800	1,950,524	2,027,577	+ 77,053	— 13,223
Total, Class II.	20,121,280	22,921,471	23,173,165	+ 251,694	+ 3,051,885
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	960,160	550,466	735,276	+ 184,810	— 224,884
B. Other metals and manufactures thereof	2,268,622	2,886,554	2,100,042	— 786,512	— 166,580
C. Cutlery, hardware, implements and instruments	351,870	359,713	410,888	+ 51,175	+ 59,018
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	94,983	94,869	101,772	+ 6,903	+ 6,789
E. Machinery	347,019	372,971	402,911	+ 29,940	+ 55,892
F. Ships (new)	1,113	28	160	+ 152	— 953
G. Manufactures of wood and timber (including furniture)	164,987	148,169	162,817	+ 14,648	— 2,170
H. Yarns and textile fabrics—					
1. Cotton	678,001	715,546	730,454	+ 14,908	+ 52,453
2. Wool	913,455	830,581	775,440	— 75,141	— 158,015
3. Other materials	1,391,501	1,425,496	1,389,364	— 38,132	— 5,137
I. Apparel	247,329	239,931	221,686	— 18,305	— 25,643
J. Chemicals, drugs, dyes and colours	793,527	839,810	941,265	+ 101,455	+ 147,738
K. Leather and manufactures thereof (including boots and shoes, and gloves)	1,014,712	924,038	968,660	+ 44,592	— 46,082
L. Earthenware and glass	427,073	346,517	365,899	+ 13,382	— 61,174
M. Paper	484,805	475,078	511,755	+ 49,677	+ 36,950
N. Miscellaneous	2,349,980	2,141,702	2,096,013	— 45,699	— 253,977
Total, Class III.	12,492,137	12,351,529	11,904,362	— 447,167	— 587,775
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)					
Total value of Imports	£ 53,118,550	£ 54,671,502	£ 56,002,396	+ 1,330,894	+ 2,883,846

* The values of the imports represent the cost, insurance, and freight; or when goods are consigned for sale, the latest sale value of such goods.

III.—EXPORTS.

The following table shows the value of the Exports of British produce for the month of December, 1907, as compared with the corresponding month of 1906 and 1905, and the increase or decrease in each principal category :—

Exports of Produce and Manufactures of the United Kingdom.*

	MONTH ENDED 31ST DECEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	230,667	224,226	250,846	+ 26,620	+ 20,179
B. Meat, including animals for food	108,691	119,582	94,504	— 25,378	— 14,187
C. Other food and drink	1,236,177	1,287,532	1,400,603	+ 113,071	+ 164,426
D. Tobacco	83,562	94,815	116,814	+ 21,999	+ 33,252
Total, Class I.	1,659,097	1,726,455	1,862,767	+ 136,312	+ 203,670
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke and manufactured fuel	2,193,029	2,496,062	3,681,245	+ 1,185,163	+ 1,488,216
B. Iron ore, scrap iron and steel	46,696	55,134	25,628	— 30,006	— 21,068
C. Other metallic ores	11,062	20,661	12,632	— 8,029	+ 1,570
D. Wood and timber	7,410	18,068	9,526	+ 1,458	+ 2,116
E. Cotton	—	—	—	—	—
F. Wool	184,745	262,950	130,786	— 132,164	— 53,959
G. Other textile materials	8,834	11,950	22,081	+ 10,131	+ 13,247
H. Oil seeds, nuts, oils, fats and gums	215,231	237,449	259,311	+ 21,862	+ 44,080
I. Hides and undressed skins	169,653	155,108	104,568	— 50,540	— 65,085
J. Materials for paper-making	46,498	59,430	50,534	— 8,896	— 4,036
K. Miscellaneous	175,647	223,922	195,370	— 28,552	+ 19,723
Total, Class II.	3,058,805	3,531,234	4,491,681	+ 960,447	+ 1,432,876
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	2,673,515	3,484,536	3,235,858	— 249,178	+ 561,843
B. Other metals and manufactures thereof	793,253	864,849	705,370	— 159,479	— 87,883
C. Cutlery, hardware, implements and instruments	443,148	495,239	495,581	+ 342	+ 52,433
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	99,490	142,515	123,875	— 18,640	+ 24,385
E. Machinery	2,126,783	2,332,612	2,751,959	+ 419,347	+ 625,176
F. Ships (new)	272,105	473,403	494,444	+ 21,041	+ 222,339
G. Manufactures of wood and timber (including furniture)	94,552	122,073	106,989	— 15,084	+ 12,437
H. Yarns and textile fabrics—					
1. Cotton	8,351,850	8,370,619	8,922,757	+ 452,098	+ 470,907
2. Wool	2,567,591	2,675,616	2,555,856	— 119,739	— 11,705
3. Other materials	1,222,650	1,368,134	1,181,795	— 186,339	— 40,855
I. Apparel	481,309	522,693	512,736	— 9,957	+ 31,427
J. Chemicals, drugs, dyes and colours	1,131,926	1,278,503	1,246,974	— 31,529	+ 115,048
K. Leather and manufactures thereof (including boots and shoes, and gloves)	508,009	526,741	492,333	— 34,408	— 15,676
L. Earthenware and glass	265,153	198,708	311,879	+ 13,171	+ 46,726
M. Paper	148,000	166,291	119,561	— 23,270	+ 40,961
N. Miscellaneous	2,139,785	2,444,144	2,618,965	+ 174,821	+ 479,180
Total, Class III.	23,319,719	25,566,716	25,846,462	+ 279,746	+ 2,526,743
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)					
Total value	£ 614,573	£ 584,770	£ 540,826	— 43,944	— 73,747
Total value	£ 28,652,194	£ 31,409,175	£ 32,741,736	+ 1,332,561	+ 4,089,542

Exports of Foreign and Colonial Merchandise.*

	£	£	£	£	£
Total value	7,093,109	7,746,072	6,719,972	— 1,026,100	— 373,137

* The values of the Exports represent the cost and the charges of delivering the goods on board the ship, and are known as the "free on board" values.

IV.—TRADE DURING THE YEAR 1907.

The following table shows the value of the Imports of foreign and colonial merchandise during the year 1907, as compared with the years 1906 and 1905 :—

Imports of Foreign and Colonial Merchandise.*					
	YEAR ENDED 31ST DECEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	69,200,285	67,880,589	75,401,091	+ 7,520,502	+ 6,200,806
B. Meat, including animals for food	40,431,748	52,026,453	51,916,740	— 102,713	+ 2,484,992
C. Other food and drink—					
1. Non-dutiable	63,023,140	68,823,115	67,489,952	— 1,333,163	+ 4,466,812
2. Dutiable	45,922,482	44,709,172	48,350,734	+ 3,641,562	+ 2,428,252
D. Tobacco	3,721,920	4,718,827	4,227,987	— 490,840	+ 506,067
Total, Class I . . . £	231,299,575	238,153,156	247,386,504	+ 9,228,348	+ 16,086,929
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke and manufactured fuel	42,582	47,100	20,845	— 26,255	— 21,737
B. Iron ore, scrap iron and steel	5,525,575	6,766,756	7,358,959	+ 592,203	+ 1,833,384
C. Other metallic ores	7,610,990	9,030,144	10,128,157	+ 1,098,013	+ 2,517,167
D. Wood and timber	23,274,020	27,507,410	27,094,365	— 413,045	+ 3,820,345
E. Cotton	52,370,878	50,125,253	70,808,324	+ 14,683,071	+ 18,337,446
F. Wool	26,048,737	30,515,718	36,459,775	+ 5,944,057	+ 9,811,038
G. Other textile materials	14,511,978	17,024,713	18,013,730	+ 989,017	+ 3,501,752
H. Oil-seeds, nuts, oils, fats, and gums	23,600,927	25,634,214	30,636,698	+ 5,062,484	+ 2,650,146
I. Hides and undressed skins	8,084,793	10,699,696	10,743,939	+ 44,243	+ 560,794
J. Materials for paper making	3,802,501	3,935,409	4,363,295	+ 427,886	+ 3,273,022
K. Miscellaneous	22,633,578	24,191,914	25,906,000	+ 1,714,686	+ 53,488,128
Total, Class II . . . £	188,106,559	211,478,327	241,594,687	+ 30,116,360	+ 53,488,128
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	8,589,405	8,359,752	7,215,179	— 1,144,573	— 1,374,226
B. Other metals and manufactures thereof	21,840,696	28,231,726	26,932,632	+ 701,106	+ 7,092,136
C. Cutlery, hardware, implements and instruments	3,615,107	3,771,616	4,072,145	+ 300,529	+ 457,038
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	1,010,304	1,187,625	1,247,650	+ 60,025	+ 237,346
E. Machinery	4,537,871	5,126,972	5,311,978	+ 185,006	+ 774,107
F. Ships (new)	32,623	28,400	27,015	— 1,385	— 5,608
G. Manufactures of wood and timber (including furniture)	1,968,196	2,016,728	1,920,026	— 96,702	— 48,170
H. Yarns and textile fabrics—					
1. Cotton	7,920,252	9,326,527	9,523,636	+ 197,109	+ 1,603,384
2. Wool	12,524,037	12,073,838	10,789,739	— 1,286,099	— 1,734,298
3. Other materials	19,244,139	20,082,092	20,740,700	+ 658,608	+ 1,496,561
I. Apparel	3,952,693	3,784,478	3,616,971	— 167,507	— 335,722
J. Chemicals, drugs, dyes and colours	9,024,638	10,104,111	11,637,078	+ 1,532,967	+ 2,012,440
K. Leather and manufactures thereof (including boots and shoes, and gloves)	11,037,983	12,745,130	11,530,739	— 1,214,391	— 492,756
L. Earthenware and glass	4,312,213	4,219,162	4,052,391	— 166,771	— 259,827
M. Paper	5,256,065	5,728,505	5,673,815	— 54,690	+ 417,750
N. Miscellaneous	27,930,680	29,020,729	28,272,854	— 747,875	+ 342,174
Total, Class III . . . £	143,396,907	155,809,391	154,564,743	— 1,244,643	+ 11,167,841
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)					
	2,216,876	2,442,626	2,358,237	— 84,389	+ 141,361
Total . . . £	565,019,917	607,888,500	645,904,176	+ 38,015,676	+ 80,884,250

* The values of the Imports represent the cost, insurance, and freight; or when goods are consigned for sale, the latest sale value of such goods.

The value of the Exports of home produce, also of foreign and colonial produce, during the year ended 31st December, 1907, as compared with the years 1906 and 1905, is as shown in the following table :—

Exports of Produce and Manufactures of the United Kingdom.*					
	YEAR ENDED 31ST DECEMBER.			Increase (+) or Decrease (—) in 1907 as compared with 1906.	Increase (+) or Decrease (—) in 1907 as compared with 1905.
	1905.	1906.	1907.		
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	2,766,937	2,571,796	3,092,327	+ 520,531	+ 323,390
B. Meat, including animals for food	921,365	1,339,363	1,309,355	— 30,008	+ 384,990
C. Other food and drink	14,724,557	16,143,751	17,083,350	+ 939,599	+ 2,358,793
D. Tobacco	981,774	1,060,660	1,263,815	+ 203,155	+ 282,041
Total, Class I . . . £	19,399,633	21,115,570	22,748,847	+ 1,633,277	+ 3,349,214
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	26,061,120	31,504,291	42,118,994	+ 10,614,703	+ 16,057,874
B. Iron ore, scrap iron, and steel	473,326	596,823	573,329	— 23,494	+ 100,003
C. Other metallic ores	114,465	176,091	191,102	+ 15,011	+ 76,637
D. Wood and timber	77,056	91,575	112,556	+ 20,981	+ 35,500
E. Cotton	—	—	—	—	—
F. Wool	2,511,711	2,902,089	3,207,989	+ 305,900	+ 696,278
G. Other textile materials	155,477	164,248	227,487	+ 63,239	+ 72,010
H. Oil-seeds, nuts, oils, fats, and gums	2,592,538	2,824,083	3,431,922	+ 607,839	+ 839,384
I. Hides and undressed skins	1,853,885	2,209,753	1,816,680	— 393,073	+ 37,205
J. Materials for paper making	535,840	713,070	752,739	+ 38,769	+ 216,899
K. Miscellaneous	1,936,543	2,084,457	2,571,952	+ 487,495	+ 635,409
Total, Class II . . . £	36,311,961	43,267,380	55,004,750	+ 11,737,370	+ 18,692,789
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	31,826,438	39,840,595	46,661,848	+ 6,821,253	+ 14,835,410
B. Other metals and manufactures thereof	8,920,533	10,133,202	11,681,087	+ 1,547,885	+ 2,760,554
C. Cutlery, hardware, implements and instruments	5,115,816	5,881,907	6,431,135	+ 549,228	+ 1,315,819
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	2,431,744	2,381,743	2,484,126	+ 102,383	+ 52,382
E. Machinery	23,260,326	26,771,889	31,763,524	+ 4,991,635	+ 8,503,198
F. Ships (new)	5,431,298	8,644,171	10,023,317	+ 1,379,146	+ 4,592,019
G. Manufactures of wood and timber (including furniture)	1,214,039	1,305,696	1,398,201	+ 92,505	+ 184,162
H. Yarns and textile fabrics—					
1. Cotton	92,010,985	99,578,915	110,438,231	+ 10,859,316	+ 18,427,246
2. Wool	29,150,610	31,843,681	34,161,000	+ 2,317,319	+ 5,010,390
3. Other materials	13,204,899	14,993,323	16,505,298	+ 1,511,975	+ 3,300,399
I. Apparel	6,021,242	6,818,317	7,184,512	+ 366,195	+ 1,163,270
J. Chemicals, drugs, dyes and colours	14,536,857	15,521,288	17,059,009	+ 1,537,721	+ 2,522,152
K. Leather and manufactures thereof (including boots and shoes, and gloves)	5,660,494	6,391,767	6,509,668	+ 207,901	+ 939,174
L. Earthenware and glass	3,205,552	3,659,508	4,050,340	+ 390,832	+ 844,788
M. Paper	1,939,767	2,063,816	2,342,424	+ 278,608	+ 402,657
N. Miscellaneous	25,143,114	29,698,378	33,390,131	+ 3,691,753	+ 8,247,017
Total, Class III . . . £	269,073,214	305,528,196	342,173,851	+ 36,645,655	+ 73,100,637
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)					
	5,031,806	5,664,102	6,277,148	+ 612,956	+ 1,245,342
Total . . . £	329,816,614	375,575,338	426,204,596	+ 50,629,258	+ 96,387,982

Exports of Foreign and Colonial Merchandise.*

	£	£	£	£	£
Total value	77,779,913	85,102,480	91,972,141	+ 6,869,661	+ 14,192,228

* The values of the Exports represent the cost and the charges of delivering the goods on board the ship and are known as the "free on board" values.

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and Exports to, each country in the seven months, April to October of each year.

NAME OF COUNTRY.	IMPORTS			EXPORTS			TOTAL		
	1905	1906	1907	1905	1906	1907	1905	1906	1907
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
LUS BELA— Sind and British Baluchistan . . .	3,06,941	3,25,388	4,92,983	1,14,923	1,01,547	1,07,447	4,21,864	4,26,935	6,00,430
KHELAT— Sind and British Baluchistan . . .	3,06,812	3,85,090	4,36,383	3,26,648	2,53,242	2,48,247	6,33,460	6,38,332	6,84,630
PERSIA— Sind and British Baluchistan . . .	2,06,302	1,12,168	1,82,554	1,34,211	1,50,975	2,32,842	3,40,513	2,63,143	4,15,396
AFGHANISTAN— Northern and Eastern (including Kabul and Ghazni)— North-West Fron- tier Province . . .	17,58,181	11,64,764	10,80,021	57,50,334	59,27,174	56,50,311	75,08,515	70,91,938	67,30,332
Southern and Western (including Kandahar and Herat)— Sind and British Baluchistan . . .	22,23,577	44,11,884	38,15,078	23,13,661	27,99,466	33,17,839	45,37,238	72,11,350	71,32,917
North-West Fron- tier Province . . .	43,887	46,737	62,444	1,30,510	96,116	1,68,685	1,74,397	1,42,853	2,31,129
Panjab . . .	26,241	2,455	448	26,458	1,07,447	...	52,699	1,09,902	448
TOTAL . . .	40,51,886	56,25,840	49,57,991	82,20,963	89,30,203	91,36,835	1,22,72,849	1,45,56,043	1,40,91,826
TIRAH— North-West Frontier Province . . .	2,42,285	2,74,316	3,14,792	2,51,189	3,86,055	3,45,028	4,93,474	6,60,371	6,59,820
DIB, SWAT, AND BAJAUR— North-West Frontier Province . . .	21,45,287	30,33,903	29,81,876	41,43,717	41,43,532	42,43,993	62,89,004	71,77,435	72,25,8
BUNER— North-West Frontier Province . . .	1,06,862	93,096	62,855	2,00,418	93,563	64,460	3,07,280	1,86,665	1,27,315
KASHMIR— North-West Frontier Province . . .	12,03,337	13,40,815	10,91,265	28,78,104	22,04,251	20,57,666	40,81,441	35,45,066	31,48,931
Panjab . . .	63,93,220	85,14,886	31,84,686*	56,21,419	62,63,038	28,97,809*	1,20,16,639	1,47,77,924	60,82,495*
TOTAL . . .	75,98,557	98,55,701	42,75,951	84,99,523	84,67,259	49,55,475	1,60,98,080	1,53,22,990	92,31,426
LADAKH— Panjab . . .	4,82,285	5,20,496	7,13,307	1,71,392	2,18,702	1,57,865	6,53,677	7,39,198	8,71,172
TIBET— Panjab . . .	28,501	17,872	25,637	55,459	47,604	30,064	83,96	65,476	55,701
United Provinces of Agra and Oudh . . .	4,08,238	3,16,541	4,90,445	3,42,848	5,51,152	4,62,757	7,51,086	9,47,693	9,53,202
Bengal . . .	5,69,662	7,49,839	9,61,009	7,75,218	6,55,668	6,72,054	13,44,886	14,05,507	16,33,063
TOTAL . . .	10,06,401	11,64,252	14,77,091	11,73,525	12,54,424	11,64,875	21,79,96	24,18,676	26,41,966
NEPAL— United Provinces of Agra and Oudh . . .	44,50,918	44,57,381	42,05,498	17,41,302	15,57,354	15,77,555	61,92,220	60,14,735	57,83,053
Bengal . . .	81,39,270	92,67,539	99,26,373	53,59,780	51,26,541	48,74,463	1,34,99,050	1,43,94,080	1,48,00,836
TOTAL . . .	1,25,90,188	1,37,24,920	1,41,31,871	71,01,082	66,83,895	64,52,018	1,96,91,270	2,04,08,815	2,05,83,889

* Registration discontinued from July, 1907, the trade being considered internal.

LAND TRADE OF BRITISH INDIA—continued.

Total Value of Imports from, and Exports to, each country in the seven months April to October of each year—continued.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1905	1906	1907	1905	1906	1907	1905	1906	1907
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
SIKKIM— Bengal . . .	1,72,115	3,26,396	3,88,770	2,99,722	3,14,837	4,68,893	4,71,837	6,41,233	8,57,663
BHUTAN— Bengal . . .	52,196	10,184*	6,112	54,337	6,729*	7,489	1,06,533	16,913*	13,601
Eastern Bengal and Assam . . .	29,481	27,999†	35,345	250	25,600†	60,751	29,731	53,599†	96,096
TOTAL . . .	81,677	38,183	41,457	54,587	32,329	68,240	1,36,264	70,512	1,09,697
TOWANG— Eastern Bengal and Assam . . .	...	13,472	5,046	...	...	...	...	13,472	5,046
NAGI AND MISHMI HILLS— Eastern Bengal and Assam . . .	93,735	1,44,775	56,695	2,474	7,270	3,287	96,209	1,52,045	60,182
DUFFLA AND AKA HILLS— Eastern Bengal and Assam . . .	17,402	25,085	38,599	...	...	...	17,402	25,085	38,599
WESTERN CHINA— Burma . . .	14,90,124	14,33,745	16,12,170	18,35,161	20,97,791	23,15,800	33,25,235	35,31,536	39,27,970
NORTH SIAM— Burma . . .	11,89,903	12,99,947	15,95,334	8,84,340	11,33,370	11,20,946	20,74,243	24,33,317	27,16,280
SOUTH SIAM— Burma . . .	2,15,597	2,43,683	2,68,223	2,44,952	3,04,136	2,73,666	4,60,549	5,47,819	5,41,889
N. SHAN STATES— Burma . . .	31,05,593	34,33,697	38,20,913	26,78,527	27,70,348	46,11,014	57,84,120	62,04,045	84,31,927
S. SHAN STATES— Burma . . .	30,11,641	32,61,736	30,56,759	37,16,702	56,78,776	45,59,843	67,28,343	89,40,512	76,16,602
KARENNREE— Burma . . .	14,42,136	14,57,591	13,81,009	4,98,710	8,94,226	11,97,141	19,40,846	23,51,817	25,78,150
GRAND TOTAL . . .	3,98,63,729	4,67,93,480	4,22,92,829	4,05,52,766	4,39,16,516	4,17,27,915	8,04,16,495	9,07,09,996	8,40,20,744
Share of each Province in the total trade—									
Sind and British Baluchistan . . .	30,43,632	52,34,530	49,26,998	28,89,443	33,05,230	39,06,375	59,33,075	85,39,760	88,33,373
North-West Frontier Province . . .	54,99,839	59,53,631	55,93,253	1,33,54,272	1,28,50,697	1,25,30,143	1,88,54,111	1,88,04,328	1,81,23,896
Panjab . . .	69,32,247	90,55,709	39,24,078	55,74,728	66,86,791	20,85,738	1,28,06,975	1,56,92,500	70,09,816
United Provinces of Agra and Oudh . . .	48,59,156	48,53,922	46,95,943	20,84,150	21,08,506	20,40,312	69,43,306	69,62,428	67,56,255
Bengal . . .	89,33,243	1,03,53,958	1,12,82,264	64,89,057	61,03,775	60,22,899	1,54,22,300	1,64,57,733	1,73,05,163
Eastern Bengal and Assam . . .	1,40,618	2,11,331	1,35,885	2,724	32,870	64,038	1,43,342	2,44,201	1,99,923
Burma . . .	1,04,54,994	1,11,30,399	1,17,34,408	98,58,392	1,28,78,647	1,40,78,410	2,03,13,386	2,40,09,046	2,58,12,818
GRAND TOTAL . . .	3,98,63,729	4,67,93,480	4,22,92,829	4,05,52,766	4,39,16,516	4,17,27,915	8,04,16,495	9,07,09,996	8,40,20,744

* The trade registered in the Jalpaiguri district has been excluded from April, 1906.
† included from April, 1906, in consequence of the transfer of the district to the new province.

SEA-BORNE TRADE OF INDIA.

The following is a summary of the accounts relating to the Sea-borne Trade and Navigation of British India for the month of December, 1907, and for the nine months, 1st April to 31st December, 1907, compared with the corresponding period of the years 1905 and 1906 :—

	MONTH OF DECEMBER			NINE MONTHS, 1st APR. TO 31st DEC.		
	1905	1906	1907	1905	1906	1907
IMPORTS—						
MERCHANDISE, PRIVATE—						
Bengal	3,49,01,166	2,80,24,254	3,77,66,639	30,76,88,484	31,44,11,149	39,54,92,322
Eastern Bengal and Assam	(a)	2,80,066	2,42,157	30,81,091	30,81,091	39,92,827
Bombay	2,77,03,491	3,28,86,092	3,74,23,089	26,30,70,302	27,61,41,393	32,14,87,938
Sind	81,78,665	61,14,424	97,42,669	6,14,31,383	6,89,14,973	7,16,20,267
Madras	59,56,944	79,43,592	77,01,102	5,91,22,349	6,80,65,937	7,30,75,998
Burma	70,36,548	64,07,363	96,59,285	5,98,55,677	7,16,51,965	7,70,70,765
TOTAL	8,37,81,814	8,16,55,791	10,25,35,541	75,11,68,195	80,22,69,508	94,27,40,117
DITTO, GOVERNMENT STORES	73,48,387	65,18,994	48,35,378	6,75,71,084	6,73,82,859	4,73,52,059
TOTAL MERCHANDISE	9,11,30,201	8,81,74,785	10,73,70,919	81,87,39,279	86,96,52,367	99,00,92,176
TREASURE, PRIVATE—						
Bengal	53,12,294	9,19,94,928	28,34,213	5,19,12,083	7,23,81,365	6,15,77,689
Eastern Bengal and Assam	(a)	741	36,475	36,475	36,475	99,820
Bombay	1,75,09,194	1,19,17,610	1,12,86,886	10,12,61,959	12,80,13,484	17,32,54,151
Sind	1,81,383	3,44,075	3,84,537	27,13,772	37,62,774	55,24,023
Madras	4,09,164	21,84,829	3,55,194	30,29,587	60,51,969	64,90,753
Burma	16,135	76,170	52,888	4,19,800	9,99,218	10,14,326
TOTAL	2,34,28,170	2,65,17,612	1,49,14,459	15,93,37,206	21,12,45,285	24,79,60,762
DITTO, GOVERNMENT	1,61,11,567	1,72,89,040	1,60,000	3,96,73,317	13,56,61,055	9,46,22,124
TOTAL TREASURE	3,95,39,737	4,38,06,652	1,50,74,459	19,90,10,523	34,68,09,340	34,25,82,886
GRAND TOTAL OF IMPORTS	13,06,69,938	13,19,81,437	12,24,45,378	101,77,49,802	121,64,61,707	133,26,75,062
EXPORTS—						
MERCHANDISE, PRIVATE—						
(Foreign Merchandise)—						
Bengal	1,11,774	2,10,733	1,48,668	14,33,877	13,73,697	15,92,458
Eastern Bengal and Assam	(a)	200	250	250	250	750
Bombay	25,36,993	20,90,589	22,08,908	1,97,57,851	1,89,52,141	2,19,79,130
Sind	3,51,443	3,03,150	2,99,339	28,71,427	34,94,584	36,91,016
Madras	72,502	43,496	33,598	6,27,729	12,34,926	9,06,620
Burma	25,089	16,944	23,596	2,80,534	4,54,452	5,10,182
TOTAL	30,97,601	26,64,912	27,14,309	2,49,71,418	2,55,10,050	2,66,80,156
(Indian Merchandise)—						
Bengal	6,55,69,453	8,44,98,143	5,68,27,447	51,44,69,057	58,05,15,475	55,53,99,156
Eastern Bengal and Assam	(a)	50,96,024	50,96,024	50,96,024	3,20,23,443	3,18,41,103
Bombay	4,23,62,051	2,92,65,269	2,59,94,466	31,76,16,876	28,45,32,420	35,12,03,177
Sind	72,03,616	97,88,585	68,82,470	8,95,19,632	10,81,35,090	15,10,39,396
Madras	89,66,883	1,13,67,643	96,10,093	10,70,66,146	12,41,90,218	13,91,52,946
Burma	47,37,620	40,59,596	37,45,496	9,43,62,886	8,28,06,913	9,67,14,018
TOTAL	12,88,39,623	14,58,59,290	10,81,55,996	112,30,34,597	121,22,03,559	132,53,49,796
Total Foreign and Indian Merchandise exported—						
Bengal	6,56,81,227	8,47,08,876	5,69,76,115	51,59,02,934	58,18,89,172	55,69,91,614
Eastern Bengal and Assam	(a)	68,80,054	50,96,224	50,96,224	3,20,23,693	3,18,41,853
Bombay	4,48,99,044	3,13,55,858	2,82,03,374	33,73,74,727	30,34,84,561	37,31,82,307
Sind	75,55,059	1,00,91,735	71,81,809	9,23,91,059	11,16,29,874	15,47,30,412
Madras	90,39,385	1,14,11,139	96,43,691	10,76,93,875	12,54,25,144	14,00,59,566
Burma	47,62,709	40,76,540	37,69,092	9,46,43,420	8,32,61,365	9,72,24,200
TOTAL	13,19,37,424	14,85,24,202	11,08,70,305	114,80,06,015	1,23,77,13,609	135,40,29,952
DITTO, GOVERNMENT STORES	1,34,765	44,885	41,318	9,33,301	7,65,025	10,54,249
TOTAL MERCHANDISE	13,20,72,189	14,85,69,087	11,09,11,623	1,14,89,39,316	1,23,84,78,634	135,50,84,201
TREASURE, PRIVATE—						
Bengal	10,02,500	60,500	79,271	27,01,532	57,06,986	27,20,136
Eastern Bengal and Assam	(a)	...	...	...	...	...
Bombay	28,58,157	21,05,086	69,13,750	3,31,57,362	4,14,51,771	3,51,37,461
Sind	4,500	...	1,03,775	9,70,371	8,10,406	11,40,088
Madras	...	...	5,05,253	16,00,625	14,22,209	40,25,668
Burma	10,000	...	...	3,71,750	1,83,015	93,275
TOTAL	38,75,157	21,65,646	76,02,049	3,88,01,640	4,95,74,387	4,31,16,628
DITTO, GOVERNMENT	23,000	...	1,020	7,51,08,985	52,450	18,520
TOTAL TREASURE	38,98,157	21,65,646	76,03,069	11,39,10,625	4,96,26,837	4,31,35,143
GRAND TOTAL OF EXPORTS	13,59,70,346	15,07,34,733	11,85,14,692	126,28,49,941	128,81,05,471	139,82,19,349
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	52,17,285	49,86,824	59,20,095	4,99,34,984	5,12,56,516	5,33,46,817
DITTO, EXPORT DUTY COLLECTED	3,34,368	3,19,757	2,23,329	69,21,460	57,84,095	56,19,329

(a) Included with Bengal.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the second half of December, 1907. (Prices are stated in annas and pies per ser=2·06 lbs.)

	Rice, common	Wheat	Barley	Jawar	Bajra	Ragi	Gram	Salt
	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.
BURMA—								
Rangoon	1 3	...	...	...	...	...	...	0 11
Toungoo	2 0	...	...	...	...	...	...	1 5
EASTERN-BENGAL AND ASSAM—								
Rangpur	2 3	2 2	...	...	...	...	...	1 0
Backerganj	2 2	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 1	2 6	...	...	...	...	...	0 10
Patna	2 2	2 2	1 5	...	...	...	...	0 11
UNITED PROVINCES—								
Cawnpore	...	2 2	1 9	1 10	1 11	...	1 9	0 9
Fyzabad	...	2 3	1 9	1 11	...	...	1 10	0 11
Meerut	...	2 3	1 6	1 8	1 9	...	1 9	0 9
PANJAB—								
Delhi	...	2 2	1 8	1 7	2 0	...	1 8	0 9
Amritsar	...	2 0	1 5	1 7	1 9	...	1 6	0 7
Rawalpindi	...	1 11	1 4	1 5	1 7	...	1 7	0 7
SIND—								
Karachi	...	2 0	...	1 5	1 9	...	1 8	0 7
BOMBAY—								
Belgaum	...	2 1	...	1 2	1 3	...	...	0 11
Ahmadnagar	...	2 2	...	1 4	1 3	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 2	...	1 5	1 8	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	2 3	...	1 11	...	...	2 0	0 11
Nagpur	...	1 9	...	1 9	...	...	1 8	1 1
Raipur	1 10	1 11	...	...	...	...	1 8	1 1
MADRAS—								
Bellary	2 6	...	...	1 2	...	1 3	...	1 0
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 2	...	...	1 2	1 6	1 2	...	0 10

—A committee has been formed, writes a Paris correspondent, by the honorary members of the Cobden Club residing in France, with M. Yves Guyot as president, and M. Daniel Bellet as secretary, to take part in the proceedings of the Club at the Free Trade Congress, to be held in London in August next. A circular has been issued by the Paris Political Economy Society to its members, inviting them to give their adhesion to the Congress, and indicate the points they would prefer to see discussed.

—The French Administration des Postes et Télégraphes is engaged in making some interesting experiments with a view to the improvement of telephone communication. On an underground cable between Lille and Roubaix a certain number of self-induction coils on Pupin's system have been intercalated. As was found to be the case in America, the results obtained in France have been excellent, and there is some talk of greatly increasing the use of these coils on a number of other

telephone lines. It will, of course, be understood that this system will only prove to be truly efficacious on lines of considerable length.

—The Italian newspapers state that Signor Caminada, a hydraulic engineer, has drawn up a scheme for the construction of a canal to cross the Alps and connect Genoa with Lake Constance. The canal will be 491 kilometres (366 miles) long, existing water courses being utilised for 260 kilometres (160 miles). It would allow the passage of vessels of 600 tons and the carriage of fifteen million tons of cargo per annum. The commercial value of the new canal, if it were found feasible from an engineering point of view, would be enormous. From Lake Constance the Rhine is navigable to its mouth and already carries a vast volume of traffic. The canal would stretch across the plain of Lombardy to Lake Maggiore, and would therefore, besides acting as a great through route, tap the traffic of all the cities of industrial Italy.

WEEKLY TRADE MOVEMENTS.

For the week ending 25th January, 1908.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta, lbs.	303,014
Imports by sea into	Bombay	143,958
	Madras	219,676
Indian—	Calcutta	379,308
Exports by sea from	Bombay	1,432,378
	Madras	...

Grey Piece Goods.

Imports by sea from	Calcutta, yds.	29,412,939
Foreign ports into	Bombay	4,744,698
	Karachi	1,478,242
	Madras	1,124,207
	Rangoon	256,071

White Piece Goods.

Imports by sea from	Calcutta, yds.	7,153,703
Foreign ports into	Bombay	6,432,468
	Karachi	6,651,033
	Madras	526,443
	Rangoon	1,886,939

Other Piece Goods.

Imports by sea from	Calcutta, yds.	3,981,184
Foreign ports into	Bombay	4,160,610
	Karachi	3,987,348
	Madras	1,110,077
	Rangoon	2,316,555

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, owt.	16,884
	Bombay	3,989
	Karachi	13,648
	Madras	4,880

Raw Cotton.

Imports into Bombay	By sea owt.	8,707
	Coastwise	30,932
	By rail	255,700
Imports into Karachi by rail		57,911
Imports into Calcutta by rail and river		11,159

JUTE.

Arrivals by all routes in	Calcutta, owt.	437,558	
Exports by sea from	{ Calcutta {	Gunny bags, No.	14,467,366
		" cloth, yds.	25,534,650
		Jute, owt.	259,061
		Chittagong—Jute	21,504

TEA.

Arrivals by all routes in	Calcutta,	lbs.	1,601,655
Exports by sea from	{ Calcutta	"	3,131,156
	{ Chittagong	"	526,858

WHEAT.

Imports into	{	Calcutta by rail and river, owt.	29,824
		Karachi by rail	3,005
		By sea	3,303
		Coastwise	56,733
		By rail	6,414
Exports by sea from	.	Calcutta	...
		Bombay	495
		Karachi	14,722

RICE.

Arrivals by all routes in	Calcutta, owt.	643,219
	Calcutta	51,619
	Chittagong	616
	Bombay	5,344
Exports by sea from	Karachi	3,208
	Madras	52
	Rangoon	631,707

LINSEED.

Imports into	{	Calcutta by rail and river, owt	9,474
		By sea	54
		Coastwise	38
		By rail	939
	{	Karachi by rail	
Exports by sea from	{	Calcutta	12,106
		Bombay	53,993
		Karachi	

RAPE AND MUSTARD SEED.

Imports into	{	Calcutta by rail and river, owt.	8,314
		Bombay { By sea	...
		Coastwise	...
		By rail	608
		Karachi by rail	50,294
Exports by sea from	{	Calcutta	9,338
		Bombay	52,346
		Karachi	...

COTTON SEED.

Exports by sea from Bombay, owt.	77,304
----------------------------------	--------

KEROSENE OIL, WEEK ENDING 25th JANUARY, 1908.

Imports by sea into—	FROM			TOTAL.
	Russia.	America.	All other foreign countries.	
Calcutta	galls.	galls.	galls.	galls.
Bombay	...	304,858	...	304,858
Karachi	...	273,740	1,785,033	2,058,773
Madras	...	...	531,750	531,750
			Bengal	756,272
			E. B. & Assam	...
			Bombay	738,992
			Sind	...
			Madras	875,608
			Indian Ports, Non-Br.	...
			Foreign Ports	...
Exports by sea from Burma to				...

IMPORTS OF SUGAR, WEEK ENDING 25th JANUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	owt.	owt.	owt.	owt.	owt.	owt.	owt.
United Kingdom	14	999	...	49	30	9	1,101
Germany	...	...	...	...	500	...	500
Austria-Hungary	...	...	23,645	...	2,200	...	25,845
Other European Countries	...	...	...	...	...	...	...
Java	9,000	...	29,050	...	...	...	38,050
Mauritius	...	...	41,470	11,731	...	...	53,201
Other Non-European Countries	...	...	3,327	298	307	38	3,970
					Total refined		132,667
					Total unrefined		1,031
					Grand Total, owt.		123,698

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 24th January.		Sold to 24th January.		Sold in sale of 22nd January.		Sold to 22nd January.	
	Packages.	Average price per lb. A. P.	Packages.	Average price per lb. A. P.	Packages.	Average price per lb. A. P.	Packages.	Average price per lb. A. P.
Assam	2,720	7 1-2	179,634	7 5-9	6,139	6 10	152,519	6 9-2
Cachar	3,862	6 8-3	146,356	6 3	6,697	5 2-4	134,698	4 5
Sylhet	2,995	6 6-8	115,086	6 2-9	4,073	5 1-4	100,439	4 2-5
Darjeeling	336	7 4-8	56,947	9 3	731	9 8-9	54,844	8 10-1
Dooars	3,036	6 7-2	178,161	6 10	7,865	6 3-7	181,084	5 7
Tera	279	6 1-9	21,372	6 3-8	1,161	4 9-9	32,879	4 4-1
Chittagong	221	6 4-8	8,743	6 3-1	571	5 3	12,217	4 4
Chota-Nagpore	6	5 3	1,443	5 10-9	...	...	1,446	4 6
Kumaon and Kangra	126	5 5-6	4,744	6 1-4	214	6 0	377	5 7-8
Madras	...	...	294	6 1-7	197	6 1-3	536	5 4-3
Dehra Dun	...	...	204	6 3-3	...	...	50	5 0
Nepaul	218	6 0	465	6 5	269	4 3	486	3 11-4
TOTAL	13,299	6 8-5	718,449	6 11-4	27,917	6 0	671,575	5 7

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1907-08. Average price of 38,239 packages Dust* sold to 24th January 6 6-9

* On account of gardens which sell only that grade on this market.

—The report of the past year's working of the firm of Friedr. Krupp, Essen, has just been issued, showing a net profit of £1,252,600, against £1,046,000 in 1906 though only the same dividend is being paid as before, viz., 10 per cent. The capital of the Company now stands at £9,000,000, having been increased by £1,000,000 during 1906. No particulars are given regarding the business beyond those absolutely necessary to show the financial position of the Company. The workmen's fund amounts to £1,491,000, against £1,355,000 the previous year. This has been built up entirely from contributions from the firm. It is the property of the workpeople, and does not therefore figure amongst the assets of the Company.

—Professor Thomas Turner, of Birmingham University, recently lectured before the Sheffield Branch of the British Foundrymen's Association on the

crystallisation of cast-iron. The lecturer remarked that crystals were usually to be avoided by the practical metallurgist on account of the brittleness which they produced. The determination of the crystal system required careful measurements and calculation because of the different directions of symmetry, the development and suppression of planes, the incompleteness and the intersection of crystals. The character of crystal growth varied according to the freedom of movement in the surrounding substance. By means of lantern illustrations the lecturer showed crystals in iron, and then dealt with the particular class of crystals which were important to the foundryman, explaining how the process of crystallisation developed. A selection of faults in castings was also shown on the screen, some of these faults, it was explained, being due more to shape than to metal, the lecturer mentioning that such faults led to the bursting of large cast-iron guns during the Crimean War.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-3. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

Notes on Sugar in India. R1-8. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambay & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Cambridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Segoo, Bombay.
Sundar Pandurang, Bombay.
Y. Kalyanaram Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.
Rai Sahib M. Gulab Singh & Sons, Mafid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Cambridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	RS. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0
FOR LESS THAN 3 MONTHS:—	
To Subscribers per copy	8 0
To Non-Subscribers " "	10 0
POSTAGE:—	
Abroad per copy per annum	5 0
In India " " "	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers per copy	1 0
To Non-Subscribers " "	2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " half-year	35 0
" " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,
Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

G. W. MUNT & SONS,

WHOLESALE

BOX MANUFACTURERS

(EVERY DESCRIPTION),

LONDON,

ENGLAND.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco * * *

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DE RESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc. * * * It is everywhere stocked by dealers who know the selling value of goods for which the demand is established * * *

It will pay you to stock the "DeReszke."

Write for full particulars and samples to
J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E.
LONDON, * * * ENGLAND.

MARTIN & CO.*Engineers and Contractors**Architects and Builders,*

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES, ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. **C. I. COLUMNS**

Light Railway Material of every Description.

MARTIN & CO.

6 AND 7 CLIVE STREET,
CALCUTTA.

B. MURATTI, Sons & Co.

(LIMITED).

MANCHESTER, LONDON, BERLIN, BRUSSELS, PARIS & CONSTANTINOPLE.

Purveyors to the French Regie and Several Other
European Government Monopolies.

THE PIONEERS OF TURKISH CIGARETTES IN EUROPE.

MANUFACTURERS OF THE WORLD-RENOWNED CIGARETTES

ARISTON & NEB-KA.

For price lists and particulars apply direct to—

B. MURATTI, Sons & Co., Ltd., Manchester, England.

HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's
Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS,
COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct,
164-180, Oxford Street, London.

DELICIOUS **COFFEE**
RED
WHITE
& BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS

COIR MATS AND MATTING

SUPPLIED ON ORDER.

Rope Works at Ghusari.

TELEPHONE NO. 132.



THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.

Thurston's 'Perfect' Low Cushions

FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.

Branches at Cape Town, Johannesburg and Durban.

RELIABLE QUALITY ONLY. **PADMORE** Over 70 Years' Reputation. **BILLIARD TABLES**

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.

PROPRIETORS OF

SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.

THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment

TO HIS MAJESTY KING EDWARD VII.

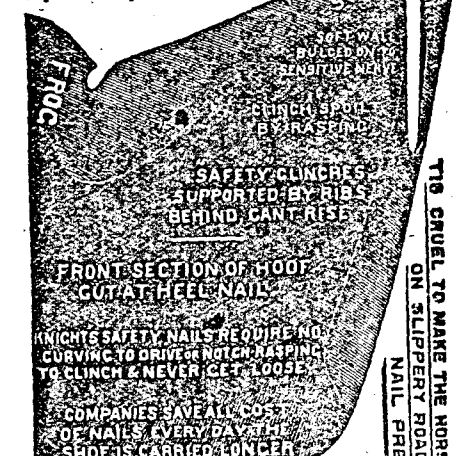
**WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'**

'SAFETY' HORSE NAILS
CONCAVE INSIDE
CONVEX OUTSIDE

Arch section, saves 'challenging', wrong-way-driving, notching, nail-pressure & breaking.
Extract from Mr. SHRATHANA's Eminent Report:—

'I have nothing to say but unqualified praise. I think the nail is much safer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'

Japanese Army use exclusively.



London and EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.

Telegrams: 'HORSE NAIL LONDON' Telephone: No. 5018

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,

DONCASTER, ENGLAND

Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically in Gelatine.

Beechwood Brand awarded 4 Gold Medals and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

"CHARLTON" SILICATE PAINT

Registered Patentees:

THE SILICATE PAINT Co.,
J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

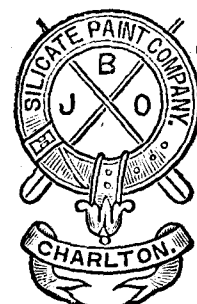
Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,
and for all
GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.

Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo.

Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

PATENT "BITUMASTIC" SOLUTION AND "BITUMASTIC" ENAMEL WAILES, DOVES

The Best Paint for protecting iron and steel structures. Avoid spurious imitations containing coal tar and other impurities.

All large Liners are coated with "BITUMASTIC."
British & Foreign Navies are coated with "BITUMASTIC."
TO PROTECT GOOD WORK AND VALUABLE STRUCTURES,

SPECIFY "BITUMASTIC."

USE THE BEST

that is

"BITUMASTIC"

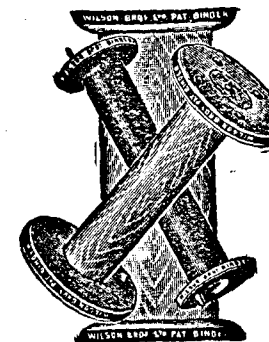
Export Agent: H. I. ROBERTS, 42, Castle Street, Liverpool.

Calcutta Agents: Kinmond & Co.

Bombay Agents: Kinmond & Co.

Karachi Agents: B. R. Herman & Co.

Madras Agents: Arbuthnots' Industrials, Ltd.



WILSON BROS. BOBBIN Co., LTD.

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS: GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: N. WADIA & SONS,
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

MARLBOROUGH'S SELF-TAUGHT SERIES OF LANGUAGES

Containing Vocabularies, Idiomatic Phrases and Dialogues,
Travel Talk, Military, Sporting and Commercial Terms, Tables of Money,
Weights and Measures. With ENGLISH PHONETIC PRONUNCIATION.

HINDUSTANI } Self-Taught. RUSSIAN } Self-Taught.
TAMIL } EGYPTIAN }
JAPANESE } ARABIC }

Sold by all Booksellers and Bookstalls.

For List of "Series," write for the (AL) Catalogue post free.
London: E. MARLBOROUGH & Co., Publishers,
61, Old Bailey, E.C.

BARLOW & Co.

Import and Export Merchants

and
Commission Agents

Agents:

United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd.

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA

MARSHALL SONS & CO., LIMITED, ENGINEERS.

BRITANNIA IRON WORKS, GAINSBOROUGH, ENGLAND.

Branch Offices, Show Rooms and Machinery Stores:

99, OLIVE STREET, AND 25, STRAND, CALCUTTA.

MARSHALL'S BUILDINGS,
79, FARRINGDON ROAD,
LONDON, E.C.

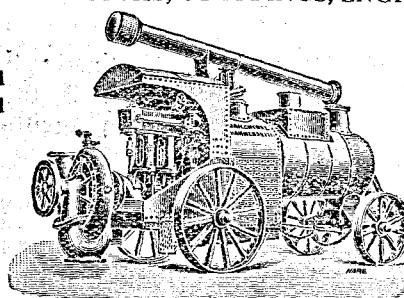
MARSHALL'S BUILDINGS,
BALLARD ROAD,
BOMBAY.

MANUFACTURERS OF

HIGH CLASS HORIZONTAL ENGINES, VERTICAL ENGINES with and without Boilers, UNDER-TYPE ENGINES, High Pressure and Compound, ELECTRIC LIGHT ENGINES, PORTABLE and SEMI-PORTABLE ENGINES, ROAD ROLLERS and TRACTION ENGINES, CORNISH and LANCASHIRE BOILERS, also Vertical, Locomotive, Britannia and Cylindrical Multitubular, THRESHING, GRINDING and SAWING MACHINERY, GOLD DREDGING PLANTS, TEA MACHINERY, Jackson's Patent Tea Rollers, Dryers, Sifters and Single and Double Packers, etc., turned bright SHAFTINGS, HANGERS, BRACKETS, PLUMMER BLOCKS, COUPLINGS, ENGINE and BOILER FITTINGS, etc.

The highest skilled labour and most modern machinery employed in all work.

All material and workmanship guaranteed to be the best obtainable.

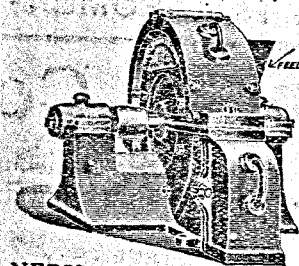


Over 110,000 Engines and Boilers, etc., made and supplied and 300 Gold and Silver Medals awarded.

Portable Engines let out on hire for electric lighting, breakdowns, pumping, etc.

ALSO IMPORTERS OF

WIRE HAWSERS, Manilla and Cotton DRIVING ROPES, BELTING, Orange and Oak Tanned, Single and Double Leather, Link Leather, Cotton, Hair and India Rubber, BELTING COMPOSITION and FASTENERS, PICKING BANDS and BUFFALO PICKERS, LUBRICATING OIL, ASBESTOS PACKING, BOILER COVERING COMPOSITION, FIRE BRICKS and FIRE CLAY, Wrought Iron STEAM PIPING, Bands, Sockets, etc., Cast Iron Piping, Wrought Iron Bars, LUBRICATORS, PULLEYS in all sizes and ENGINEERS' SUNDRIES of every description, FUEL ECONOMISERS, WATER SOFTENERS, HEATERS, STEAM CARTS and WAGONS, WEIGHBRIDGES, BLACKMAN FANS, HAYWARD TYLER & Co.'s STEAM PUMPS, Gwynne's CENTRIFUGAL PUMPS and Pumps for all purposes, OIL ENGINES, FLOUR MILLS and DRESSING MACHINES, RICE HULLERS and SHELLERS, WINDING MACHINES, MOWING, REAPING and BINDING MACHINES, STONE BREAKERS, MORTAR MILLS, DISINTEGRATORS and PULVERIZERS, COTTON GINS and OPENERS and complete equipment for Cotton Ginning Factories, SUGAR MACHINERY, OIL MACHINERY and ICE MAKING MACHINERY, WOOD WORKING MACHINERY, MACHINE TOOLS, STOCKS and DIES, etc.



LARGE STOCKS OF ENGINES, BOILERS AND SPARE PARTS KEPT AT CALCUTTA AND BOMBAY.

Illustrated Catalogues, Detail Specifications and Estimates Free on Application.

Expert advice given on all matters relating to Machinery by thoroughly competent European Engineers.

MARSHALL SONS & CO., LD., ENGINEERS. ESTD. 1848.

Garrould's

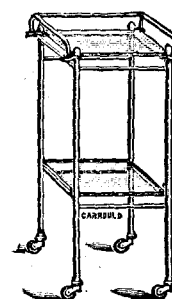
To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS AND
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—

NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS, OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLETS, CLINICAL THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS, CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

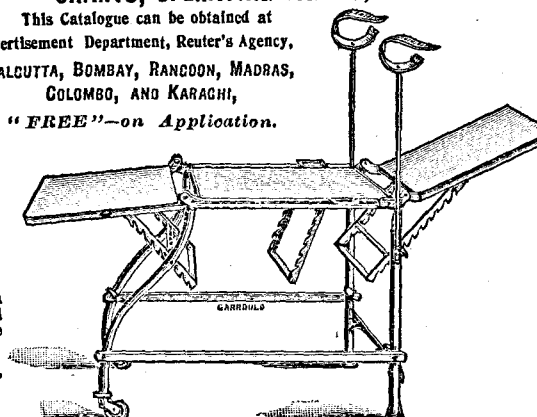
This Catalogue can be obtained at
Advertisement Department, Reuter's Agency,
CALCUTTA, BOMBAY, RANGOON, MADRAS,
COLOMBO, AND KARACHI,
"FREE"—on Application.



ANÆSTHETIC TABLE.

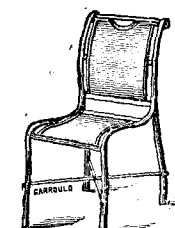
Size 14 in. by 14 in., with two glass shelves, and nickel-plated rail on three sides.

Mounted on castors, with rubber tyres.



Portable Operating Table designed by Dr. J. J. BUCHANAN.

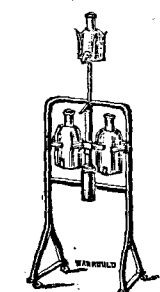
In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors, complete with Nickel Plated Leg-rest—Will Fold up into a small space.



HOSPITAL CHAIR

(Aseptic).

Tabular frame, enamelled white.



IRRIGATOR STAND.

Of wrought iron enamelled white, on rubber castors, with 1-gallon irrigator, adjustable to any height. Also two stoppered bottles for antiseptic solution, and cylindrical glass for filling irrigator.

E. & R. GARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments.

THE WOODITE COMPANY,
MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

STRUCTURAL ENGINEERS AND FOUNDERS.

Bridges, Girders, Roofs,

Tanks, Railway Wagons,

Wrought Iron Gates, Doors, and Railings.

THE EMPIRE ENGINEERING CO., LTD.

Cast Iron Columns, Brackets, Beams, etc., Designs and Estimates Free.

TRANSPORT CARTS, WATER CARTS, REFUSE CARTS, WOOD, AND IRON WHEELS,
PATENT ARTILLERY WHEELS, SEPTIC TANKS, LATRINES, AND CONSERV-
ANCY APPLIANCES A SPECIALITY. FOR ILLUSTRATED LIST APPLY TO—

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypes,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO.,

ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities,—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

GALLEYS

WE ARE MAKERS OF THE BEST IN
QUALITY AND WORKMANSHIP, AND
HOLD THE BRITISH RECORD FOR THE
LARGEST VARIETY AND OUTPUT

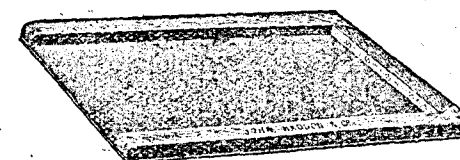
for **Lino**
Job or
Bookwork

*Speciality: The All-Brass Lino Galley, with Patent Clip, which can be
securely locked up at any point.*

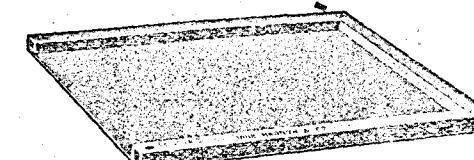


12-inch Lino Galleys, for 12 to 16 cm matter.

ZINC BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Job Galley—Half Lined.



Zinc Tube Galley.

BRASS BOTTOM GALLEYS, MAHOGANY RIMS, UNLINED,
HALF LINED, OR LINED ALL ROUND, ALL SIZES.



Zinc Bottom Column Galley—Lined all round.

BRASS TUBE, ZINC TUBE, SOLID BRASS AND ZINC GALLEYS, ALL SIZES.

Rims one or both sides and head.

OUR JOB, COLUMN AND LINO GALLEYS ARE MADE IN ALL SIZES.

DETAILED PRICE LIST sent free on application to

JOHN HADDON & Co. Salisbury Square,
LONDON, E.C.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes, as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 1/44 to 1/4 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,
TOBACCO TRADE ENGINEERS,
33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,
CIGARETTE SPECIALISTS,
35, ENDELL STREET, LONDON, W.C.
MALCAJIK CIGARETTES.

— TURKISH GRADES. —

De Luxe. Special. Princesses.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

— ALSO —

MALCAJIK VIRGINIA ROYAL CIGARETTES.

Made of the very choicest Bright Virginia Tobacco.

— AND —

MALCAJIK PIPE MIXTURE.

A revelation to lovers of a good Pipe Mixture. The finest ever made.

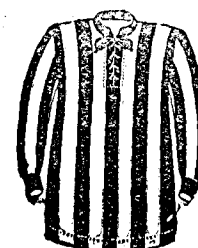
AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

Orders through English Merchants.

JOHN PIGGOTT, Ltd.

MANUFACTURERS

OF ALL KINDS OF

FOOTBALL REQUISITES.

JERSEYS, SHIRTS,
HOSE, Etc.

ILLUSTRATED LIST

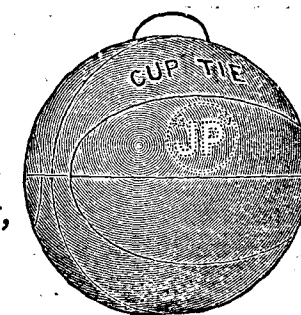
Free on application to—

Advertisement Department,
Reuter's Agency,

BOMBAY, CALCUTTA, MADRAS,
KARACHI, COLOMBO or RANGOON.

[Please mention this Advertisement.]

117 & 118, CHEAPSIDE & MILK STREET, LONDON, E.C.



FOOTBALLS, BLADDERS
SHIN-GUARDS, Etc.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

Bangkok.	Colombo.	BRANCHES:		Madras.	Penang.
Batavia.	Foochow.	Ipoh (Perak Feder-	ated Malay States).	Manila.	Rangoon.
Bombay.	Hamburg.	Karachi.		Medan (Deli	Saigon.
Calcutta.	Hankow.	Kobe.		Sumatra).	Shanghai.
Cebu.	Hong-Kong.	Kuala Lumpur.		New York.	Singapore.
	Sourabaya.	Thaiping.	Tientsin.	Yokohama.	

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
6, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS.

Large Stocks held

WATER METERS,

in Calcutta.

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10. CLIVE STREET, CALCUTTA.



"Pelican" and
"Chin-Chin"



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1½-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

GÜNTHER WAGNER,

Sole Manufacturer,
MILTON STREET, LONDON, E.C.,



ST.
ERMINS
HOTEL

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUT,
Manager

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Special Appointment to

 Established over 200 years.

Telegrams:—"Firmin, London."
 Works:—Birmingham, Halesowen, London.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD,

Contractors to the Admiralty, War Office, India Office, Post Office,
 also the Crown Agents for the Colonies,
 Foreign Governments, etc.

Manufacturers of every description of

Buttons, Ornaments, Accoutrements, Gold and Silver Lace, and Embroidery

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.
 Woollen & Trimming Warehousemen.

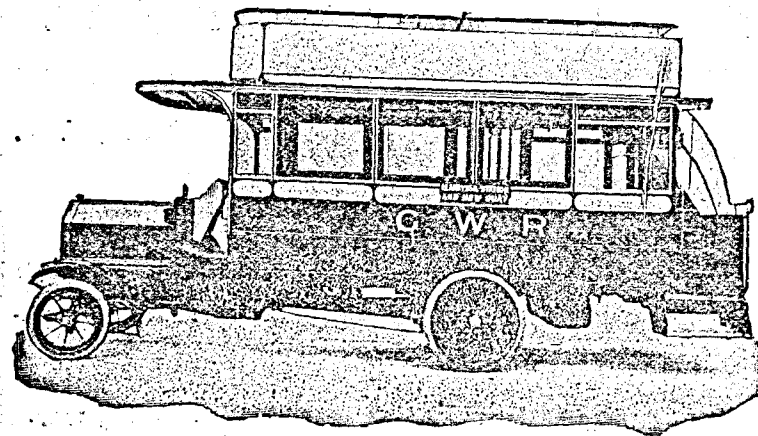
108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

FOR PARTICULARS
 APPLY TO
 ADVERTISEMENT
 DEPARTMENT,
 REUTER'S AGENCY,
 AT THEIR
 SEVERAL
 BRANCHES,

CALCUTTA,
 BOMBAY,
 MADRAS,
 COLOMBO,
 RANGOON,
 KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C



Motor Lorries,

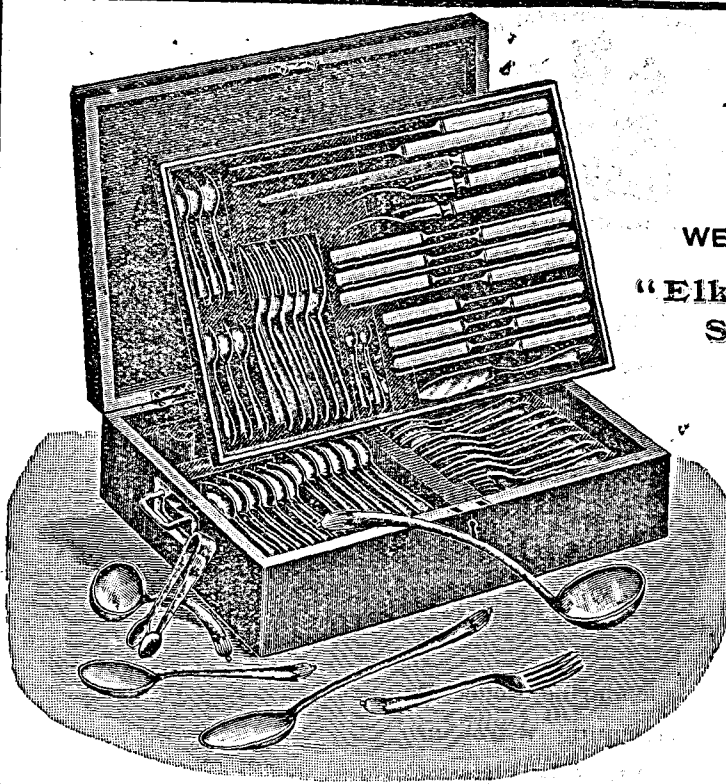
- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.

G. W. R. 1907. D. D. BUS.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.
 "Elkington" Quality!
 STILL THE BEST!
 CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.
 73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
 NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, Lord St.
 MANCHESTER—ST. ANN'S SQUARE.
 GLASGOW—84, ST. VINCENT ST.
 NEWCASTLE—32-34, NORTHUMBERLAND ST.
 CANADIAN AGENTS—A. T. WILEY & CO.,
 MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

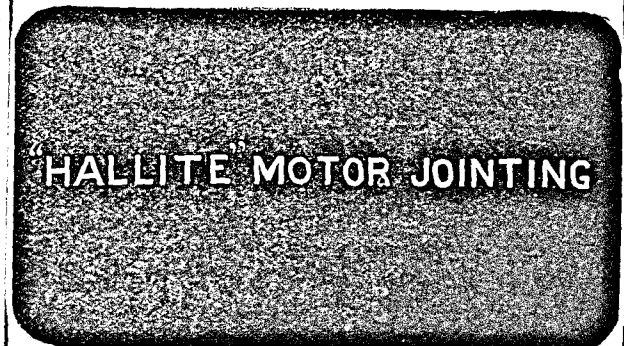
B B H Best Best

HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
 War Office, etc.

Manufacturers of the well-known
 "Hallite" Motor Jointings, Cord Packings,
 and Motor Washers, "Hallite" Flexible Fibre
 Washers (for Water Joints).



Catalogues can be obtained from
 Advertisement Department, Reuter's Agency,
 BOMBAY, CALCUTTA, MADRAS, KARACHI
 COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

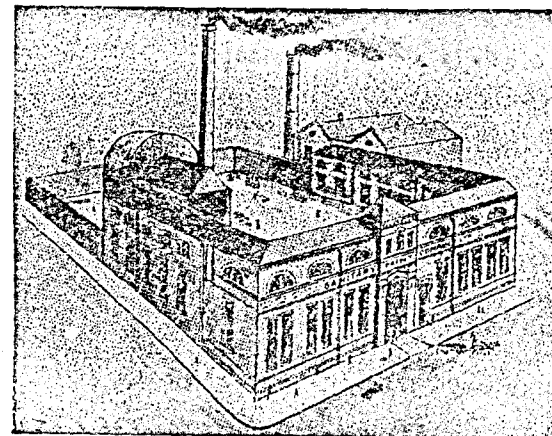
THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"



was received from the Calcutta
Exhibition in 1884,
and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.

Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
x x CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,
FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINO WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.
They will serve you well, and we are confident they will do their best to please you.

THE GRATZE

IMPROVED PLANT AND PASTE ACCUMULATORS:—

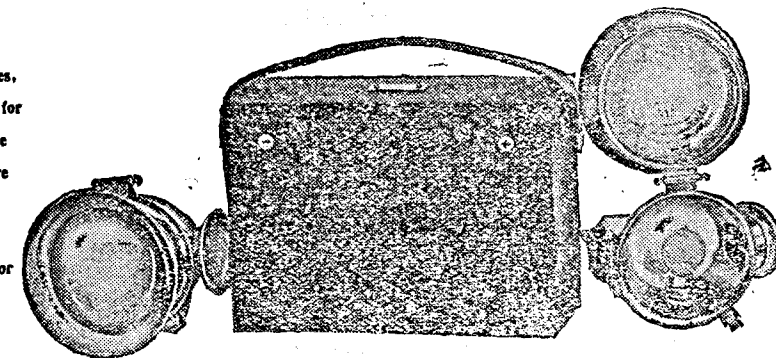
BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—

Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.

Specially adapted for
hot climates.



Accumulator and Lamps for Carriage or Motor Lighting.

These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES. ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to

HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING
SAFE & LOCK MAKERS NEAR GAS WORKS PAREL BOMBAY.

FIRE AND BURGLAR

RESISTING SAFES AND LOCKS.

Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE,

Bombay, 12th September 1905

MESSRS. GODREJ & BOYCE have supplied two strong room doors for the Coin Vaults in the Paper Currency Building, Bombay. They are of good design and excellent workmanship, and compare very favourably with more expensive doors of English manufacture. The locks manufactured by this firm are all that can be desired. They are moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

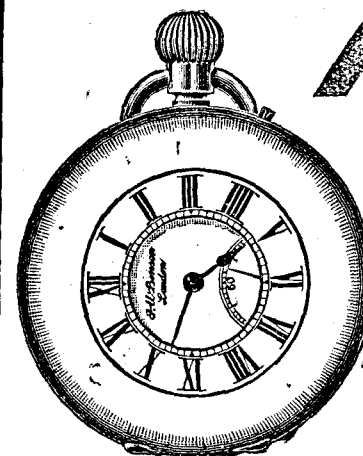
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.



Special quotations for quantities.

BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this advt.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING Co., LTD., DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.



HARRIS & SHELDON LTD.

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORDS BIRMINGHAM

BRANCHES: LONDON, MANCHESTER, DUBLIN, GLASGOW, QUEEN ST.

DEPOTS: CAPE TOWN, JOHANNESBURG, BERLIN, KRAUSENSTRASSE, 40.

TELEPHONE: 462-3



SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.



STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.MANUFACTURED
SOLELY BY**G. H. NELSON,**CLARKE ROAD,
NORTHAMPTON,
ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,**BOMBAY, CALCUTTA, ETC.**

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY
REALLY DAMP-PROOF
STONE KNOWN.

IT IS EXTENSIVELY
USED BY THE P. W. D.,
PORT COMMISSIONERS,
STATE RAILWAYS,
MUNICIPALITIES,
GOVERNMENT AND
JUTE AND COTTON MILL
COMPANIES.

AFTER 18 YEARS
IT IS STILL
WITHOUT A RIVAL.

The best floor known for Godowns, Offices, Dwelling Houses.
FOR PAVEMENTS IT CAN'T BE EQUALLED.
NO DUNNAGE NECESSARY IN GODOWNS WHERE THE INDIAN PATENT STONE IS USED.
For particulars, estimates and prices for plain & ornamental flooring
laid in situ or in tiles

Apply to—

BIRD & CO., MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
100-1, Clive Street, CALCUTTA.

E. T. MARLER

TRADE MARK

**LION
BRAND
PRINTING
INKS**

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

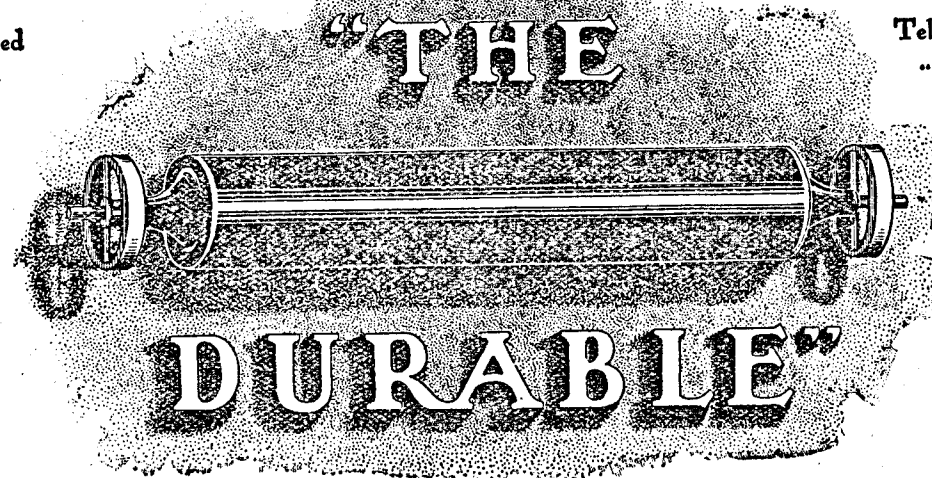
14, Charles Street, London.
Hatton Garden, E.C.

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:

"DURABLE-
ROLLERS.
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

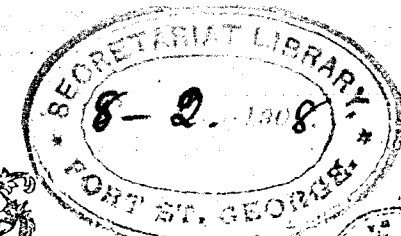
COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

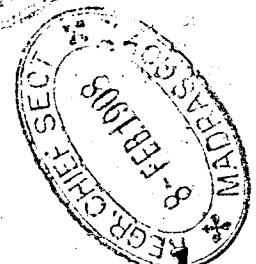
Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

PUBLISHED WEEKLY.



REGISTERED.



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

VOL. VIII. No. 97.] CALCUTTA, THURSDAY, 6th FEBRUARY, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	281
NOTICES—	
Calls for Tenders	289
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Grain Elevators for India	290
BOMBAY MILLOWNERS' ASSOCIATIONS	295
TARIFF CHANGES	296
SEASON AND CROP PROSPECTS	ib.
THE FAMINE	298
THE MINERAL PRODUCTS OF INDIA	299
THE TOKIO EXHIBITION	302
MOTOR WAGONS FOR INDIA	303
INDIAN COAL MINES	305
NEW CHANNELS IN THE OCEAN TRADE	306
EAST INDIA WOOL	307
THE SILVER SITUATION	308
THE CRUDE RUBBER INDUSTRY	309
TRADE PROGRESS IN CHINA	ib.
NEW REFERENCE BOOKS	ib.
TABLE—	
Joint Stock Companies	310
WEEKLY TRADE MOVEMENTS	312
OIL vs. STEAM ENGINES	313
DEPARTMENTAL PUBLICATIONS	314
ADVERTISEMENTS	315

NOTES.

The Presidency Bank rates are as follows :—
Calcutta 9 per cent.
Bombay 8 " "
Madras 8 " "
Exchange—13½

A message from Shiraz, dated the 14th ultimo, states that caravans are being pillaged on the Ispahan road, and that a British firm had notified a robbery near Dehbid.

The total area leased for irrigation in Bengal for the official year 1907-08 up to the end of November last was 931,193 acres, as compared with 821,784 acres during the corresponding period of the previous year.

A statement of irrigation operations in the North-West Frontier Province in connection with the Rabi (spring) crop of 1907-08 to the end of November last shows that the total area irrigated was 76,854 acres, as compared with 65,150 acres for the corresponding period of the previous year.

A correspondent expresses the opinion that if irrigation concessions were granted more freely in Mesopotamia, that part of the country about Baghdad would become comparatively rich; but even without concessions he thinks that the judicious use

of irrigation plant, driven by oil engines, will before long considerably increase the export of wheat, and, with it, the power of the people to buy imported goods. As a matter of fact, a number of mechanical pumps have been already erected in Baghdad and its vicinity and orders have been given for others.

It is notified in the *Gazette of India* of the 1st instant that the Government of Jamaica have revoked the Proclamation of the 2nd December, 1887, prohibiting the importation of seeds or plants or any description of earth or soil or any article packed therewith that may have come either directly or indirectly from South India, Ceylon, Mauritius, Natal, Java and Fiji, and have in the same Proclamation prescribed certain conditions of fumigation under which alone the importation of any of the articles from the places specified shall be permitted.

The Upper India Chamber of Commerce have issued their Report for 1906 in a well-printed and substantially bound volume. During the year the Committee dealt with a variety of subjects, including the unification of weights and measures in India, telegraph rates to South Africa, revision of Indian trade statistics, the improvement and extension of cotton cultivation in India, Presidency Banks Amendment Bill, a metric system of weights and measures for India, commercial and technical education in the United Provinces, for commercial interest, most of duty on cotton &c noted from time to time in the and other *Journal*.

We give below the rules in connection with the register opened in the Upper India Chamber of Commerce for the registration of trade marks and designs:—(1) Every member of the Chamber shall on payment of a fee of Rs. 10 be entitled to register an unlimited number of tickets or marks. (2) Non-members of the Chamber shall pay a fee of Rs. 5 for each application for registration, and in the event of a ticket or mark not being registered, half the sum shall be refunded. (3) A list of all tickets and marks registered shall be circulated periodically for the information of the members of the Chamber. (4) Registration is merely evidence of the date of registration by the Chamber, and cannot secure any rights which the persons registering have not at law. (5) The register shall be open to the inspection of any person not a member of the Chamber on payment of a fee of Re. 1.

The Governor of Celebes has sent a circular to the authorities there directing them to encourage tea cultivation among the people. The authorities themselves are to set the example by laying out small gardens for this purpose. Information how

to set about growing tea is appended to the circular. The intention is to make tea the favourite drink among the inhabitants, among whom it is the custom to drink unwholesome water.

Large quantities of Indian tea continue to be shipped for Russian consumption. During the month of December 1,077,000 lbs. were sent to Vladivostok, over 500,000 lbs. to Batoum, and 183,000 lbs. to Odessa.

Since the building of the Transcaspian Railway the cultivation of cotton in the Central Asian Khanates has made extraordinary progress, and the opening of the new line from Orenburg to Tashkend has given a further stimulus to the export trade. These strategical railways, says the *Pioneer*, have little passenger traffic, and the import trade is not large owing to the sparse population. Their principal source of revenue has been from the carriage of raw cotton to Russia, in which a flourishing trade has sprung up in the last few years. This season there has been a bad crop, the deficit varying from 20 per cent. in Khokand to 30 and even 40 per cent. in other parts. The finer fibres seem to have suffered least. The Moscow mills will, it is presumed, have to draw more upon the outside market for their commerce.

The great uncertainty caused by the violent reaction in silver, say Messrs. Noël Murray and Co. in their report on the Shanghai piece-goods trade, dated January 9th, must account to a large extent for the continued curtailment of business, holders keeping very firm in view of the more satisfactory statistical position at present, and the prospect of moderate supplies to come in the near future. Transactions have been almost entirely for Szechuen and the River-ports, but the former market is showing signs of repletion at the moment, as a tremendous fall in the Yangtze has enabled supplies to reach their destination freely. A few No. 10's have been taken for the Northern markets *via* Chingwantao, but the prices now current for the favourite spinings are not conducive to any great demand. Future prospects look very favourable to the trade, the year opening with much more promise than for some years past. The sales reported during the week ended January 9th amounted to 925 bales, the prices paid for which show a substantial improvement, though perhaps considerable irregularity.

In an article dealing with the cotton industry the H. B. Claffin Co., Manchester, writing on January 9th, 1908, state:—"The tension in financial conditions is daily relaxing, and though the process is slow, still it is progressive, and under present surroundings this cautious process is not only

prudent but inevitable, as any sudden change from the present careful and well-conducted efforts of financiers would only lead to further relapses, and be injurious to the general status of the market which, above all things, must be measured and controlled by the ample securities of monetary stability. A synopsis of general trade in the United States for 1907 shows some interesting and remarkable facts as to the volume of business transacted and profits secured in almost all branches of industry and, though the panic sentiment has broken the usual environment of the market, there remains in most divisions of trade more satisfactory results of the year's trading, both as to volume and profits, than for any previous year, and, while 1908 opens under the haze of mercantile restraints, yet the evolution to better demand and greater activity must follow the promising if not record-breaking farm crops, which, notwithstanding the present mercantile unrest, will prove a safeguard against any serious or prolonged depression. One important feature of the cotton goods position is that the market is comparatively free from any plethora of goods, and, to make this more certain, manufacturers have taken steps to curtail production to such an extent as shall be essential to protect their several interests and requirements, and in the near-by season purchasers will have to recognise these conditions in respect to all adaptable goods for seasonable sale. There has been no further demand of importance for export, and the business already done for the early months of this year has not stimulated additional purchases, though this probably arises from the general expectation on the part of buyers abroad that manufacturers will considerably reduce their prices in the near future, but already valuations have been adjusted in many instances below the parity of cost, and for the time being makers are more desirous of curtailing their products at present rates. Though cotton figures show some falling off in demand, yet the effect on prices has not been material, and, whilst it has been predicted all through the recent financial troubles that planters would have to throw their cotton on the market, it is evident that this theory is exploded, and especially so now that finances are in a more healthy condition, and the present features of the position show moderate receipts, firmness of holders, and a good export trade."

The *Corn Trade News* gives the following summary of the world's crops as on the 14th ultimo:—United States of America—Alternate thaws and frosts experienced over a large section of Winter Wheat belt, and generally weather unseasonable. Canada—Area of fall ploughing exceeds that seeded last Spring by million acres; officials say all this likely seeded with Wheat. Russia—Severe winter but much snow fallen centre and east. Crop reports rather less pessimistic. Roumania and Bulgaria—Good snowfalls, now frosty. Hungary—Alternate frosts and thaws not helping crops, snow cover wanted. France—Further severe frosts and absence

of snow cause some complaints, but generally crops considered all right. Germany—Severe frost, with some snow; no complaints of crops. Sweden—Severe winter. United Kingdom—Continued sharp frost and thaw; some possibility of crop damage mentioned. Italy and Spain—Crop reports favourable. India—Good rains fallen in northern provinces at eleventh hour. Crop outlook improved, and further Wheat sowing expected. Some small export surplus may be obtained provided weather continues quite favourable. Argentina—Reports Wheat crop favourable and Maize benefited general rain. Australia—No change; chartering is very slow. North Africa—Rain wanted.

With reference to the winter-sown grain crops of Russia in 1907, H. M. Consul at St. Petersburg (Mr. A. W. Woodhouse) reports that, according to supplementary figures issued by the Central Statistical Committee of the Ministry of the Interior, the aggregate yield during the year 1907 of all cereals, both of winter and spring sowings, as compared with that of 1906, is estimated as follows:—

	1906.	1907.
	Tons.	Tons.
Rye (winter-sown)	16,280,000	19,699,209
" (spring-sown)	398,700	513,000
Wheat (winter-sown)	6,391,450	4,343,387
" (spring-sown)	7,231,930	9,341,450
Spelt	74,190	1,143,350
Barley	6,609,510	7,577,260
Buckwheat	963,390	1,003,390
Millet	1,622,580	2,260,800
Maize	1,769,860	1,273,220
Peas	591,450	645,000
Lentils	123,550	186,260
Beans	67,100	68,710
Oats	11,511,130	4,881,290

The total output of cereals, excluding oats, although superior to that of 1906, is nevertheless some 3,146,000 tons less than the average for the preceding quinquennial period of 1902-6. The latest information regarding the present state of the autumn sowings is that the winter rye is in an unsatisfactory condition, and wheat poor, whilst the acreage sown is less than usual.

H. M. Consul at Buenos Ayres (Mr. A. C. Ross, C.B.) reports, under date of 18th December, that so large a surplus of grain is expected from the Argentine harvest, which is well under weigh, that it is stated on good authority that some 700 vessels, a large increase on last year, have already been chartered to sail from Buenos Ayres and other River Plate ports during the months January to March.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 11th January, 1908, were as follows:—Wheat, 35s. 2d.; Barley, 26s. 9d.; and Oats, 18s. 3d.

In a review of the wheat trade for the week ending January 17th, *George Dornbusch's Floating Cargoes* writes:—The week opened with a firm tone and sellers asking rather higher prices under influence, chiefly of smaller Argentine shipments than had been counted upon, but the tone soon changed when the week's total shipment figures became known, showing a large clearance from America with an unusually full quantity for London. Sellers became less reserved and both cargoes and parcels early lost fully 3d. Reports of a strike of dock hands at Buenos Ayres steadied things temporarily but no strike occurred, and as reports came from India of good rains where badly needed and after a long interval, there appeared sellers of New Crop Choice White Karachi for shipment, weakness again developed, and during the past few days the market has ruled clearly in favour of buyers. Some dozen cargoes have changed hands, chiefly La Plata, and at the close business was practicable at from 6d. to 1s. below the quotations ruling a week ago. Parcels also have latterly been freely offered with American spring wheats declining 6d. to 1s. and La Plata 3d. to 9d. from last week's close. The American markets have moved within somewhat more moderate bounds during the past week with the result that for the most active position May prices have declined from 2c. to 2½c., other months only varying slightly from a week ago in New York and Chicago. St. Louis, Duluth and Minneapolis are from 2½c. to 2¾c. and Winnipeg 1½c. lower. On the Continent the markets are all lower, the declines ranging from 3d. to 6d.

The question of barley adulteration in Russia is discussed by the Finance Minister's official organ, the *Journal of Industry and Commerce*, in a leading article. It points out that the German importers complain bitterly of the sheer impossibility of obtaining clean barley, as the Russian peasant will not go to the trouble of cleaning the barley, knowing full well that at the present high prices he can always find a purchaser. With reference to this a reliable export firm of Nicolaieff declared its inability to deliver barley with less than 9 to 12 per cent. admixture, despite its sincere desire of obliging the importers. On the other hand, according to the German papers, the latest official analysis of imported barley showed an admixture of only 6 per cent., so that, argue German importers, should a larger percentage be found, the Russian exporters ought to be held responsible for the difference. But the Russian official journal contends that, in order to establish a standard, conscientious analysis must be made of all cargoes of a certain sort shipped from a particular Russian port.

Now, as the latest standard shows an average admixture of 6 per cent. for Nicolaieff, the complaints of German importers of an adulteration of 15 and even 18 per cent. must be either unfounded or exaggerated. But should the admixture repeatedly prove to be over 15 per cent., then it can be reasonably suspected that the analysis in question is faulty. So that Odessa and Nicolaieff exporters are equally anxious to have a reliable standard fixed. The *Journal of Industry and Commerce* is emphatically of opinion that an understanding should be arrived at. But it can see only one way out of the difficulty, and that is that foreign importers pay higher prices for barley with, at the most, 1 per cent. admixture than they would for adulterated barley. No important exporter would think of giving the barley a thorough cleaning unless this point were agreed upon.

The quantity and the value of gold extracted from the Indian mines in December, 1907, were 50,458 oz. and Rs. 28,76,666 and those of April to December, 1907, were 410,939 oz. and Rs. 2,34,55,124. The output as compared with the corresponding period of 1906 and 1905 was as follows:—

Month of December, 1907.					
	1907.	1906.	1905.		
Mysore	{ Oz. 49,368	Oz. 48,996	Oz. 53,227		
	{ Rs. 28,13,666	Rs. 28,18,755	Rs. 30,68,813		
Nizam's Territory	{ Oz. 1,090	Oz. 1,175	Oz. 1,124		
	{ Rs. 63,000	Rs. 68,130	Rs. 64,600		

Nine months April to December, 1907.					
	1907.	1906.	1905.		
Mysore	{ Oz. 400,871	Oz. 417,563	Oz. 464,403		
	{ Rs. 2,28,74,999	Rs. 2,40,09,404	Rs. 2,67,10,409		
Nizam's Territory	{ Oz. 10,068	Oz. 10,502	Oz. 9,918		
	{ Rs. 5,80,125	Rs. 6,03,448	Rs. 5,64,890		

In a paper read at a meeting of the Royal Colonial Institute, London, on the 14th ultimo, Sir Henry Blake said that the establishment of the rubber industry in Ceylon within the past four years had widened the basis of Ceylon prosperity, and bid fair to become the second in value if not the leading export of the island. In 1903 there were but 11,595 acres planted in rubber, while up to the middle of last year the area acquired and being cleared for rubber was over 120,000 acres, and companies had been formed with an aggregate capital of £700,000. In calculating the probable value of growing plantations in Ceylon they might take a planting distance of 20 ft. by 15 ft., or 150 trees to the acre, as the most suitable and, if they accepted from seven-year-old trees a return equal to one-half of that secured from 10,000 trees of ten years' growth, it would give 275 lbs. of rubber to the acre. He himself had calculated roughly that the cost at which an acre of rubber would stand in seven years, including purchase, clearing, planting, weeding, and interest on outlay, would average about £22.

What the price of rubber might be at that date who could say? But if they took it at 2s. 6d. per pound, the annual gross return of £34 7s. 6d. per acre would leave a handsome margin of profit to the investor. There were at present at least 140,000 acres planted with rubber in Ceylon, which, on the estimate that he had adopted, would in six years return annually 14,062 tons, value £3,937,360, which would almost equal the value of tea exported in 1906.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 1st February, 1908—

In the Calcutta market—

Behar opium—Rs. 1,369; 1,378; 1,397; 1,394; 1,396; 1,394; 1,390.
Benares opium—Rs. 1,350; 1,360; 1,380; 1,380; 1,380; 1,380; 1,375.

The prices in the time bargains for the Behar opium of the 2nd sale of 1908 were Rs. 1,372; 1,381; 1,400; 1,397; 1,399; 1,397; 1,393.

In the China market—

At Hongkong (exchange Rs. 142½ to 143½ per \$100).

Behar opium—on the 26th instant \$960; on the 27th instant \$960 and 965; on the 28th instant \$980 and 985; on the 29th instant \$985 and on the 30th instant \$980.

Benares opium—On the 27th instant \$960 and 965; on the 28th instant \$980 and 985; on the 30th instant \$980.

At Shanghai—(exchange Rs. 191 per 100 taels).

Behar opium—On the 27th and 28th instant, respectively, 728 and 732, 737 and 740 taels.

Benares opium—On the 27th and 28th instant, respectively, 724 and 728, 734 and 740 taels.

For the week ending 25th January, 1908—

In the Bombay market—

On the 19th and 22nd instant (new, 1906-07) Rs. 1,215 to 1,320; and Rs. 1,260 to 1,305; on the 20th and 24th instant (new, 1905-06) Rs. 1,270 to 1,348; and Rs. 1,324 to 1,360; on the 20th and 23rd instant (old, 1904-05) Rs. 1,350 to 1,400 and Rs. 1,375 to 1,440; the latest prices at Hongkong and Shanghai, were (new) Rs. 1,344 and 1,363; (old) Rs. 1,409 and 1,440, respectively.

In an article on the tin market the *Journal of Commerce* (New York) of the 7th ultimo writes:—“Tin continues to fluctuate widely, the advance since last Friday (January 3rd) being £4 5s. at London and ¼ a lb. per lb. for the local market. Liquidation of the East India syndicate has not been completed, according to cable returns, and the advance yesterday is probably to make a market upon which to realize. The demand from American consumers continued light and dealers were less disposed to operate in futures. Sales of 5 ton lots of spot tin are said to have been made early Monday at 27c. and at the close they were holding spot at 27½c.

There were offerings from London for January shipment at £124 10s. equivalent to 26¼c. and for shipment from the Straits on the steamer *Schuykill* at £124 equivalent to 26¼c. This means January shipment from the Straits.”

The *Ironmonger* of the 18th ultimo thus sums up the tin market:—Sentiment has been decidedly more hopeful this week, and some of those who, in current parlance, have been most “against the market,” seem to have been covering over-sales, though possibly a rise of a few pounds in the price would bring them again on the short tack. It seems very much as if the considerable bear account in London was now helping the bulls in the East. Undoubtedly there is a big over-sold position in London, which, moreover, is complicated by the option-dealing which has been entered into lately, and, while the statistical position is undeniably bad, the technical situation is such that a further sharp rise might easily happen. The immediate future presents chances of sharp fluctuations. The Chinese seem to be holding on doggedly to their bull position, and reports are rife as to curtailed production in the Federated Malay States. It may be that the security of the bull account depends upon diminished Straits production—if so, higher prices could hardly help in the long run, for the bull argument has been and is that the higher the price the greater the inducement to produce. Figures do not altogether bear out this view, for the East shipped more tin in 1904, for instance, when the price never rose above £137, than in 1906, when £215 was reached. It remains to be seen, indeed, whether the Chinese labourers in the mines do not work harder when tin is at a low price than when it is high. They have more inducement to do so if they regard creature comforts as the be-all and end-all of existence. The shipments from the East for the first half of January were 2,365 tons, of which about 1,275 tons were shipped during the first week. The figures for the first week were swelled, however, by tin loaded in December, which was not cleared that month, owing to holiday disarrangements. For the month the shipment estimates vary from 4,300 tons to 5,000 tons. The London stock on January 13th exceeded 5,100 tons.

The most interesting feature in copper, says the *Journal of Commerce* (New York) of January 7th, continues to be the heavy movement to and from the United States. “Since the 3rd January exports have been the largest ever experienced within two days, aggregating 6,339 tons, which seems to indicate the borrowing of about \$2,000,000 more, or somewhat less, as some of the copper is going to China, 715 tons going to Shanghai. Since the first of January the exports have been 6,989 tons, or at the rate of 34,500 tons per month. During December 600 tons were

exported from Southern ports, and Pacific ports are yet to be heard from, indicating that the total for January will be in the neighbourhood of \$3,200 tons. If this copper were actually going into consumption it would have the effect of advancing the market very rapidly, but financing operations still leave stocks heavy and growing in Europe. During November the imports of copper were 8,300 tons, which, next to September, is the smallest month this year. It is understood that December was even smaller, however, largely because of the falling off in exports from the Greene mines in Mexico. The December arrivals are estimated at 6,500 tons, which would make the total for the year 121,000 tons or about 18,000 larger than during 1906. For the eleven months ending November, for which returns have been received, the total imports were 114,500 tons, against 96,300 tons during the corresponding period in 1906."

That is the American view. The *Ironmonger* of the 18th ultimo expresses the following opinion:—Copper prices have responded to a more sanguine general tone. The improvement in the stock markets, the easier monetary conditions in America, and the expectation of a reduction in the English Bank-rate were also factors contributing to raise prices. Whether the position of copper itself justifies the upward movement is, however, a different matter. Most good judges believe that it does not. The heavy invisible supplies in Europe must be reckoned with sooner or later, and the efflux of metal from America continues, as witness the 11,024 tons cleared from New York, Baltimore, and Philadelphia last week. Cheerfulness, however, has dominated the market, and while "bears" have covered, there has been a fair amount of buying in anticipation of higher prices, the bulk of which appears to be connected with share market transactions. The improved aspect of affairs was helped by reports of stiffer prices in America, and consumers have come forward pretty freely for refined and manufactured metal. The leading American producers are less easy to deal with, and some of the outside mines are very well sold ahead. India has taken further quantities of yellow metal and ingots. Generally speaking, the electrical trades seem to be a little better, for Germany has been taking wire bars for delivery into March, and even further ahead. Some inquiries have also come to hand from China for ingots. The sales of Chili bars on the West Coast include 100 tons of Urmeneta (Liverpool).

In a paper on the weaving industry read before the recent Industrial Conference at Surat, Khan Bahadur Bezonji Dadabhoy Mehta, Manager, Empress Mills, Nagpur, observed that the inventors of improved hand-looms were apt to forget that every mechanical addition not only complicated the simple machinery now in use, but added to the weight which the weaver had to move with his hands

or feet; and that it was, therefore, necessary that the simplest and lightest appliances should be the aim of every inventor. "What is now wanted," says the Khan Bahadur, "is an improvement in the method of winding, warping and sizing. There is a great deal of time and labour wasted in these processes."

The Postal authorities inform us that, in the case of parcels for Ceylon containing perfumery, information as to the quantity of the perfumery when it is alcoholic, and the value when it is non-alcoholic, must be entered by the senders in the form of Customs declaration. Similarly, in the case of parcels containing precious stones, information must be entered in the form of Customs declaration both as to the value of the stones and as to whether the stones are artificial, reconstructed, or natural.

With effect from the 1st April next certain additions to and alterations in the Post Office Savings Bank Rules will come into force. The alterations to be made in rule 2 are to prevent any abuse of the primary object of the Savings Bank. The other changes are of no material importance save those in rules 42 (k) and 44 (e). The alterations, which enable a public depositor to draw Rs. 1,000 per month, instead of Rs. 2,000 in twelve consecutive months, have been introduced with the object of minimising the inconvenience felt by the depositors of public and conjoint accounts, particularly those opened on behalf of Co-operative Credit Societies, owing to the limitations on withdrawals imposed by the present rules.

The members of the Railway Conference Association have now assembled in Calcutta, all the chief lines in India being represented. The principal subject for consideration is the formation of Conciliation Boards.

The New York Clearing-house on January 13th unanimously decided to admit trust companies to full membership on their agreeing to maintain a 25 per cent. cash reserve. Several of the largest and strongest have already applied for admission. This indicates sounder business methods from those joining the Clearing-house.

The Collector of Customs, Calcutta, desires it to be known that all firms employing sircars for the transaction of Customs House business are expected to send their sircars with their licenses for inspection in the Correspondence Department of the Customs House during the present month. Licenses which are not submitted within the time prescribed will be treated as cancelled, and the work of the sircars concerned will be suspended.

At a meeting of the South Behar Railway Co., Ltd., held recently in London, Sir Henry Cunningham, who presided, said that the report presented exhibited the results of the second year's working of the arrangement entered into with the Secretary of State in 1906. After defraying the debenture interest and administrative charges, the company had a balance of £15,327, out of which they proposed to pay a dividend at the rate of five per cent. for the half-year. At the termination of the agreement in 1919 they hoped to be able to pay shareholders a bonus of five per cent. besides paying back the capital.

In the borax industry of the United States there have been no noticeable changes in prices since 1905, and no marked difference in supply or market demand. The industry is one that is little influenced by competition. The leaders of the industry say that the working of the pure-food law has to some extent lessened the demand for borax and boric acid for use as preservatives. In other lines, however, consumption has increased. This applies mainly to preparation, for domestic uses, such as soap, bath powders, etc. The total output of crude borax for the year 1906 was 58,173 short tons, valued at \$1,182,410, as against 46,334 short tons in 1905, valued at \$1,019,154. The figures for 1906 show an increase over 1905 of 11,839 short tons in quantity and of \$163,256 in value.

Borax is said to be finding increased use among cotton-seed crushers. It is claimed that a solution of borax sprinkled over the seed has a tendency to cause the oil to flow more freely, thus producing a greater quantity of oil. It is further claimed that the cotton-seed cake so treated retains its natural light colour, due to the well-known antiseptic properties of borax. All fermentative bacteria or moulds are killed by its use, and the cake remains light in colour, pleasant in odour, and sweet in taste. The quantity of borax required varies according to the age of the seed. Ordinarily a solution made as follows is said to produce good results:—Dissolve 30 lbs. of borax in 100 gallons of water. Use about 1½ gallons of this solution to a ton of seed and sprinkle the solution thoroughly over the seed.

There was a considerable falling off in the total output of tonnage from the shipping yards of the United Kingdom in 1907 as compared with the record year of 1906, the figures being for 1906 1,874,797 tons, as against 1,668,429 tons last year; but, though the decrease is large, it is less than was generally anticipated some months ago. And in the Clyde there was a record output, the figures for 1907 being 577,546 tons, against 575,433 tons in 1906. Many of the vessels and craft built on the Clyde

consisted of special classes built for foreign and colonial orders. The greatest volume of tonnage launched by any one firm in the year was by Messrs. W. Doxford and Sons' output at Sunderland, where they turned out 91,254 tons, as compared with Harland and Wolff's output of 72,412 tons, Russel and Co.'s of 71,705 tons, and that of Swan, Hunter and Wigham Richardson of 69,063 tons. The past year has seen a considerable extension of dock accommodation, notably at Cardiff, where the King opened the Alexandra Dock, and also at Swansea and Newport, where accommodation is being provided adequate for handling even the *Mauretania*. At Liverpool there has been improvement in depth of water and space; on the Clyde the blowing up of the Elderslie Rock has increased the depth of water to 28 feet at low tide; on the Tees a fine system of docks, embracing repairing facilities, is being built; shipbuilding has been revived on the Mersey, and new yards established and existing ones extended on the Clyde. The outlook for shipbuilding has not been encouraging of late, but with characteristic enterprise the shipbuilders are determined to keep in advance so that they may be able to meet all the requirements certain to be made of them when the price of shipbuilding materials is lower and freights are less discouraging.

The year 1907, remarks the *Statist*, witnessed the apex of a very great rise in the prices of base metals, spread over, generally, four or five years, and will long be remembered for the sensational setback in values. Between the extreme highest and lowest, copper in about seven months receded 50 per cent., having in March for forward delivery changed hands at as high as £111½, and in October touched £55 per ton. Tin in May, 1906, was reported to have been dealt in at as high as £220 per ton, and in December, 1907, it receded to as low as £115½. From the apex price of about £22 in June-July, 1907, lead receded to a shade below 14 in December. An exceptional transaction that month was reported at £13 2s. 6d. Spelter, which in January, 1906, was as high as 29½, was in December, 1907, at a small fraction below £20 per ton. The palm of percentage movement is, however, taken by antimony. This metal in May, 1906, was dealt in at about £125 per ton, and changed hands in December, 1907, at as low as £30 per ton.

	Price per ton.			
	1906.		1907.	
	Highest.	Lowest.	Highest.	Lowest.
	£	£	£	£
Antimony	125	May 100	Oct. 115	Jan. 30
Copper	107½	Dec. 77	Feb. 111½	Mar. 55
Lead	20	Oct. 16½	July 22½	June 18½
Spelter	29½	Jan. 26½	July 28½	Jan. 19½
Tin	220	May 161½	Mar. 20½	July 115½

The researches of the late Professor Moissan in pyro-chemistry led to the discovery and isolation of

many inorganic compounds, the production of which is only possible at the high temperatures attained by means of the electric furnace. Among the combinations thus effected for the first time was the interaction of carbon and aluminium to form **aluminium carbide** Al_4C_3 . This carbide is distinguished from the carbides of other metals by the fact that it yields methane on treatment with water. Although earlier investigators had failed to obtain this substance in ordinary gas furnaces, Matignon has recently been led to repeat the attempt, owing to the circumstance that the heat of formation of aluminium carbide has been determined by Berthelot as having the high value of 245 major calories. The combination is accordingly a reaction accompanied by a great generation of heat, and should proceed to completion if once initiated in a sufficiently intimate mixture of the two reagents. This theoretical view has now been confirmed by experiment. Finely divided aluminium and dry lamp black are intimately mixed with the aid of some turpentine, and the mixture, which should contain some excess of the metal, is heated for 20 minutes in a Perrot furnace, when the combination is complete. The excess of aluminium is extracted by rapidly washing in the cold with hydrochloric acid, or preferably aqueous caustic potash. The central portions of the fused mass consist of small hexagonal leaflets having a clear yellow tint, quite similar to the product obtained by Moissan. After removing aluminium, the carbide, when decomposed by water, gave rise to nearly 97 per cent. of the calculated amount of pure methane. The combination may also be effected by the thermite process without the application of external heat, and the various chlorides of carbon when heated with aluminium at comparatively low temperatures give rise to the carbide. With aluminium and hexachlorobenzene in sealed tubes the reaction takes place completely to form aluminium chloride and carbide, even at 225 deg. C. Other chlorides of carbon interact when their vapours are led over gently heated aluminium.

At the invitation of the Paris Chamber Syndicate of the alcohol industry a meeting has lately been held of representatives of distilleries in the North of France and Paris districts. Industrial manufacturers were largely represented, whereas relatively fewer agricultural distillers were present. The object of the meeting was to take steps to bring about an understanding between industrial and agricultural concerns in order to regulate prices for **denatured alcohol**, so as to stimulate its use in the **motor-industry**, and also for **heating and lighting purposes**. This move has been initiated by M. Ribot, President of the Parliamentary Committee which was formed to enquire into the alcohol question, with a view to helping the progress of cultivation in Northern districts. It is apparently intended by the Government to assist beet-growers by increasing the output of denatured alcohol.

Various suggestions were made, and at the conclusion of the meeting the following items in favour of denatured alcohol, presented by the President of the Syndicate of the Bourse du Commerce, were endorsed unanimously: (1) That the necessary evidence be gathered to show that alcohol may without inconvenience be substituted for petroleum in the motor industry; (2) that the cost of production of denatured alcohol be reduced by using less expensive material, or by diminishing the degree of strength actually used, which is considered by experts to be excessive; (3) that steps be taken to secure from railway companies a rate of transport equal to that on petroleum; (4) that free circulation be accorded to denatured alcohol. A mutual understanding has already been reached in principle among distilleries, which should facilitate further negotiations, and it is proposed to hold another meeting shortly.

Messrs. G. F. Boehringer and Sohne, Mannheim, Waldhof, in their annual statistics, show that while the **exports of cinchona bark from Java** in 1907 were the largest yet recorded—17,212,000 Amst. lbs.—yet the stocks of bark in Amsterdam and London at the close of 1907 were considerably lower than in 1906, being 18,077 and 4,971 packages, respectively. No less than 17,217,000 oz. of quinine “in the bark” were sold at Amsterdam last year, being 717,000 oz. more than in 1906, thus showing the enormous increase in consumption. It is interesting to note that the highest price of **sulphate of quinine** during the past eleven years was 1s. 9½d. in March, 1899, and the lowest 7½d. in January, 1897, and September–November, 1906, while the highest price of bark at Amsterdam was 12½c. (equal 2½d.) in September, 1900, and the lowest 2½c. (equal ¾d.) in January, 1897. Mr. Gust. Briegleb, of Amsterdam, has also issued his annual diagram showing the fluctuations in the Amsterdam auction bark-unit, the shipments of bark from Java to Europe in kilos., etc., during the period 1891 to 1907, the whole making an interesting survey.

The prices of **citronella oil** has steadily tended downwards, the demand not having kept pace with the production. The export figures from **Ceylon** for the first nine months of the years 1906 and 1907 are as follows:—1906, 771,416 lbs.; 1907, 855,826 lbs. The high prices recently prevailing induced more active production of Java citronella oil, coupled with the establishment of factories to use up the distillation residues of the grass for the manufacture of paper. It is true that the Java oil can never compete in price with the ordinary (adulterated) Ceylon oil, but when one takes into account the enormous superiority in odour value of either the Java or the Singapore oil over the ordinary Ceylon oil a higher price can generally be obtained with readiness for the better product. Besides

these sources of supply a very fine oil is now being distilled in the West Indies, but as to its capability of competing commercially with the other oils nothing is yet definitely known.

Although much progress has recently been made in the employment of **compressed air for factory purposes**, it would seem that we are still only on the threshold of what may ultimately be accomplished by this means in the way of labour saving. In an article dealing with the use of air under pressure in the foundry, Mr. Otto Schmidt points out in *Stahl und Eisen* the numerous processes in which the working is improved and facilitated by this means, and gives illustrations of some of the latest adaptations of moulding plant to render it capable of being worked by compressed air. One of the greatest advantages of this new auxiliary is in its cleanliness and its freedom from noise. In a factory provided with an air compressor, many of the machines can be worked by this means at a minimum of cost, and we already possess an infinite variety of pneumatic tools, which have been introduced for working in this way. The more directions in which compressed air is employed the steadier is the load on the accumulator, and the better and smoother is the working.

Evidence of the comparative **efficiencies of bronze and cast steel propellers** is afforded by the performances in all-round service last year of the steamship *Athenia*, of the Donaldson line. Early in the year this vessel, which is of 9,030 tons gross, and 5,400 i. h. p., had a solid bronze propeller substituted for her original propeller of cast steel. Results of the year's working with the new propeller, as compared with those of the previous year, show that under practically the same conditions as to draft, and with the expenditure of two extra tons of coal of poorer quality per day, there was an increase in the average speed for the whole period of 0.925 knots, which must be regarded as satisfactory.

NOTICES.

CALLS FOR TENDERS.

Food grains.

THE Divisional Contract Officer, Poona, invites tenders, up to the 19th instant, for the supply of grain, barley, bran, etc., and also oil-cake and linseed.

Firewood.

The Divisional Contract Officer, Quetta, is calling for tenders up to the 18th instant for the supply of 2,000,000 lbs. of firewood to be delivered at Karachi.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Kashmir Curios.

(205)—A firm in Kashmir desires to get into touch with exporters of art-ware and curios derived from Kashmir and adjoining countries.

Jute.

(206)—A firm in Russia desires to be placed in communication with Bengal exporters of jute.

Cocoon Oil.

(207)—An Odessa firm requires the addresses of exporters of cocoon oil.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the ante-room till Wednesday, 12th February, 1908:—

Parliamentary Publications.

Agricultural Statistics, 1907, Part I—Acreage and Livestock returns of Great Britain. Colonial Reports—Annual series—No. 553—St. Lucia, 1906-07. Foreign Trade & Commerce—Monthly Account, December, 1907. Trade with Canada—Report upon the Conditions and Prospects of British Trade in Canada.

Foreign and Colonial Publications.

Belgium—Monthly Account of Trade, December, 1907. Bulgaria—Quarterly Account of Trade, 1st quarter of 1907. Canada—Weekly Trade Report, 30th December, 1907, and 7th January, 1908. Egypt—Quarterly Return of Navigation in the ports of Egypt and the Suez Canal, 3rd quarter of 1907. Italy—Monthly Account of Trade, October, 1907. Mexico—Monthly Account of Trade, September, 1907. United States—(1) Bureau of Plant Industry Bull. No. 111—Part III—Imported Low-grade Clover and Alfalfa Seed; (2) Part IV—Forage Crops for Hogs in Kansas and Oklahoma; (3) Bull. No. 114—Sap-rot and other diseases of the Red Gum; Bull. No. 116—The Tuna as Food for Man. Bureau of Chemistry—Cir. No. 37—General Results of the Investigations showing the effect of Sulphurous Acid and Sulphites upon Digestion and Health. Office of Experiment Stations—Farmers' Institute Lecture No. 8—Syllabus of Illustrated Lecture on Farm Architecture;—Experiment Station Record, November 1907. Bureau of Entomology—Bulletin No. 67—Proceedings of the Nineteenth Annual Meeting of the Association of Economic Entomologists.

Diplomatic and Consular Reports.

Brazil—Trade of Santos for 1905-06. Persia—Trade of Bushire for 1906-07.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, FEBRUARY 6, 1908.

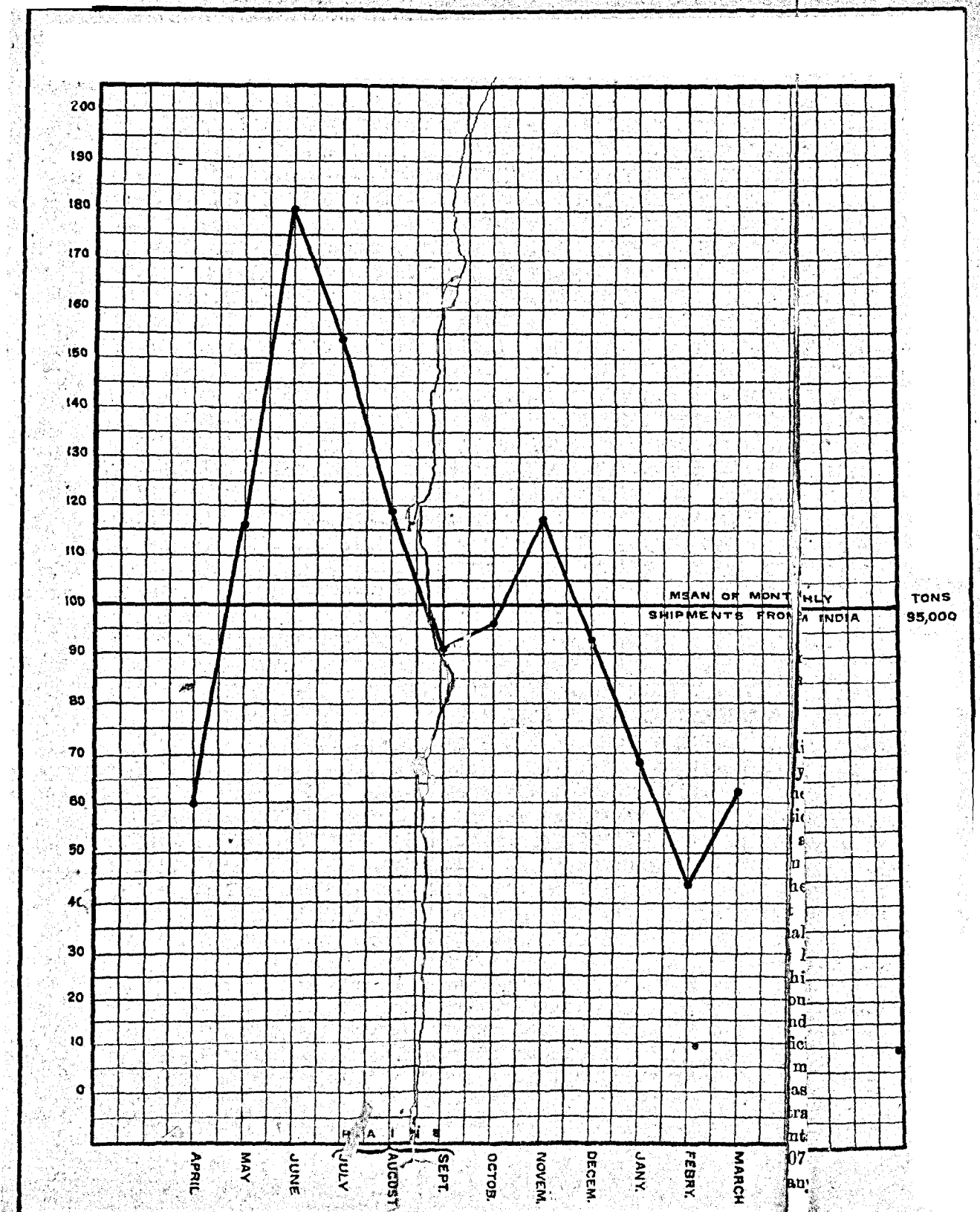
GRAIN ELEVATORS FOR INDIA.

In an article on the Grain Elevator System and Railway Traffic, which appeared in our issue of the 23rd January, we gave an outline of that system and showed that there exist in India the main conditions that render it advantageous in other countries. These are (a) simultaneous presentation of the mass of the export wheat for transport, (b) imminence of weather conditions injurious to wheat inadequately protected, (c) the necessity that the holder of wheat should by some arrangement be enabled to sell his wheat early or late as the market suits him. The havoc wrought by weevil in grain retained in this country is an additional cause of urgency in pressing forward the shipments, and the possibility of famine is a special reason why the grain should remain in the country till the prospects of the next crop and the character of the internal market have declared themselves. It was seen that adoption of the elevator system in its essentials, though possibly with modifications in detail, would

in all probability solve all these difficulties; but the article dealt chiefly with the transportation aspect of the problem. This in India as elsewhere is the consideration that decrees the adoption of the elevator system.

We give here two charts that show the enormous variations in the monthly movements of wheat, A, in respect of exports from all India, and B, in respect of arrivals in Karachi, the chief port of shipment. In each case 100 represents the mean of the sixty months and the monthly figures represent the average of the five years' figures for that particular month. The years taken are the statistical years 1902-03 to 1906-07. The second chart includes arrivals in Karachi by rail and river and by sea (coastwise). It must be borne in mind that these curves ignore the movements of seeds, cotton, etc., which tend to take place at the same seasons.

It is clear from the second chart that no quantity of rolling stock that might profitably or reasonably be maintained for a traffic averaging 73,650 tons per mensem could be expected to carry twice that quantity for more than a few weeks at a time. It is equally clear that the present railway equipment which is capable on occasion of carrying twice that quantity is sufficient without further augmentation to bring down a considerably enhanced average traffic if more evenly distributed throughout the year. Since the point of the elevator system is precisely that of effecting a more even distribution of traffic, it appears evident that it would not only smooth the statistical gradients of the railways but would render profitable the production of more wheat than can now be transported, and would thus benefit the trade by increasing the turnover. It therefore becomes mainly a question of comparative cost whether relief is to be found in an indefinite increase of rolling stock and railway construction, which will earn revenue only during part of the year, or in the erection of elevators which will earn income throughout the year and increase the profit on the working of the existing railway equipment. In America the railways found that the advantage lay entirely on the side of the elevator, and they promoted the system for that reason. The trade has had sundry complaints against that system in matters of detail; but it is apparent from the evidence given before the Industrial Commission that none of the witnesses contemplated the abolition of the system. For this reason it will be necessary that any objection on the part of the shippers in India should repose on full knowledge of the system

A
Supplement to the "Indian Trade Journal," Feb. 6, 1908.

and on exceedingly strong arguments as to its general effect on the trade as a whole.

On the other hand, there must be no blinking of the difficulties that lie in the way of the project as applied to India. For this reason we desire to bring out certain of the inimical conditions peculiar to this country, and to anticipate objections which will no doubt be better stated hereafter by persons directly engaged in the trade.

It is probable that the first objection will be that early shipment of the Indian crop is and must remain a characteristic of the trade: that buyers on the other side stipulate for such shipment and that they will continue to do so. Now, if buyers do so stipulate, it must be for one of several reasons. Either there must be a deficiency of supplies other than Indian available at the time for which stipulation is made, or the wheat shipped from India at a later season is found to be inferior. We give here a chart (C) showing the average arrivals of wheat in the United Kingdom from various sources in the various months of the last three years 1905-1906-1907, the mean in each case being taken as 100. The mean of the total arrivals is 7,790,000 cwt. In order to limit the number of curves, we have grouped the countries of origin and have represented each group by one curve. With a view to eliminating accidental fluctuations, such as tend to obscure the general character of the curves, averages have been struck on each group of three successive months, the figure found being set down for the middle month. The numbers given on the chart to designate the various curves are as follows:—

- 1 From British India.
- 2 " United States and Canada.
- 3 " Argentine and Chile.
- 4 " Australia and New Zealand.
- 5 " Russia, Germany, Roumania, and Turkey.
- 6 Total.

There are, of course, some relatively small arrivals from other countries, and these are included in the total, but not in any subsidiary curve.

The most important of the curves is No. 6, and it will be seen that imports are highest in the summer months. The curve of next importance is No. 1, and it will be noticed that Indian wheat arrives in greatest volume just at the time when receipts from abroad have been highest for several months, when accumulations must therefore be heavy, when the American crop is being imported largely, and when the home crop (not shown in the chart) is coming on the market.

One reason why the wheat of these crops is rushed on to the market is that it is generally assumed to be new wheat and therefore commands a better price. We give below the monthly price per quarter of wheat (Gazette averages) in London on the average of the three years 1905 to 1907 and the monthly variations taking the mean of all the quotations as 100:—

	s.	d.	%		s.	d.	%
January	.28	3	.95	July	.31	1	.104
February	.28	6	.96	August	.33	11	.114
March	.28	8	.96	September	.29	—	.97
April	.28	7	.96	October	.28	5	.96
May	.29	2	.98	November	.30	3	.102
June	.31	2	.105	December	.29	9	.110

It is indubitable that, under existing conditions, the wheat shipped in the later part of the year from India is inferior to the earlier shipments, in that it is damaged by weevil; and it has been shown in our last article that the use of elevators would facilitate the extermination of this pest. There appears in fact to be no reason why the buyers on the other side should not prefer to receive Indian wheat continuously and in more uniform quantities throughout the year seeing that the consumption of bread stuffs is approximately constant. Indian wheat is wanted mainly for mixing. If it goes forward in excess at one time it has to be held up before going into consumption. Charges are thus incurred probably on a higher scale than would attend its retention in India, while the arrest of its movement at that particular point offers no such advantages as would result from the virtual termination of the railway congestion in this country.

At the same time, it is a fact that the tradition of the Indian wheat trade is in favour of early shipment. Seeing that the conditions of the European market do not account for that tradition, can an explanation be found in India? We have already mentioned two reasons probably sufficient in themselves—the prospect of damage by weather and weevil. There is a third reason and that is the absence of any system under which the quality of a shipment can be certified. Indian wheat has to go forward and be sold on its merits; and this was formerly made necessary by the great variation in the admixture of other grains as well as seeds and dirt. These conditions by themselves are quite sufficient to account for the tradition that Indian wheat must be shipped early. There is no discoverable reason to suppose that if they were removed the tradition would continue. The conditions as to percentage of admixture were converted in 1906 and 1907 with comparative ease, although there were many who

ridiculed the change as impracticable; and the fact shows that in these as in other affairs the plea of use and wont is often the argument of the ill-informed and the unthinking. The reform in question itself has done much to simplify the adoption of the elevator system, the essential characteristic of which is, after all, not the mechanical storage of wheat in bins, but the issue of negotiable receipts through which a stated quantity of a stated grade of wheat can be sold for forward delivery when the market suits, while the grain itself is held back for convenience of transport.

This brings us to the problem about which it is most impossible to dogmatise—the procedure to be adopted for the “grading” or trade classification of Indian wheat. It has been explained that in America the grading is done by a staff of Deputy Inspectors of Grain supervised by a Chief Inspector under the Railroad and Warehouse Board. The wheat is commonly viewed by them in wagons at a central point on the railway system. The owner of the wheat may, and commonly does, have a representative present at the inspection to draw a sample, check the classification and file an appeal in case of dissatisfaction. This creates a tendency to certify wheat as of a grade slightly higher than it strictly belongs to; and it is probable that, in any adaptation of the system to this country, safeguards in this respect would have to be instituted. In recent years there have been serious complaints about the grading as carried out by certain State agencies, and there is at present a movement in America for a National system of inspection. The recently received report of the Secretary for Agriculture for 1907 indicates that the official view is in favour of the movement; but it is clear from a regular perusal of the American press that a large section of the trade considers the difficulties to have been sufficiently met by independent inspection of the grain on receipt at port of shipment or point of consumption. Of course, it might be said that if a second inspection is necessary the first is useless; but it is noticeable that there is no serious proposal to do away with the first inspection and with all the convenience that results from the issue of certificates.

There is an impression that the varieties of wheat in India are more numerous than those in America. This is not borne out by comparison of the lists of varieties botanically described, and it should be remembered that many botanical varieties are comprised in one trade description or grade.

The number and descriptions of the grades

recognised under the Illinois law—on which the laws of other States were mainly founded—are shown in the following rules which it is thought well to print in full:—

EXTRACTS FROM THE RULES.

Prescribed by the Board of Railroad and Warehouse Commissioners for the Administration of the Department of Grain Inspection and Warehouse Registration in the City of Chicago, and in force from and after December 3, 1887.

“Plugged,” “Loaded” or “Scoured” Grain.

The said Chief Inspector, and all persons inspecting grain under his direction, shall in no case make the grade of the grain above that of the poorest quality found in any lot of grain inspected when it has evidently been “plugged” or otherwise “improperly loaded” for the purpose of deception. Wheat which has been subjected to “scouring,” or to some process equivalent thereto, shall not be graded higher than No. 3.

Attempts at Fraud or Interference.

All persons employed in the inspection of grain shall promptly report to the Chief Inspector in writing all attempts to defraud the system of grain inspection established by law, and all instances where warehousemen shall deliver, or attempt to deliver, grain of a lower grade than that called for by the warehouse receipt.

They shall also in the same manner report all attempts of receivers or shippers of grain, or any other person interested therein, to instruct or in any improper way to influence the action or opinion of any inspector in the discharge of his duty; and the Chief Inspector shall report all such cases to the Commission.

RULES.

All grain in store in any warehouse of Class “A” at the time any amendment to the established rules of inspection (affecting such grain) may hereafter go into effect shall be inspected out (in satisfaction of warehouse receipts dated prior to that time only) in accordance with the rules as they stood prior to such amendment.

No claim for damages on account of error in the inspection of any lot of grain (except grain inspected from Public Warehouses in accordance with law) will be entertained or allowed by the Board of Railroad and Warehouse Commissioners, unless complaint of such inspection shall be made to the Chief Inspector before the grain in question shall be removed from the car in which it is inspected, or before it shall leave the jurisdiction of the department.

Grain transferred from the car in which it was inspected to another must be inspected after transfer to entitle the owner to have any claim arising thereunder considered by the Board of Railroad and Warehouse Commissioners.

THE CHIEF INSPECTOR OF GRAIN is hereby authorized to collect on all grain inspected under his direction as follows:—

FOR IN-INSPECTION: 35 cents per carload; 10 cents per wagon or cartload; 40 cents per 1,000 bushels from canal boats; $\frac{1}{4}$ of a cent per bushel from bags.

FOR OUT-INSPECTION: 50 cents per 1,000 bushels to vessels and cars; 50 cents per carload to cars for all special inspection; 50 cents per carload to teams or 10 cents per wagon load to teams.

Rule 1.

Failure to report for duty unless properly excused will be deemed a surrender of the position held by the absentee, and no compensation will be allowed for days so absent.

Rule 2.

Assistant Inspectors and Helpers are especially instructed to use all due care in cases where it becomes necessary to remove boards to obtain ingress into cars in order to properly inspect the grain in such cars, to replace all such boards removed in such a manner as to prevent leakage or waste of grain from cars. It will be the duty of all Inspectors to make a record of defective and leaky condition of cars and grain doors and to report the same to the Chief Grain Inspector on blanks especially prepared, showing the location of leakage and such other information as would be of service to the receiver and the shipper of grain.

Rule 3.

Earlier Hours.

When the receipts are large, and the interests of the trade require an earlier inspection, all Assistant Inspectors and Helpers assigned to duty on the track will begin work at as early an hour as practicable.

Rule 4.

Evening Work.

Inspectors stationed at elevators will, when necessary to complete the cargo or shipment upon which they may be engaged, remain on duty after regular hours and as late in the evening as they can see to inspect grain safely. Compensation for such services is provided in Rules 13 and 14 of the Railroad and Warehouse Commission.

Rule 5.

Wet Weather and Darkness.

No Inspector stationed at an elevator is authorized to inspect out of store after dark or in wet weather except on receipt, personally or through the office of the Chief Inspector, of an order written upon the printed blanks furnished by the Department filled and signed by the owner of the grain or his authorized agent relieving such Inspector of all responsibility for damage which may be caused by such wet weather, or loss by such errors as are liable to occur by reason of darkness; but in every case the Inspector must be personally present when the grain is actually delivered on board, making his report of the inspection after such actual delivery.

NOTICE.

All matters pertaining to the inspection of grain should be taken up with the Chief Grain Inspector.

In case of unsatisfactory inspection, write or wire immediately. Grain cannot be reinspected after it has been unloaded and the identity of it lost.

W. SCOTT COWEN,
Chief Grain Inspector.

GRADES AND DEFINITIONS IN EFFECT

MARCH 10th, 1906.

Rule 1. Winter Wheat.

No. 1 WHITE WINTER WHEAT—Shall be pure white Winter Wheat, or Red and White mixed, sound, plump and well cleaned.

No. 2 WHITE WINTER—Shall be White Winter Wheat or Red and White mixed, sound and reasonably clean.

No. 3 WHITE WINTER WHEAT—Shall include White Winter Wheat, or Red and White mixed; not clean and lump enough for No. 2, but weighing not less than fifty-four pounds to the measured bushel.

No. 4 WHITE WINTER WHEAT—Shall include White Winter Wheat, damp, musty, or from any cause so badly damaged as to render it unfit for No. 3.

No. 1 RED WINTER WHEAT—Shall be pure Red Winter Wheat of both light and dark colors; sound, plump and well cleaned.

No. 2 RED WINTER WHEAT—Shall be Red Winter Wheat of both light and dark colors; sound and reasonably clean.

No. 3 RED WINTER WHEAT—Shall include Red Winter Wheat not clean and plump enough for No. 2, but weighing not less than fifty-four pounds to the measured bushel.

No. 4 RED WINTER WHEAT—Shall include Red Winter Wheat, damp, musty, or from any cause so badly damaged as to render it unfit for No. 3.

Red Winter Wheat containing a mixture not exceeding five per cent. of White Winter Wheat shall be classed as Red Winter Wheat.

Red Winter Wheat containing more than five per cent. of White Winter Wheat shall be graded according to the quality thereof and classed as White Winter Wheat.

No. 1 HARD WINTER WHEAT—Shall be Hard Winter Wheat of both light and dark colors; sound, plump and well cleaned and of the varieties known as Hard Winter Wheat.

No. 2 HARD WINTER WHEAT—Shall be Hard Winter Wheat of both light and dark colors; sound and reasonably clean and of the varieties known as Hard Winter Wheat.

No. 3 HARD WINTER WHEAT—Shall include Hard Winter Wheat not clean and plump enough for No. 2, but weighing not less than fifty-four pounds to the measured bushel, and to be of the varieties known as Hard Winter Wheat.

No. 4 HARD WINTER WHEAT—Shall include Hard Winter Wheat, damp, musty, or from any other cause so badly damaged as to render it unfit for No. 3, and shall be of the varieties known as Hard Winter Wheat.

In case of mixture of Hard Winter Wheat with Red Winter Wheat, it shall be graded according to the quality thereof and classed as Hard Winter Wheat.

Rule 2. Pacific Wheat.

No. 1 PACIFIC WHITE WHEAT—Shall be sound, dry, plump, well cleaned, and free from smut and smut balls.

No. 2 PACIFIC WHITE WHEAT—Shall be sound, dry, reasonably clean, reasonably free from other grain and smut and smut balls.

No. 3 PACIFIC WHITE WHEAT—Shall include wheat not plump, sound and clean enough for No. 2, and testing not less than fifty-four pounds to the measured bushel.

No. 4 PACIFIC WHITE WHEAT—Shall include all Pacific White Wheat that is damp, musty, smutty or otherwise so damaged as to render it unfit for No. 3.

No. 1 PACIFIC RED WHEAT—Shall be sound, dry, plump, well cleaned and free from smut and smut balls.

No. 2 PACIFIC RED WHEAT—Shall be sound, dry, reasonably clean, reasonably free from other grain and smut and smut balls.

No. 3 PACIFIC RED WHEAT—Shall include wheat not plump, sound and clean enough for No. 2, and testing not less than fifty-four pounds to the measured bushel.

No. 4 PACIFIC RED WHEAT—Shall include all Pacific Red Wheat that is damp, musty, smutty or otherwise so damaged as to render it unfit for No. 3.

NOTE.—The grades of Pacific White and Pacific Red Wheat are to include all such wheats as are grown in the extreme north-west and on the Pacific slope from either Spring or Winter seeding.

Rule 3. Spring Wheat.

No. 1 NORTHERN SPRING WHEAT—Must be northern grown Spring Wheat, sound and reasonably clean and of good milling quality, and must contain not less than 50 per cent. of the hard varieties of Spring Wheat.

No. 2 NORTHERN SPRING WHEAT—Must be northern grown Spring Wheat, not clean enough or sound enough for No. 1, and must contain not less than 50 per cent. of the hard varieties of Spring Wheat.

No. 1 SPRING WHEAT—Shall be sound, plump and well cleaned.

No. 2 SPRING WHEAT—Shall be sound, reasonably clean and of good milling quality.

No. 3 SPRING WHEAT—Shall include all inferior, shrunken or dirty Spring Wheat, weighing not less than fifty-three pounds to the measured bushel.

No. 4 SPRING WHEAT—Shall include Spring Wheat, damp, musty grown, badly bleached, or for any cause which renders it unfit for No. 3.

WHITE SPRING WHEAT—The grades of Nos. 1, 2, 3 and 4 White Spring Wheat shall correspond with the grades of Nos. 1, 2, 3, and 4 Spring Wheat, except that they shall be of the white variety, or shall contain 5 per cent. or more of such White Wheat.

Rule 4. Mixed Wheat.

The grades of Nos. 2, 3 and 4 Mixed Wheat shall be equal in quality to the grades of Nos. 2, 3 and 4 Red Winter Wheat, except that they shall include mixtures of Spring and Winter Wheat.

Rule 5. Durum (Macaroni) Wheat.

No. 1 DURUM WHEAT—No. 1 Durum shall be bright, sound and well cleaned, and be composed of Durum—commonly known as Macaroni Wheat.

No. 2 DURUM WHEAT—Shall be sound, dry, reasonably clean, may be slightly bleached or shrunken, but not good enough for No. 1.

No. 3 DURUM WHEAT—Shall include all wheat that is bleached, smutty, or for any other cause unfit for No. 2.

No. 4 DURUM WHEAT—Shall include all wheat that is very smutty, badly bleached and grown, or for any other cause unfit for No. 3.

MIXED DURUM WHEAT.

In case of admixture of Durum Wheat with wheat of other varieties it shall be graded according to the quality thereof, and classed as Nos. 1, 2, 3 and 4 MIXED DURUM WHEAT, with inspector's notation describing its character.

Rule 6. Uncleaned Spring Wheat.

The department will in addition to the grading of Spring Wheat under Rule 3, give dockage and grade if cleaned.

It will be noticed that the grade is determined not only by the description of wheat and by the percentage of dirt, but by the quality and condition of the grain itself. It is probable that at present the descriptions of wheat shipped by various firms in India are more numerous than the grades defined in the foregoing rules. But multiplicity of grades not universally recognised on the market is usually an obstacle to extended trade; and it remains to be seen whether the grades might not be simplified if thereby it were rendered possible to solve the traffic difficulty.

In America there are several classes of public elevators or warehouses. Section 2 of the Illinois Act of 1871 defines them as follows:—

"Public warehouses of class A shall embrace all warehouses, elevators and granaries in which grain is stored in bulk and in which the grain of different owners is mixed together, or in which grain is stored in such a manner that the identity of different lots or parcels cannot be accurately preserved, such warehouses, elevators or granaries being located in cities having not less than 1,000,000 inhabitants. Public warehouses of class B shall embrace all other warehouses, elevators or granaries in which grain is stored in bulk, and in which the grain of different owners is mixed together. Public warehouses of class C shall embrace all other warehouses or places where property of any kind is stored for a consideration."

The distinction between classes A and B is difficult to grasp at first, and is not really essential to a comprehension of the main features of the system. In these public elevators a separate bin may be reserved by a single merchant; and no mixing, garbling or cleaning of the wheat is allowed except as regards wheat in a separate bin.

Besides public warehouses of elevators, there are private elevators where cleaning of wheat is permitted; and it is in evidence that these private elevators handle a great deal of the wheat and gain not only by low storage charges but by cleaning and improving the wheat. One point that is not brought out either in the literature of the subject (which is very poor) or in the evidence before the Industrial Commission is how wheat from these private elevators is sold. It cannot be sold on the strength of the certificate, even if it were originally so bought by the elevator company; but there is nothing to show how far sales are made on sample and how far the wheat is delivered against purchases of a stated grade with a premium for superiority. For the purposes of India, every detail regarding the working of these private elevators is of the first importance; for it seems probable that, under the conditions encountered in this country, they would play a very large part. Among these conditions may be specified the difficulty of finding efficient and reliable inspectors. But unfortunately it is just in regard to the private elevators that the literature of the subject is at its worst. Enquiry both in Europe and America has failed to discover any systematic account of their working, and special reports on a matter of the kind are not easily procured.

We have heard it suggested that the principal exporting firms in India would object to the establishment of the elevator system on the ground that it would discount the advantage they have secured by laborious and costly organisation, and would enable small shippers to compete with them on terms of greater equality. We were disposed at one time to think that such an objection was probable and reasonable; but it must be said that fuller study of the facts dispels this view. The experience in America suggests very clearly that the danger will lie in the opposite direction. The elevators were in many cases erected by the railways in their own interests and leased to elevator companies at extremely low rents. These elevator companies did not confine themselves to warehousing the wheat of other persons, but entered the trade and now do more than 70 per cent. of the whole business. The evidence

of private shippers is to the effect that the competition of these great corporations is unfair, inasmuch as their cheap storage, easy access to rails, and heavy turnover enable them to offer the farmer and dealer a better price than their small competitors can pay, with the result that a state of monopoly injurious to the trade is said to have come into existence. It is also alleged that they combine to regulate prices to the injury of outsiders. The spokesmen of the elevator companies deny this and retort that, whatever the reason, they are able to give the farmer better prices and better terms, which is all to the good of the country. Some of these elevator companies possess or lease a score of elevators; and it seems probable that a great firm in India so equipped to hold large stocks without damage, while marketing their wheat either on the strength of certificates or on the strength of their own name, would on the whole occupy a position more privileged than at present.

Nor can we see that the elaborate organization at present employed by such firms would be in any way lost. The average size of an agricultural holding is much less in India than in America. Therefore the number of separate purchases of wheat to be made must be greater. In America the small purchases are carried out by middlemen or dealers who draw the wheat together and then offer it to the elevator companies for storage or for sale at an advance of price. It seems perfectly evident that a firm which is already in a position to bring the wheat together, and which should further strengthen its position by the erection or leasing of elevators on the main lines of rail, would be certainly not less well off than at present. Even independent dealers would probably be constrained to offer their produce to an organization able to offer a full price; and the danger would be that such organizations might hold the trade too entirely. But one of the points of the proposal is that it would offer an inducement to extended cultivation. The Indian crop is already too great and the stocks too obscure to be cornered with safety; and the increased facilities for the holding of scattered stocks without injury would constitute a further deterrent.

From the point of view of the country in general the project offers this attraction—that instead of the mass of the exportable surplus being run out of the country before the rains set in, a large quantity would remain and would be readily available in event of drought. The country would gain by being able to acquire supplies without the wasteful

process of reimportation; and the holders of the wheat would be able to sell in the best market while preventing such inordinate rise of prices as is sometimes engineered by native holders, when considerable exports have taken place before the character of the rains declared itself. The decisive considerations in the matter must however be those that affect railway traffic and the trade.

Chambers of Commerce and other bodies desirous of studying the question should read the following:—*Report to the Board of Trade on the North West of Canada with special reference to Wheat Production for Export*. Cd. 2628, 1904. London, Eyre and Spottiswoode, 5s. 6d. *Report of the Railroad and Warehouse Commission, Illinois*, 1906, Springfield, Ill., Phillips Bros. *Report of the U. S. Industrial Commission, 1900, Vol. IV*. Ditto, 1901, Vol. IX—both issued by the Government Printing Office in Washington. Further facts of a more general bearing on the question will be found in *The Wheat Problem* by Sir William Crookes, London, John Murray, 3s. 6d. *Canada To-day* by J. A. Hobson, London, Fisher Unwin, 3s. 6d. *Canada as It Is* by J. F. Fraser, London, Cassell, 2s. 8d. *Canada and the Empire*, by Montagu and Herbert, London, P. S. King and Son, 3s. 6d.

BOMBAY MILLOWNERS' ASSOCIATIONS.

The following extracts are taken from the Proceedings of the Committee of the Bombay Mill-owners' Association during the month of December, 1907:—

Read letter from the Acting Director of Public Instruction intimating that it is the intention of the Government of India to offer in the Bombay Presidency one, and possibly two, **State scholarships** to enable natives of the country to study some industry in England; and requesting the Association's opinion as to the industry or industries for which a scholarship or scholarships should be offered next year (1908). He pointed out that according to the rules now in force each scholarship is worth £150 a year and is tenable for two years with a possible extension to a third year. The scholars receive a second class passage to England and back. They also receive travelling allowance for *bona fide* journeys made in connection with their studies while in Europe; and any fees or premia charged for special and approved courses of study will be paid by Government.

Resolution.—The Acting Director of Public Instruction to be informed that the Committee have carefully considered the subject and are of opinion that such scholarships would confer a great benefit to the many rising industries of the country. That prime importance should be given to the Cotton Mill Industry; next in importance should be the

professions of Electrical and Mechanical Engineering, then Mining and Agriculture. The Committee suggested that the scholarships should be offered in the above order.

Read letters from the British Weights and Measures Association, London, asking this Association to make immediate representation to the Government of India to urge China, in view of her intended introduction of a uniform system of weights and measures, to adopt the British Standards.

Resolution.—The Association to be informed that as opinions varied as to the necessity of moving in the matter from this direction, the Committee regret they are unable to take any action at present.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 16th January, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

BRITISH INDIA.—Revised Classification of Cotton Piecegoods. Revised Tariff Valuations.

DOMINION OF CANADA.—Acetic free of Excise Duty, under certain conditions.

AUSTRALIAN COMMONWEALTH.—Evidence accepted respecting Origin of Imports.

SOUTH AFRICA.—Customs Decisions.

TRANSVAAL.—Cancellation of Regulation restricting the Importation of Vinegar, Wine and Brandy from Cape Colony.

SOUTHERN NIGERIA.—Free Importation of Foodstuffs. Free Importation of Articles for the Governor.

ZANZIBAR.—Import Duties Increased.

EGYPT.—Revised Valuation Tariff for Oils, Colours, etc. Revised Valuation Tariff for Coal and Coke.

RUSSIA-ITALY.—Ratification of the New Commercial Treaty between the above countries.

GERMANY.—Importation of Plush under "Improvement, Trade" Conditions. "Improvement Trade" in Bar Iron to be made into Horseshoe Nails.

MALAGASCAR.—Exportation of Cows and Heifers. Exemption from Consumption Tax of Salt for the Preparation of Raw Hides.

SPAIN.—Temporary Admission of Iron and Steel Receptacles. Transit of Merchandise by Rail without being unloaded at the Frontiers.

SERBIA.—Method of Assessing Surtaxes on Bleached, Dyed, etc., Textile Goods. Rules for the Assessment of Duty on Tissues.

CHILE.—Method of Payment of Import Duties and Storage Dues.

NICARAGUA.—Increase of Import Duties.

JAPAN.—Imports at Wakamatsu, Awamor and Muroran

—The production of pumice in the United States in 1906 amounted to 12,200 tons, valued at \$16,750, as compared with 1,832 tons, valued at \$5,540 in 1905. This is an increase of 10,368 tons in quantity and of \$11,210 in value.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 25TH JANUARY, 1908.

Rajputana.—Spring crops are doing well. The recent rain has made further sowings possible in parts of Bharatpur and Dholpur; chiefly tobacco and *zira*. The fodder and water supply are sufficient. Food stocks are adequate or are being imported. Prices have risen slightly in Marwar, Mewar, Jaipur, Kishangarh and Merwara; by half seer in Partabgarh; by about one seer in Jaisalmer; and by 1½ seers in the districts of Bikaner. They have fallen by about ¼ seer in Tonk; and slightly in Jhalawar and Ajmer. Although prices are high there is yet no distress and labour is not in demand except in isolated areas in Karauli and Banswara where ordinary Public Works have been opened. It is expected that a similar measure may be required before long in parts of Kishangarh and Ajmer also, but that a judicious extension of the Public Works programme will carry the people on till the spring crop is ripe for reaping.

Central India.—Rain *nil*. Harvesting of autumn crops has been completed in Bhopal. Threshing continued in Bhopawar. Irrigation of spring crops is in progress in Bhopal, Bundelkhand and Bhopawar. Prospects of spring crops are fair to good. The probable outturn is below average in Baghelkhand; and fair to good elsewhere. Agricultural stock is fair to good except in parts of Indore, Bhopal, Bhopawar and Sailana. Fodder is indifferent in Bhopal and Baghelkhand; and sufficient elsewhere. Prices of food grain continue high; they have fallen slightly in Jaora and Piploda; and are rising in Bhopawar. The condition of the opium crop is fair to good in Bhopawar and Malwa. The numbers on test and relief works are:—In Rewa, on works 64,118; on gratuitous relief 4,681; total 68,799. In Nagode, on works 3,995; on gratuitous relief 659; total 4,654. In Jaso, on works 621; on gratuitous relief 55; total 676. In Baraundha on works 253; on gratuitous relief *nil*. There is no change in the general situation, but the present position in Baghelkhand is by no means so serious as above figures would suggest.

Central Provinces.—Threshing and winnowing of autumn crops and picking of cotton are practically finished and there will be little agricultural employment till the spring crops are reaped. These crops are generally in good condition and fair in Seoni, Narsinghpur, Betul, Balaghat and the districts of Berar. Harvesting of the spring linseed and pulses has started in Narsinghpur, Hoshangabad, Nimar, Betul and Wardha. Spring crops have been slightly damaged by frost in Sangor, Jubbulpore, Mandla, Hoshangabad and Chhindwara. Wheat on inferior soil is withering in places in Hoshangabad and Nimar. Field embankments are being raised in Jubbulpore and in the Chhattisgarh districts; and land is being ploughed for the ensuing season in Sangor, Mandla, and Yeotmal. Labourers find sufficient employment everywhere. Fodder and water are sufficient but fodder is scarce in Yeotmal and Betul. The prices

of staple food grain remained stationary in eight districts; and fluctuated elsewhere, showing no general tendency either to rise or to fall. All prices became easier in Damoh. Wheat and rice in Damoh, and *juar* in Akola became cheaper by one seer; *juar* in Nimar and Buldana, wheat in Balaghat, gram in Mandla, Betul and Akola, rose by one seer.

Feudatory States.—No rain fell during the week. Threshing and winnowing of autumn crops are almost completed. The condition of spring crops is generally good. Preparation of land for next sowings of autumn crops has been started in Raigarh and Sakti. No insufficiency of work for labourers is reported anywhere except from Kawardha and Khairagarh where test and Public Works have been opened. Fodder and water are adequate. Prices are rising in Kawardha and Chhuikhadan; elsewhere prices are stationary or fluctuate slightly.

The weekly report on the famine and scarcity is as follows:—Distress is increasing but slightly. Ordinary works and private works aided by *takavi* are still sufficient for requirements of labouring classes. Village works are sparingly resorted to in Damoh and the adjoining tracts of Jubbulpore. Kitchens for children have been opened in Damoh. Prices are mostly stationary but rather easier. In Damoh prices have fallen by 1 seer to 8½ seers per rupee. The condition of the people and the public health are good. Usual movement of labourers from autumn tracts to spring tracts in anticipation of the harvest is commencing. The numbers on relief are:—On village works 422; weavers 1,500; on gratuitous relief 2,332; total 4,254.

Bombay.—Standing spring crops are withering for want of moisture in parts of Thar and Parkar, Ahmedabad, the Panch Mahals, Kaira, the Deccan, Bijapur and Baroda; elsewhere crops are in good condition. Threshing of autumn crops is in progress in parts of the Upper Sind Frontier, Thar and Parkar, Kaira, the Konkan, Khandesh, Nasik, Ahmednagar, Kathiawar and Palanpur. Cotton picking is progressing in parts of Hyderabad; the Panch Mahals, Kaira, Broach, Surat, Bijapur, Belgaum, Baroda and Kathiawar. The supply of fodder is adequate except in parts of Ahmedabad, Kaira, Sholapur, and Baroda. Agriculture stock is generally in good condition and sufficient, except in parts of Ahmednagar, Poona, Sholapur and Satara. The supply of drinking water is sufficient, except in parts of Sholapur. Water for irrigation is insufficient in parts of Surat, the Deccan, Baroda and Kathiawar. The quantity of food grains purchasable per rupee is in Sind 38 to 52 per cent., in Gujarat 25 to 68 per cent., in the Konkan 22 to 33 per cent., in the Deccan 36 to 51 per cent., and in the Karnatak 25 to 46 per cent. less than the normal. Prices are rising. Stocks of grain are generally adequate. The demand for labour is sufficient and wages are normal. Emigration from Ahmednagar, Sholapur and Bijapur continues. The cultivating and labouring classes are in fair condition. Six test-works are in progress in the Panch Mahals with 1,311 persons on relief on the last day of the week ending the 24th January.

Works for the relief of hill tribes are being opened in West Khandesh.

Hyderabad.—The rainfall during the week was two cents. The cotton and castor seed crops in the Nalgunda District have benefited by the rain. Standing spring crops are in fair condition. Harvesting has commenced in places. Linseed crops are reported to be unsatisfactory in parts of Parbhani, Randher and Adilabad. There is a scarcity of water in 13 taluks; and of fodder in 34. Prices:—Wheat 5½; coarse rice 6½; and *juar* 11 seers per rupee. Yellow *juar* is selling in Hyderabad city at 12 seers per rupee, while the highest price in districts is 9 seers in four taluks.

Mysore.—Prices of food grains are steady. Standing crops are in good condition. Paddy and other crops are still being harvested. Prospects of the season are good but the want of rain is felt in parts of Chitaldrug. Cattle are generally healthy. Water and fodder are available.

Coorg.—Picking of coffee and threshing of rice continue. Prices of food grains are stationary. The public health is fair. Water and fodder for cattle are sufficient. Harvest prospects are good.

Madras.—The rainfall during the week was light though above average in Nellore and *nil* elsewhere. Irrigation supplies are insufficient in parts of all districts except Guntur, Cuddapah, Chingleput, Coimbatore, Trichinopoly, Tinnevely, Malabar, South Canara and the Nilgiris. Ploughing, sowing weeding and transplanting are in progress in parts. Standing crops are generally fair but some in parts of Bellary, Cuddapah, North Arcot, Tanjore and Madura are withering, and some in parts of Coimbatore require more rain. Harvests continue with outturn poor to normal. Pasture is generally sufficient except in parts of the Circars and the Deccan. Fodder is scanty in parts of Gunjam and Nellore. The condition of cattle is generally good. The price of rice is stationary in eleven districts; has fallen in eight; and has risen in four. The prices of millets have fluctuated as follows:—*Ragi* is stationary in eight districts; has fallen in eight; and has risen in five. *Cholam* is stationary in six districts; has fallen in six; and has risen in two. *Cumbu* is stationary in four districts; has fallen in four; and has risen in seven. The public health is generally good. Prospects are fair generally but rain is required in parts of some districts. The condition of the labouring classes is good and employment procurable. Prices are high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

Nepal.—Report for the quarter ending 15th January, 1908.—The rainfall in the Nepal valley for the period was 0.50 against 0.10 for the corresponding period in the previous year.

October, 1907.—Pepper was gathered in, the outturn being good. Garlic and onions began to be sown. Lands began to be prepared for the spring crop.

November, 1907.—Spring sowing has commenced both in the Nepal valley and in the Terai. Rice was harvested in the Terai, the outturn falling below the average. Oranges began to ripen in Nepal.
December, 1907.—The first crop of potatoes was dug and the outturn was good. The Orange crop was plucked and was a very good one. Winter vegetables began to be sown in Nepal.
January, 1908.—Fields are being prepared and the second crop of potatoes sown. Spring crops are doing well in the Nepal valley, but a scarcity of rain is being felt in the Terai. The health of livestock is reported to be good. The market is well stocked and prices of food-grains continue normal.

EASTERN BENGAL AND ASSAM.
Crop Prospects.
(By Telegram.)

Shillong, Feb. 4th.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 3rd instant :—
Slight to moderate rain has fallen in all districts. The prospects of the standing crops are fair to good. The preparation of land for early rice and jute, the pressing of sugarcane and the gathering of mustard are going on.
The pruning, hoeing and manuring of tea are in progress.
The harvesting of winter rice has practically finished.
Cattle disease is reported from two districts. The prices of common rice have risen in five and fallen in three districts.
No scarcity is apprehended at present.

THE FAMINE.
Viceroy's Report.

THE following is a copy of a telegram, dated 3rd instant, from the Viceroy to the Secretary of State, regarding crop prospects :—
Good rain fell during week in the Punjab and North-West Frontier Province, slight rain in Burma, Madras and Assam. Elsewhere, with insignificant exceptions, the week was rainless.
The present prospects of the spring crops in the affected areas are generally favourable. Further sowings continue in the United Provinces, and the late-sown crops are germinating well. That Province, however, shows a further large increase in the numbers on relief, which are now: works, 314,601; gratuitous relief, 1,62,965. In addition 9,315 persons are in receipt of relief in villages belonging to the Maharaja of Bulrampur, who has himself made arrangements for relief in his estates.
The area in which relief is required continues to extend, but the measures taken are adequate and well in advance of pressure.

The condition of the people continues fair, and no general wandering is yet noticeable.
Advances for aided works are being given in several districts, and a provincial Charitable Relief Fund has been opened.
In the Punjab it has been found necessary to open test works in one district. They are attended by 921 persons.
In Central India, there has been a further increase in numbers on relief, which are now: works, 68,987; gratuitous relief, 5,395.
In Bengal, also, the numbers in receipt of relief are increasing; 4,392 persons are employed on test works in Bankura, and numbers on relief in Orissa are now: test works, 1,087; gratuitous relief, 12,514.
In the Central Provinces it is hoped that the ordinary works will, in most districts, sufficiently provide for the requirements of the labouring classes till the spring harvest. At present little agricultural employment is available, but the usual movement of labourers to districts where spring harvest is important has commenced. Village works have been opened in two districts and are attended by 422 persons. Special relief is being given to 1,500 weavers, and gratuitous relief to 2,332 people.
In the Panch Mahals district of Bombay, the number on test works has fallen to 1,311. Works are being opened for relief of the hill tribes in Khandesh.
The total numbers of persons in receipt of State relief in the whole of India is now 576,427. There is no marked change in prices, which have again fallen slightly in some provinces.

—The Commercial Secretary to H. M. Embassy at Washington has forwarded a copy of a circular, issued by the Forest Service of the United States Department of Agriculture, relating to the consumption of tanbark and tanning extract in the United States in 1906, from which the following particulars are obtained :—Although the tanning industry is widely distributed over the United States, the greater part of it is carried on in the States of Pennsylvania, New York, Michigan, and Wisconsin. The consumption of tanbark in 1906 by 617 tanneries was 1,371,342 cords, valued at 12,774,071 dols. The principal kinds of bark used were hemlock and oak, and of the total amount about two-thirds was hemlock, whilst almost all the rest was oak, the quantity of chestnut and unclassified barks being relatively unimportant. In addition, 658,777 barrels of extract, valued at 8,713,322 dols., were consumed. Of the extract manufactured from domestic woods and barks, chestnut extract formed the largest amount, being double the combined quantities of that from oak and hemlock. Quebracho extract, which is imported, constituted by far the largest amount of any one kind.

THE MINERAL PRODUCTS OF INDIA.
Latest Returns.

THE December number of the Records of the Geological Survey of India contains a report on the Mineral Production of India during 1906, by Mr. T. H. Holland, F.R.S., Director, Geological Survey of India. Mr. Holland gives the following table of the total value of minerals for which returns of production are available for the years 1905 and 1906 :—

	1905.	1906.
	£	£
Gold	2,416,971	2,230,284
Coal	1,419,443	1,912,042
Petroleum	604,203	574,238
Salt	441,392	420,901
Saltpetre	235,723	270,547
Manganese ore	248,309	435,268
Mica	142,008	259,544
Ruby, Sapphire, and Spinel	88,3 0	96,867
Jadestone	45,474	64,433
Graphite	10,890	10,009
Iron-ore	13,827	11,341
Tin-ore	9,917	13,799
Chromite	3,482	7,188
Diamonds	2,474	5,160
Magnesite	550	488
Amber	945	709
TOTAL	5,689,948	6,312,818

Details of production are given in two groups :—
Group I for which approximately full returns are obtainable, and Group II for which the returns are admittedly incomplete or only approximately estimated.
The minerals of Group I are Chromite, Coal, Diamonds, Gold, Graphite, Iron-ore, Jadeite, Magnesite, Manganese-ore, Mica, Petroleum, Ruby, Sapphire, and Spinel, Salt, Saltpetre, Tin.
We give below the details concerning the principal minerals in this group :—
The Coal Output.
The output of coal for 1906 shows that the activity previously reported has again been extended, the total production having risen from 8,417,739 statute tons in 1905 to 9,783,250 tons in 1906, an increase of 16.2 per cent. On account of the higher prices maintained throughout the year there has been a

still greater proportionate increase in reported spot value. The total value returned for 1905 was £1,419,443; for 1906 the total reported was £1,912,042, that is an increase of 34.7 per cent. The average price per ton reported as the spot value of Indian coal in 1905 was 3s. 4d.; in 1906 the average of the figures returned was 3s. 11d. per ton. The spot prices naturally do not correspond to fuel value, for Bengal coal, which is, all round, the best worked, brought an average price during 1906 of only 3s. 6d.

The following figures show the production and value of coal during the years 1904—1906 :—

	Quantity.	Average value per ton at the Mines.		
	Statute Tons.	Rs.	s.	d.
1904	8,216,708	2	9	3 5
1905	8,417,739	2	8	3 4
1906	9,783,250	2	15	3 11

The increase in the total is mainly contributed by the Gondwana fields, especially those of Bengal. The Jherria field has at last taken the lead among the coalfields, while the Raniganj field, which has hitherto been the greatest producer, drops to second place. An interesting development is that of the Pench Valley field in the Central Provinces, showing an output of 32,102 tons in spite of the imperfect railway facilities so far serving the field.
The external demand for Indian coal has increased with the general rise of prices, and the reduction of Japanese supplies has permitted a sensible increase of the exports to Singapore. The total quantity exported during 1906 for the first time exceeds a million tons.
Imports of coal are still small though they increased slightly from 188,677 tons in 1905 to 215,712 tons in 1906.

Consumption of Coal.

The consumption of Indian coal on Indian Railways was 2,878,281 tons in 1906, which was 29.4 per cent. of the total production, as against an average of 29.8 per cent. for the previous five years. The total consumption of coal increased by 1,161,850 tons, but, on account of the great increase in export, the amount of Indian coal consumed in the country increased at a slightly lower rate than the production. The average daily attendance at Indian coal mines in 1906 was 99,138, and the average output per person employed 98.63 tons, against 93.5 tons in 1905 and 88.6 tons in 1904. The low results recorded for years before 1905 are due partly to defective returns, but during the last two years the improvement in output per person employed faithfully reflects the advantages of mechanical assistance in handling the coal. Improvement is shown in the total as well as in the output per person employed below ground. In 1905 the output per person employed below ground was 136.6 tons; in 1906 the output rose to 145.0 tons,

The following figures show the relation of consumption to production of coal during 1904-1906 :-

	Total consumption of coal in India.	CONSUMPTION OF INDIAN COAL IN INDIA.	
		Quantity.	Percentage of Indian production.
	Tons.	Tons.	
1904	7,884,140	7,613,896	92.7
1905	7,846,554	7,638,979	90.7
1906	9,003,404	8,775,457	89.7

The Diamond Industry.

The diamonds obtained in the Central Indian States of Panna, Charkhari and Ajaigarh during 1906 were valued at £5,160, which is a marked improvement on the values reported for previous years. The figures given below show the productions of diamonds in Central India.

	Quantity.	Value.
	Carats.	£
1904	286.48	2,636
1905	172.41	2,474
1906	305.91	5,160

The principal increase is due to the State of Panna, which contributed diamonds to the value of £4,348 in 1906, against only £1,829 in 1905. The daily average attendance of workers is returned as 2,051 for the whole diamond fields during 1906, against 1,890 reported for 1905.

Gold.

The year 1906 marks the first interruption in the increase of gold production in Mysore, the total value of the output having a little below that for 1905 by £195,821. The returns for other areas shown in table II call for no special remark in an annual statement. The quantity and value of gold produced in India during 1905-06 will be seen from the following figures :-

	1905.		1906.	
	Quantity	Value	Quantity.	Value.
	Ounces.	£	Ounces.	£
Bombay—				
Dharwar	93	321	60	232
Burma—				
Pakokku	1½	7	1.3	5
Myitkyina	620	2,412	2,300	8,850
Hyderabad	13,167	50,060	13,782	52,801
Mysore	616,753	2,363,457	555,203	2,167,836
Punjab	176	703	190	746
U. Provinces	2½	11	3.8	14
TOTAL	630,818	2,416,971	581,545	2,230,284

Graphite.—The total production of crude graphite in 1906 was returned as 2,600 tons, valued at £10,009, against 2,324 tons valued at £16,890, in 1905.

Iron Ore.

The production of iron-ore during 1906 was only 74,106 against 102,529 tons in 1905, and 71,603 tons in 1904. The output is dominated by the quantity raised for the Barakar iron-works which is the only institution smelting on European lines. For the Barakar works the quantity raised in 1906 was returned as 69,397 tons. There was a considerable increase in the number of small native-furnaces in the Central Provinces, the total for 1906 being 379 against 279 for 1905. Returns for labour have been received from most districts and States. The average daily attendance in 1905 amounted to 2,060 and in 1906 to 3,263. The following figures give the quantity and value of iron-ore raised during the years 1905 and 1906.

	1905.		1906.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£
Bengal	97,698	12,538	69,397	10,085
Other Provinces and States	4,831	1,299	4,709	1,256
Total, Statute Tons and £	102,529	13,827	74,106	11,341
Total, Metric Tons	104,174	...	75,295	...

Jadeite.

There was a slight decrease in the production of jadeite in the Myitkyina district of Upper Burma due to scarcity of labour; the returns for 1906 showed a production of 2,214½ cwts. only against 2,685 cwts. in 1905. The trade through Rangoon, however, showed a marked increase in the value of the mineral exported as shown below :-

	Weight.	Value.	Value per cwt.
	Cwts.	£	£
1902	3,843	36,850	9.59
1903	2,192	50,582	23.08
1904	2,869	43,946	15.32
1905	2,342	43,474	18.56
1906	2,566	64,433	25.11
Average	2,762	47,857	17.33

The average daily attendance of workers at the jadestone quarries in Myitkyina during 1905 was 1,085, and during 1906, 1,038.

Magnesite.

The amount of magnesite raised in the Chalk Hills near Salem in 1906 was 1,832 tons against

2,063 tons in 1905. The local value of the mineral is returned as only Rs. 4 per ton, and this figure has been taken for estimating the value of the magnesite raised during previous years at the same place. There was an average daily attendance at the Salem magnesite quarries during 1905 of 105 workers; for 1906 the average reported is 87.

Manganese ore.

The most conspicuous increase in production during the past year was in manganese ore. The total returned for 1906 was 495,730 tons, against 253,896 tons in 1905 and only 150,297 tons in 1904. The total returned for 1906 is probably slightly below the actual, as no production has been reported from two of the States in which prospecting operations have been carried on actively, but it will be possible to introduce these corrections next year.

The heavy production was, of course, due to the maintenance of high prices in Europe and America. The following figures show the production of manganese ore for 1905-06 :-

	1905.	1906.
	Statute Tons.	Statute Tons.
Bombay	...	7,517
Central India	30,251	50,074
Central Provinces	159,950	320,759
Madras	63,695	117,380
Total Statute Tons	253,896	495,730

The labour returns for 1905 show an average daily attendance at manganese ore quarries of 6,811, while for 1906 the total rose to 12,607, exclusive of the workers employed in Sundur and Mysore.

Mica.

The great increase in the weight of exported mica which was referred to last year (*Rec. Geol. Surv. Ind., XXXIV*) was due to an error in the returns; the correct figure for 1905 was 25,837 cwts.; but during 1906 the exports were more than doubled in weight and largely though not proportionately increased in value. The total weight of mica exported in 1906 was 54,193 cwts., valued at £258,782, against 25,837 cwts., valued at £142,008, in 1905. The table below shows the figures for the past five years :-

Year.	Weight.	Value.
	Cwts.	£
1902	17,786	76,053
1903	22,106	90,297
1904	18,250	83,183
1905	25,837	142,008
1906	54,193	258,782

Petroleum.

There was a slight drop in the production for 1906 as compared with 1905; but a considerable increase as compared with the petroleum produced in 1904:-

	1905.	1906.
	Gallons.	Gallons.
Burma	142,063,846	137,654,261
Eastern Bengal and Assam	2,733,110	2,897,990
Punjab	1,488	871
TOTAL	144,798,444	140,553,122

The decrease in production was due mainly to the Yenangyat and Singu fields in Burma, although in the latter area the output was artificially restricted. The local value is estimated at about one anna (1d.) per gallon of crude oil. The following table shows the production of the Burma oilfields for 1905-06 :-

	1905.	1906.
	Gallons.	Gallons.
Akyab	53,455	35,423
Kyaukpkyu	60,647	53,429
Yenangyat Magwe	55,648,749	59,549,252
Singu, Myingyan	37,541,177	34,843,621
Yenangyat, Pakokku	18,759,818	13,172,136
Thayetmyo	...	400
TOTAL	142,063,846	137,654,261

The average daily attendances of workers on the Burma oilfields amounted to 1,292 during 1905, and to 1,837 during 1906.

The agreement made between the Burma Oil Company and the producers in the Dutch East Indies has tended to reduce the figures both for imports of foreign kerosene and for exports of Burma oil, although the figures for the former are largely affected by the failure of Russian supplies. The tables below show the variations for the past five years. The imports of kerosene during the years 1905-1906 were as follows:-

	1905.	1906.
	Gallons.	Gallons.
Russia	17,205,175	...
United States	18,737,577	28,494,794
Borneo	7,039,812	1,795,715
Straits Settlements	12,508,844	8,499,198
Sumatra	6,816,991	9,731,405
Other countries	16,363	6,663
TOTAL	62,324,762	48,527,776

The exports of mineral oil and paraffin wax during the years 1905-1906 were :—

Year.	Mineral Oil.	Paraffin Wax.
	Gallons.	Cwts.
1905	2,422,589	63,966
1906	903,545	61,097

Ruby, Sapphire and Spinel.

The output of rubby, sapphire, and spinel reported by the Burma Ruby Mines Company during the year ending February 28th, 1907, was reported as 326,855 carats, valued at £95,540, against a value of £88,310, returned for the corresponding period of 1905-06. Of the total value £93,023 is due to the rubies obtained; the sapphires were valued at £1,132 and spinels at £1,385. The average daily attendances of workers during 1905 amounted to 1,805, and during 1906 to 2,367 in the Ruby Mines District of Burma.

During the year the Kashmir sapphire mines were again worked and a production of 2,837 carats, valued at £1,327, was reported.

Salt.

There was an unimportant reduction in the quantity of salt produced, the total for 1906 being 1,225,465 tons, against 1,291,137 tons produced in 1905. There was a greater activity in the rock-salt mines of the Punjab, and in addition to an increased output, the extension of tunnels has proved the persistence of the two principal seams considerably beyond the area previously known with certainty. During 1906 there was an increase in the quantity and value of imported salt, the amount being 512,328 tons and the value £488,127, against averages for the four years 1902-1905 of 454,832 tons and £439,071 respectively.

Saltpetre.

The value of the saltpetre industry is gauged most uniformly by the figures for exports. The returns for the past five years indicate a gradual rise in the average value, but the industry shows no signs of real expansion. The exports of saltpetre during the years 1905 and 1906 were :—

Year.	Weight.	Value.	Value per cwt.
	Cwts.	£	Shillings.
1905	313,122	235,723	15.1
1906	347,251	270,547	15.6
Average	370,936	266,936	14.5

The local importance of the saltpetre industry is shown by the returns for labour in Behar where most of the saltpetre is obtained. The returns for 1906 show that 50,469 workers were employed in this industry.

Tin Ore.

The output of tin-ore in South Burma has considerably increased, from 1,495 cwts., valued at £9,783 in 1905 to 1,919 cwts., valued at £13,574 in 1906. A special survey of the tin-mining industry in South Burma is being carried out by an officer of the Geological Survey. The total average daily attendance at the tin mines in the Mergui and Tavoy districts was 145 in 1905 and 141 in 1906.

THE TOKIO EXHIBITION.

General Regulations.

We are informed that the general regulations which have heretofore been adopted for the Grand Exhibition of Japan, to be held in Tokio in 1912, are as follows :—

The Grand Exhibition of Japan will be opened on the 1st day of April, 1912, and will be closed on the 31st day of October of that year.

The location of the Exhibition will be Aoyama Parade Ground in the city of Tokio, 1st, 2nd and 3rd blocks of Kitamachi, Aoyama of the city, about three-quarters of the Imperial Estate of Yoyogi, Toyotama District, Tokio Prefecture, and that portion of the lot, connecting the Parade Ground and the Imperial Estate, along which the formerly called Koku Railway runs. The entire site of the Exhibition will comprise about 292 acres (about 350,000 Tsubos).

All foreign Governments and peoples are invited to participate in this Exhibition. For the instalment of foreign exhibits, belonging to the five different departments of Education, Science, Machinery, Electricity, and Manufactured Goods, space will be allotted in the exhibition buildings erected by the Administration Office of the Grand Exhibition of Japan. For exhibits other than those above designated, any nation may erect a separate building at its own expense. No charge will be made for space allotted for such building.

Any nation may, if it so desires, exhibit articles belonging to the aforesaid five departments and also other articles not coming under these headings in the building erected by such nation at its own expense. No charge will be made for space allotted for such building.

All articles which shall be imported from foreign countries for the sole purpose of exhibition, and not used for commercial purposes in this country, and all materials for the buildings of foreign Governments, or special exhibition buildings and decorations thereof, will be admitted free of duty. It is proposed to make a special arrangement concerning articles which shall be imported from foreign countries for sale at bazaars, or things intended for amusement and shows which are liable to customs duty, and a bill to that effect will be introduced in the next session of the Diet.

It is also intended to afford special protection to all inventions, designs, models of utility and trade marks of foreign exhibits and a bill to that effect will be introduced in the next session of the Diet.

MOTOR WAGONS FOR INDIA.

Routes and Possibilities.

In the course of an article on this subject in the *Indian Trade Journal* of August 30th, 1906 (p. 768), we dealt with the possibilities of motor traffic on roads leading to railways. We then pointed out that although no type of general utility motor capable (like certain of the agricultural engines of the Western world) of ploughing, pumping, hoisting or locomotion at will had yet found favour in India, the time must come in the near future when the motor would play a much larger part as a railway feeder than it is doing at present.

We also pointed out that another function to which the motor wagon lends itself is that of scout for railway extension. At present one of the risks attending the laying down of a feeder railway resides in the uncertainty as to the exact alignment that will ultimately yield the largest traffic returns. Until a line has been in existence for some time, it is hard to tell what may be the scale of the crop expansion it will induce, or in which direction the greatest development will take place. It very often happens that actual experience proves the selected line of country to be less advantageous than another would have been; but, when a railway, however light, has been established, it rarely pays to move it. It is, on the other hand, easy to transfer a flotilla of motor wagons from one road to another. All that is required is a little strengthening of culverts and a little cobbling of the roadway; and, when they have been working successfully for a year or two in a new tract, it ought to be fairly easy to decide in which direction a feeder line would best pay. It was urged that motor cars would, by their rapidity and general superiority over bullock carts, which control most of the inland traffic just now, enable the railway companies to get the best use out of their rolling stock in the busy season—in itself an eloquent plea for the extended use of suitable motors.

As to the kind of motor best suited to the extreme climate of India, we urged that it should be simple

in construction, have its mechanism well protected from dust, be specially well equipped with radiators, and be so designed as to distribute its weight over a number of points, so as to be able to pass over such culverts as are now in existence on the roads over which the cars would traverse.

As to fuel, the high cost of carriage and storage of highly volatile spirit in a tropical country suggested the use of kerosene, and we gave a list of no fewer than 570 depôts, mostly located in those tracts where the fertility of the land is greatest, where motor cars using that oil, either as a steam fuel or as an explosive, could draw their supplies with certainty and at a reasonable price.

Returning to this subject again in our issue of September 6th, 1906 (p. 812), we gave a statement showing the total movement of merchandise from each of the internal railway blocks in 1904-05 as affording some indication of the amount of traffic in which a motor service might expect to share.

Since then we have been able to obtain some additional information which may be of interest to those contemplating the introduction of a motor service, such as we have suggested, and we give it below :—

Bombay, Baroda and Central India Railway.

Statement of traffic during 1906 to and from the Company's out-agencies at Shirpur and Modasa.

	Outward.	Inward.	Total* Maunds.	Condition of Road.	Cartage.
Shirpur	2,28,802	69,011	2,97,903	14 miles from Nardana Road fairly good; but the river Tapi has to be crossed by ferry.	Rs. 42,500 during the year.
Modasa	93,428	39,866	1,33,284	30 miles from Talod; 20 miles of the road is usually in good condition; but the last 10 miles would not be suitable to motor traction.	Rs. 30,250 during the year.

* Maund=82½ lbs.

Southern Maharatta Railway.

Statement showing the weight in maunds of certain commodities carried from and to the three principal out-agencies on the Southern Mahratta Railway, for the twelve months ending June, 1907.

Name of Out-agencies.	July, 1906.	August, 1906.	September, 1906.	October, 1906.	November, 1906.	December, 1906.	January, 1907.	February, 1907.	March, 1907.	April, 1907.	May, 1907.	June, 1907.	TOTAL.
	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.	Mds.
Niphani to Kolhapur . . . Miles 25½	8,982	4,358	3,698	4,273	7,196	7,662	3,358	6,251	14,154	9,669	10,072	12,531	92,204
Chikodi Road . . . Miles 29½	3,766	7,122	3,495	3,231	3,863	4,956	4,566	3,457	5,209	2,406	2,514	5,253	49,838
Sankeshwar and Gokat Road . . Miles 19	*	*	*	*	686	2,363	2,065	4,201	7,875	9,441	2,776	1,081	31,088
Thirthahalli and Shimoga . . Miles 36													
TOTAL	12,748	11,480	7,193	7,504	11,745	14,981	10,589	13,909	27,238	21,516	15,362	18,865	1,73,130

Great Indian Peninsula Railway.
Statement showing description of roads and amount of traffic between out-agencies and the railway stations by which they are served on the Great Indian Peninsula Railway.

Name of out-agency.	Nearest Railway Station.	Distance Miles.	Remarks as to roads.	OUTWARD TRAFFIC.				INWARD TRAFFIC.			
				Coaching.		Goods.		Coaching.		Goods.	
				1905.	1906.	1905.	1906.	1905.	1906.	1905.	1906.
Auriya	Chaurah	28	Fair Weather Road; impassable in the rains.	Rs. 2	Rs. 12	Rs. 33,081	Rs. 25,461	Rs. 18	Rs. 18	Rs. 118	Rs. 200
Jalaun	Orai	14	Orai to Jalaun good metalled road.	32	29	Mds. 62,270	Mds. 43,296	105	100	Mds. 249	Mds. 476
Madhogarh	Orai	32	Madhogarh is 18 miles from Jalaun. A good metalled road.	...	...	Rs. 2,943	Rs. 4,518	2	4	Rs. 8,621	Rs. 18,111
Rajapur	Karwi	18	Fair Weather Road	3	2	Mds. 8,583	Mds. 20,935	16	17	Mds. 50,425	Mds. 87,109
Charkhari	Mahoba	9	Good metalled road	34	127	Rs. 573	Rs. 1,499	206	101	Rs. 1,255	Rs. 2,970
Rath	Kulpahar	23	Fair Weather road	4	5	Mds. 2,601	Mds. 7,694	55	46	Mds. 8,823	Mds. 20,166
Bandala (Nowgong Cantt.)	Harpal-pore.	19	Good metalled road	678	4,195	Rs. 23,213	Rs. 6,199	3,181	3,139	Rs. 2,079	Rs. 1,329
Kotah	Barun	45	Impassable in the rains; but out-agency will be superseded by Railway Station.	232	204	Mds. 53,112	Mds. 25,198	1,201	1,157	Mds. 7,480	Mds. 4,959
						Rs. 7,197	Rs. 5,426			Rs. 16,266	Rs. 34,171
						Mds. 14,767	Mds. 14,513			Mds. 52,491	Mds. 1,08,060
						Rs. 4,131	Rs. 3,090			Rs. 2,904	Rs. 6,558
						Mds. 8,445	Mds. 7,497			Mds. 8,323	Mds. 21,191
						Rs. 1,776	Rs. 2,925			Rs. 15,840	Rs. 14,288
						Mds. 2,271	Mds. 4,734			Mds. 24,979	Mds. 24,755
						Rs. 211	Rs. 540			Rs. 10,425	Rs. 8,861
						Mds. 179	Mds. 608			Mds. 9,087	Mds. 8,471

Bengal Nagpur Railway.
Statement showing the outward and inward traffic at Bhandara City during the last five years and the first half of 1907.

Period.	OUTWARD.			INWARD.			TOTAL.			REMARKS.
	Coaching Parcels. Amount. Rs.	GOODS.		Coaching Parcels. Amount. Rs.	GOODS.		Parcels. Rs.	GOODS.		
		Mds.	Amount. Rs.		Mds.	Amount. Rs.		Mds.	Rs.	
1902	156	29,563	3,347	216	46,659	10,544	372	76,222	13,911	Distance between Bhandara out agency and Bhandara Road Railway station is 5 miles and the road is metalled and bridged.
1903	133	7,840	1,199	239	63,047	17,329	363	70,887	18,538	
1904	281	15,633	2,067	178	47,013	10,773	459	62,666	12,845	
1905	203	10,535	1,702	332	44,780	9,686	535	55,415	11,388	
1906	188	7,976	1,638	334	53,006	10,293	522	61,032	11,931	
1907 (1st half)	85	3,339	661	104	18,402	2,924	189	21,611	3,535	

Rohilkhand and Kumaon Railway.
Statement showing the total weight in maunds and seers, of the commodities carried to and from the out-agencies and Kathgodam station of the Rohilkhand and Kumaon Railway during 1906.

Names of Out-agencies, etc.	FIRST HALF OF 1906.				SECOND HALF OF 1906.				Total up for 1906.	Total down for 1906.	Total up and down, 1906.	
	Up.		Down.		Up.		Down.					
	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.	Mds.	Srs.
Kathgodam-Nainital Brewery	7,132	10	13,827	20	9,015	20	13,942	10	16,177	30	27,769	30
Kathgodam-Nainital	24,281	10	1,287	0	11,274	10	8,606	30	35,555	20	9,893	30
Kathgodam-Ranikhat	11,549	30	2,629	20	5,543	0	9,505	0	17,092	30	12,134	20
Kathgodam-Almorah	3,061	0	287	30	2,510	10	341	20	5,571	10	829	10
TOTAL	46,024	10	18,031	50	28,373	0	32,595	20	74,397	10	50,627	10
											1,25,024	20

INDIAN COAL MINES.

Outturn and Profits.

THE annual meeting of the Mining and Geological Institute was held in Calcutta on the 31st ultimo, Mr. T. R. Holland presiding. The membership of the Institute now number 222 and the funds at its credit total Rs. 14,000.

The following papers were read and discussed during the year :—

- (a) Sampling of Ores and Bullion, by Major F. O. Hughes.
- (b) Premature Explosions of Powder, by Mr. James Grundy.
- (c) Waste in Bengal Coal Mining, by Mr. J. White.
- (d) Fighting a Colliery Fire, by Messrs. W. H. Pickering and R. R. Simpson.
- (e) The Chelsea Electric Power Generating Plant, by Mr. Thos. Adamson.

The Government prize of Rs. 500 has been awarded to the paper by Messrs. Pickering and Simpson on "Fighting a Colliery Fire," being an account of the methods adopted to stamp out the fire which occurred last year at the Charanpur Colliery.

The result of the voting for the new President and Officers showed the following to be elected : President, Mr. W. Miller, of the Equitable Coal Co.; Vice-Presidents, Mr. S. Heslop and P. Bosworth-Smith; Hony. Treasurer, Mr. T. D. La Touche; Hony. Secretary, Mr. H. G. Graves.

In the course of his presidential address Mr. Miller spoke at some length of "Coal Mining in India."

Coal Mining in India, he said, and especially in Bengal, had during the last twenty years increased enormously. Twenty years ago the output of coal over the whole of India was something like 1½ million tons. The returns for the year 1906, which were the latest figures available, showed that the output had reached fully nine million tons, and out of this fully eight and-a-half million tons were raised within the Province of Bengal. India's yearly production of coal now exceeded any other single British Colony or Possession. They would have to look to improving their present methods of working and winning the coal. One of the greatest factors in this country regulating the output was the labour question. To those outside the trade, he had no doubt, it seemed ridiculous that there should be a scarcity of coal-cutting labour in a country teeming with people. Yet the fact remained, and, for this reason: the people of the country were born cultivators—cultivators first and coal-cutters afterwards. Caste also was a great factor to be reckoned with, and those of them engaged in mining knew how few castes had yet been induced to work in the mines, although every inducement in the shape of good wages and every other comfort possible were offered them.

Capital Invested.

They had all seen lately a great increase of capital being invested in coal mining, especially in Bengal, and new coal companies springing up like mushrooms. He had counted the other day in one of the Indian commercial papers between 80 and 90 limited liability coal companies now existing, and there were still rumours of more to come. It was also a fact, he understood, that one of the undeveloped coal fields may shortly be entered and opened out extensively. He had gone into the figures of the amount of capital invested in the coal mines of Bengal and, taking only the limited liability companies, he found approximately that their capital was something like Rs. 5,00,00,000, including ordinary preference and debenture capital. Out of this sum the ordinary capital amounted to Rs. 4,40,00,000. This ordinary capital at the present day was at a very high premium and represented approximately no less a sum than Rs. 26,00,00,000, equal to fully five times. To pay a 6 per cent. dividend on this latter sum meant an earned profit of Rs. 1,56,00,000. To enable a dividend of 6 per cent. per annum on the present day value of the invested capital to be paid meant that a clear profit of nearly Rs. 2 per ton of coal raised must be earned. With the present day selling prices of coal the industry was, no doubt, in a strong position and could easily earn even that profit. The coal-cutting labour force was not at present increasing with the demand for Bengal coal and to that factor they were considerably indebted for the present high ruling prices. If that were admittedly so, then how were they to keep pace with the demand? The introduction of coal-cutting machinery must be thought of. Already he was able to say that several coal companies were devoting their attention to its introduction, and he trusted their effort would meet with the success it deserved.

—The production of sulphur in the United States increased from 181,877 long tons in 1905 to 294,153 tons in 1906. This is substantial proof of the success of the Frasch sulphur process in Louisiana, a success further demonstrated by numerous photographs in trade papers of great blocks of sulphur solidified from the streams pumped from the Louisiana wells. In value the product of 1905 was \$3,706,560, and for 1906 it was \$5,096,678. The production of sulphur in the United States for the last 10 years is as follows:—1897, 2,031 long tons; 1898, 1,071; 1899, 4,313; 1900, 3,147; 1901, 241,691; 1902, 207,874; 1903, 253,127; 1904, 127,292; 1905, 181,677; 1906, 294,153 long tons. For the last few years the consumption of sulphur in the United States has increased quite regularly, along with the general industrial growth of the country. The imports, however, have decreased, in consequence of the development of the domestic resources.

NEW CHANNELS IN THE OCEAN TRADE.

Coal Markets.

THE changes taking place in the lines of the coal carrying trade, says a correspondent in the *Manchester Guardian*, are well worth the attention of merchants, shipowners, and statisticians, for the movements of the world's trade depend very largely upon it. The last few years, even the last year or two, show signs that the coal carrying trade of the world is finding for itself new lines; and these are perhaps best indicated by a study of what is going on in chartering. Formerly Welsh and English coal were sent from our British ports to almost every part of the world. Charters for India, China, the Cape, South America, were everyday affairs. Except South America, now the only large and regular British coal market amongst the distant ones, none of these, and none of the numerous other smaller markets of the same nature, remain to England. They have found other sources of supply, and one looks at coal charters from British ports to such destinations as quite a rarity. With all this, England loses nothing; her exports have enormously increased, and those who can correctly gauge the quantity (really infinitesimal in comparison with England's resources) of coal carried by sea would not be surprised if in fact British exports doubled their present figure, or more, within quite a short time.

Colonial Coal Supplies.

Natal is now sending coal to India; India is sending coal to Aden, to the Straits, and elsewhere; Borneo is sending it, in small quantity, it is true, to places in its neighbourhood. So is New Caledonia; whilst New South Wales, out of its output of eight million tons, shipped two millions to China, the west coast of South America, the Cape, and other distant markets. Japan shipped a similar quantity, chiefly to China, Hongkong, the Philippines, and British India. Quite towards the end of last year a further development of Australian coal possibilities was announced this time from Western Australia. A good bunker coal from the Collie pits can be supplied at Fremantle and at Bunbury for, respectively, 17s. and 13s. per ton, but though the price is of course an important factor, it is not the principal one. The quality and analysis are stated to be good, the ash being 2½ per cent. less (no doubt in the total is meant) than is the case with Newcastle (New South Wales) coal. Mail steamers have already been served with it, and have been well satisfied. In default of adverse circumstances, the existence of which there is no cause to suspect, this source of supply is likely to turn out a most valuable one not only for the Australian lines from England and other countries, and the local lines which it seems to be the ambition of the Colonial Governments to foster, but also perhaps for the vessels of the Royal Navy in Australian and Southern Pacific waters. It must be added that it is claimed on behalf of the Collie coal that it is smokeless.

Indian Coal Trade.

The sea carriage of coal from Calcutta to other Indian ports and elsewhere has now long been a regular trade. During 1907 the freights have varied between Rs. 3-8 and Rs. 5-8 per ton to Bombay and Karachi. At the close of the year, all freights, except the Plate for spring shipment, have come rushing down, and in a manner to strike dismay into owners even after discounting the usual winter over-plus of tonnage and its usual consequences.

Other oversea coal routes are indicated, whilst old trades disappear. France, for instance, used to ship considerable quantities from the French Mediterranean ports to those of the Levant and Black Sea, a trade that has completely disappeared. The United States and Germany, with their enormous production, do what must relatively be called nothing in foreign markets, if we except the United States exports to Canada and the overland exports of Germany. England has practically the monopoly of coal exporting, except where the new sources of production interfere with it; and these are in outlying parts of the British Empire, with the exception of Japan.

Welsh Smokeless Coal.

The correspondent proceeds:—"We see nothing but good in these transfers. Whatever our Commission on Coal Supplies may have said, and whatever our coal experts may say, one cannot help feeling that, after all, there is some element of truth in the cry that we are parting with a natural and national asset in shipping away our Welsh smokeless; there is a limit to its quantity, and it cannot be replaced. Are we really getting value for it? This is a very serious question and not to be answered on hand-to-mouth commercial terms only. Our increasing shipments are indeed necessary if our ships are not to leave our ports in ballast, for we have nothing but coal with which to fill up so much big tonnage as exists. On the other hand, it is said that oil, electricity, and the factor of unknown and unexpected discoveries, and new food for the aching void of our big steamers' holds, put out of court attempts to estimate the future on the lines of present knowledge. To this we reply that if we think things out from the beginning we shall see that for the development of oil fuel, or electricity, or any at present conceivable mode of transport for fuel, or anything else, we still require machinery—that is, iron and steel; and for the production of iron we still absolutely require fuel; for the getting of fuel and its transport we still require iron again, and for that fuel again; so that we come back to the beginning, and put a spade or pick into the ground to get fuel and ironstone.

The Future.

"Therefore it would not seem likely that the demand for these prime necessities should cease,

EAST INDIA WOOL.

Figures for 1907.

REVIEWING the East India wool trade for the past year Messrs. Ronald and Rodger say that the main factors controlling the market have been the generally recognised absence of old stocks and a certain diffidence about the stability of the high level of value of the raw material, which have made the position of both dealers and users a very difficult one. Fine qualities from the Colonies and elsewhere have sold most steadily, and seeing that contracts for yarns and goods were made for a long time ahead, this seemed quite justified, but even these have dropped below the quotations of December, 1906, by 15 to 20 per cent., while the medium crossbreds are 20 to 25 per cent., and coarse grades 30 to 35 per cent. down. The **Woolen industries** in Europe have been kept busy, and spinners as a rule have had a satisfactory season; but the reaction started by the financial troubles in America was a surprising revelation of weakness, and opinions vary as to whether the present easy level of values is well assured. The home trade is fairly sound, if not particularly profitable, and carpets have been doing better on the whole, but the old-fashioned blanket and rug trades are much reduced in importance.

The falling off in the supply of East India Wool may have influenced shippers, but hardly to their advantage, as after the fractionally improved prices in spring, no stubbornness could avail to prevent the gradual subsequent shrinkage. A glance at any quotation list will give the result of the downward movement, and the extraordinary proportion of the offerings withdrawn at the various series shows the ineffectiveness of the struggle. Thus the new year is burdened with more old stock than has ever been seen hitherto, and probably much disappointment is in store for the shippers before it is realized. The warnings ventured upon from time to time about the danger of sending very dirty wools have been borne out by the irregular and often extremely low prices obtained for such in comparison with properly cared-for parcels. The imports of wool from Bombay and Karachi for the three years, beginning in each case with the arrivals after the final series rather than from January to December, as affording a better basis of comparison, have been as follows:—

	1906-1907.	1905-1906.	1904-1905.
From Nov. to Nov.	130,546 Bales	143,304 Bales	117,144 Bales

and the average of the imports for the ten years ending 1907 is 109,600 bales.

—**Waterproof glue** is manufactured of gum shellac, three parts, and indiarubber, one part, by weight, these constituents being dissolved in separate vessels in ether, free from alcohol, subject to a gentle heat. When thoroughly dissolved, the two solutions are mixed, and kept for some time in a vessel tightly sealed. This glue resists the action of water both hot and cold, as well as most acids and alkalis.

especially that for fuel, which is absolutely destroyed (we will not discuss by-products of combustion) when once used. From this one might argue further that the nation which possesses fuel and iron in abundance will excel other nations in commerce—subject, of course, to the still more important and higher human conditions. It must have brains to mix the blast-furnace materials; also courage and character to do its work with the products of the furnace. It is not likely that the carrying work of the world will become less. All the stuff that has been carried over the sea in ships since ships were built would make but a tiny island in a shallow sea. All the coal and ironstone ever mined would scarcely make a scratch on a decent-sized mountain; witness the old iron workings at Heraclea and elsewhere, or even the modern quarries of Cleveland. It is generally cheaper to bring ore to fuel than fuel to ore, and ore carrying is likely largely to take the place as food for ships now occupied by coal; it is already doing so. On the other hand, it is to a great extent work for nothing to carry English coal about the world whilst nearer fuel is available. It provides work for our steamers, it may be said; but it is profitless work in the end under such conditions, for mere work is not a benefit; we work in order not to work; it is well to get the result we want with as little work (in the every-day sense) as possible, not to create useless work. Man rises higher when he has little work than when he has much, or rather perhaps he is then able to do more work of other and better sorts than the mere providing for physical wants."

—By far the greatest amount of **antimony produced in the United States** from domestic ores is that contained in antimonial lead. For 1906 a production of 10,546 tons (of 2,000 lbs.) of antimonial lead, containing 1,362 tons of antimony was reported by the refineries of the country. It is estimated that about one-fourth of this was produced from foreign ores, so that the production from domestic ores was about 1,021 tons. This quantity was about half that produced in any one of the preceding five years, and was less than the trade requirements, so that metallic antimony was melted with lead to supply the demand.

—The **production of quicksilver in the United States** in 1906, according to the Geological Survey, was 26,238 flasks of 75 lb. each, valued at 958,634 dols., as compared with 30,451 flasks valued at 1,103,120 dols. in 1905, a decrease in quantity of 4,213 flasks, and in value of 144,486 dols. Of the total product, California furnished 20,310 flasks, valued at 730,808 dols.; Texas, 4,761 flasks, valued at 178,829 dols.; Utah, 1,164 flasks, valued at 48,888 dols.; and Oregon, 3 flasks, valued at 109 dols. The decrease was due to the falling off of more than 4,000 flasks in the output of the Californian mines.

THE SILVER SITUATION.

An American View.

A little over a year ago, says the *Journal of Commerce*, New York, of December 16th, 1907, the quotation of silver in this market (New York) was approaching 75 cents per ounce as against the quotation of 46 cents which had been reached when silver was at its lowest. In the last half dozen years the world's production of silver has varied but slightly, the annual maximum being about 180,000,000 ounces and the minimum 170,000,000 ounces. But up to the beginning of the year (1907) there has been a steady rise in price. The New York quotation of silver, which averaged 52½ cents in 1902, 53½ cents in 1903, 57½ cents in 1904, 60½ cents in 1905 and 66½ cents in 1906, obviously indicated a consumption running considerably ahead of the slightly increased production. It was evident that the amount of silver actually used in 1905 and 1906 had considerably exceeded the amount reported as being produced by the mines of the world. Among the sources of unrecorded supply must be noted the silver accumulated by the United States under the Sherman Act, and that accumulated by the German Government after the demonetization of silver in 1869 which had not been sold before the price fell below a dollar per ounce. But the first source was exhausted early last year and the German Government stock had been reduced to a vanishing point. The prospect for a still higher price of silver accordingly seemed so bright, and the requirements of the world were so confidently expected to keep on growing, that it was seriously argued that an equilibrium could be established only by having a smaller number of ounces represent in silver payment the same value that a larger number were then doing. That is to say, silver being chiefly in demand for shipment to India and the metal being used to pay the balance of trade due to India on account of its increasing exports of cotton, wheat and jute at constantly increasing prices, the same number of ounces would pay at \$1 an ounce thirty per cent. more of the balance due to India than would be the case were silver selling at 70 cents an ounce.

The Indian Demand.

To-day the situation is completely reversed. The Indian demand has suffered a serious interruption and stocks of silver are being piled up in depositaries from which a year ago they were notably absent. In the London market alone it is estimated that at least \$5,000,000 in silver is lying idle. For the ten months ending with October the silver shipments from England are \$9,000,000 less than they were for the same period of 1906. The shipments to India for the first ten months of this year are \$52,000,000 against \$67,000,000 for the same period of last year. The effects of this disturbance on prices may seem to be rather out of proportion to its magnitude. But it should be remembered that the figures nearly indicate the beginning of a movement

that is likely to last for some time. India is out of the market, without any near prospect of being able to enter it again. In other words, with the failure of the monsoon, came the certainty of a crop failure in India, and with it such a shrinkage of exports as was certain to change the immediate future of the silver market. Famine impends over a considerable section of the Peninsula of Hindustan, and a famine commission is said to be already in course of organization. There remains the demand for silver of the Indian bazars, chiefly for use in the arts, but this, though considerable of itself, is relatively of minor importance. The purchases of the United States Government during the year have been on a fairly liberal scale and are likely to continue well into next year. About one-third of the silver produced in this country is used for purposes of manufacturing, and that remains a fairly stable source of consumption. That is to say, it accounts for about 20,000,000 ounces of our total production of sixty million. China occupies an important place as a silver-using country, but happens to possess at present a redundant stock of the white metal and no relief for a congested market is to be expected from that quarter.

The Future of Silver.

These are the hard facts of the situation and they throw a very instructive light on the danger of sanguine generalization in regard to the future of silver. A year ago there seemed to be abundant ground for confidence on this subject, and it was entirely true then that the demand for silver, in other directions than India, was an imperative and gradually increasing one due to the increased population and wealth of the world. It seemed equally certain that supplies are likely to decrease rather than increase, even taking into account a considerable increase in production from the mines of the world. It was thus apparently reasonable to conclude that the world must reckon with a virtually stationary annual product of the white metal and a steadily increasing demand for it. Thus the deduction was made that a further appreciation of price was almost inevitable until the equilibrium should again become established by reaching a balance of exchange values with the amount of merchandise to be paid for in this way. The temporary closing of the Indian demand has made all these expectations appear extremely foolish, and has illustrated for the hundredth time the folly of attempting to base monetary values on silver. In 1905 India took 84,000,000 ounces of silver, leaving about 100,000,000 ounces for the rest of the world. Other markets may continue unimpaired, but it is tolerably clear that the price of the white metal must primarily depend on whether the surplus of production above 100,000,000 ounces is required to pay for the Indian exports which are not balanced by other classes of imports. With the shutting down of at least half the exports, the Indian demand for silver is obviously in danger of being closed altogether.

THE CRUDE RUBBER INDUSTRY.

Slump in Prices.

The crude rubber imported by the United States during 1907 amounted to 34,375 tons, as compared with 25,780 tons in 1906. In 1897 that country's imports amounted to 15,848 tons.

In a review of the crude rubber market recently published by the *India-Rubber World*, the following figures are given regarding the rubber production from the *Hevea* species in the Amazon region:—

	Tons.
Year ending 30th June, 1903	29,850
Year ending 30th June, 1904	30,580
Year ending 30th June, 1905	33,060
Year ending 30th June, 1906	34,490
Year ending 30th June, 1907	38,005

During the first part of the period here reviewed the yearly increase in the Para rubber output was taken up by the industry either in the manufacture of goods or for increasing factory stores. The heavy increase of 10 per cent. in production last year, however, has resulted in an unusual surplus of rubber which is reflected in lower prices, manufacturers not caring to tie up more capital in raw material, especially in these days of financial stringency. Other factors mentioned as tending towards the fall in price are the 500 tons or so of plantation rubber shipped from Ceylon and the Malay States, and the new guayule rubber of Mexico, the production of which was lately estimated at 1,000,000 lbs. a month. To sum up, says the writer of the article, we have more rubber from the Amazon, the new plantation rubber and guayule rubber all coming at a time when the aggregate demand is less pressing; following all of which the American panic has tended to check consumption of commodities of every kind. Hence the writer believes that lower prices certainly are to rule for some months to come. As regards the future, however, he says that, though it is never safe to predict what rubber prices will be, rubber manufacturers probably will not base their plans for future business upon a basis of rubber at less than Rs. 3-2 per lb.

TRADE PROGRESS IN CHINA.

Industries to be Established.

An Imperial Decree was recently issued in China concerning the promotion of all descriptions of industrial works in that vast Empire. The Viceroy and Governors have been instructed to pay special attention to devising ways and means to induce well-to-do Chinese merchants and others to invest money for the improvement of agricultural, industrial, railway, and mining enterprises, either individually or by forming joint-stock companies. The Central Government will bestow large rewards on those who succeed in promoting any industrial enterprises, and the provincial authorities are warned to carry out these instructions carefully, and they will be punished

for disobedience. The Board of Agriculture Industry and Commerce in Peking has been ordered to draw up some regulations as to how to improve Chinese industrial companies in the Empire.

The improvement of trade being of the utmost importance for the enrichment of China at the present time, the Board of Commerce, Works and Agriculture has issued circulars to the various Viceroys and Governors, advising them to instruct the chambers of commerce and those who are responsible to devise means to promote Chinese commerce and industrial works within their respective provinces, and that the Government is always ready to assist those who are in need of aid. The chambers of commerce have been advised to establish commercial schools for the training of young Chinese on modern commercial lines.

It is reported from Kirin that there are twelve subjects which will have to be investigated without delay by the Governor of Heilung-kiang, namely:—(1) The condition and extent of agriculture and the nature of the products of the field; (2) condition of the mountainous districts and the nature and extent of the forests; (3) the state of pasturage on the Government and private land and the number and varieties of the animals kept at pasture; (4) the annual increase of the flocks and herds; (5) statistics of hides and horns produced; (6) the state of fisheries; (7) conditions and statistics relating to the salt industry; (8) particulars regarding the number, equipment and training of the Mongolian troops serving in the country; (9) statistics relating to schools, numbers of students, courses of study, etc.; (10) native post offices; (11) description of the boundaries of the provinces; and (12) description of the business centres.

NEW REFERENCE BOOKS.

THE IMPERIAL TARIFF FOR 1908.

Containing the Laws and Regulations Governing the Importation and Warehousing as well as the Exportation and Transhipment of all Kinds of Merchandise. Forty-first Year. By T. E. O'REILLY. 6½ x 4, 794 pp.

Eyre and Spottiswoode.

SELECTED READINGS IN ECONOMICS.

By C. J. BULLOCK. 8½ x 5½, 705 pp. . . . 10s. 6d.

[An American work—one of a series called "Selections and Documents in Economics," edited by the Professor of Economics at Harvard (Dr. W. Z. RIPLEY).]

THE FACTORY AND SHOP ACTS OF THE BRITISH DOMINIONS.

A Handbook compiled by Miss VIOLET R. MARKHAM; together with a General View of the English Law; and a preface by Mrs. H. J. TENANT. 7½ x 4½, 173 pp. . . . 2s. 6d. net

Eyre and Spottiswoode.

RAILWAYS.

(Illustrated.) A Journal for Railway Men of all Grades and for all interested in Railways. Volume I, No. 1, 10 pp. . . . 1d.

The Graphic Office.

JOINT STOCK COMPANIES.

Number and particulars of Joint Stock Companies registered in each Province in British India in the month of December, 1907.

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL.	
				Nominal.	Paid-up.
				Rs.	Rs.
I.—BANKING, LOAN AND INSURANCE.					
<i>(a) Banking and Loan.</i>					
1	Dharapuram Janopakaram Nidhi	Coimbatore, Madras	Money lending (mutual)	1,00,000	5,651
2	Bhuvanagiri Hindu Sasvatha Nidhi	South Arcot, Madras	" "	99,990	...
	Total, Banking and Loan	.....	.....	1,99,990	5,651
<i>(b) Insurance.</i>					
3	Sri Vinayaka Life Assurance Co.	Vizagapatam, Madras	Life Assurance	10,000	375
	Total, Banking, Loan and Insurance	.....	.....	2,09,990	6,026
II.—TRADING.					
4	Mower Cotterell and Co.	Rangoon, Burma	General trading and dealing in piece-goods.	4,00,000	...
5	Burma Motor Transport Co.	Moulmein "	Business of Motor car service between Moulmein and Mudon.	1,50,000	...
6	Tamluk Trading and Manufacturing Co.	Bengal	Trading and manufacturing indigenous goods.	1,00,000	...
7	Indian Motors	"	Business of Motor car manufacturers and importers and Omnibus and Van proprietors.	1,00,000	...
8	Bombay Agricultural Live Stock Co.	Bombay	Dealing in cattle, food for cattle, etc.	1,00,000	...
9	Central Provinces Iron Works and General Trading Co.	Nagpur, C. P.	Establishment and working of a mechanical and engineering workshop.	1,00,000	...
10	National Industrial and Trading Co.	Godavari, Madras	Dealing in Swadesi goods and Commission Agency.	10,000	...
11	Sri Bhuvaneswari Vilasa Industrial Co.	Tanjore	Encouragement of Indian manufactures and Industries.	20,000	...
	Total, Trading	.....	.....	9,80,000	...
III.—MINING AND QUARRYING.					
<i>(a) Coal.</i>					
12	Oriental Coal Co.	Bengal	Mining Coal	5,50,000	...
13	Budrachuck Coal Mining Co.	"	" "	5,00,000	...
14	Sendra Coal Co.	"	" "	8,00,000	...
15	Shunga Mahal Collieries	"	" "	4,50,000	...
16	Bokaro and Ramgur	"	" "	16,00,000	...
17	Chelode Coal Co.	"	" "	4,50,000	...
	Total, Coal	.....	.....	43,50,000	...
<i>(b) Others.</i>					
18	Burma Investments	Rangoon, Burma	Dealing and refining Petroleum.	75,00,000	...
	Total, Mining and Quarrying	.....	.....	1,18,50,000	...

JOINT STOCK COMPANIES—contd.

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL.	
				Nominal.	Paid-up.
	IV.—LAND AND BUILDING.				
19	Windermere Land Co. . . .	Rangoon, Burma .	Acquiring and purchasing land.	2,25,000	...
	V.—ICE MANUFACTURE.				
20	Distillery Ice and Aerated Water Co. .	„ „ .	Manufacturing Ice and Aerated water,	2,60,000	...
	GRAND TOTAL .			1,35,24,990	6,026

ABSTRACT TABLE OF COMPANIES REGISTERED IN THE MONTH OF DECEMBER, 1907.

	Capital (Rs.)	
	Nominal.	Paid-up.
2 Banking and Loan Companies	1,99,990	5,651
1 Insurance Company	10,000	375
8 Trading Companies	9,80,000	...
6 Coal Mining Companies	43,50,000	...
1 Petroleum Company	75,00,000	...
1 Land and Building Company	2,25,000	...
1 Ice Manufacturing Company	2,60,000	...
20	TOTAL	1,35,24,990 6,026

—Reporting on the intended formation of a **German aniline trust**, H. M. Consul-General at Hamburg states that three important aniline companies, viz., the Badische Aniline and Soda Factory of Ludwigshafen, the Farbenfabriken, Friedrich Bayer & Co., of Elberfeld, and the Aniline Works of Treptow, near Berlin, concluded an agreement for a term of 50 years from January 1st, 1905, which put an end to any competition between them, while it safeguarded to each its own special organisation, but rendered all three companies jointly responsible to all outsiders. A council of delegates from the three companies was formed, which had to take into consideration all important questions affecting their joint interests. The profits of the three works were divided in the following proportions, viz.:—43 per cent. each to the Ludwigshafen and the Elberfeld works, and 14 per cent. to the Treptow works. In view of the very extensive sphere of operations and the increasing business of these three important chemical companies, it was generally felt that the condition under which their agreement had been formed in 1905 would, most probably, soon experience a further development, and that a still closer connection would be established between them within a short time. It appears now that this is about to be done, and it is the new form of combine upon which the three companies are about to enter that is called by the public the "German Aniline Trust." The precise form, however, which the new concern will take is not yet known.

—Although **bismuth** is not a metal which has been discovered in payable quantities and quality in **Mexico**, a property has been located at Guanajuato which is considered very hopeful, and other discoveries that have recently been made point to more or less extensive deposits.

—The **production of antimony in Japan** is steadily decreasing. In 1896 1,300 tons, valued at \$115,000, were produced, but in 1905 the output was less than 300 tons, valued at \$45,000. In former years antimony ores were imported chiefly from China, refined in Japan, and then re-exported to China. The figures for 1906 are \$57,680 for imports and \$102,680 for exports.

—H. M. Commercial Attaché at Yokohama (Mr. E. F. Crowe) reports an announcement in the *Japanese Official Gazette* to the effect that the actual amount of the **Japanese barley crop** in 1907 was 22,167,486 koku (koku=4,962 bushels), showing an increase of 1,802,051 koku, or 8.8 per cent. on that of the previous year, and an increase of 2,654,012 koku, or 13.6 per cent. as compared with the crop of an average year. The crop is an unprecedentedly large one, and is 1,800,000 koku more than the estimate published in June last.

WEEKLY TRADE MOVEMENTS.

For the week ending 1st February, 1908.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta, lbs.	670,661
Imports by sea into	Bombay "	169,931
	Madras "	197,280
Indian—	Calcutta "	389,711
Exports by sea from	Bombay "	5,534,166
	Madras "	1,516

Grey Piece Goods.

Imports by sea from	Calcutta, yds.	6,830,571
Foreign ports into	Bombay "	3,037,459
	Karachi "	150,948
	Madras "	2,502,583
	Rangoon "	82,180

White Piece Goods.

Imports by sea from	Calcutta, yds.	1,928,656
Foreign ports into	Bombay "	3,744,181
	Karachi "	915,638
	Madras "	1,094,236
	Rangoon "	468,707

Other Piece Goods.

Imports by sea from	Calcutta, yds.	1,257,916
Foreign ports into	Bombay "	3,668,250
	Karachi "	603,904
	Madras "	2,291,553
	Rangoon "	435,601

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	22,954
	Bombay "	4,007
	Karachi "	12,929
	Madras "	6,080

Raw Cotton.

Imports into Bombay	By sea cwt.	8,313
	Coastwise "	23,302
	By rail "	286,826
Imports into Karachi by rail		59,505
Imports into Calcutta by rail and river		18,908

JUTE.

Arrivals by all routes in	Calcutta, cwt.	375,083
Exports by sea from	Gunny bags, No.	7,914,090
	Calcutta " cloth, yds.	10,193,950
	Jute, cwt.	288,548
	Chittagong—Jute "	...

TEA.

Arrivals by all routes in	Calcutta, lbs.	1,212,945
Exports by sea from	Calcutta "	1,900,094
	Chittagong "	...

WHEAT.

Imports into	Calcutta by rail and river, cwt.	18,869
	Karachi by rail "	83
	Bombay " By sea "	7,051
	" Coastwise "	50,672
	" By rail "	3,082
Exports by sea from	Calcutta "	7
	Bombay "	799
	Karachi "	32,572

RICE.

Arrivals by all routes in	Calcutta, cwt.	538,318
	Calcutta "	73,503
	Chittagong "	...
Exports by sea from	Bombay "	11,467
	Karachi "	3,099
	Madras "	...
	Rangoon "	740,350

LINSEED.

Imports into	Calcutta by rail and river, cwt.	8,392
	Bombay " By sea "	230
	" Coastwise "	...
	" By rail "	1,423
	Karachi by rail "	...
Exports by sea from	Calcutta "	11,013
	Bombay "	22,986
	Karachi "	...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river, cwt.	7,225
	Bombay " By sea "	1,014
	" Coastwise "	217
	" By rail "	65,311
	Karachi by rail "	54
Exports by sea from	Calcutta "	21
	Bombay "	111,057
	Karachi "	...

COTTON SEED.

Exports by sea from Bombay, cwt.	24,569
----------------------------------	--------

* B. B. & C. I. Ry. figures only.

KEROSENE OIL, WEEK ENDING 1st FEBRUARY, 1908.

Imports by sea into—	FROM			TOTAL.
	Russia.	America.	All other foreign countries.	
	galls.	galls.	galls.	galls.
Calcutta	...	124,064	891,564	1,015,628
Bombay	...	18,102	...	18,102
Karachi	...	...	...	...
Madras	...	45,100	...	45,100
			Bengal	9,0480
			E. B. & Assam	...
			Bombay	...
			Sind	...
			Madras	...
			Indian Ports, Non-Br.	...
			Foreign Ports	...
Exports by sea from Burma to				...

IMPORTS OF SUGAR, WEEK ENDING 1st FEBRUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	80	...	51	4	24	32	191
Germany	...	...	...	...	500	...	500
Austria-Hungary	...	...	9,960	...	...	...	9,960
Other European Countries	...	...	55	...	...	...	55
Java	12,495	...	20,930	84,998	...	1,736	120,109
Mauritius	...	...	143,096	...	...	...	43,096
Other Non-European Countries	...	...	1,788	...	...	...	1,788
						Total refined	175,699
						Total unrefined	9,947
						Grand Total, cwt.	185,646

OIL vs. STEAM ENGINES.

A Peculiar Situation.

At a recent meeting the Works Special Committee of the Calcutta Corporation considered the Chief Engineer's proposal for substituting high duty Worthington pump for the Diesel engine and centrifugal pump ordered for the Pulta pumping station.

The Chief Engineer's proposal is as follows:—

"For some time past I have been in communication with all the crude oil-producing companies in order to find out what price per ton they would enter into a contract for the supply of a considerable amount of crude oil in view of the probability of the large number of Diesel engines being erected in connection with the improvement of the water supply. The result of this has been that no company will quote for such oil, except the Asiatic Petroleum Company. Their quotation for a five years' contract is Rs. 41 (£2-14-8) per ton delivered at Tallah and at Pulta, which are the two stations where fuel will be required in the future. Our present price for crude oil is Rs. 33 (£2-4-0) per ton, delivered at Wellington Square, and this contract does not expire until the end of March, 1909. I have made very careful enquiries, so far as I was able, and my belief is that up to the present no great demand for crude oil exists in Calcutta or its neighbourhood, and I was therefore all the more astonished that the Company should raise the price almost 25 per cent. The local agents here inform me that it is not their fault, and that they have pointed out the folly of doing this to the Board of Directors, who sit in London. But they (the Directors) seem to be altogether against entering into any more contracts for any considerable time at a lower figure, and I am informed that this same figure has been quoted to several jute mills which contemplate putting in Diesel engines in place of their present steam plant.

"In view of the above facts, it struck me that if they raised the price of the oil so much at present when there is practically very little demand for it, there is no knowing what price they may not ask after we had installed the whole of the proposed Diesel engines, and in consequence, I took it upon myself

to order Messrs. James Simpson and Company not to send on to London the order for the 400 H. P. Diesel engine and centrifugal pump for Pulta until they hear further from me.

"As I have failed to get a low quotation, I naturally turned to some other source of power and at present by far the most efficient steam engine for pumping work is without doubt the high duty Worthington pump. Messrs. James Simpson and Company will supply such a pump, together with boilers, economisers, and chimney stack, for the same money as they tendered for the Diesel engine and centrifugal pump and they will, moreover, guarantee that this engine will work on a steam consumption of 11½ lbs. per pump horse power per hour. Turning this into cost per day to run the engine, I find that with coal at Rs. 10 per ton, which is considerably more than what we are now paying, it will cost Rs. 80 per day to pump 40 million gallons of water from Pulta to Tallah; and to pump a slightly less quantity of water with a 400 b. h.p. Diesel engine and centrifugal pump it would cost Rs. 82 per day for fuel with crude oil at Rs. 41 per ton. This shows that with crude oil at Rs. 41 per ton the Diesel engine will still be able to compete with our present pumping plant all over Calcutta, but it would not be able to compete with a high duty Worthington pump, of which at present there are none in Calcutta and of the efficiency and durability of which there need be no doubt, as it is doing continuous work in many places all over the world. In view of the above facts, I think that this question ought to be placed before the Corporation and Government in order to get their sanction to substitute the Worthington high duty pump for the Diesel engine and centrifugal pump, which has already been sanctioned, and I have no doubt that doing this will show the oil-producing people that we are not altogether in their hands. Furthermore, I trust that the Works Committee and the Corporation will approve of my action in holding back the order for the present."

The Committee agreed with the Chief Engineer's recommendations.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-S. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-S. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

Notes on Sugar in India. R1-S. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
- Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
- Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambay & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoo, Bombay.
Sundur Pandurang, Bombay.
V. Kalyanaram Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair, Kannu Hind Press, Allahabad.
- Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0
FOR LESS THAN 3 MONTHS:—	
To Subscribers	per copy 8 0
To Non-Subscribers	" 10 0
POSTAGE:—	
Abroad	per copy per annum 5 0
In India	" 2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 1 0
To Non-Subscribers	" 2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0
For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.	

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,

STANDARD BUILDINGS,

Dalhousie Square,

CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to

J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E. LONDON, ENGLAND.

MARTIN & CO.*Engineers and Contractors**Architects and Builders,*

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO.'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. **C. I. COLUMNS**

*Light Railway Material of every Description.***MARTIN & CO.**

6 AND 7 CLIVE STREET,
CALCUTTA.

B. MURATTI, Sons & Co.
(LIMITED).

MANCHESTER, LONDON, BERLIN, BRUSSELS, PARIS & CONSTANTINOPLE.

Purveyors to the French Regie and Several Other
European Government Monopolies.

THE PIONEERS OF TURKISH CIGARETTES IN EUROPE.

MANUFACTURERS OF THE WORLD-RENOWNED CIGARETTES

ARISTON & NEB-KA.

For price lists and particulars apply direct to—

B. MURATTI, Sons & Co., Ltd., Manchester, England.

HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE

WARING & GILLOW, Ltd.*Decorative Artists to H. M. the King*

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's
Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS,
COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct,
164-180, Oxford Street, London.

DELICIOUS **COFFEE**
RED
WHITE
& **BLUE**

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE NO. 132.



THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

G. W. MUNT & SONS,
WHOLESALE

BOX MANUFACTURERS
(EVERY DESCRIPTION),
LONDON,
ENGLAND.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of
Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address: CUNNINGHAM, LEITH. Reference: BANK OF SCOTLAND, EDINBURGH

AHMUTY & CO.
CALCUTTA.
Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.
PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment to HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'

'SAFETY' HORSE NAILS
CONCAVE INSIDE
CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
Extract from Mr. SKRATHEN'S Eminent Report:-

'I have nothing to say but unqualified praise. I think the nail is much siffer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'

Japanese Army use exclusively.

SHOE
TIS CRUEL TO MAKE THE HORSE STAND ON SLIPPERY ROADS WITH NAIL PRESSURES
FRONT SECTION OF HORSE CUT AT HEEL NAIL
KNIGHT'S SAFETY NAILS REQUIRE NO CURVING TO DRIVE, NOTCHING TO CLINCH, NEVER GET LOOSE
COMPANIES SELLERS OF HORSE NAILS EVERY DAY WITH SHOE IS CARRIED CONCERN

London and EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.
Telegrams: HORSEMAIL LONDON Telephone: No. 5018 C-2-11

LITTLE'S "PHENYLE" DISINFECTANT

The best & most powerful for all purposes.

THE MOST EFFECTIVE AND SAFEST DISINFECTANT
FOR THE BUBONIC PLAGUE.

ADOPTED BY THE INDIAN GOVERNMENT.

Cheap, economical, harmless and effective. A liberal use of this preparation prevents and arrests contagion in cases of Fever, Cholera, Scarlatina, and kindred infectious diseases. Pronounced by an expert Committee (appointed by the U.S.A. Government) to be the BEST DISINFECTANT.

REFUSE IMITATIONS.

The Proprietors hereby give notice that action will immediately be taken against all infringements of "Phenyle."

Manufacturers and Proprietors:

MORRIS, LITTLE & SON, LTD., DONCASTER, ENGLAND.

Agents for Bengal Presidency:

M. M. FRASER & Co., 59, BENTINCK STREET, CALCUTTA.

Sole Agent for Sindh, Punjab, and N.W. Provinces:

MR. MUNCHERJEE MANECKJEE, MULTAN, LAHORE, ALLAHABAD
AND RAWALPINDI.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
in Gelatine.

Beechwood Brand awarded 4 Gold Medals
and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

"CHARLTON"

SILICATE PAINT

Registered Patentees:

THE SILICATE PAINT Co.,
J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

Silicate Paint is unexcelled for:

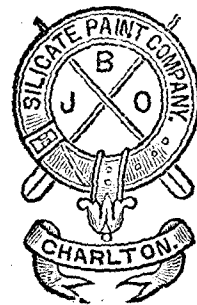
BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,

and for all
GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.

Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo

Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

CHEAPEST PAINT IN THE WORLD FOR ALL PURPOSES.
use by the Largest Steamship Companies, Railway Companies and Gas Companies

THOMPSON'S "EMISSARY" ELASTIC NON-POISONOUS PAINTS.

One cwt. "Emissary" will cover 8,500 superficial feet, while one cwt. of red or white lead will only cover 1,500 superficial feet, the results being in favour of the "Emissary" Paints: (a) BY MORE PERFECT PROTECTION; (b) FOR A MUCH LONGER PERIOD OF TIME; (c) AT LESS THAN ONE-THIRD OF THE COST.

It is the only absolutely Elastic Paint on the Market, as it will contract and expand in the same proportion as iron, from below the freezing point up to beyond 700 deg. Fah. It is absolutely non-corrosive. Metal that is thoroughly covered can never corrode, as the paint goes into the metal and not like ordinary paint simply remaining on the surface.

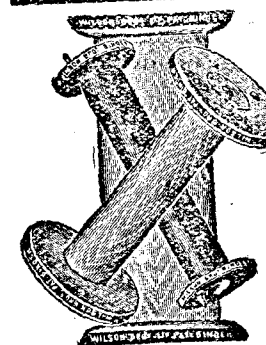
Marine Superintendents of some of the largest liners, Engineers, etc., say it is the best Paint they know of.

TRY IT AND YOU WILL SAY SO.

SOLE EXPORT AGENT FOR INDIA, BURMAH & CEYLON—

H. I. ROBERTS, M.I.Mech. E., 42, Castle Street, LIVERPOOL.

Agents in Calcutta Messrs. KINMOND & CO.
Bombay Agents: KINMOND & Co.



WILSON BROS. BOBBIN Co., LTD.

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORTON. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: N. WADIA & SONS,

BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

RELIABLE
QUALITY
ONLY.

PADMORE
BILLIARD TABLES

Over
70 Years'
Reputation.

Carry a 10 years' Warranty and hold the premier position for

STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941

BARLOW & Co.

Import and Export Merchants

and

Commission Agents

Agents:

United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd.

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

THE LARGEST SAW MILLS AND CARPENTER'S SHOP IN UPPER INDIA.

Door Frames, Doors, and
Windows, Ornamental
Woodwork and Camp Furniture.

Wheelwright's work a speciality.

THE EMPIRE ENGINEERING CO., LTD.

Apply for Prices and Catalogue.

Boxes, Pegs, Handles, and all kinds of Woodwork.

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypes,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO.,

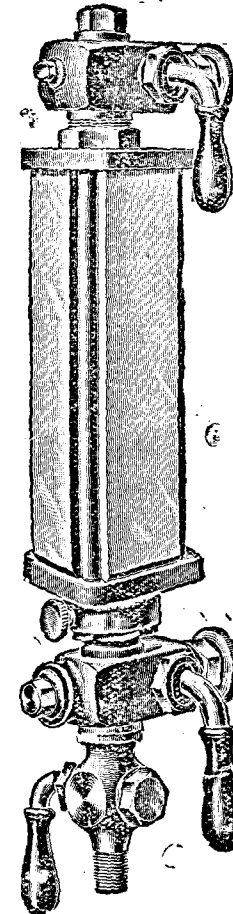
ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities.—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS

Before placing your orders please write us for quotations.

12, MISSION ROW, CALCUTTA.

Showing Protector in Position.



Gauge Glass Protector.

"EUREKA"

GAUGE GLASSES

ESTABLISHED 1853.

MAKERS OF THE NEW GAUGE GLASSES

"S.H.P."

FOR SPECIAL HIGH-PRESSURE BOILERS.

SEND FOR CIRCULARS AND TESTIMONIALS.

JOSEPH TOMEY & SONS, LD

GLASS TUBE WORKS,

Catherine Street, Aston, BIRMINGHAM.

LONDON WAREHOUSE AND SHOWROOMS—98, HATTON GARDEN, E.C.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments.

THE WOODITE COMPANY,

MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement
Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 144 to 14 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,
TOBACCO TRADE ENGINEERS,
33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,
CIGARETTE SPECIALISTS,
35, ENDELL STREET, LONDON, W.C.
MALCAJIK CIGARETTES.

TURKISH GRADES.

De Luxe. Special. Princessas.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO

MALCAJIK VIRGINIA ROYAL CIGARETTES.

Made of the very choicest Bright Virginia Tobacco.

AND

MALCAJIK PIPE MIXTURE:

A revelation to lovers of a good Pipe Mixture. The finest ever made.

AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

Orders through English Merchants.

JOHN PIGGOTT, Ltd.

MOTOR CLOTHING
MANUFACTURERS.

ILLUSTRATED LIST

Free on application to—

Advertisement Department, Reuter's Agency,

BOMBAY, CALCUTTA, MADRAS,
KARACHI, COLOMBO or RANGOON.

[Please mention this Advertisement.]

117 & 118, CHEAPSIDE & MILK STREET,
LONDON, E.C.

**CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.**

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

Bangkok.	Colombo.	Ipoh (Perak Feder-	Madras.	Penang.
Batavia.	Foochow.	ated Malay States).	Manila.	Rangoon.
Bombay.	Hamburg.	Karachi.	Medan (Deli	Saigon.
Calcutta.	Hankow.	Kobe.	Sumatra).	Shanghai.
Cebu.	Hong-Kong.	Kwala Lumpur.	New York.	Singapore.
	Sourabaya.	Thaiping.	Tientsin.	Yokohama.

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
6, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS,

in Calcutta.

AIR COMPRESSORS,

Large Stocks held

WATER METERS,

in Calcutta.

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



"Pelican" and
"Chin-Chin"



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1½-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

GÜNTHER WAGNER,

Sole Manufacturer,
MILTON STREET, LONDON, E.C.,



ST
ERMINS
HOTEL

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. (Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Special Appointment to

 Established over 200 years.

Telegrams:—"Firmin, London."
 Works:—Birmingham, Halesowen, London.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD,

Contractors to the Admiralty, War Office, India Office, Post Office,
 also the Crown Agents for the Colonies,
 Foreign Governments, etc.

Manufacturers of every description of
**Buttons, Ornaments,
 Accoutrements, Gold and Silver
 Lace, and Embroidery**

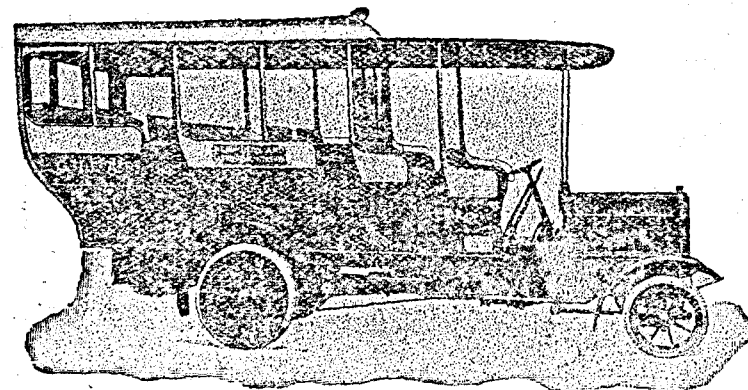
FOR PARTICULARS
 APPLY TO
 ADVERTISEMENT
 DEPARTMENT,
 REUTER'S AGENCY,
 AT THEIR
 SEVERAL
 BRANCHES.

CALCUTTA,
 BOMBAY,
 MADRAS,
 COLOMBO,
 RANGOON,
 KARACHI.

for
 Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.
 Woollen & Trimming Warehousemen.
 108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



GREAT WESTERN CHARABANC.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

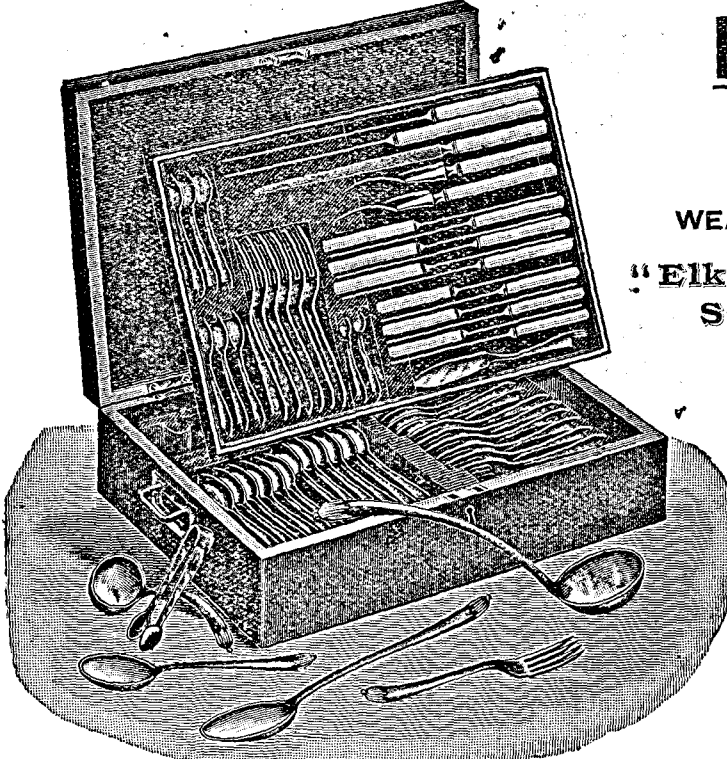
Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

- Motor Lorries,
 „ Vans,
 „ Wagons,
 „ Tower Wagons,
 „ Mail Vans,
 „ Omnibuses,
 „ Charabanc,
 „ Waggonettes,
 „ Launches, &c.

ELKINGTON PLATE

WEARS FOR FIFTY YEARS.
 "Elkington" Quality!
STILL THE BEST!
 CATALOGUES FREE.



ELKINGTON & CO., LD.,
 22, REGENT STREET, LONDON, S.W.
 73, CHEAPSIDE, LONDON, E.C.
 MANUFACTORY AND SHOWROOMS—
 NEWHALL STREET, BIRMINGHAM.
 LIVERPOOL—27-29, LORD ST.
 MANCHESTER—ST. ANN'S SQUARE.
 GLASGOW—84, ST. VINCENT ST.
 NEWCASTLE—32-34, NORTHUMBERLAND ST.
 CANADIAN AGENTS—A. T. WILEY & CO.,
 MONTREAL.
 CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS
 B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best.

HALLITE-DOUGLAS,

LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
 War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
 and Motor Washers, "Hallite" Flexible Fibre
 Washers (for Water Joints).

"DOUGLAS" GRAPHITE SPECIALITIES.

Flake Graphite, Graphite Paint, Graphite
 Grease, Galvanizing Paint, Motor Lubricating
 Oils and Greases.

AGENTS WANTED: INDIA, FAR EAST & COLONIES.

Catalogues can be obtained from
 Advertisement Department, Reuter's Agency,
 BOMBAY, CALCUTTA, MADRAS, KARACHI:
 COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

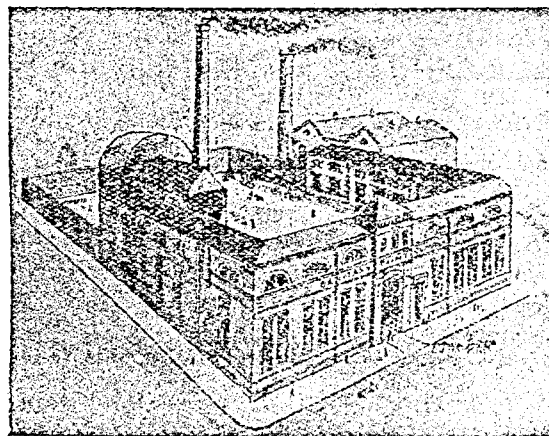
THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints" was received from the Calcutta Exhibition in 1884,



and is the guarantee of the excellence of our Manufactures.

This certificate is, and always has been, in the possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.

Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—
Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINC WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

They will serve you well, and we are confident they will do their best to please you.

THE GRATZE

IMPROVED PLANT AND PASTE ACCUMULATORS:—

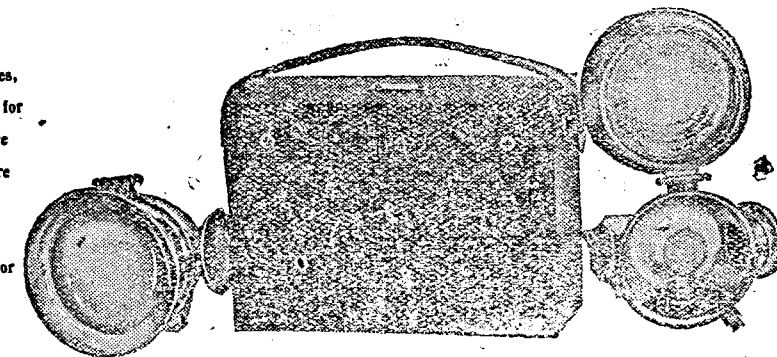
BRITISH MANUFACTURE THROUGHOUT.

FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.

Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratz Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES. ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS, LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to
HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING
SAFE & LOCK MAKERS NEAR GAS WORKS PAREL BOMBAY.

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE,

Bombay, 12th September 1905

Messrs. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al, Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

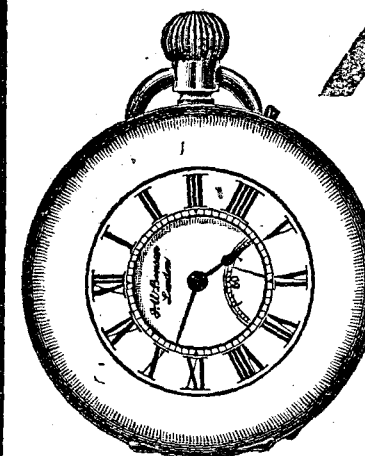
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



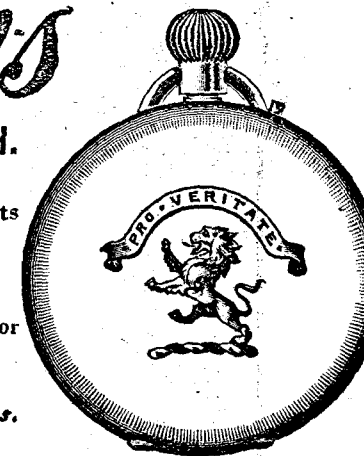
Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adv.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING Co., LTD.,

DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.



HARRIS & SHELDON LTD.

PIONEERS OF SHOPFITTING

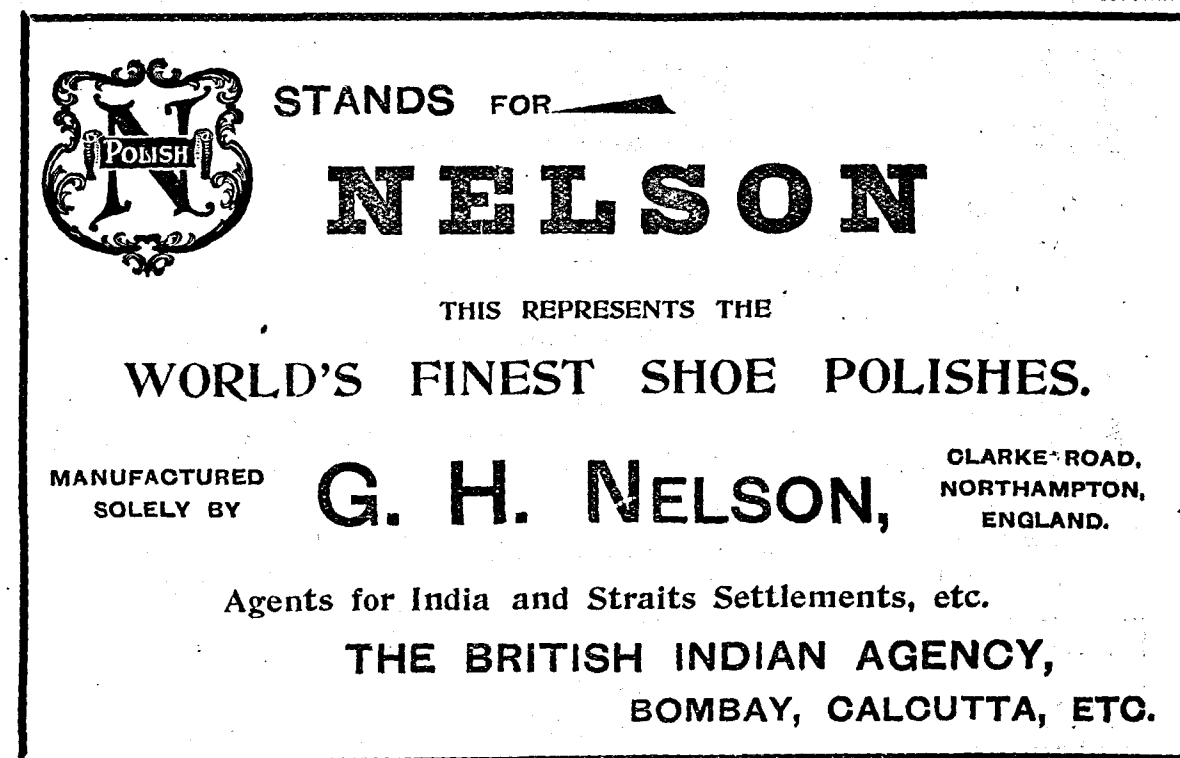
WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, MANCHESTER, DUBLIN, GLASGOW, QUEEN ST.

DEPOTS: CAPE TOWN, JOHANNESBURG, BERLIN, KRAUSENSTRASSE 40.

TELEPHONE 462-3



STANDS FOR **NELSON**

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

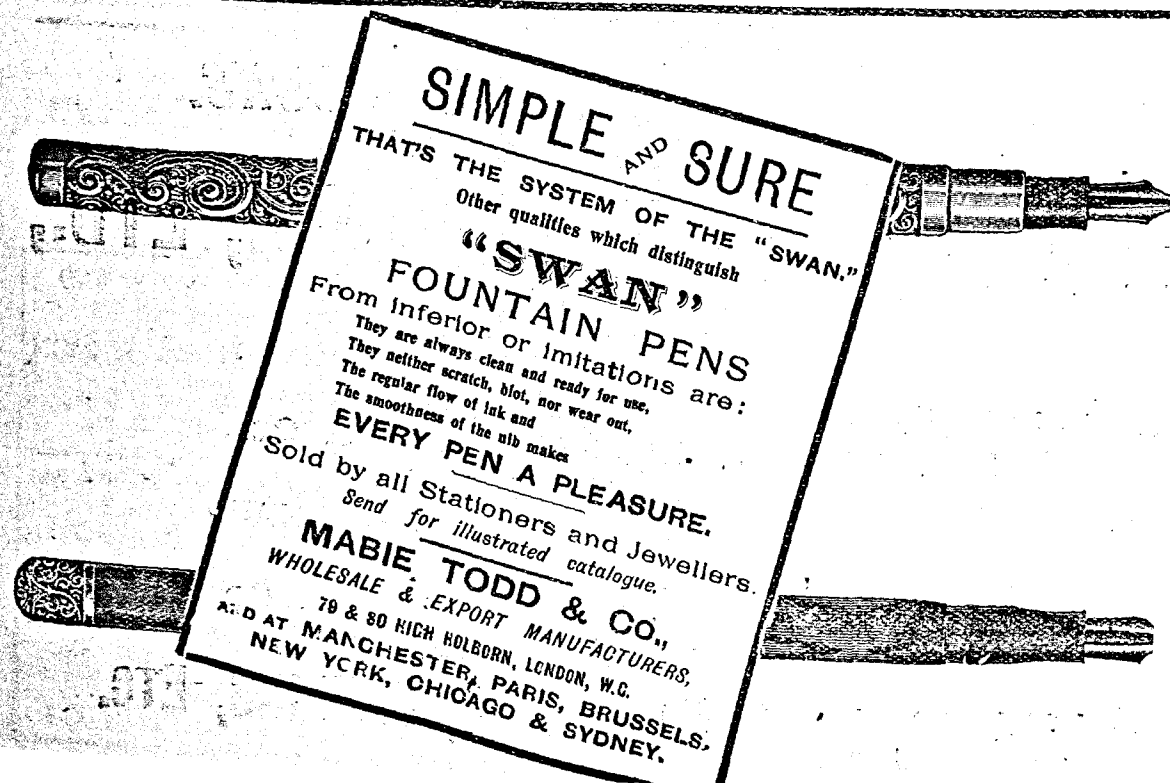
Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY ARTIFICIAL STONE WITH AN ESTABLISHED REPUTATION OF 25 YEARS.	EXCLUSIVELY USED BY THE P. W. D., PORT COMMISSIONERS, MUNICIPALITIES, RAILWAYS, JUTE AND COTTON MILL COMPANIES.	FOR DURABILITY AND FOR BEING SANITARY, DAMP, VERMIN AND FIRE PROOF.
--	--	--

The Floor PAR EXCELLENCE for Dwelling Houses, Footpaths, Godowns, Coach Houses, Stables, Mills and Factories.

For illustrated sheet, particulars, estimates and prices for plain and ornamental flooring laid IN SITU or in tiles and for copies of testimonials, analysis and tests,

Apply to— **BIRD & Co.,** MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
101-1, Clive Street, CALCUTTA.



SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use.

They neither scratch, blot, nor wear out.

The regular flow of ink and

The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.

Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.

E. T. MARLER



TRADE MARK

LION BRAND

PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

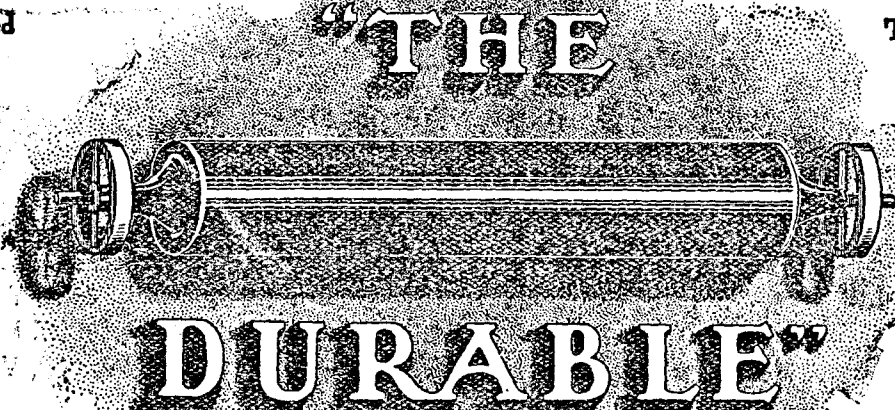
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:
"DURABLE-
ROLLERS."
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE
"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

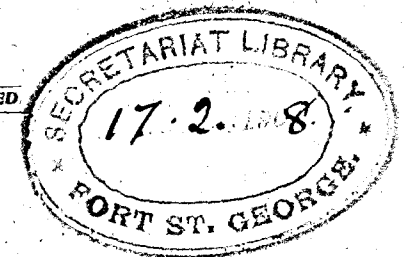
Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

PUBLISHED WEEKLY.



REGISTERED



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department
of India.*

VOL. VIII. No. 98.] CALCUTTA, THURSDAY, 13th FEBRUARY, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	337
NOTICES—	
Crop Forecasts	343
Calls for Tenders	ib.
Books of Reference	ib.
Enquiries	ib.
LEADER—	
Trade with Tibet	344
SEASON AND CROP PROSPECTS	345
THE FAMINE	346
TARIFF CHANGES	347
EDIBLE OIL FROM SAFFLOWER SEED	ib.
INDIAN MERCHANDISE MARKS ACT	348
FINANCIAL CRISIS IN CHILE	ib.
COTTON MILLS IN CHINA	349
PRICES OF COMMODITIES	350
A SIAMESE MALAYAN STATE	352
THE ITALIAN COTTON INDUSTRY	353
THE BRASS INDUSTRY	354
THE DEMAND FOR TURPENTINE	355
MINERAL AND METAL PRODUCTION OF THE UNITED STATES IN 1907	356
COTTON CULTIVATION IN INDIA	ib.
HEATING OF COTTON CAKE	358
NEW REFERENCE BOOKS	358
TABLES—	
Food Grains and Salt	359
Indian Customs Revenue	360
Sea-borne Trade of India	361
DEPARTMENTAL PUBLICATIONS	362
ADVERTISEMENTS	363

NOTES.

The Presidency Bank rates are as follows :—
Calcutta 9 per cent.
Bombay 9 " "
Madras 8 " "
Exchange—13 $\frac{1}{4}$

We learn from the Resolution reviewing the working of the Indian mints for the year 1906-07 that the tenders of gold by the public amounted to Rs. 6,51,31,772, exceeding those of the previous year by about two crores of rupees. The outturn of rupees during the year was valued at Rs. 25,37,03,283, exceeding by 2 $\frac{1}{2}$ crores the maximum number previously turned out in any one year. The total revenue of the Calcutta and Bombay mints was Rs. 50,50,880 as compared with Rs. 38,59,480 for 1905-06, and the expenditure was Rs. 29,73,860, as against Rs. 25,58,018 during the previous year.

Information has been received at the Board of Trade from a reliable source to the effect that the uncertainty of the labour conditions and of the general outlook in the Odessa district has frightened capital and paralysed almost all manufacturing enterprises. Factories work on reduced time, and engineering works do little beyond repairs. None but the most necessary work is in hand on account of the Government, and, even for the Government, payment cannot be obtained till a year after completion. Building is nearly stopped. As regards labour conditions, employers complain that, though

wages have been raised and hours reduced, the work done is less satisfactory.

The French *Journal Officiel* of 17th December publishes the text of a report by M. Bourgonnion, Ingénieur en chef des Ponts et Chaussées, upon the administration of the principal ports of Europe, and specially that of Genoa. The report was drawn up at the request of the French Minister of Public Works in view of a proposed new régime in French ports.

The *Corn Trade News* gives the following summary of the world's crops as on the 21st ultimo:—**United States of America**—Complaints of some deterioration owing to alternate frosts and thaws; injurious insects are in evidence, but steps taken to fight the pests. **Argentina**—Reports generally favourable, and estimates of crop and surplus fully maintained. Maize wants further good general rain. **Australia**—Latest estimate of exportable surplus gives 2,100,000 qrs., of which half available for Europe. **India**—Prices continue high; no hope of substantial shipments of new crop wheat. **Russia**—No improvement in southern crop conditions, and elsewhere snow covers the land. **Roumania**—Weather seasonable, crops show satisfactory condition. **Hungary**—Weather too dry and cold, snow cover wanted. **France and Italy**—Crop outlook favourable. **Germany**—Weather is too changeable to suit crops. **United Kingdom**—Some late seedings show effects of frost, early sowings satisfactory. **Spain**—Some complaints crop damage on low lands from excessive rains. **North Africa**—Beneficial rains have fallen in some parts.

Writing on January 16th, a Buenos Ayres correspondent says:—The movement of wheat and linseed has developed rapidly during the past week. Clearances are on an important scale, and the railways are doing their utmost to bring grain forward, with the result that, in spite of the heavy exports visible, supplies indicate a fair increase on the week. Stimulated by foreign news, prices generally show an improvement, while the quality of the new wheat has so far been quite equal to that of last season, and there is every prospect of a good yield. Interior advices state that the weather has been favourable for marketing, and that the progress of the new maize crop is apparently satisfactory. Shipments of wheat for the past week amount to 240,250 qr. compared with 46,500 last week and 217,000 qr. a year ago. The visible supply shows an increase of 25,000 tons, being estimated at 60,000 tons against 50,000 tons a year ago. Of maize 46,000 qr. have been exported against 36,500 last week and 65,500 qr. a year ago. Supplies in sight are 5,000 tons smaller, being given as 15,000 tons compared with 80,000 tons in 1907. Clearances of linseed total at 117,500 qr. against 80,000 last week and 100,000

qr. for the corresponding period of 1907. The visible supply indicates an increase of 5,000 tons, being estimated at 30,000 tons compared with a similar quantity a year ago.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 18th January, 1908, were as follows:—Wheat, 35s. 5d.; Barley, 27s. 1d.; and Oats, 18s. 5d.

The Board of Trade correspondent at Durban (Mr. A. D. C. Agnew) reports that the exports of maize greatly increased during the last three months of last year. The shipments for the period 1st July to 28th December were as follows:—40,046,576 lbs. to the United Kingdom, 40,423,688 lbs. to Germany, 15,887,028 lbs. to Cape Colony, 1,100,000 lbs. to Australia, 207,041 lbs. to the Canary Islands, and 189,015 lbs. to other places.

Messrs. Hubbard Brothers and Co., of New York, in their cotton letter dated January 10th, say that the American ginning returns to January 1st apparently sustain the Government estimate of yield this season as 11,678,000, or of a crop less than 12,000,000 bales, even on the assumption (not confirmed by the later returns) that more cotton remained to be ginned than there was last season, when the total amount ginned, including linters, was given as 13,305,265 bales. The excess of the commercial crop last season over this amount is generally believed to have been cotton carried over from previous seasons and brought out last year by the demand for the higher grades. With spot cotton now well over 12 cents at New York, it is interesting to read Messrs. Hubbard's remarks, so recently written, about the 11-cent level: "So frequently has a reaction occurred from the basis touched on the advance that the trade are timid and uncertain whenever prices approach the level of 11 cents. They have been so often disappointed at the failure to cross that level that they have become quite pessimistic at a time when the movement is decreasing and an increased demand is developing from spinners, especially from the American spinners, who have allowed their supplies to become reduced to the smallest proportions. We find the planter adhering to his policy to only sell when the market advances, and we expect the trade will find that the coincidence of a small American and East Indian crop will bring about a substantial advance, which at the moment they do not believe."

A statement of the Sea Island cotton movement from September 1st to January 3rd inclusive shows that the net receipts during that period amounted to 49,337 bales, against 39,574 in the corresponding

period in the previous season. Exports show an increase of 3,685 bales. Those to Great Britain increased by 8,997, to the Continent there was a decrease of 1,026 and American mills took 4,286 bales less. The stock in Charleston and Savannah on January 3rd was 14,359 bales.

Alternating strength and weakness have characterised tin prices, says the *Ironmonger* of January 25th. There has been liberal selling in the Eastern centres, where America has bought at least 500 tons without disturbing prices to the material advantage of the bull party. There is still only a poor opinion entertained generally as to the market, it being felt that the statistical position is too unfavourable for the price to make much upward progress. Up to £126 15s. was paid for three months, after which values slipped back again. The arrivals at Singapore and Penang from the interior have been large again.

Writing on January 21st, the *Manchester Guardian* says:—The market for standard copper was strong throughout the greater part of last week, but a tendency to ease off was noticeable at the close. The improvement in value between the two Friday evening markets was only 15s. per ton although at one time there was a gain of 45s. The improvement has been attributed to easier financial conditions in America, the improvement in the stock markets, and the expectation of a reduction in the Bank rate; but it does not appear that the actual position of the metal is any sounder than it was. Consumers have shown a little more willingness to buy, and there is talk of some improvement in the electrical trades. If there be any ground for this belief, it is, of course, a matter of the first importance, but it would be well to await confirmation of the rumour. The estimate of American copper production in 1907 is given by the Boston News Bureau as 1,015 million pounds—say nearly 500,000 tons,—which is slightly under the figure for 1906. This year, however, both California and Nevada are expected to add to the output of American copper, the total capacity of the two States being estimated at about 100 million pounds. Altogether the prospect of any very serious reduction in American copper output does not seem very bright.

An important find of wolframite, a mineral ore as valuable as manganese, has, says the *Pioneer*, occurred in the Central Provinces. The deposit apparently extends over ten miles, the strike having been proved at each end and also in the central part. Large nuggets of wolframite have already been extracted.

Preliminary arrangements are proceeding satisfactorily for holding an industrial and agricultural exhibition at Nagpur in November next. Nagpur, it may be pointed out, would be an

excellent centre for the manufacture of cotton seed oil and its higher products, as advocated in the recent series of articles in the *Indian Trade Journal* on the industrial possibilities of Indian cotton seed, and a plant erected as a venture by a machinist at that place would stand a very good chance of being bought *in situ* at competitive rates.

In the fourth annual report of the German Petroleum Company, of Berlin, mention is made of the large increase in the output of the Company's Roumanian wells, under the Steana Rumana. The production last year was 328,340 tons, an advance of about 50 per cent. over the previous year's result, and it is expected that a further large increase will be recorded during the present year. The Steana Rumana is paying 8 per cent. against 6 per cent. last year. The European Petroleum Union, which was formed by the Steana Rumana and the principal Russian producers with the object of disposing of their products more advantageously, is said to have been considerably handicapped by the reduced output of the Baku wells. It is stated that the Union have now practically completed their organisation in those countries where operations will be conducted under the agreement with the Standard Oil Company. The capital of the European Petroleum Union now amounts to 37 million marks, of which three million marks are held by the German Petroleum Company. The first financial year of the Union closes on April 30th, 1908. The capital of the German Petroleum Company is 20 million marks, and a dividend of 5 per cent. has been declared.

There was a large attendance at the extraordinary meeting of the British South Africa Company in London on the 23rd ultimo when the Commission that recently visited Rhodesia were present and submitted their report. Mr. Henry Brichenough said the Commissioners had visited practically all the important parts of the country, and they were satisfied both with the government of the province and the signs of its great commercial possibilities. The pioneering period was over, and what the country needed now was a policy of vigorous, well-directed development. The Marquis of Winchester, another Commissioner, said he believed the Company would get a return for every penny they had sunk in the country. Mr. B. F. Hawksley said the Commission had dissipated the charges that had been made in Rhodesia about the Company, and established confidence in the Board. Next year he thought it was undoubted there would be a surplus. The great need was population. Mr. Hawksley went on to make some references to new capital, and said that the statement that the Government was to back them to the extent of two or three millions was nonsense.

During the week ended January 15th the silk clearances at the Lyons Conditioning-house

amounted to 139,766 kilos., as compared with 133,321 in the preceding week and 162,495 in the corresponding week of last year. The details and comparison with previous years are as follows:—

Week ended January 15th.	THROWN.		Raw. Kilos.	Total. Kilos.
	Organsins. Kilos.	Trames. Kilos.		
1908 . . .	19,031	25,053	95,680	139,766
1907 . . .	20,411	24,006	118,078	162,495
1906 . . .	15,863	20,626	87,172	123,661
1905 . . .	17,867	21,628	83,873	123,368
1904 . . .	15,617	17,128	79,122	111,867
1903 . . .	16,821	18,825	86,381	122,027

The week under review, whilst still dull, was rather more favourable to the silk market, and there was a certain amount of buying, due, no doubt, less to the attraction of low prices than to the urgent needs of manufacturers. The market remains, however, weak and irregular, and there are appreciable differences in quotations for the same thing. There is little encouragement in the immediate outlook except for the hope of a recovery in American business. In Asiatic silks the market is stronger and there has been a fair volume of transactions, stimulated by reports of an advance in the Far East.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 8th February, 1908—

In the Calcutta market—

Behar opium—Rs. 1,378; 1,380; 1,373; 1,392; 1,391; 1,379; 1,374.

Benares opium—Rs. 1,360; 1,360; 1,340; 1,360; 1,360; 1,350; 1,350.

The prices in the time bargains for the Behar opium of the 2nd and 3rd sales of 1908 were Rs. 1,381; 1,383; 1,383; 3rd sale, Rs. 1,402; 1,401; 1,389; 1,384.

In the China market—

At Hongkong (exchange Rs. 142 to 142½ per \$100).

Behar opium—\$982½; 980 and 985; 982½; 982½ and 987½; 985; 985; 980.

Benares opium—On the 3rd and 5th instant \$985 and 982½ respectively.

At Shanghai—(exchange Rs. 190 per 100 taels).

Behar opium—On the 2nd instant 748 taels.

Benares opium—On the 2nd instant 742 taels.

For the week ending 1st February, 1908—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,260 to 1,305; (new, 1905-06) Rs. 1,324 to 1,360; (old, 1904-05) Rs. 1,375 to 1,440; the latest prices at Hongkong and Shanghai, respectively, were (new) Rs. 1,344 and 1,375; (old) Rs. 1,409 and 1,452.

A Persian correspondent states that in the early part of last December the post from Tehran to

Kerman was robbed at Kermanshah. All the parcels were carried off, but the letters were left. Caravan robberies continue to be reported from several parts of Persia.

It has been decided to so amend the rules relating to telegraphic money orders that such orders may be redirected to the payee by post, free of charge, on his written request. This change has been made to allow of payees receiving the money order earlier than was previously the case, by the removal of a condition that such orders should not be redirected until the receipt of the postal confirmation of the telegraphic advice by the office of payment.

Coffee can now be produced absolutely free from caffeine. The Coffee Trading Company in Bremen is said to be reaping the benefit of this invention. This company owns a factory which is under the control of the chemical laboratory, "Trensenius," at Wiesbaden. There all the caffeine is extracted from the raw coffee berries. This system has already been patented in most of the civilised countries. Coffee freed from all caffeine hardly contains any substance which acts deleteriously on the nervous system. Experiments made in hospitals go to prove that it can safely be given to patients suffering from heart, nerve, or stomach complaints without injuring them in the slightest degree. The coffee retains all its original flavour after this treatment. Since October, 1907, coffee free from all caffeine is sold by all grocers in Germany at the same price as ordinary coffee. Since caffeine is sold for medical purposes, the expenses for extracting it from the coffee will easily be covered. The factory is capable of an output of 1,000 cwts. a day.

A letter from the Indian Jute Traders and Brokers' Association to the Jute Mills Association is published, in which it is stated that the fall in prices has caused heavy losses to dealers and brokers. To remedy the situation it is suggested that the Jute Mills Association should adopt a fixed minimum price for each quality of production of the mills and should also, if necessary, restrict the production itself. Since then the Chairman of the Mill Association has interviewed the representatives of all the Mills, and has found them practically unanimous in favour of short time as a means of curtailing production to meet the present distress. The proposal is to shut down altogether on the Saturdays for a definite period. Many of the mills would have welcomed a four-day week. Only two firms of Managing Agents hesitated a little about joining the short-time movement, owing to their mill engagement for deliveries, but it is expected they will join the majority. The five-day week will commence from March 1st. The depression in the gunny market is mainly due to want of orders from America.

In a representation to the Government of Bengal on the subject of the proposed amendment of the Indian Limitation Act, 1877, the Calcutta Trades Association urge the desirability of excluding from the period of computation the interval that may occur between the date of a debtor's death and the date of the appointment of a legal representative to his estate. They also contend that the period of limitation in respect of suits to recover simple contract debts, which is now three years, should be extended to six years, as in England.

It is notified that the Government of India having intimated their intention to allot to the Punjab one scholarship annually to enable natives of India to undergo a course of training in Great Britain, or other Western countries, in such industries as are either existing or in process of development, the Lieutenant-Governor of the Punjab has been pleased to select the textile industry as that for which the current year's scholarship will be awarded in the Punjab. Applications for the scholarship should be submitted to the Director of Public Instruction, Punjab, through the Commissioner of the Division, so as to reach the former not later than the 15th March, 1908. Full particulars regarding the applicant's education, practical experience, character, physique, etc., should be stated in each application.

In moving the second reading in the Commonwealth Senate of the Australian Tariff Bill as passed by the House of Representatives, Mr. Best, the Vice-President, gave interesting statistics of the trade of the Commonwealth. The average duty on all goods, excluding specie, stimulants, and narcotics, was, he said, 12½ per cent. as compared with 14½ per cent. in Canada and 22 per cent. in the United States. Under the present tariff it was estimated that imports to the value of nearly £15,000,000, being about one-third of the whole imports of the Commonwealth, would be admitted free. The actual Customs revenue for the current year would probably exceed £11,000,000, and the anticipated average for future years was £10,250,000. In 1887 the foreign imports into Australia were valued at £4,505,000, the imports from other British possessions at £3,697,000, and the imports from the United Kingdom at £21,369,000, while in 1906 the foreign imports into the Commonwealth were valued at £11,417,000, the imports from other British possessions at £6,735,000, and the imports from the United Kingdom at £26,575,000. Thus the foreign imports had increased from 28 per cent. to 40½ per cent.

Some significant facts regarding the position of the beet-sugar industry in France have recently been published. Since the season of 1884-85, when the bounty system was first applied, the production has increased by as much as 140 per cent., the total weight of the crop for 1906-07 amounting to about

55,000 tons. But this remarkable increase has been very uncertain and intermittent. For instance, the operation of the new law made necessary by the Brussels Convention of 1902 was followed by considerable reductions of the acreage under beet. Over-production in previous years and the consequent accumulation of stocks had brought about a disastrous drop in prices, and the continued reduction was a deliberate attempt to remedy the situation. This was followed by a reaction, and in 1905-06, an exceptionally favourable season, once more produced a glut in the market. Consequently the past season has been marked by less activity, and 19 factories were closed, throwing out of work more than 3,000 persons. The high-water mark of production was reached in 1901, when the increase over 1884 was as much as 300 per cent. But it is noteworthy that there has been a steady decrease throughout the whole period in the number of factories at work from 449 to 273.

According to the *Review of the River Plate* (Buenos Ayres), the Argentine Government have for some time past been carrying a number of borings in various parts of the Republic with a view of obtaining water. A number of borings have been made in the Chubut territory, where fresh water is very scarce, and in a bore that is being made in Comodoro Rivadavia, a spring of petroleum was found at a depth of 530 metres. This discovery is looked upon as most important and the Government have decreed that no mining claims will be allowed within a radius of five kilometre leagues of the place where the find was made. Experts have been sent down to Rivadavia to report fully to the Government.

Mr. H. E. Wimperis, A.M.I.C.E., in an article in the *Times Engineering Supplement* of the 22nd ultimo, makes the following remarks regarding the cost of running motor cars:—At a time when so many people are alarmed at the cost of running motor vehicles, it is not a little astonishing that so slight attention is paid to the use of the paraffin carburettor, which, given a reliable instrument, would enable cars to be run for about half the cost as regards fuel. In fitting a car for running on paraffin the best plan is to arrange for the fuel tank to be divided into two parts, the larger for paraffin and the smaller for petrol. The petrol enables the engine to be easily started up, and then when warmed the engine can be switched over by a three-way cock to paraffin. When running normally with such an arrangement about 1.25th part of the fuel used would be petrol and 24-25ths paraffin, although it is usual to fit the fuel tanks with provision for a larger proportion of petrol than 1.25th, since the paraffin tank is more easily replenished and a fair supply of petrol would enable the car to get home should anything go wrong with the paraffin carburettor. This may sound as though

paraffin carburetters were unreliable to an extent which is not really the case, although, of course, the carburation of petrol is best understood and most easily affected. The proportion of petrol concerned being so small, the cost of fuel is regulated almost entirely by the 5d. or 6d. a gallon for which paraffin can be obtained. Paraffin is supplied in a great number of qualities, and, although for domestic purposes it is graded by its flash point, this quality is far from determining its suitability for use in internal combustion engines.

The forty-eighth annual meeting of the Association of Chambers of the United Kingdom will be held at the "Whitehall Rooms," Hôtel Metropole, Whitehall Place, S.W., on Tuesday, Wednesday and Thursday, the 17th, 18th and 19th March. The chair will be taken each day at ten o'clock by the Right Hon. Lord Brassey, G.C.B. (President). Resolutions dealing with, *inter alia*, the following subjects will be moved, viz.:—Foreign Tariffs, Colonial Conference, Anglo-French Treaty of Commerce, Anglo-Italian Trade, Congo Free State, Duties on Trade Catalogues, Sugar Duties, Railway Rates—Owner's Risk, Bank of England Returns, Telephone Rates, Underground Telegraph Cables, Penny Postal Service, Foreign Parcel Post, Uniform Shipping Laws, International Maritime Committee, Uniform Numbering of Yarns, Thames Barrage Scheme, Government Consultation with Chambers of Commerce, Importation of Canadian Cattle, Minister of Commerce, Registration of Firms Bill, Anglo-Portuguese Treaty, Rating of Machinery, Marine Insurance, Stamp Duty and Light Dues.

Messrs. Widenmann, Broicher and Co., in their annual report, state that the past year was remarkable for an unprecedented production of cinchona bark, an enormous consumption of quinine, for very low prices of both products, and an almost entire absence of speculative business in the alkaloid. The decline in the price of bark by the end of the year amounted to about 45 per cent. as compared with values in January, 1907, and the fact that makers were able to maintain the quotation of 8½d. from June onwards is proof of the excellent consumptive demand, inasmuch as competition among the various concerns was as keen as ever. In view of the above circumstances, there was nothing to stimulate speculative business. The Bandong Quinine-factory in ten public sales disposed of about 25,600 kilos. quinine sulphate, and in October last they were reported to have sold the Italian Government 20,000 kilos. at a secret price. The total quantity, taking the average analyses at 6 per cent., has absorbed 1½ million half-kilos of bark, and is considerably larger than the total sales of the Java quinine-factory in any previous year. The prices accepted by the factory have in every instance been much below the unit value paid at Amsterdam at corresponding

periods, and it is not clear why the planters supplying the raw material should not prefer to cancel their agreement with the Java factory. In the open market Java quinine continues to be offered at a discount. This is also the case with the Amsterdam brand, of which, apart from private sales, about 6,250 kilos. were sold in ten public auctions at prices much below current values.

It is well known that great mortality occurs in Indian date palms in some districts as a result of tapping for the production of toddy and palm sugar, writes Mr. E. J. Butler in the *Agricultural Journal of India*. This has been referred to in the report of the Indian Excise Committee recently published (page 69, paragraph 169). It is stated to be a matter which urgently demands notice, particularly if the development of palm sugar manufacture should be extended. The ruthless destruction of date palms by tappers is said to be most evident in Madras. In Bombay less injury is caused and the least in Bengal. The fully active leaves are supplied with water bearing dissolved salts, from the roots, through vessels grouped in bundles. These are, in palms, as in all the division of plants to which the palms belong scattered through the thickness of the stem, no arranged in definite rings towards the surface. Hence it is that palms cannot be killed by "ringing," and that they are enabled to stand the severe wound inflicted on them by the tappers. It is, however, essential for the well-being of the tree that the main vessels going to the active leaves should be as little interfered with in the operation as possible. After describing some of the methods of tapping, Mr. Butler concludes:—Finally, it would be necessary to see how far the two requirements, avoidance of serious injury and extraction of the maximum amount of juice, can be reconciled. It is clear also that the methods of tapping actually in use require much more careful examination than they have received. Much time would be saved by working from the known to the unknown, and it is scarcely possible to plan a detailed series of experiments in tapping until local practices have been fully investigated.

It is alleged that fabrics may be water-proofed so as to be flexible, elastic, and durable, and not to spoil on storage, by applying to it successively three paints, used warm. Each of the first two coats is made perfectly dry and smooth before the final application of paint No. 3. The paints are prepared in the following manner. No. 1 is linseed oil made drying with lime, a litharge, and manganese borate in the usual way. No. 2 is the same but with the addition of copal, zinc oxide, and calcium ricinolate. No. 3 is the same as No. 1, but with the addition of powdered talc, starch, and also a certain proportion of No. 2. No. 3 is necessary to remove the lustre left by No. 2, and also to prevent folds of the waterproof from sticking together in storage. Colour matter may be added in reasonable quantities.

NOTICES.

CROP FORECASTS.

THE following general memoranda on crops of the season 1907-08 will be published in the *Indian Trade Journal* of 20th February, 1908:—

Final memorandum, Cotton crop.

Final memorandum, Rice „

Final memorandum, Sugarcane crop.

The gist of them in tabular form will be exhibited, as usual, at the street door of the office of the Director-General of Commercial Intelligence at 5, Clive Street, Calcutta, on the 19th inst., at 4 P.M.

CALLS FOR TENDERS.

Galvanised Iron Tubs.

The Divisional Contract Officer, Poona, is inviting tenders up to the 3rd proximo for the supply of galvanised iron tubs with and without lids.

Cotton Socks.

Tenders are invited up to the 3rd proximo for the supply of cotton socks of various sizes.

Coal.

The Director of the Royal Indian Marine, Bombay, is inviting tenders up to the 17th instant for the supply of 700 tons of coal at Akyab, 17,300 tons at Bombay, 10,000 tons at Calcutta, 200 tons at Madras, 7,000 at Rangoon, 500 tons at Colombo, and 730 tons at Karachi.

Flour and Atta.

Tenders are invited up to the 3rd proximo by the Divisional Contract Officer, Poona, for the supply of flour and atta.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the ante-room till Wednesday, 19th February, 1908:—

Foreign and Colonial Publications.

Austria-Hungary—Monthly Account of Trade November, 1907; Kiserletugyi Kozlemenyei, December, 1907. Bulgaria—Quarterly Trade Accounts, 4th qr. of 1906. Canada—Weekly Trade Report, dated 13th January 1908. Ceylon—Customs Returns, December, 1907. Egypt—Monthly Account of Trade, December, 1907.

France—Annuaire Statistique de la ville de Paris, 1905. Germany—Jahresbericht der Handelskammer zu Hamburg über das Jahr, 1907. Straits Settlements—Return of Imports and Exports for the quarter ended 30th September, 1907. United States—Farmers' Bulletin, No. 310—Successful Alabama Diversification Farm; No. 311—Sand Clay and Burnt Clay Roads; No. 313—Harvesting and Storing Corn. Bureau of Plant Industry Bulletin No. 117—Reseeding of Depleted Range and Native Pastures. Bureau of Entomology, Bull. No. 75, Part I—Production and Care of Extracted Honey—Methods of Honey Testing for Bee Keepers. Bureau of Chemistry, Bull. No. 84, Part III—Influence of Food Preservatives and Artificial Colours on Digestion and Health. III—Sulphurous Acid and Sulphites. Crop Reporter, December, 1907, Supplement.

Diplomatic and Consular Reports.

Persia—Trade of Kermanshah for the year 1906-07.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Clive Street, Calcutta.)

Dyeing Materials.

(208)—An Indian correspondent requires the addresses of British and Continental manufacturers of all kinds of dyeing materials.

Embroidery.

(209)—A Paisley firm interested in hand-embroidered bed-spreads, tea-cloths, traycloths, pillow cases, and other kinds of "chicon" work are desirous of being placed in communication with actual manufacturers.

Benares Brass-ware.

(210)—A British firm requires the addresses of manufacturers of Benares brass-ware.

Mirzapur Carpets.

(211)—A firm in Scotland desires to be placed in touch with manufacturers of Mirzapur carpets.

Carved Wood-work.

(212)—A firm in the United Kingdom requires the addresses of actual makers of various kinds of Indian carved wood-work.

Furs.

(213)—An Indian firm dealing in fox, cat, tiger and other skins requires the addresses of purchasers or commission agents in Leipzig and Nijni-Novogorod.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuters' Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, FEBRUARY 13, 1908.

TRADE WITH TIBET.

As matters concerning trade conditions in Tibet are generally studied with interest, we give below some figures as illustrating the extent of the export of the three staple products of Tibetan trade to Almora and the Central Provinces during the past three years, the quantities being stated in maunds (maund=82½ lbs.). The bulk of the trade in wool and borax is, we believe, in the hands of Bhutias of the Almora district, and the Lipu Lekh and Unta Dhura passes are those in general use by them. The figures are as follows:—

	Imports into Almora District (in maunds).	Imports into the United Provinces (in maunds).
1906-07	Borax . 25,230 Salt . 15,831 Wool . 11,925	26,797 31,368 12,966
1905-06	Borax . 18,515 Salt . 23,549 Wool . 12,225	20,009 40,707 13,444
1904-05	Borax . 21,807 Salt . 18,040 Wool . 9,444	23,034 40,824 10,875

The transport work is done by sheep, goats, yaks and jhuppus, which are a cross between a yak and a cow. In the issues of the *Indian Trade Journal* of September 12th, 1907, and September 26th, 1907, we dealt with this aspect of Tibetan trade and gave an example of the cost involved and suggestions for improvements in methods. We notice, however, that the sheep and goats used by the Bhutias in the particular trade now under discussion are bred in the northern parts of Gharwal and Almora and in Nepal. These animals cannot endure the severe cold of Tibet after October; nor can the Tibetan transport sheep stand the climate of India; and, owing to the difficulties of the roads, mules and ponies are of little use. The Bhutias enter Tibet in June with loads of grain, sugar, spices and cloth, and this they exchange at Taklakot and other towns for Tibetan commodities, returning to India by the end of September.

A recent traveller in Tibet expresses the opinion that it is to the Indian trade that the Tibetan official looks to make a fortune. He receives the taxes that are paid by the Bhutia traders; he engages in trade himself; he owns a flock of sheep; he makes forced sales of China tea to his subjects at his own price; he buys up the wool from the Tibetan shepherds frequenting his mart and then resells it at a profit to the Bhutias; "in fact," says this traveller, "the Indian trade is manipulated by him for his own benefit."

The Dokpas, or Tibetan pastoralists, whose means of livelihood were described in our issue of September 12th last, seem to use the sheep entrusted to their care as transport animals for borax and salt, which they exchange for grain brought to Tibet by the Bhutias, and seemingly dispose of this grain in that part of Tibet which lies to the east of the Mansarowar, or the holy lake. There is abundance of grass near this and the other holy lake (Rakas Tal) and the water is good to drink; but the great grazing ground of the Dokpas begins to the east of the Mansarowar and continues along the basin of the Shan Po (Brahmaputra) river for many hundreds of miles.

One of the important marts in Tibet is Gyanema. This might be called one of the vanishing towns of Tibet. There is not a single house in Gyanema. It is simply a collection of tents. It is open as a mart for about three months each year, and for the other nine it does not exist. The Tibetan official who controls this peculiar town is the Tarjum of Barkha. At the Gyanema mart last year were three official

vendors of tea and rugs. They have the great advantage of being able to claim free transport all the way from Lhasa to Western Tibet.

The following figures show the quantity of wool in maunds imported by traders into the Almora district from Tibet during the past six years:—

Year.	Maunds.	Year.	Maunds.
1901-02	2,981	1904-05	9,444
1902-03	9,108	1905-06	12,225
1903-04	9,702	1906-07	11,925

It will be seen from these figures that the imports have largely increased during the past few years, the reason being the extra demand by manufacturing concerns in India. The bulk of this wool comes from east of the Mansarowar lake—from the Shan Po Valley, in fact—which lies outside the limits of Nari Khorsum, or Western Tibet, which was the locality dealt with in our previous articles to which we have already referred. The wool from this valley goes to Cawnpore, via Taklakot, to Nepal, to Lhasa, and to Calcutta, via Phari and Darjeeling. The last few years have been bad ones for sheep-owners. The rainfall has been slight, grass has been scarce, and there have been severe epidemics among the sheep. A succession of two or three good seasons would probably result in an increase in the wool supply. Even under present shearing conditions a real improvement of the roads would, it is believed, result in a doubling of the wool and pashm exports. At least that is the opinion of a pioneer of the wool trade in Tibet, who has had many years' experience and remembers the days when Tibetan wool was purchasable at Rs. 8 per maund and sold for Rs. 20. In our previous articles we published a statement showing the present cost of wool in Tibet, the transport charges to India and the sale price in this country. The fleeces of some transport sheep recently sheared in Tibet were weighed on the spot. The average fleece obtained weighed about 1½ seers (seer=2.06 lbs.). There is said to be enough grazing land in Tibet to support double or even treble the number of sheep now pastured there.

We believe that the Tibetans have lately displayed a weakness for cheap cigarettes, and it is suggested that quite a respectable trade could, with a little engineering, be done with them in this article.

Both Indian and European cloth is largely imported, the bulk of it going direct to Lhasa. The Dokpas use country cloth, while the higher officials prefer the finer qualities from Europe. On the whole, trade relations with Tibet are perhaps better now than they were a few years ago; and, with improved roads, should improve greatly in the not distant future.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 1st FEBRUARY 1908.

Burma.—Slight showers fell during the week in one district of Lower Burma, in six districts of Upper Burma and in the northern Shan States and Chin Hills. Reaping of the winter rice crop has now been completed throughout Lower Burma and in most districts of Upper Burma. Threshing and winnowing are progressing satisfactorily. In the Upper Province transplanting of spring rice and cultivation of miscellaneous spring crops continue; these crops promise fairly well. The price of unhusked rice has risen in one; and has fallen in four districts.

Eastern Bengal and Assam.—Slight to moderate rain fell in all districts. Prospects of standing crops are fair to good. Preparation of land for early rice and jute, pressing of sugarcane and gathering of mustard are going on. Pruning, hoeing and manuring of tea are in progress. Harvesting of winter rice is practically finished. Prices of common rice have risen in five; and have fallen in three districts. No scarcity is apprehended at present.

Bengal.—Throughout the Province except in Orissa there has been another fall of rain. Lower Bengal and Chota Nagpur received half an inch or less. Most of the Bihar districts received an inch, and in consequence the prospects of the spring crop sown have greatly improved. There is still some sugarcane-pressing going on, and lands are being ploughed for the autumn crop. Spring crops are being weeded after the recent rain. In Patna the poppy crop is in bud. In North Bihar some indigo sowings have commenced and the land is being prepared for the new sugarcane crop. In Orissa, potatoes, *kulthi* and some spring crops are being harvested; *dalua* rice, tobacco, cotton and vegetables are doing well. Stocks are said to be insufficient in Nadia, Murshidabad, the Deoghur subdivision of the Sonthal Parganas, Balasore, Ranchi and Palamanu. Prices are stationary. Fodder and water are scarce in some parts of Balasore and Murshidabad. Scarcity is apprehended in Nadia, the Darauli and Manjhi thanas of Saran, Ranchi and Palamanu and later on in Birbhum, Jessore, Gaya and Manbhum. People are migrating from Ranchi to other districts in search of work. Test-works have been opened in Bankura, where the average daily attendance is 1,505. Some relief-work has been started in Shahabad: 659 persons attended test-works in Cuttack: figures for test-works in Balasore and Puri are not given, but are small; 13,028 people in Orissa received gratuitous relief.

United Provinces.—Rain fell in all districts except Muttra. It was heaviest in the Himalayan, Western, Submontane and South-eastern districts; and slight in the Agra division. More rain has fallen since the end of the week. Crop prospects are generally improved and the rain will be very beneficial for sowing of sugarcane. Prices remain above scarcity rates; they have risen in Jaunpur; but have fallen slightly in 20 districts. Markets are

adequately stocked and importation of grain continues. Prospects of the spring crops sown are good. Wheat and barley are coming into ear. The spring crop is being weeded and irrigated where necessary. Sugarcane pressing and ploughing for sugarcane continue. Poppy is healthy and promises well. Sanwar and extra crops are being sown. Condition of agricultural stock is fair. Fodder is dear and scarce though new grass is coming up.

The weekly report on the famine and scarcities is as follows:—Relief operations continue to expand. Famine has been declared in the Bara Banki and Sultanpur districts from 3rd February; and gratuitous relief sanctioned in Farrukhabad and in hilly and submontane tracts of Dehra Dun. The demand for field labour has slackened and numbers on relief show a steady increase. The general condition of the people is good and of those on works fair. There is some increase in crime but no noticeable wandering. Basti reports increased emigration to colonies. Private charity is active and relief measures are adequate. Private works have been started in several districts. In the Balrampur estates 7,334 persons are on works; and 3,309 on gratuitous relief. Aided works are in operation in eight districts, and are being started elsewhere. The numbers on Government relief are:—workers on public works 2,86,666; on aided works 20,977; on test works 16,029; dependants on works 1,01,245; on gratuitous relief 1,85,238; in poorhouses 6,070; total 6,16,225. The largest total figures are:—Bahraich 82,869; Gonda 80,806; Mirzapur 59,561; Allahabad 57,866; Jalaun 56,153; Banda 53,551 and Kheri 35,581. Prices—Jaunpur 8½ and Almora 8½; elsewhere 8½ to 10½ seers per rupee.

Punjab.—Light to moderate rain has been received in all districts except Lyallpur and Multan. Prices of food grains are falling in ten; and are rising in two districts but are still above scarcity rates except in Multan. Sowings of spring crops still continue in a few districts and those of extra spring crops have commenced in Multan. Pressing of sugarcane is in progress. *Toria* is being threshed in Lyallpur. The condition of irrigated crops is good to average; and of unirrigated average to below average. The opium crop is average in Lahore and Amritsar, the outturn of sugarcane and *toria* is average. The recent rain has benefited standing crops. Spring crops have been slightly damaged by rats in parts of Lahore; *tela* (green-fly) has damaged *toria* and rapeseed in Gujranwala and turnips in Jhang; hailstones have injured *toria* and *senji* in Amritsar. Cattle are generally in good condition except in Sialkot where they are weak from overwork and want of fodder. Fodder is scarce in Delhi, Sialkot, Gujranwala, Mianwali, Lyallpur, Jhang, Multan and parts of Gurgaon, Ambala, Shahpur and Rawalpindi. Green fodder is scarce in Ferozepore and Lahore. Sugarcane is being used as fodder in Sialkot. The canal water supply is insufficient in Delhi. 1,223 persons attended the famine test works in the Gurgaon tahsil.

North-West Frontier Province.—Rain fell throughout the province ranging from seven cents in Kulachi in the Dera Ismail Khan District to 2·31 inches in Hazara. The rain was very beneficial to unirrigated crops. The condition of standing crops is good in Bannu; and fair elsewhere. Spring sowings are finished throughout the province. Hail fell in the Dera Tahsil of Dera Ismail Khan but did no damage. Pressing of sugarcane is still in progress in Bannu but has been stopped temporarily in Peshawar owing to the recent rains. In Peshawar ⅓rds of the sugarcane crops is still in the field and the outturn is likely to be very poor in quality and value. The water supply is abundant. Extension of irrigation from hill torrents and some irrigation from the Paharpur canal continue in Dera Ismail Khan. Fodder is sufficient. The condition of cattle is good except in one village of Dera Ismail Khan. The health of the people is good. Prices are stationary in Bannu; and are falling elsewhere. Prices:—wheat 9½ to 12½; grain 11½ to 15; maize 13½ to 18½; and bajra 12½ to 15 seers per rupee.

Jammu.—Rain good. Prices are stationary. Prices:—wheat is selling from 8½ to 13; and maize from 10 to 20 seers per rupee. The condition of standing crops is fair. Fodder is still insufficient in Jammu, Bhimber, Sambha, Akhnur, Kathua and Basohli Tehsils.

Kashmir.—The weather is snowy and extremely cold. Prices are almost unchanged.

THE FAMINE. Viceroy's Report.

THE following is a copy of a telegram, dated 10th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

Light to moderate rain fell during the week throughout Northern India and there was slight rain in Central India, Burma and Bombay. The improvement in the prospects of the spring crops previously reported is in consequence maintained, but the existing distress continues to increase in intensity; and, owing to the slackening of the demand for labour in the fields at this season, there has been a further large increase in the numbers on relief works.

In the United Provinces these numbers now are: works, 424,917; gratuitous relief, 191,308. In addition 10,643 persons are being relieved in Balrampur estates. Private and aided works have been started in several districts. There has been some increase in crime, but the general condition of the people is fair still, and there is no noticeable wandering.

In the Punjab there are now 1,223 persons on test works.

In Central India there is again a large increase in the numbers on relief; 91,171 persons are employed on works and 7,174 are in receipt of gratuitous relief. Of these 88,000 are in Rewa, which shows an increase of 20,000 during the week. The remainders are in seven minor States of the Baghelkhand Agency.

In Bengal, the numbers on test works have fallen to 2,164. Thirteen thousand and twenty-eight persons are in receipt of gratuitous relief, all in Orissa.

In the Central Provinces there is still ample employment for ordinary labour, but relief is now being given in four districts. There are 1,765 people on works, 2,155 in receipt of gratuitous relief, while special relief is being given to 1,650 weavers.

In the Panch Mahals district of Bombay, 2,379 persons are employed on test works.

The total number of persons in receipt of State relief in the whole of India is now 738,934.

Prices continue to fall slightly in parts of Northern India but are still very high everywhere.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 23rd January, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Prohibition of the Importation of Eggs in Liquid Form. Drawback of Duty allowed on Paper under certain Conditions. Customs Decision respecting Duty on Elastic Black Paint.

SOUTH AFRICA.—Customs Decision.

RUSSIA-FINLAND.—Forthcoming Increase of Export Duty on Certain Timber.

SWITZERLAND.—Customs Decisions.

FRANCE.—Opening of Toulouse for the Importation and Exportation of Gold and Silver Wares.

VENEZUELA.—Tariff Alterations. Increase of Surtax on Beer. Tariff Classification of Sweets, etc., Boxes.

—M. Lortet, the French Commercial Agent at Bangkok, has called the attention of the French Government to the fact that a new era of large industrial enterprises is about to dawn in Siam, and he urges French manufacturers to be beforehand in gaining a footing in the market. Endeavours are now being made to introduce modern agricultural machinery, and several important agricultural companies intend to work large districts which have so far been allowed to lie fallow. The growth of this industry will mean the installation of new rice mills, etc. New mines are also going to be worked, and considerable quantities of mining plant will be needed. New roads are planned, for which numerous bridges will be wanted, as the country is intersected with canals and rivers. New railways are being made, and the need for a proper water supply and drainage service is being so acutely felt, that the authorities are taking up the matter very shortly when pumps, piping, and the like will all be in demand. The people are already showing their desire to purchase goods of all kinds, and as this development of industry will mean more money to spend the Siamese peasants will require larger quantities of Western hosiery, clothing, underwear, textile manufactures, etc., of all kinds.

EDIBLE OIL FROM SAFFLOWER SEED.

A Madras Industry.

THE following memorandum drawn up by M. R. Ry. Rao Bahadur C. K. Subba Rau Avergal, B.A., Acting Government Botanist, Madras, and communicated to the Central Agricultural Committee by the Director of Agriculture, Madras, has been printed for general information:—

In the Tamil districts of Madura and Tinnevely as well as in the Telugu districts of Cuddapah, Anantapur, Bellary, and Kurnool, safflower seed is cultivated on the margins of black cotton soil fields for preventing cattle trespassing into cholam and other crops.

While the ryots of the Telugu districts named above are accustomed to have the safflower seed crushed in an oil-mill after it is husked and winnowed, and thereby get an oil which is used for all purposes for which gingelly oil (*Sesamum indicum*) is used, the ryots of Madura and Tinnevely only extract a lamp oil of no market value whatever, by the boiling process in the same way as they do castor oil (*Ricinis communis*), and throw away the refuse. In the Telugu districts, the refuse of the oil-mill is used for feeding cattle or for manure.

In the Telugu districts safflower oil is sold in the bazaars at about 10 annas per Madras measure, and the oilcake at 3 to 3½ Madras maunds, of 26 lbs. each per rupee, so that the price per candy is about Rs. 7.

In the Telugu as well as in the Tamil districts mentioned above, fried safflower seed is ground together with tamarind, salt and fried chillies and made into *chutney*. Roasted safflower seed mixed with fried rice-wafers, Bengal gram, etc., is sold in the bazaars in some of the Telugu districts named above, while in the Otapidaram Taluk, fried safflower seed is used by some people in making curry powder for fragrance sake.

Recently Mr. C. K. Subba Rau, the Acting Government Botanist, had the kernels obtained from forty Madras measures of safflower seed by grinding it in a stone mill of particular kind received from Tadpatri, crushed in an oil-mill at Pothimuttur, three miles from Otapidaram, in the presence of the Tahsildar, and a number of other people, and obtained 4½ Madras measures of sweet smelling oil.

He convened a meeting of ryots and other people at Otapidaram on the evening of the 6th instant, and distributed to them cakes called *Amavadai* fried exclusively in safflower oil. The people said that the cakes tasted as well as if they had been fried in ghee. At Pothimuttur the cake was greedily eaten by bullocks.

Eight measures of safflower seed generally give one measure of oil by the boiling process. The proportion of oil obtained by milling at Pothimuttur was slightly smaller. More oil could have been obtained by presenting a burning torch to the crushed mass of seed in the mill round and round while the pestle was turning. This was not done lest the oil should acquire a smoky flavour. The seed produced in the Tamil districts is small as compared with what is

produced in the Telugu districts. If good seed obtained from the Telugu districts be sown on the Tamil districts, the safflower seed then produced would give a larger proportion of oil.

INDIAN MERCHANDISE MARKS ACT.

Opinions of Chambers.

THE Karachi Chamber of Commerce have intimated their concurrence with the Punjab Chamber of Commerce in the view that the Merchandise Marks Act should be revised in such manner as to simplify its provisions and to narrow them down to what is necessary for the prevention of fraud.

The Madras Chamber of Commerce, on the other hand, do not agree with the Punjab Chamber in the view that the present Act is encumbered with intricate provisions of no practical value, and they aver that up to now the Act has worked quite smoothly in Madras.

The Bengal Chamber of Commerce, admit that there is much to be said for the Punjab Chamber's proposal, but hesitate before opening up a question of such magnitude as the revision of so complicated a measure as the Merchandise Marks Act. They want to know what other Chambers think.

The Bombay Chamber of Commerce doubt whether a revision of the Act with the object of relaxation would be advisable.

The Upper India Chamber of Commerce are doubtful whether it would be expedient to introduce less stringent measures than those now in existence for the protection of the consumer from wrongly described goods, and before giving their support to the Punjab Chamber's proposal, they would like to be informed more fully of the alterations which the Punjab Chamber propose.

In view of these various opinions the Punjab Chamber have now informed the other Chambers that while still of opinion that a revision of the Merchandise Marks Act is desirable, and would be welcomed by merchants, they find that there is no sufficient unanimity of opinion in the Chambers regarding it to justify a representation to Government and they therefore do not propose to move further in the matter this time.

—A sample prepared from the roots of *Tacca pinnatifida* (arrowroot) growing in British East Africa during the 1905 season was forwarded to the Imperial Institute for valuation. It was dull white in colour, rather gritty, and when examined under the microscope showed the characteristic structure of *Tacca* starch granules. This material is well known in the South Sea Islands, but rarely appears in European markets. The British East African sample was valued at 14s. per cwt., and it was stated by the commercial experts to whom it was submitted that it could be sold in the United Kingdom as a cheap manufacturing arrowroot. It is, of course, quite distinct in character from the true West Indian arrowroot—*Maranta arundinacea*.

FINANCIAL CRISIS IN CHILE.

THE following notes, dated 3rd December, on the recent financial crisis in Chile have been received by the Board of Trade from a reliable source:—

The reasons for the existing crisis are various. It is generally agreed that it is to be attributed to, first, the financial situation in Europe and the United States, which has led to trading houses in Chile, especially the German houses, being called on by their principals to remit money home at all costs. These houses are now consequently pressing their clients for payment. Secondly, the fall in the price of copper, which has resulted in the closing down of, it is said, some 40 per cent. of the copper mines in the country. Many of the largest Chilean houses and capitalists have been deeply involved in copper transactions, and are now in straits owing to the impossibility of working the low grade mines at a profit at the present price of metal. Thirdly, the gradual reaction after the boom of the years 1904 and 1905, when numbers of companies of all kinds were floated in Chile. Included in this list are lumber and agricultural companies, gold, silver and copper mines, and also Chilean-owned nitrate companies. These undertakings have been, in many cases, only partially capitalised, most of the capital subscribed existing only on paper, and, moreover, have suffered from incompetent management. Many of them are accordingly now in difficulties, and their shareholders are anxious to dispose of their holdings at all costs. It is feared by many that things may still become worse before a favourable turn takes place. Fourthly, the necessity of meeting obligations incurred to repair the damages and losses sustained in the earthquake of August, 1906. These obligations, which were of an unforeseen character, have now to be met by private individuals, who are in addition involved in financial difficulties owing to reasons above-mentioned.

It is at present difficult to foretell what will be the outcome of the present situation. The immediate result is an almost complete stagnation of business, and the fact that merchants are to a great extent cancelling their orders must lead to a great diminution in the value of imports in the near future. The president has so far been able to resist the outcry for a further issue of paper money, a step which could only make matters worse.

One of the features of the crisis is the disappearance from circulation of the silver coins, representing the fractional parts of the peso, which, owing to the fall in exchange, now represent less than their metal value. These coins have lately been collected in large quantities and exported with considerable profit.

—A new source of iodine is reported to have been discovered in the United States, waters issuing from oil wells in several regions having been found to carry it. A well in Pennsylvania yields a water containing 0.6 parts of calcium iodide per 1,000. Some wells in the Baku region of Russia have also been found to contain small quantities of iodine.

COTTON MILLS IN CHINA.

Sir A. Hosie's Views.

IN the course of his Report for 1906 on the foreign trade of China, Sir A. Hosie makes the following remarks regarding cotton mills in China:—

I propose to say a word here regarding the cotton spinning power mills in China, now 27 in number, to which may be added the mill in Hongkong also engaged in turning out yarn for the China market. The mills originally started in Shanghai, which at present boasts of 12, had many obstacles to contend with at the start and for several years after, such as labour difficulties, cotton cornering and cotton watering, losses were sustained and in several cases capital had to be written down. The years 1903 and 1904 were the worst since 1900, but 1905 and 1906 were good average years, cotton was cheaper and the mills were kept running night and day. Chinese cotton is whiter than Indian, and the product of the Shanghai mill is superior in colour and cleanness to either Japanese or Indian yarn, but being shorter in staple it is not so strong nor is it so well reeled owing to the low class of labour employed in this department, and I have been informed by a mill manager that no amount of supervision can obtain what may be considered high-class work. Taking Chinese labour as a whole, however, it may be considered as good as either Japanese or Indian, and, when the difference in the quality of the cotton is considered, it is relatively as cheap.

Spindles Employed.

The number of spindles in these 23 mills is approximately 750,000, and the production per spindle working day and night (23 hours) is from 11 to 13 ozs., according to counts, which are 10's, 12's, 14's and 16's. With 12 ozs. as the average, these 750,000 spindles are capable of a daily output of 562,500 lbs., and on the assumption that work is carried on 320 days of the year, the annual output would be 180,000,000 lbs. of yarn, a quantity equal to more than half the foreign import. What becomes of this yarn? The great bulk of it finds its way into the country round Shanghai and becomes the warp of Chinese cloth woven on handlooms, which is exported in enormous quantities under the name of nankeens to Northern China, but especially Manchuria, principally by junk. The block in Manchuria in 1904-05 reacted on Shanghai, where the stocks at the close of 1906 amounted to 27,666,000 lbs. against 2,665,600 lbs. in 1903, 6,873,973 lbs. in 1904 and 5,804,433 lbs. in 1905. Were we to assume that all the foreign yarn imported into China as well as the product of the mills in China and Hongkong is manufactured into cloth with native spun weft—which is not the case—the weight of the latter might approximately be estimated at 518,829,600 lbs. or 231,620 tons, and if to this be added the export from China in

1906 of 769,542 piculs or 45,806 tons, and the large but unknown quantity used for wadding, it is not unlikely that the production of cotton in China would approximate, if not exceed, the estimate of 300,000 tons mentioned in my report for 1905. There was an import of raw cotton into China in 1906 of 6,047,600 lbs. against 12,078,667 lbs. in 1905.

The province of Ssuchuan, which is not well suited by soil for the cultivation of cotton and produces only a limited quantity, is the greatest consumer of imported yarn. It took 51,555,867 lbs. in addition to 36,844,533 lbs. of raw cotton from the Central Provinces. The latter quantity, although mentioned by the Commissioner of Customs at Ichang in his report, does not appear in the customs returns; it passed through Ichang by junk.

The price of raw cotton in 1906 ranged in December from 16.50 to 18.20 Shanghai taels according to quality, the best being produced at Tungchow and T'ai-ts'ang on the north and south banks of the estuary of the Yangtze.

Although the great bulk of imported yarn is made into cloth with home-grown cotton, a certain but measureless quantity is manufactured solely from foreign twist. I visited several establishments at Shanghai where British and Japanese yarns were respectively being used as warp and weft in the weaving of coloured fancy-patterned cloth. The yarn was dyed on the premises, and at the time of my visit natural indigo and synthetic reds were being employed. In one of these factories there were 80 handlooms of Japanese pattern, and it was interesting to watch the women at the looms. There was no idling to look at the foreign intruder, for they were engaged on piecework at the rate of 7 cash per foot. A woman could turn out 40 Chinese feet of cloth per day of 12 hours, the length of a piece being 50 Chinese feet, with a width of 27 inches, and the Chinese manager told me that on occasions a whole piece might be woven in a day, but that it was the exception. Men were employed to arrange and fix the warps on the looms.

Wooloa or berlinette, most of which comes from the United Kingdom, dropped 69 per cent. in 1906, when the net import was only 15,333 lbs. of the value of £1,481.

The net import of cotton ball thread increased 48 per cent. from 123,866 lbs. in 1905 to 183,200 lbs. in 1906, with a silver increase of 32,846 taels. This, however, was far more than counterbalanced by a decrease in spool thread from 420,476 to 411,868 gross and a diminished silver value of 92,756 taels. The silver value of both threads was 905,871 taels in 1905 against 846,696 taels in 1906; but the high exchange converted the lower silver value into a gold increase of £3,094. As, however, the import of 1905 was much in excess of the import of 1904, the 1906 figures may be considered satisfactory.

—The British trade returns for January show decreases of £4,166,488 in imports and £662,840 in exports, respectively.

PRICES OF COMMODITIES.

Wide Fluctuations in 1907.

The past year has been marked by two widely different movements in the course of prices. During the first five months values moved almost continuously upwards, continuing the movement which set in 1905, until in May the average was the highest for fully a quarter of a century, and in a number of instances new high records had been made. Since May their course has, with the exception of food-stuffs, been, in nearly all instances, allowing for fluctuations, downwards, in the case of metals markedly so. As a result closing prices are, apart from foodstuffs, cotton, and coal, almost uniformly lower than at the close of 1906, and with hardly an exception, foodstuffs included, below the best of the year. In 1906 the high range of prices was due to the advances in raw material, foodstuffs as a rule showing declines; this year higher prices for food products have slightly offset the fall in raw materials and prevented the average from dropping as low as it otherwise would have done.

Causes which have affected values of particular groups of commodities will be dealt with in place, but there has, since October, been one influence which has exercised an effect more or less over all—namely, the American financial panic and its far-reaching consequences. Purely market factors have had their powers either seriously modified or accentuated thereby, and, although at the close of the year a recovery from the lowest level points to some amelioration of this influence, it is still operative.

The Metal Market.

The Metal group, by reason of its extraordinary fluctuations and its heavy declines on the year, calls for attention first. Copper, London standard, stood at the high point of the year at £110 12s. per ton, at the lowest at £55 10s., practically a difference of 50 per cent., and at the close at £60 15s. The high price was due largely to speculative anticipation of estimated requirements and consequent stocking up mainly on the part of the great American copper interests. The demand which really came forward was, either by reason of the excessive price or natural falling away of consumptive requirements, or a combination of both, disappointingly small. The stocks held became oppressive and efforts to market them under increasing financial stringency proved disastrous. The fluctuations in Tin have been even wider than in copper in money difference, although not so great in percentage. Straits tin in London at the top was quoted at £200 per ton, it fell to £115 per ton, and closed at £119 per ton. While Lead, after reaching £22 5s. per ton for foreign, soft in London, receded to £13 per ton, and closed at £14 5s. per ton. Spelter at no time improved upon the opening price of the year, £28 2s. 6d., and closed at the lowest point, £19 12s. 6d. Pig Iron prices advanced but little above those ruling at the beginning of the year, and have been free from

such violent fluctuations as marked the years 1905-06, but their course has been generally downwards, with the result that Scotch warrants, opening at 67s. 6d., after advancing to 69s. 3d., closed at 57s. 6d., and Cleveland warrants, opening at 62s. 0½d., advanced to 62s. 6d., and closed at 48s. 9d., both instances at the lowest of the year. The market was supported early in the year by a demand on American and Continental account; when that was withdrawn the home demand proved sufficient fairly to maintain values for a period, the greater part of the decline having occurred since October. That this has been largely due to the financial conditions would seem probable from the fact that the fall has been concurrent with the reduction of stocks in Warrant stores to an unusually low figure.

In precious metals Silver has had an unusually wide movement. Opening at 32½d. per oz., it ruled steady until September when 31d. was quoted. Since then, under reduced Government demands and generally unfavourable conditions, it has dropped back, closing at 24½d. Antimony advanced sensationally in 1906, in 1907 it had an even more sensational decline, falling from £115 to £34 per ton. Platinum declined from £7 10s. per oz. to £5 10s. per oz.

Textile Industry.

Cotton alone in Textile Materials shows an advance. American middling (Liverpool) opened at 5·80d. per lb., at its highest touched 7·57d., and was lowest at 5·57d., closing at 6·12d. The range between highest and lowest, 1·82d., is wider than in 1906 and fairly reflects the greater diversity in estimates of the American crop and the effect of the large speculative element in cotton trading. Consumption has been on a liberal scale, but the year closed with indications of a decreased demand for manufacturing purposes in both Europe and America. Wool, in spite of increased supplies, advanced steadily until near the close of the year, but within the past two months the improvement has been lost, and the average of values at the close is slightly lower than a year ago, a result attributed almost entirely to monetary stringency and not to trade apprehensions of the immediate future. Flax opened at £25 per ton for Livonia crowns and closed at £20 per ton, these marking practically the extremes of highest and lowest value. Both Jute and Hemp have fluctuated widely, hemp between £43 and £28 5s., opening at £42 and closing at £29 10s., and jute, native first marks, between £27 10s. and £17 10s., opening at £27 10s. and closing at £16. Other notable changes are seen in Coconut Oil and Copra; supported last year by the soap trade demands. They declined materially, and minor changes were shown in other oils and in Tallow and Turpentine.

Miscellaneous.

Coals have advanced, prices being carried up during the summer by large export buying, touching the top in September. Since then there has

been a downward movement, taking the market from 2s. to 3s. back, but still leaving it about 2s. to 3s. per ton higher than a year ago.

Breadstuffs show the greatest and most uniform advances. In a gradually hardening market fears of inadequate supplies, under reported crop failures, induced a strong speculative movement in the late summer which carried prices rapidly upwards, until checked by the American situation in October. At the top Wheat had an advance of 10s. 6d. per qr. for English and from 12s. to 14s. for foreign, and flour of from 9s. to 10s. per sack. Since then with moderate fluctuations prices are about 2s. lower for wheat and slightly lower for flour. Maize, Barley and Oats, have also gained in price, but not to the same extent as wheat. Other articles entering into domestic consumption have advanced in price, Sugar and Coffee slightly, Tea and Cocoa materially.

The following table gives the highest, lowest, and opening and closing prices of a number of the leading commodities:—

1907.		Commodity.	Dec. 29, 1906.	Dec. 28, 1907.
Highest.	Lowest.			
—	—	Brazil type 7, Dec., N. York . p. lb.	—	—
5½d.	4d.	PEPPER—Singapore, black . p. lb.	5½d.	3½d.
7 d.	5½d.	Do., do., white ., Do., do., West Ind., crys., duty pd., spot . p. cwt.	6½d.	5½d.
18/0	16/3	Raw cent., N. York p. lb.	16/9	17/3
3·95c.	3·38c.	Do., Beet, 88% Dec., p. cwt.	3·56c.	3·85c.
—	—	Do. do., cur. mo., Hamb'g, p. 100 kilo.	—	—
—	—	Do., do., cash, f. o. b., Hamb'g, p. 100 kilo.	17·90m.	—
20·45m.	17·55m.	Do., No. 2 crystals spt. Paris . p. 100ks.	17·90n.	—
28·75f.	25·37½f.	Do., refined, Tate's cubes, spot . p. cwt.	28·50f.	28·75f.
20/3	18/9	TEA—Indian com. leaf . p. lb.	18/9	19/9
7½d.	5½d.	CAMPHOR—1 oz. tablets, spot .	5½d.	7½d.
4/11	2/4½	NITRATE OF SODA—spot . p. cwt.	4/10	nom.
12/6	11/6	SALTPETRE—Bengal, 5½% . p. cwt.	12/6	11/6
19/3	19/0	SULPHATE OF AMMONIA, sp. p. ton	19/3	19/3
£12 0 0	11 14 4½	SHELLAC—T. N. Orange, spot, p. cwt.	£11 15 0	£11 13 9
216/0	120/0	COCOANUT OIL—Ceylon, in brls., spot . p. ton	213/0	122/6
£43 0 0	£30 0 0	Cochin, do., . p. ton	£39 5 0	£30 0 0
£47 0 0	£42 0 0	COPRA—f. m. Manila, spot .	£43 0 0	£42 0 0
£25 15 0	£18 0 0	COTTON OIL—Crude, in casks, spot . p. ton	£24 0 0	£17 7 6
£32 10 0	£20 0 0	Refined, best, spot . p. ton	£21 17 6	£20 0 0
£34 10 0	£24 0 0	LARD—Amer. ref. pails . p. cwt.	£24 10 0	£23 10 0
52/0	43/6	LINSEED OIL—Spot, in brls. . p. ton	49/6	43/0
£28 0 0	£21 5 0	PETROLEUM—Russian, spot . p. gal.	£21 12 6	£22 12 6
6½d.	6d.	Do., American, spot . p. lb.	6½d.	6½d.
7½d.	6½d.	TALLOW—Australn., mut., sp. . p. cwt.	7½d.	7½d.
40/3	35/0	Do., do., beef, spot . p. cwt.	38/6	35/0
37/6	33/0	TURPENTINE—Amr. Ref. sp. . p. cwt.	35/6	33/0
52/4½	32/9	COTTON—Amr. mid. s. Lpl. . p. lb.	50/0	32/0
7·57d.	5·75d.	Do., do., do., N. York . p. lb.	5·80d.	6·12d.
13·55c.	10·60c.	Do., E. I. Broach, fine, sp. Lpl. p. lb.	10·65c.	11·80c.
6½d.	5½d.	Do., Futures, Amer., Dec. Jan., Liverpool . p. lb.	5½d.	5½d.
—	—	Do., Fut. Am., Dec. N. York . p. lb.	—	—
—	—	Do., Egyptian F.G.F., Brown spot . p. lb.	—	—
11½d.	10d.	Liverpool . p. lb.	10½d.	10½d.
—	—	Do., Futures, Dec. Liverpool . p. lb.	—	—
—	—	Do., do., Jan. Alex. p. cntr.	—	—
£25 10 0	£20 0 0	FLAX—Russian Riga, Livonia, crown row crop, c.i.f. p. ton.	£25 0 0	£20 0 0
£43 0 0	£28 5 0	HEMP—f.c. Manila, spot . p. ton.	£42 0 0	£29 10 0

1907.		Commodity.	Dec. 29, 1906.	Dec. 28, 1907.
Highest.	Lowest.			
—	—	JUTE—Native, 1st marks, ship Dec- Jan. p. ton.	—	—
£27 10 0	£17 10 0	Do., spot p. ton.	£27 10 0	£16 0 0
14½d.	13d.	WOOL—Aust. med. greasy comb. p. lb.	14d.	10½d.
13½d.	10d.	Do., Lincoln wethers p. lb.	10d.	10d.
—	—	Do., La Plata, 36½% Havre, June 100ks.	—	—
—	—	Do., do., tops, Ant- werp, Aug. p. kilo.	—	—
5/3	3/4	INDIAN RUBBER—Fine para p. lb.	5/2½	3/5½
£115 0 0	£33 0 0	ANTIMONY p. ton	£115 0 0	£34 0 0
110 12 6	£55 10 0	COPPER—Lond. stand cash p. ton.	104 10 0	£60 15 0
25-50c.	12-00c.	Do., N. York lake ing., cash p. lb.	23-75c.	13-37½c.
122 10 0	£57 0 0	Do., London, do. cash p. ton.	£112 0 0	£64 0 0
69/3	57/6	IRON, Pig—Scotch Wnts., cash p. ton.	67/6	57/6
62/6	48/9	Do., Cleveland Wnts., cash p. ton.	62/0½	48/9
82/6	66/0	Do., Hematite Wnts. cash p. ton.	81/4½	66/0
£9 0 0	£9 0 0	Do., Stafford Marked Bars p. ton.	£9 0 0	£9 0 0
£8 0 0	£7 10 0	Do., do., Crown Bars p. ton.	£7 10 0	£7 10 0
£7 15 0	£7 0 0	Do., Common Bars p. ton.	£7 10 0	£7 5 0
£25-10	£17-50	Do., Pig, N. York North No. 2 p. ton	£24-75	£17-50
£1 6 6	16/6	Do., Ore, Rubio p. ton.	£1 3 6	16/6
£15 10 0	£10 10 0	Ferro-Manganese, 80 p.c., f.o.b. p. ton	£13 0 0	£10 10 0
£6 15 0	£6 2 6	STEEL Rails (Heavy) p. ton.	£6 15 0	£6 3 9
£7 17 6	£6 12 6	Do., Ship Plates (Scotch) p. ton	£7 17 6	£6 12 6
£7 17 6	£7 0 0	Do., do., do., (N.E. Coast) p. ton	£7 10 0	£6 10 0
£22 10 0	£13 12 6	LEAD—English, cash spot p. ton	£20 6 3	£14 12 6
£22 5 0	£13 0 0	Do., Foreign soft cash p. ton	£20 0 0	£14 5 0
£7 10 0	£5 0 0	PLATINUM p. oz.	£7 10 0	£5 10 0
32½d.	24½d.	SILVER p. oz.	32½d.	24½d.
£28 2 6	£19 12 6	SPELTER—G. M. B. Silesian p. ton	£28 2 6	£19 12 6
199 0 0	120 0 0	Tin—London—Eng- lish cash p. ton	194 10 0	125 0 0
200 0 0	115 0 0	Do., do., Straits, cash p. ton	193 10 0	119 0 0
44-37½c.	25-72½c.	Do., N. York, cash, Spot p. lb.	42-17½c.	26-37½c.
—	—	CEMENT—f.o.b., Lond. stand. casks	6/0	6/0
22/0	17/6	COAL—Best house Durham Sea p. ton.	19/6	20/0
13/0	9/6	Do., Barnsley, best, steam p. ton	9/6	12/9
21/9	17/1½	Do., Cardiff best steam p. ton.	17/1½	19/0
14/7½	12/0	Do., Durham unscrud. bunker p. ton.	12/6	12/6
15/9	11/6	Do., best gas (N.E. Coast) p. ton.	11/6	14/7½
£2 0 0	£1 13 0	Do., Buenos Ayres, bunker p. ton	£2 0 0	£2 0 0
£1 5 0	16/0	COKE—Blast furnace p. ton.	£1 2 6	16/0

A SIAMESE MALAYAN STATE.

First Report on the Administration of Kedah.

THE first administration report published by the Malay State of Kedah, which is under Siamese rule, offers no little interest. The report has been prepared by Mr. G. C. Hart, Adviser to the Kedah Government since 1905, who was formerly in the service of the Indian Government and latterly in that of the Financial Department at Bangkok.

Kedah, as is the case with other Malay States, has no recorded history, so that any trustworthy data have to be derived from the annals of other countries. On the authority of Josephus, this country seems to have comprised a part of the famous land of Ophir, but, as Mr. Hart reports, "the gold requires rediscovery, and ivory, peacocks, and apes no longer form the important items of export."

The State of Kedah contains an area of about 3,045 square miles, and a population estimated at 219,000, consisting of Malays for the most part, and Chinese. Alor Star, the capital, has been much improved recently, and has the appearance of a progressive and prosperous town. Two steamers run daily between Alor Star and Penang, and the river is thronged with traffic.

The mineral wealth of the country has hardly been exploited; and the forests are poor. The principal agricultural product is paddy and rice, of which a large amount is exported annually. It is to the land that the Government may look for financial assistance, as the country is a rich and well-watered one. Experts give very favourable accounts of the prospects of rubber planting. A new land enactment has lately been introduced which offers very favourable terms to planters, and there is no reason why Kedah should not take a high place among the rubber-growing States within the next decade.

The State is divided into seven districts, and these in turn are subdivided into Mukims, each of which is under the charge of Pengulu, who is nominally responsible for order in his Mukim. Below the Pengulu are the village headmen, each being responsible for the doings of his own village. The majority of the Pengulus are illiterate scoundrels who shut their eyes to cattle thieving and gang robbery provided they get a fair share of the profits. The villagers stand in such fear of them that to bring them to justice has hitherto proved too severe a task for the police.

A thoroughly efficient treasury staff has been instituted, as well as an audit department, capable of seeing that the various revenues reach the treasury and are only expended as the council directs. Codes of civil and criminal procedure have been drawn up and will be introduced as soon as they can be printed. The police force is greatly in need of reform. It consists of 154 Sikh police, 311 Malay police, and the irregular ryot police whose numbers are uncertain. The members of this last class are armed with muskets.

THE ITALIAN COTTON INDUSTRY.

Rapid Expansion.

THE rapid growth of the cotton industry in Italy during the past twenty years, and the consequent enlarged volume of Italian export trade in piece-goods, are conditions worthy of careful investigation and study on the part of Indian cotton manufacturers and exporters generally. The cotton mills of Lombardy number about 500, or about 60 per cent. of the total number for the whole of Italy; the number of looms throughout the country, exclusive of hand looms, being estimated at 150,000, with 5,000,000 spindles, employing 300,000 people. The weaving machinery found in Italian mills is practically all of English make. Ten hours usually constitutes a day's labour, for which women receive a wage of from Rs. 0-15-0 to Rs. 1-4 and men from Rs. 1-8 to Rs. 1-14. The cultivation of cotton in Italy is insignificant, the yield averaging not more than 10,000 bales. According to a recent report by the American representative at Genoa, a project is on foot for the extension of its growth on an important scale. During the American Civil War, a large amount of cotton was produced in Italy, and its extensive cultivation was continued until 1871, when about 198,000 acres were devoted to it. Cotton fields were then turned into vineyards, as yielding more satisfactory export returns, owing to the scarcity of wine in France. Much attention has of late been given to scientific agriculture.

The country is also making an effort towards cotton growing in Argentina; in fact, for more than ten years, Italians interested in the South American trade have been attempting to cultivate a cotton crop in Argentina, with fairly successful—though gradual—results. In 1905, the estimated area under cultivation was 10,000 acres. Several companies, with Italian capital, have been organised to exploit the field, and are actively at work, one company having exported about 2,000 bales of 500 pounds each.

Imports and Exports.

The total amount of the annual importation of raw cotton is estimated at 700,000 bales, of which 500,000 are imported from the United States, 100,000 from India, and 30,000 from Egypt. From January 1st to September 30th, 1906, cotton to the value of Rs. 11,25,00,000 was imported into Italy, an increase over the corresponding period of 1905 of Rs. 90,00,000. The export of cotton goods from Italy during the same period in 1906 amounted in value to Rs. 4,74,45,000, an increase of Rs. 69,00,000. Turkey, Roumania, Bulgaria, Egypt, South America, India, and the Philippines, are the principal foreign markets for the Italian cotton export trade. Twenty-five years ago Italy was one of England's best customers for cotton tissues; now she is becoming a strong competitor in the markets of the world.

The South American market for Italian cottons was developed on the reports of an expert who went from Italy some years ago to make a study of

probable outlets for the then projected cotton mill system which has since grown up in Lombardy. It was made possible by the large number of Italians emigrating to South America for settlement, and is an excellent illustration of the value of trade which follows in the footsteps of the emigrant. Upon the demand created by them was erected the large volume of business now enjoyed. The familiar method of putting trained travellers into the field was followed up in a way which might be imitated by other countries with advantage. No men unable to speak the language of the people whom they had to visit were sent out, and before they went full instructions, based on the careful plans of campaign drawn up by their superiors, were given. Transportation facilities were studied. And then, as the crowning effort in the entire scheme, transportation lines were created in order that the trade might be carried in Italian bottoms, and controlled by Italian hands. Too much emphasis cannot be laid on this successful establishment of direct and perfectly equipped steamship lines between Italian home ports and South America.

In Uruguay, as in other South American countries, Italian cotton exporters have found their greatest aids in the banks established in the large centres of trade by Italians, backed by home capital. These banks stand as sources of quick and certain information concerning every phase of the business, and have been used to draw up reports not only on the standing of clients, the conditions of the money market, the probable demands for credit, etc., but on market conditions and on observations concerning the trade of rival nations. Importations of Italian white and coloured cotton textiles into Argentina increased from 3,964 tons in 1901 to 4,843 tons in 1905. The extent of this industry may be realised when it is remembered that Argentina has only 6,000,000 inhabitants, Italy sends to the Chilean market large quantities of dark-coloured mixtures for trousers, generally worn in the south of Chili, the lighter goods used in the northern and central portions of the country being furnished almost entirely by Germany. Italy also supplies upholstering materials to that market.

—The quantity of hydrous copper sulphate, or bluestone, produced in the United States as a by-product, in the electrolytic copper refineries in 1906, was in the neighbourhood of 42,252,500 pounds, having a fine copper content of 25.3 per cent., or about 10,689,880 pounds. So far as known no other bluestone was recovered during the year in the copper producing industry, the copper sulphate in mine waters and from bleaching processes having been converted into metallic copper by precipitation with iron scrap. Copper oxide to the extent of 725,250 pounds and containing 77 per cent., or 558,450 pounds of copper was produced as a by-product at refining works in 1906. Its chief use is for the refining of oil.

THE BRASS INDUSTRY.

New Appliances and Processes.

It is evident from the immense variety of brass products and from the individual character of many of them that the industry is not susceptible of any large, general, and sweeping changes. But change is going on all the time; new appliances and processes are being continually introduced here and there; there is no stagnation. The Birmingham brass foundries indeed present a very interesting picture of the march of innovation in an old handicraft, slow, reluctant, piecemeal, but going on. The new and the old may be seen side by side in the same shop. The very use of the word "foundry" is significant; it is still applied to all kinds of workshops, though the work may now be quite independent of the foundry. Brass is got into shape for use mainly in three ways:—(1) It is cast in moulds directly into the formed article which only requires finishing and polishing (including staining, etc.), or, in some cases, a certain amount of machining; (2) it is formed from rolled sheets and rods by machinery; (3) it is hammered or chased by hand. To take some illustrations, the majority of the household articles are just cast and then finished; cycle accessories and scientific instruments are made mostly by machinery; engineering work is both cast and machined; art work is sometimes cast, sometimes hammered or chased. On the whole, casting is the great operation, and the bulk of it is performed in the old way; the moulds are made by hand in small rectangular frames by means of single patterns laid in sand. Some of the patterns are extremely delicate and intricate, requiring great skill and much time for the preparation of the moulds. When the articles are small, a single frame may contain the moulds for a dozen or more different articles.

Innovations.

All this is pure hand work of the old kind. But we may notice some innovations. Moulding by machinery has made very little way yet. There is an obstacle to its use in most brass-casting. For some reason, which no one has been able to explain, machine-made moulds have to be laid horizontally, whereas in brass-casting it is necessary, or thought to be necessary, to stand the moulds up on end, so that the metal runs vertically when poured in. Another process, as yet but little applied, is the use of permanent plaster-blocks for mould-making. It may be seen in the foundries who cast for the trade small common articles in great quantities. It is not applicable to many forms of casting.

Passing on from this we may note some new appliances for cleaning the articles after casting. This used to be, and still is, done by simply rotating them in a churn which merely knocks them about; but a vastly improved method has recently been introduced. A number of articles are placed in a metal cylinder,

which is slowly revolved while sand or dust shot is blown through them under pressure. This not only takes off the sand clinging to them from the moulds, but also the rough outer skin. The machines are made by Tilghman's Patent Sandblast Company, of Manchester.

Polishing and Burnishing.

Of further processes the one most generally yielding to machinery is polishing or burnishing. It is an important matter, for the brilliancy of brass is one of its chief recommendations. A good deal of hand-burnishing is still done with a hard steel tool, the object being either held in a vice or rotated in a lathe; but mechanical polishing is applied wherever possible. It is done by a wheel or disc formed of a number of circular layers of calico laid on the top of one another so as to make a flat circular cake, and revolved at a high rate of speed, say 2,000 revolutions a minute. The object is held against the edge of the revolving cotton disc which is called a "bob". In many branches of manufacture this is the only mechanical process applied or applicable; but in an increasing number machines of different kinds are coming into use. There are presses for stamping, lathes for turning, boring, cutting, screwing, bevelling, and milling machines, drills, and so on. Some firms are more enterprising than others, but the class of things produced makes, of course, a great difference. The machines are nearly all supplied by Birmingham machine tool makers, though some manufacturers have a fancy for making private ones of their own. As for power, electricity is coming in but does not appear to have made much way yet. The current is supplied by the municipality, but the price is thought too high.

Making Tubes.

A few other points may be briefly mentioned. Tubes, which form a branch of manufacture of the highest importance, are either made by bending a strip of sheet brass, bringing the edges together and brazing them with solder in a furnace, or are cast and then drawn out solid to any gauge required on a mandrill. The first, which is applied to light tubes only, is an ancient process and the second is not new; it is used for tubes in which strength is required; they can be drawn perfectly true to the 1,000th of an inch. Tubes have innumerable uses in many branches of manufacture from engineering to musical instruments, and they are made in an astonishing number of forms. One firm alone makes 2,500 different sizes and shapes. A process of imitation bronzing is becoming very popular. The brass is plated with copper, which is then chemically stained and the stain is rubbed off in places to give a bronzing effect. Electro-magnetic machines of various types are used to separate the iron from brass filling or other fine scrap, and are a somewhat recent introduction. Brass is also extracted from waste on large scale by regular mining stamps.

THE DEMAND FOR TURPENTINE.

Increasing Prices.

In the course of an article on "The Demand for Turpentine," published in our issue of December 26th (page 700), we showed that the rise in the price of turpentine and other extracts of wood, such as rosin, is due as much to contraction and recession of the area of supply as to the undoubted growth in consumption for ordinary purposes; and that the demand for turpentine is likely largely to increase owing to the fresh outlet created by the manufacture of synthetic camphor. The following figures, which we have compiled from United States Forest Circular No. 110, illustrate the increase that has already taken place during the past few years in the price of timber and other forest products, particularly turpentine and rosin.

A summary of the exports of forest products from the United States for the fiscal years ending June 30th, 1903, 1904, 1905, and 1906 shows that the total value of these exports was Rs. 22,15,84,356 in 1903, Rs. 25,59,00,212 in 1904, Rs. 23,33,93,775 in 1905, and Rs. 28,00,08,240 in 1906, the increase in value from 1903 to 1906 being over 26 per cent. The increase in value does not necessarily indicate an increase in the quantity of forest products exported. For instance, the total quantity of rosin exported in 1906 was but little more than that exported in 1903, yet the total value was more than doubled, because the export value of rosin rose from Rs. 6.4 per barrel in 1903 to a little more than Rs. 12.8 in 1906. There was a decrease of 487,534 gallons in the export of spirits of turpentine from 1903 to 1906, yet the total value increased over Rs. 62,50,000 because the value per gallon rose from Rs. 1.8-6 in 1903 to Rs. 1-15-6 in 1906. The total quantity of sawed timber exported in 1906 was but little greater than that exported in 1903; the value per thousand, however, was Rs. 43-15-6 in 1903 and Rs. 59-14-6 in 1906. There was relatively little change in the quantity of hewed timber exported in the various years; the average value per cubic foot was As. 11-95 in 1903 and As. 12-45 in 1906. In 1903, 1,065,771,000 feet of boards, deals, and planks, having an average value of Rs. 61-8 per M, were exported, while in 1906 the amount was 1,344,607,000 feet, having an average value of Rs. 66-11 per M. The average value of shingles exported was Rs. 7-1 per M. in 1903 and Rs. 8-12 in 1906. Staves furnish the only important item which does not show an increase in value in the past four years. In 1903, 55,879,010 staves were exported, having an average value of Rs. 265-1-6 per M, while in 1906, 57,586,378 were exported, having an average value of Rs. 255-1-6 per M.

Rosin Exports.

The following table gives the exports of rosin from the United States for the year ending June 30th, 1906. The total amount exported was

2,438,556 barrels, of which more than three-fourths went to Europe, one-eighth to South America, and small amounts to North America, Asia, and Oceania:—

Destination.	Barrels.	Per cent.	Destination.	Barrels.	Per cent.
Europe	1,885,881	77.5	Oceania	56,576	2.3
South America	310,225	12.7	Africa	1,388	.0
North America	108,714	4.4			
Asia	75,772	3.1	TOTAL	2,438,556	100.0

Of the total quantity of rosin shipped to Europe, Germany took 36.8 per cent.; the United Kingdom, 29.6 per cent.; the Netherlands, 13.2 per cent.; Austria-Hungary, 7.1 per cent., and Italy, 5.9 per cent. In South America, Brazil took 47 per cent.; Argentina, 30.4 per cent.; Uruguay, 8.1 per cent.; and Chile, 6.3 per cent. Of the shipments of rosin to other portions of North America, Canada took 70.5 per cent.; British West Indies, 14.3 per cent.; and Santo Domingo, 4.2 per cent. Most of the rosin exported to Asia went to the Dutch East Indies and Japan and nearly all of that shipped to Oceania went to British Australasia.

Spirits of Turpentine.

The exports of spirits of turpentine from the United States for the year ending 30th June, 1906, are given in the table below. The total quantity was 15,981,253 gallons. By far the largest part of this, or more than four-fifths, went to Europe; most of the remainder to North America, South America, and Oceania, and small amounts to Africa and Asia:—

Destination.	Gallons.	Per cent.	Destination.	Gallons.	Per cent.
Europe	13,395,193	83.7	Africa	113,115	0.8
North America	1,191,669	7.4	Asia	82,062	.5
South America	777,141	4.9			
Oceania	422,073	2.7	TOTAL	15,981,253	100.0

The United Kingdom took 48.7 per cent. of the spirits of turpentine exported to Europe; Germany, 19.3 per cent.; Belgium, 16 per cent.; and the Netherlands 13 per cent. Of North America, Canada took 79.6 per cent.; Cuba, 11.2 per cent., and Panama 4.1 per cent. Argentina received 50 per cent. of the South American exports; Brazil, 22.6 per cent.; Chile, 15.6 per cent.; and Uruguay, 5.2 per cent. Nearly all of the exports to Oceania were taken by British Australasia.

—The world's lead production in 1906 is estimated in a report by the United States Geological Survey, just received, at 1,144,996 short tons. The approximate consumption is given as being 1,032,280 short tons.

MINERAL AND METAL PRODUCTION OF THE UNITED STATES IN 1907.

The *Engineering and Mining Journal* (New York) publishes the following table, summarising the estimated production of minerals and metals in the United States in 1907, so far as it has been possible to collect the statistics at so early a date. The figures for copper, lead and spelter are based on reports received directly from the producers who have communicated their actual output during the first 11 months of the year, together with their estimates of probable production in December; in many cases the estimates are for only the last few days of December. The other statistics are based on the reports of producers, State mine inspectors, and special correspondents:—

Product.	Unit.	1906.		1907.	
		Quantity.	Value	Quantity.	Value.
<i>Non-metallic—</i>			Dollars.		Dollars.
Coal, bituminous.	Short ton	341,629,113	400,550,931	333,490,070	441,949,931
Coal anthracite.	"	72,209,566	166,307,002	85,063,264	159,942,936
Garnet . . .	"	5,404	179,548	6,500	216,125
Iron ore . .	Long ton	49,217,489	102,372,377	52,418,755	110,079,385
Limestone flux.	"	14,552,000	9,604,320	14,925,000	10,447,500
Petroleum . .	Barrel	131,771,605	80,277,279	165,877,906	118,408,409
Phosphate rock.	Long ton	2,052,742	12,342,741	1,917,000	13,416,000
<i>Manufactured</i>					
Bromine . .	Pound	1,229,000	184,350	1,062,000	138,060
Coke . . .	Short ton	32,690,362	86,897,392	40,090,670	106,757,070
Copper sulphate.	Pound	50,925,932	3,157,408	40,133,117	2,733,405
Copperas . .	Short ton	22,839	228,390	26,212	262,120
Graphite, artificial.	Pound	4,608,000	312,764	6,924,000	453,717
Lead, sublimed white.	Short ton	7,988	798,890	8,700	1,026,600
Zinc, oxide (a)	"	77,800	6,257,361	83,280	7,516,300
<i>Metallic—</i>					
Aluminum . .	Pound	14,350,000	5,166,000	25,000,000	11,250,000
Copper . . .	"	917,620,000	180,000,339	895,104,000	184,937,437
Gold . . .	Oz. fine	4,643,385	96,101,400	4,333,560	89,816,017
Iron, pig . .	Long ton	25,307,191	486,181,139	25,975,914	592,251,523
Lead . . .	Short ton	(b) 345,529	39,093,151	(b) 359,055	38,239,677
Quicksilver .	Flasks	25,309	1,035,138	19,900	805,950
Silver . . .	Oz. fine	56,183,500	37,525,521	56,025,911	37,187,990
Zinc . . .	Short ton	225,404	27,961,256	246,088	29,415,077

(a) Includes zinc-lead pigment; (b) a small portion of antimonial lead is of foreign origin, but separation for 1907 cannot be made at this time, and consequently the figures for 1906 have been combined so as to correspond with those for 1907.

—The official report just issued by the **German Steel Syndicate** states very emphatically that no further reductions in price can be entertained, that of 10 marks per ton made in December having been conceded solely in order to place the spring trade on a sound footing. The foreign demand is admitted to be very small, but this is put down to the stoppage of building operations, by the severe weather, and the position of the money market.

COTTON CULTIVATION IN INDIA.

A PAPER on the cultivation of cotton in India was read at the recent Industrial Conference at Surat by Mr. G. A. Gammie, Economic Botanist, Bombay. Some extracts are given below:—

Experiments for Improvement.

The causes of the decline in the appreciation of Indian cottons in the European markets have been often explained. As regards the intrinsic value of the staple, the superior kinds of Indian cottons compared favourably, on the whole, with the American short-stapled cottons. The average staple of Upland Georgian is between 1'00 and 1'02 inch, that of the best Broach from '90 to barely one inch. The circumstances which tend to increase the inferiority of Indian cottons are carelessness in picking, which causes a loss of 2'5 to about 7% against under 2% of the American Upland Georgian. It must be remembered that the friability of the leaves of Indian cotton plant is due to the draught of the picking season so that, even with extreme care, it will never be quite possible to pick Indian cotton in a perfectly clear state.

Owing to the stronger attachment of fibre to the seed, Indian cotton is more liable to be injured in ginning than that of America and Egypt. The tenacious adherence of the fibre to the seed of course spoils the cotton in two ways, by the liability of the fibre to be cut and torn and by the breaking or crushing of the seed from which oil exudes to stain the fibre. The high pressure to which cotton is often subjected in baling is said also to be detrimental to the quality of the fibre. According to Watson, the native varieties of cotton may be divided into two principal groups; the North Western, yielding about one-third of its weight of clear cotton and including the Broach, Dhollera, Bhaonagar, Old Khandesh (*Varadi*) and the *Jari* variety of Umravati Cotton; and the South-Eastern group, yielding about $\frac{1}{4}$ of its weight of clear cotton and including the Hinganghat, the Bani variety of Umravati Cotton, the Kumta, Madras (Upum variety) and the new Khandesh Cotton (from Hinganghat seed). The short-stapled Sind Cotton, yielding rather more than a third of its weight of clean cotton, may be considered as forming a group apart. The varieties under the names of Western and Tinnevely Cotton, must have been yielded by the Bourbon variety, which has been acclimatized in the Madras Presidency since the beginning of the last century.

The four varieties which in point of quality proved superior to all the others were the Hinganghat, Broach, Kumta, and the Dharwar American Cotton. The varieties next in order are the Kandesh, Western Dhollera, Umravati and Madras Cotton, whilst the Sind Cotton must be placed last of all. The principal descriptions of Indian Cottons, according to Beaufort, are, Hinganghat (Central Provinces), Broach (Southern Guzerat), Dhollera, Bhaonagar (Northern Guzerat, Kathiawar, Cutch), Umravati (Berar, Khandesh, Deccan), Kumta and Dharwar (Southern Mahratta Country), Sind (Sind), Bengals, (Central India, Punjab, United Provinces), Bengal Western

(Sholapur and northern part of Madras), Salems (Salem and Coimbatore), Coconadas (Kistna, Nellore, Godavari), Tinnies, or Tinnevellys (Tinnevely, Madras, Trichinopoly). Two factors of inferiority in Indian Cottons are staple and yield and many experiments have been attempted with the express object of increasing the value of these.

Experiments at first were directed with the purpose of introducing the finer exotic varieties into the country. This object was only attained by the establishment of the Upland Georgian into the Dharwar district and of Bourbon into parts of Madras. The sum of experience gained amounted to the fact that experiments with foreign cottons were often successful when conducted as costly garden trials while, on transfer to the fields, it was found the plants would grow so moderately as not to afford a reasonable profit to the cultivator. Further the foreign cottons with naked seeds fell an easier prey to harmful insects than the native varieties which, with one exception, have their seeds guarded by a dense covering of short hairs. The universal result of the experiments may be summed up in the words of the report issued on those at Broach:—"Some kinds of exotic cotton, such as the New Orleans and Bourbon, yielded occasionally a small crop when cultivated as garden plants with great care and expense, but they never escaped partial damage from the effect of the seasons. When the same kinds were cultivated on a large scale, even with the greater skill, labour and care of the experimental establishments, the crop invariably failed. The possibility of raising garden samples of any kind of cotton, anywhere, by unlimited care and expenditure, is scarcely doubted, but the feasibility of doing so upon terms within the reach of the ryot and within the actual market value of the article, has not been demonstrated at Broach. It was proved that, by double the care and attention and more than double the expense of the native cultivation, a larger yield and better and cleaner quality might be obtained from the indigenous cotton than the ryots can produce, but not sufficiently so to repay the additional outlay."

Soils and Culture.

Black soils in India are pre-eminently the best for cotton. Red soils are scarcely ever used for this crop. The superiority of the black soil is probably due to its depth and adhesiveness, which render it very retentive of moisture. Mr. Mercer made the following remarks regarding the state of native cotton culture:—"In Guzerat, Khandesh, Southern Maratha country and Berar, I find an approach to the American mode of culture by sowing in drills and at regular intervals, while in Madras, the North-West Provinces and almost every other part of India where cotton is grown, the broad cast system alone is used. The first, by allowing the crops to be kept from grass and

weeds, by means of the plough or cultivator, and the ground about the plants being thoroughly and constantly stirred, gives an advantage both in regard to cheapness and the improvement of plants themselves that the other never can possess and is, indeed, the chief excellency of the American mode of culture and the only one of its features which has been found not to need much modification. It appears that the natives of large tracts, as Guzerat, Berar, already employ a mode of cultivating the cotton plant, in principle nearly the same as the American, but better suited in some respects to locality, etc. No people better understand the advantages of rotation of crops than do the natives of India generally. With regard to implements of cultivation, those now in use amongst the natives of the districts when the drill system of cotton culture is practised are quite sufficient, being fully adapted to the most thorough tilling of the ground. Though the field for improvement is great still, the manner of growing the cotton is not nearly so defective as it has heretofore been the practice to represent." Previous experiments carefully conducted proved that irrigation, especially in the later stages, is harmful to the crop and weakens the fibre.

In conclusion, at the present juncture we are only in a position to say, tentatively, that exotic cottons can only be cultivated in favoured parts of India; tree cotton cultivation is not worth the risk; varieties can only be improved in their own localities, by the adoption of methods of selection and crossing and that varieties can only be maintained in a pure state in the fields if the cultivators and traders are willing to observe the needful precaution.

—Mr. M. I. Wilbert gives, in the *National Provisioner*, the following formula for making a **liquid soap from cottonseed oil** which he has found practicable and cheap. The following proportions were used on a small scale:—Sodium hydrate, gm. 40; potassium hydrate, gm. 40; cottonseed oil, cc. 500; alcohol, cc. 250; distilled water, a sufficient quantity to make cc. 2,500. In a suitable container, preferably a glass stoppered bottle, dissolve the potassium hydrate and the sodium hydrate in 250 cc. of distilled water, add the alcohol and then add the cottonseed oil in three or four portions; shaking vigorously after each addition. Continue to agitate the mixture occasionally, until saponification has been completed. Then add the remaining portion of distilled water and mix. The only precautions that are at all necessary are to use a good grade of ingredients, and to be sure that saponification is complete before adding the remaining portions of the distilled water. The water used must be absolutely free from soluble salt of the alkali earths or the heavy metals, and for this reason should be, preferably, freshly distilled. For toilet purposes a suitable scenting material is added.

HEATING OF COTTON CAKE.

TO THE EDITOR OF THE "INDIAN TRADE JOURNAL."

SIR,—I am desired by the Directors of this Company to enclose copy of a letter addressed to the Editor of the *Journal of the Society of Arts*, and to request that you will be so good as to publish that letter and this in the next issue of the *Indian Trade Journal*. It will be obvious to you that the incorrect statement that no plant exists in this country for the decortication of Indian cotton seed is likely to seriously impede the progress of arrangements which we have now in hand with Indian capitalists for the establishment of mills in India similar to the mill which this Company operates here.—Yours, etc.,

S. C. ROBERTSON,

Secretary, Cotton Seed Oil Co.

London, October 21st, 1907.

TO THE EDITOR OF THE "JOURNAL OF THE SOCIETY OF ARTS."

SIR,—The attention of the Directors of this Company has been drawn to a reprint in the *Journal of the Society of Arts* issue of the 11th instant of an article extracted from the *Indian Trade Journal* on the "Heating of Cotton Cake and its Prevention."

In that article the writer states that cotton cake, that is, undecorticated cotton cake, made from Indian seed is liable to heat under certain conditions, that consequently, as large stocks of the article cannot be kept the use of Indian seed for cake is restricted. It is desirable, however, he says, to prevent heating, and as heating is due to fermentation or bacterial action in the husk (which is commonly called in the trade the hull), the remedy is to decorticate the seed. He proceeds to say that no plant for the decortication of Indian cotton seed exists in the United Kingdom, and then propounds a "general idea" of a process for decortication in the hope that persons interested in seed-crushing appliances may be induced to test its practicability.

It is no doubt true that undecorticated cotton cake is liable to heat, but my Directors understand that the heating is due, not to bacterial fermentation, as suggested by the writer of the article, but to that liability to combustion which is characteristic of cotton fibre when saturated with oil. Indian cotton seed is covered with a closely adherent matted fibre which cannot be separated in the ordinary process of cake-making and is left on the hull, forming with the hull and kernel the component part of the cake. The liability to heating is not the only disadvantage attendant on the storage and use of such feeding material, and for many years attention was given to the discovery of a method of separating the fibre from the hull, and hull from the kernel with successful results some five or six years ago. This method has been for some time in full commercial operation by this Company, which holds the patent rights in the process. The decorticated cake made in this Company's mill is at least equal to the best decorticated American cake, as will be evident from the fact that it commands an even better price in the market than American cake. Its keeping qualities have been proved by the application of severe tests, bags of the cake having been sent out by us from London to Bombay, stored in India, and returned to London in perfect condition at the worst season of the year.

The writer of the articles does not seem to have made himself acquainted with recent developments in this matter, and we hope you will do us the courtesy of giving as much

prominence to this rectification of facts as you did the article. When we mention that this Company is now concerned with proposals for the establishment of mills in India worked by plant similar to that which is being successfully operated here, my Directors are sure that you will recognise that they have a right to expect a prompt contradiction of the statement of facts given by the insufficiently informed writer of the article in the Indian official paper.

My Directors desire in conclusion to express their surprise that that paper should not have been better informed, seeing that the facts regarding the patent processes of this Company were supplied to the India Office some three or four years ago in connection with a discussion on this same subject, and that we possess Indian patents as well as patents for the United Kingdom.—Yours, etc.,

S. C. ROBERTSON,

Secretary, Cotton Seed Oil Co.

London, October 21st, 1907.

NEW REFERENCE BOOKS.

L'EVOLUTION SOUTERRAINE.

PAR E. A. MABTEL . . . 3f. 50.

(A new volume of the "Bibliothèque de Philosophie Scientifique," by the editor of *La Nature*, dealing with "Fissuration de la Terre. (Œuvre de l'eau et du feu souterrain. Dessiccation. Faune des cavernes. Préhistoire," etc., 80 illustrations.)

THE PAPER MILLS DIRECTORY OF ENGLAND, SCOTLAND, AND IRELAND.

And Year Book of the Paper-making Trade for 1908, with the Wholesale Stationers of London and the Paper Stationers of England and Scotland. Forty-eighth Annual Edition, Extended and Improved. 8½ x 5½, 199 pp. . . 2s. 6d. net

Simpkin, Marshall.

SIXTY YEARS OF PROTECTION IN CANADA. 1846-1907. By E. PORRITT. 7½ x 5, 478 pp. . . 5s. net

Macmillan.

(MR. PORRITT, who was for some time editor of the *Manchester Examiner*, and is the author, besides other books on Canada, of "The Unreformed House of Commons," has for some years resided in Canada. His historical review is written with ability from the point of view of one strongly opposed to what he calls "Tariff politics," who thinks it can never be practicable to inter-lace a protectionist system in England with a protectionist system in Canada.)

PITMAN'S INTERNATIONAL MERCANTILE LETTERS.

A collection of actual letters, arranged in groups, illustrating modern mercantile methods, and forming models for the foreign correspondent. English-German. 7½ x 4½, 249 pp. . . 2s.

Sir Isaac Pitman and Sons.

PITMAN'S INTERNATIONAL MERCANTILE LETTERS.

A collection of actual letters, arranged in groups, illustrating modern mercantile methods. English, Part I, 1½d.; English-German Part I, 1½d.; English-French, Part I, 1½d.; English-Italian, Part I, 2d.; English-Portuguese, Part I, 2d. [Each to be completed in 16 weekly parts. The English-German volume has just been noted.]

Sir Isaac Pitman and Sons.

HYDRAULICS.

By F. C. LEA, Lecturer in Applied Mechanics and Engineering Design in the City and Guilds of London Central Technical College. 8½ x 5½, 536pp. . . 18s.

Arnold.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the first half of January, 1908. (Prices are stated in annas and pies per ser=2·06 lbs.)

	Rice, common	Wheat	Barley	Jawar	Bajra	Ragi	Gram	Salt
BURMA—	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.
Rangoon . . .	1 3	...	...	...	...	...	...	0 11
Toungoo . . .	2 0	...	...	...	...	...	...	1 5
EASTERN BENGAL AND ASSAM—								
Rangpur . . .	2 6	2 0	...	...	...	...	...	0 11
Backerganj . . .	2 0	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta . . .	2 9	2 6	...	...	...	...	...	0 10
Patna . . .	2 2	2 0	1 5	...	...	...	...	0 11
UNITED PROVINCES—								
Cawnpore . . .	...	2 2	1 8	1 8	1 9	...	1 8	0 9
Fyzabad . . .	...	2 4	1 9	1 11	...	...	1 11	0 11
Meerut . . .	...	2 2	1 7	1 9	1 9	...	1 10	0 9
PANJAB—								
Delhi . . .	...	2 2	1 7	1 8	1 9	...	1 8	0 9
Amritsar . . .	...	1 11	1 6	1 8	2 0	...	1 5	0 7
Rawalpindi . . .	...	1 11	1 5	1 5	1 7	...	1 7	0 7
SIND—								
Karachi . . .	...	2 2	...	1 7	1 7	...	1 7	0 7
BOMBAY—								
Belgaum . . .	...	2 1	...	1 2	1 3	...	...	0 10
Ahmadnagar . . .	...	2 2	...	1 4	1 3	...	...	0 9
Bombay . . .	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad . . .	...	2 2	...	1 6	1 9	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore . . .	...	2 3	...	1 9	...	...	2 2	0 11
Nagpur . . .	2 1	1 11	...	1 9	...	...	1 11	1 2
Raipur . . .	2 0	2 2	...	...	...	...	1 11	1 1
MADRAS—								
Bellary . . .	2 6	...	...	1 2	...	1 4	...	1 0
Madras . . .	2 3	...	...	...	...	1 4	...	0 7
Salem . . .	2 2	...	...	1 4	1 8	1 2	...	0 10

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 4th February.		Sold to 4th February.		Sold in sale of 1st February.		Sold to 1st February.	
	Packages.	Average price per lb. A. P.	Packages.	Average price per lb. A. P.	Packages.	Average price per lb. A. P.	Packages.	Average price per lb. A. P.
Assam	1,258	6 10·3	180,911	7 5·9	4,070	6 5·6	156,589	6 9·1
Cachar	3,446	6 1·9	149,802	6 3	7,087	5 3·5	141,785	4 5·5
Sylhet	3,189	6 1	118,225	6 2·8	3,101	4 11·9	103,540	4 2·8
Darjeeling	185	8 1	57,132	9 2·8	236	6 5·8	55,080	8 10
Dooars	1,854	6 5·5	180,040	6 10	3,570	6 1·1	184,654	5 7·1
Teral	18	6 0·8	21,390	6 3·8	404	4 8·9	33,283	4 4·2
Chittagong	13	4 9	8,755	6 3·1	327	5 3	12,544	4 4·3
Chota-Nagpore	...	...	1,443	5 10·9	...	...	1,446	4 6
Kumaon and Kangra	15	5 0	4,759	6 1·3	...	...	377	5 7·8
Madras	...	...	294	6 1·7	...	...	538	5 4·3
Dehra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	...	...	465	6 5	...	...	486	3 11·4
TOTAL	9,928	6 3·8	723,421	6 11·3	18,795	5 7·8	690,370	5 7·1

(The above do not include secondhand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1907-08. Average price of 39,484 packages Dust * sold to 4th February 6 6·3

* On account of gardens which sell only that grade on this market.

INDIAN CUSTOMS REVENUE.

The following table shows the total gross Indian Sea and Land Customs Revenue (excluding Salt Revenue) in thousands of rupees.

	IN THE TEN MONTHS, APRIL TO JANUARY, OF									
	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08
SEA CUSTOMS.										
IMPORTS.										
<i>Special Import Duties.</i>										
Arms, ammunition, and military stores	2,85	2,65	2,35	2,87	2,02	2,79	3,53	3,41	3,71	4,67
Liquors—										
Ale, beer, porter, cider and other fermented liquors	1,61	1,68	1,68	1,80	2,04	2,12	2,35	2,46	2,60	2,88
Spirits and liqueurs	52,92	53,62	53,13	53,91	58,04	61,99	63,02	66,49	63,70	76,55
Wines	3,14	2,94	2,93	2,89	3,31	3,09	3,05	3,29	3,17	3,33
Opium	2	3	2	3	3	3	3	3	3	3
Petroleum	36,93	33,44	39,46	44,83	44,07	34,52	37,81	31,80	30,25	36,81
Sugar (countervailing duties, 1899)	—	6,08	15,72	29,79	16,80	2,10	11	1	1	—
Sugar (countervailing duties, 1902)	—	—	—	—	3,26	18	9	1	—	—
<i>General Import Duties.</i>										
Articles of food and drink (excluding sugar)	11,79	12,16	13,89	12,96	12,00	12,89	15,04	16,16	16,59	20,87
Sugar (ordinary duties)	16,45	14,80	24,39	25,78	21,60	24,06	27,47	30,15	39,79	38,06
Chemicals, drugs, medicines and narcotics, and dyeing and tanning materials	8,86	8,42	8,94	9,90	9,88	11,39	11,23	11,91	12,56	15,37
Cotton manufactures—										
Piece goods, grey	38,33	40,97	39,74	42,84	43,83	36,98	46,77	53,53	54,16	56,44
" white	14,01	15,40	15,97	23,30	13,86	16,20	22,73	24,15	20,55	32,40
" coloured	15,95	20,09	16,60	20,21	18,87	22,86	26,40	27,72	28,01	31,56
Other goods	1,53	2,40	2,20	2,48	2,05	3,19	4,46	4,97	5,30	5,56
Metals and manufactures of—										
Silver bullion and coin	26,56	19,60	9,88	25,37	31,92	32,64	33,59	22,05	33,76	40,40
Other metals and manufactures of metals	16,63	13,61	18,05	19,44	25,10	27,24	30,01	25,79	28,72	35,69
Oils (excluding petroleum)	1,50	1,12	1,29	1,60	1,22	77	80	1,08	1,67	2,31
Manufactured articles	40,79	45,96	48,80	51,90	51,10	58,96	69,32	69,52	70,68	83,00
Raw materials and unmanufactured articles	7,10	4,67	8,57	7,89	7,52	7,55	8,40	9,99	9,57	12,06
TOTAL IMPORTS	2,96,97	2,99,64	3,23,61	3,79,79	3,69,62	3,61,55	4,06,21	4,04,52	4,24,83	4,97,99
EXCISE DUTY ON COTTON GOODS	11,08	11,01	9,67	14,29	14,11	16,21	18,24	21,45	21,23	25,64
EXPORT DUTIES—										
Rice and Rice-flour	69,94	61,10	58,59	61,46	82,85	78,45	89,23	78,55	66,13	64,60
LAND CUSTOMS AND MISCELLANEOUS	4,78	5,92	6,45	7,10	6,93	7,65	8,20	7,38	7,88	8,34
GRAND TOTAL	3,82,77	3,77,67	3,98,32	4,62,64	4,73,51	4,63,86	5,21,88	5,11,90	5,20,07	5,96,57

—It is reported that tussah and other silks can be dyed black with a mixture of dinitroresorcin in 50 per cent. paste glycerine and Diamond Black. The mixture contains 40 per cent., 20 per cent., and 40 per cent. of these ingredients respectively. The silk is first mordanted for half-an-hour in iron liquor of 13 deg. B. rinsed, soaped, rinsed, and then worked for from one-and-a-half to two hours in a bath containing 20 lbs. of the above mixture for every 100 lbs. of silk, and also a pint of acetic acid for every 40 gals. of bath. The dyeing temperature must not exceed 30 deg. C., for the first half-hour, but is then gradually raised to 80 deg., and kept there to the end. The dyeing must be continued until the bath is exhausted, two hours being usually ample. The colour is then fixed by a warm bath of 1 per cent. of bichromate lasting half-an-hour. The goods are then lifted, rinsed, oiled, and brightened with lemon-juice.

—The Cotton Spinning and weaving Co. of Bayreuth announces a net profit for 1907 of £21,800, as against £14,000 for the previous year. The dividend is increased from 10 to 15 per cent. The Mertach Spinning Company of Augsburg shows for the past year a net profit of £9,700, as against £2,700 for 1906. A dividend of 12 per cent. is declared, as against one of 7 per cent. for the previous year. The Haunstetter Spinning and Weaving Company of Augsburg has made a net profit of £19,700 for 1907, as against £15,600 for the previous year. A dividend of 16½ per cent. is declared, as against one of 14½ per cent. for 1906. The Kaufbeuren Cotton Spinning and Weaving Company closed the year 1907 with a net profit of £22,400 as against £12,400 for 1906. A dividend of 15½ per cent., as against 11½ per cent., is declared. The Düsseldorf worsted Spinning Company shows for 1907 a net profit of £20,900, and has declared a dividend of 6 per cent., as against 4 per cent. for 1906.

SEA-BORNE TRADE OF INDIA.

The following is a summary of the accounts relating to the Sea-borne Trade and Navigation of British India for the calendar year 1907, compared with the years 1905 and 1906 :—

	1905	1906	1907
IMPORTS—			
MERCHANDISE, PRIVATE—			
Bengal	26,830,103	28,382,414	33,409,381
Eastern Bengal and Assam (a)	—	205,406	513,448
Bombay	23,359,987	25,217,667	28,397,627
Sind	5,470,596	6,295,219	6,459,476
Madras	5,392,670	5,779,398	6,378,002
Burma	5,503,626	6,237,091	6,611,828
TOTAL	66,556,982	72,117,195	81,569,762
DITTO, GOVERNMENT STORES			
TOTAL MERCHANDISE	6,183,850	6,007,233	4,621,023
	72,690,832	78,124,428	86,190,785
TREASURE, PRIVATE—			
Bengal	5,111,881	5,401,181	4,977,214
Eastern Bengal and Assam (a)	—	2,432	9,263
Bombay	10,865,787	11,140,915	14,404,313
Sind	264,739	312,736	500,381
Madras	239,213	455,472	568,278
Burma	58,354	95,329	122,240
TOTAL	16,539,974	17,408,065	20,581,689
DITTO, GOVERNMENT			
TOTAL TREASURE	3,760,987	13,545,865	8,856,421
GRAND TOTAL OF IMPORTS	20,300,961	30,953,930	29,438,110
	92,991,793	109,078,358	115,628,895
EXPORTS—			
MERCHANDISE, PRIVATE—			
<i>(Foreign Merchandise)—</i>			
Bengal	132,094	129,435	166,966
Eastern Bengal and Assam (a)	—	17	70
Bombay	1,806,817	1,790,298	1,915,731
Sind	249,441	296,262	330,870
Madras	79,859	133,479	75,696
Burma	24,016	38,908	44,700
TOTAL	2,292,227	2,388,399	2,534,083
<i>(Indian Merchandise)—</i>			
Bengal	44,206,828	51,353,003	50,775,353
Eastern Bengal and Assam (a)	—	2,134,896	2,589,310
Bombay	28,928,207	28,285,405	32,953,780
Sind	8,822,593	8,615,795	13,077,352
Madras	10,055,728	11,445,364	12,510,642
Burma	10,683,525	9,562,890	11,024,654
TOTAL	102,696,881	111,397,353	122,931,091
Total Foreign and Indian Merchandise exported—			
Bengal	44,338,922	51,482,438	50,942,319
Eastern Bengal and Assam (a)	—	2,134,913	2,589,380
Bombay	30,735,024	30,075,703	34,869,511
Sind	9,072,034	8,912,057	13,408,222
Madras	10,135,587	11,578,843	12,586,338
Burma	10,707,541	9,601,798	11,069,354
TOTAL	104,989,108	113,785,752	125,465,124
DITTO, GOVERNMENT STORES			
TOTAL MERCHANDISE	94,969	67,174	91,222
	105,084,077	113,852,926	125,556,346
TREASURE, PRIVATE—			
Bengal	192,422	402,508	231,789
Eastern Bengal and Assam (a)	—	—	—
Bombay	2,823,426	4,446,028	2,785,077
Sind	67,358	54,738	76,006
Madras	126,720	98,813	268,876
Burma	25,917	15,934	16,406
TOTAL	3,235,843	5,018,021	3,378,154
DITTO, GOVERNMENT			
TOTAL TREASURE	6,508,467	1,009,730	1,235
GRAND TOTAL OF EXPORTS	9,744,310	6,027,751	3,379,389
	114,828,387	119,880,677	128,935,735
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt			
DITTO, EXPORT DUTY COLLECTED	4,550,727	4,648,543	4,787,001
	814,123	691,593	691,143

(a) Figures for 1906 are from April to December 1906 inclusive. Prior to April 1906 the figures are included with those of Bengal.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. Rs. (R1.)
- Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. Rs. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. Rs. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. Rs. 12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. Rs. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. Rs. 8. (3a.)
9. Prices and Wages in India. Rs. 8. (9a.)
10. Financial and Commercial Statistics of British India. Rs. (12a.)
11. Judicial and Administrative Statistics of British India. Rs. (10a.)
12. Agricultural Statistics of India. Rs. 3. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. Rs. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in India Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

- Notes on Sugar in India. Rs. 8. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- | | |
|--|---|
| E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W. | Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W. |
| Constable & Co., 10, Orange Street, Leicester Square, W.C. | Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford. |
| Bernard Quaritch, 11, Grafton Street, New Bond Street, W. | Messrs. Grindlay & Co., 54, Parliament Street, London, S.W. |
| Deighton, Bell & Co., Cambridge. | Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C. |
| H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London. | Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C. |
| P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W. | |

On the Continent.

- | | |
|--|--|
| R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W. | Karl W. Hiersemann, Leipzig. |
| Otto Harrassowitz, Leipzig. | Ernest Leroux, 28, Rue Bonaparte, Paris. |
| Mr. Rudolf Haupt, Halli-A-S., Germany. | Martinus Nijhoff, The Hague. |

In India.

- | | |
|---|--|
| Thacker, Spink & Co., Calcutta and Simla. | Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore. |
| Newman & Co., Calcutta. | Superintendent, American Baptist Mission Press, Rangoon. |
| R. Cambray & Co., Calcutta. | Messrs. S. Murthy & Co., Madras. |
| S. K. Lahiri & Co., Calcutta. | Messrs. Thompson & Co., Madras. |
| Thacker & Co., Ltd., Bombay. | Messrs. Temple & Co., Madras. |
| A. J. Combridge & Co., Bombay. | Messrs. Combridge & Co., Madras. |
| D. B. Taraporevala, Sons & Co., Bombay. | P. R. Rama Iyer & Co., Madras. |
| Radhabai Atmaram Sagoon, Bombay. | Messrs. A. R. Pillai & Co., Trivandrum. |
| Sundur Pandurang, Bombay. | Messrs. Gopal Narayan & Co., Bombay. |
| V. Kalyanaram Iyer & Co., Madras. | Messrs. A. M. and J. Ferguson, Ceylon. |
| G. A. Natesan & Co., Madras. | Messrs. A. Chand & Co., Lahore, Punjab. |
| Higginbotham & Co., Madras. | |
| N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad. | |

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
Per annum	Rs. 100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 8 0
To Non-Subscribers	" 10 0

POSTAGE:—

Abroad	per copy per annum 5 0
In India	" 2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 1 0
To Non-Subscribers	" 2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0

The above charges apply also to back numbers.

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD
LIFE
ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,

STANDARD BUILDINGS,

Dalhousie Square,
CALCUTTA.

G. W. MUNT & SONS,

WHOLESALE

BOX MANUFACTURERS

(EVERY DESCRIPTION),

LONDON,

ENGLAND.

FROM THE PUNJAB
DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE"
CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc. It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E. LONDON, ENGLAND.

MARTIN & CO.*Engineers and Contractors**Architects and Builders,*

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO.'S
BOILERS AND ENGINES.

ENGINE PACKINGS. HAIR & LEATHER BELTING.

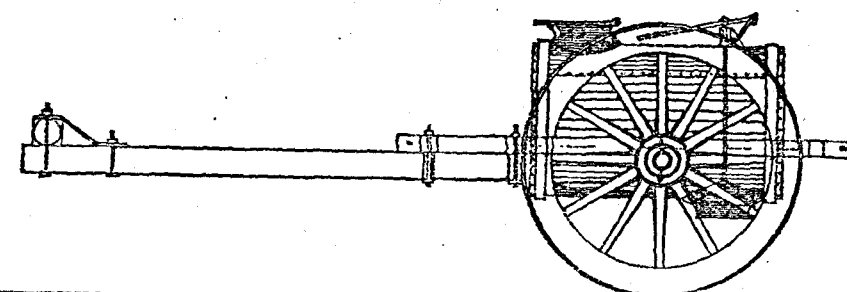
PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. C. I. COLUMNS*Light Railway Material of every Description.***MARTIN & CO.**

6 AND 7 CLIVE STREET,
CALCUTTA.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., Ltd., MADRAS,

Government Contractors.

HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE

WARING & GILLOW, Ltd.*Decorative Artists to H. M. the King*

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's
Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS,
COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct,
164-180, Oxford Street, London.

DELICIOUS **COFFEE**
RED
WHITE
& BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary **COFFEE**.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.

30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING

SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE NO. 132.



THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.

Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.

Branches at Cape Town, Johannesburg and Durban.

SECOND EDITION. NOW READY.
HINDUSTANI GRAMMAR SELF-TAUGHT.

(Marlborough's Self-Taught Series, No. 15a.)

By Captain C. A. THIMM.

REVISED BY

SHAMS'UL 'ULAMA SAYYID ALI BILGRAMI,

M.A. Cantab., LL.B., Assoc. R.S.M., London, M.R.A.S.

CONTAINING

ALPHABET & PRONUNCIATION. SIMPLIFIED
GRAMMAR. EXERCISES & EXAMINATION PAPERS.
THE VERNACULAR: PENMANSHIP, EXTRACTS, &c.
KEY TO PART II. ENGLISH-HINDUSTANI
DICTIONARY.

Sold by all English and Foreign Booksellers.

London: E. Marlborough & Co., Publishers, 61, Old Bailey, E.C.

J. & J. GUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed
Linseed and other Oilseed Cake
and of Cottonseed.

Telegraphic Address:
GUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishes

PROPRIETORS OF

SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.

From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,

HORN NAIL MANUFACTURER By Appointment

TO HIS MAJESTY KING EDWARD VII.

WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'

'SAFETY' HORSE NAILS
CONCAVE INSIDE

CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-
driving, notching, nail-pressure & breaking.

Extract from Mr. SHEPHERD'S Eminent Report:-

'I have nothing to say but un-
qualified praise. I think the nail
is much stiffer to drive, less likely
to buckle in any injurious direc-
tion, and gives increased firmness
to holding on the shoe.'

Japanese Army use exclusively.

SHOE

SAFETY GUNNIES
SUPPORTING RIBS
BEHIND CAY CHISEL

FRONT SECTION OF HOOF
CUT AT HEEL NAIL

KNIGHT'S SAFETY NAILS REQUIRE NO
CURRING TO DRIVE, NOT NECESSARY
TO CLINCH & NEVER GET LOOSE

COMPANIES SAVE HUNDREDS OF
OF NAILS EVERY DAY THE
SHOE IS CARRIED LONGER

THE CRUEL TO MAKE THE HORSE STAND
ON SLIPPERY ROADS WITH
NAIL PRESSURES

London and EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.

Telegrams: 'HORSE NAIL' LONDON Telephone: No. 6018 C

LITTLE'S
"PHENYLE"
DISINFECTANT

The best & most powerful for all purposes.

THE MOST EFFECTIVE AND SAFEST DISINFECTANT
FOR THE BUBONIC PLAGUE.

ADOPTED BY THE INDIAN GOVERNMENT.

Cheap, economical, harmless and effective. A liberal use of this preparation
prevents and arrests contagion in cases of Fever, Cholera, Scariatina, and
kindred infectious diseases. Pronounced by an expert Committee (appointed
by the U.S.A. Government) to be the BEST DISINFECTANT.

REFUSE IMITATIONS.

The Proprietors hereby give notice that action will immediately be taken
against all infringements of "Phenyle."

Manufacturers and Proprietors:

MORRIS, LITTLE & SON, LTD., DONCASTER, ENGLAND.

Agents for Bengal Presidency:

M. M. FRASER & Co., 59, BENTINCK STREET, CALCUTTA.

Sole Agent for Sindh, Punjab, and N.W. Provinces:

MR. MUNCHERJEE MANECKJEE, MULTAN, LAHORE, ALLAHABAD
AND RAWALPINDI.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
in Gelatine.

Beechwood Brand awarded 4 Gold Medals
and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

"CHARLTON"

SILICATE PAINT

Registered Patentees:

THE SILICATE PAINT Co.,

J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

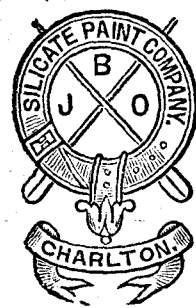
Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,and for all
GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
OR
ARSENIC,
COPPER COLOURS.



Agents in India:

Messrs. T. Cosser & Co., Karachi.
Messrs. John Fleming & Co., Bombay.Messrs. Walker Sons & Co., Ltd., Colomb
Messrs. Oakes & Co., Ltd., Madras.

AND

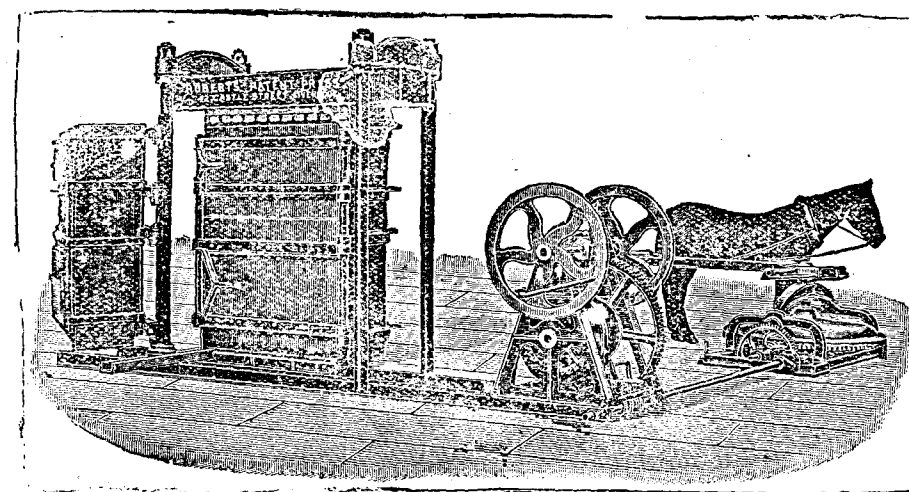
AHMUTY & Co., CALCUTTA.

ROBERTS' PATENT BALING PRESSES

WITH PATENT SWINGING BOXES.

GRAND PRIZE,

Colonial and Indian Exhibition, Crystal Palace, 1905.



ALL SIZES
OF
PRESSES
MADE FOR
Hand, Steam,
Electric, Horse,
Bullock,
OR
Water Power.

H. I. ROBERTS,

VICTORIA CHAMBERS, 42, CASTLE STREET, LIVERPOOL, ENGLAND.
Sole Agents in Calcutta: Messrs. MARTIN & Co.
Bombay Agents: KINMOND & Co.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000. | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

BRANCHES:
Bangkok. Colombo. Ipoh (Perak Feder- Madras. Penang.
Batavia. Foochow. ated Malay States). Manila. Rangoon.
Bombay. Hamburg. Karachi. Medan, Deli Saigon.
Calcutta. Hankow. Kobe. Sumatra). Shanghai.
Cebu. Hong-Kong. Kwaia Lumpor. New York. Singapore.
Sourabaya. Taiping. Tientsin. Yokohama.

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
6, COUNCIL HOUSE STREET.Bombay Agency,
ESPLANADE.Rangoon Agency,
76, PHAYRE STREET.

SANITARY ENGINEERS

Water works and Sewage systems. Engines, Tanks, and Fittings. Septic Tank systems a speciality. Light Railways for refuse removal.

THE EMPIRE ENGINEERING CO., LTD.

New patent Receptacles and Lorries, Improved carts, Latrines, and Conservancy Appliances of all kinds.

Apply for Illustrated Catalogue to

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO.,

ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities,—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

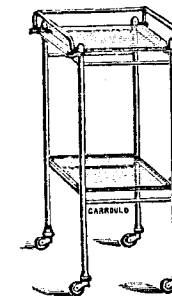
Garrould's

To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS AND
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—
NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS,
OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLETTS, CLINICAL
THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS,
CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

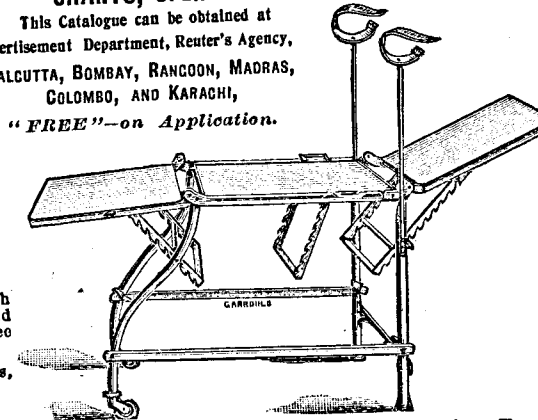
This Catalogue can be obtained at
Advertisement Department, Reuter's Agency,
CALCUTTA, BOMBAY, RANGOON, MADRAS,
COLOMBO, AND KARACHI,
"FREE"—on Application.



ANÆSTHETIC TABLE.

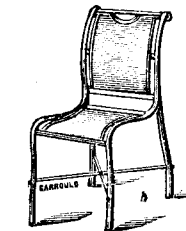
Size 14 in. by 14 in., with
two glass shelves, and
nickel-plated rail on three
sides.

Mounted on castors,
with rubber tyres.



Portable Operating Table designed by Dr. J. J. BUCHANAN.

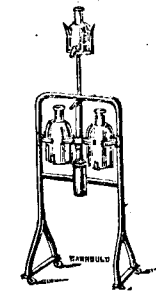
In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors,
complete with Nickel Plated Leg-rest—Will Fold up into a small space.



HOSPITAL CHAIR

(Aseptic).

Tabular frame,
enamelled white.



IRRIGATOR STAND.

Of wrought iron enam-
elled white, on rubber
castors, with 1-gallon
irrigator, adjustable to
any height. Also two
stoppered bottles for
antiseptic solution, and
cylindrical glass for
filling irrigator.

E. & R. GARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H.M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments.

THE WOODITE COMPANY,
MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement
Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 1/4 to 1/4 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,

TOBACCO TRADE ENGINEERS,

33, ENDELL STREET, LONGACRE,
LONDON.**MALCAJIK CIGARETTE COMPANY,**

CIGARETTE SPECIALISTS,

35, ENDELL STREET, LONDON, W.C.

MALCAJIK CIGARETTES.

TURKISH GRADES.

De Luxe.

Special.

Princessas.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO

MALCAJIK VIRGINIA ROYAL CIGARETTES.

Made of the very choicest Bright Virginia Tobacco.

AND

MALCAJIK PIPE MIXTURE.

A revelation to lovers of a good Pipe Mixture. The finest ever made.

AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

*Orders through English Merchants.***JOHN PIGGOTT, LTD.**

The "COMPANION" Cycle.

SOLE

MAKERS.

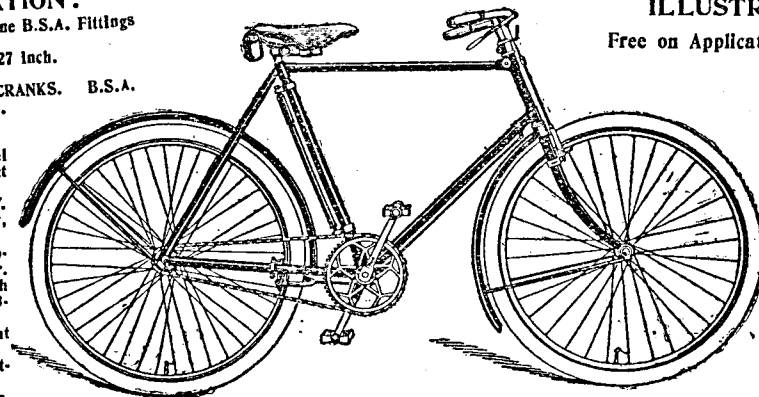
GENUINE B.S.A. FITTINGS.

SPECIFICATION:

FRAME. Built of genuine B.S.A. Fittings throughout.
SIZES. 21, 23, 25, and 27 inch.
HUBS. B.S.A.
CHAIN WHEEL AND CRANKS. B.S.A.
BRAKES. Latest Pattern.
Roller Levers.
HANDLE BAR. Raised.
FINISH Best Black Enamel neatly lined throughout in Gold.
TYRES. Dunlop, 28" x 1 1/2".
FREE WHEEL. Perry, Ball Bearing.
CHAIN. Perry or Brampton 1/2 inch pitch Roller.
SADDLE. Light, with Enamelled Springs, 3-coil.
MUDGUARDS. Light Detachable Steel.
PEDALS. B.S.A. Rat-Trap.
ACCESSORIES. Inflator, Clips, Wallet, Tools and Oil.

ILLUSTRATED LIST

Free on Application to—



Advertisement

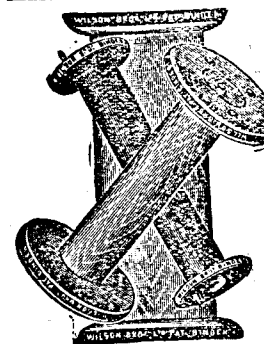
Department,

Reuter's

Agency.

[Please mention this Advertisement.]

CALCUTTA, BOMBAY, MADRAS, KARACHI, COLOMBO or RANGOON,
117 & 118, CHEAPSIDE AND MILK STREET, LONDON, E.C.

**WILSON BROS. BOBBIN Co., LTD.**

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823.

53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS: GARSTON, LIVERPOOL.
BRANCH WORKS: TADMORDEN.

OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: N. WADIA & SONS,

BELLA VISTA OFFICE,

CUMBALLA HILL, BOMBAY.

RELIABLE
QUALITY
ONLY.**PADMORE**Over
70 Years'
Reputation.**BILLIARD TABLES**

Carry a 10 years' Warranty and hold the premier position for

STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941.

BARLOW & Co.

Import and Export Merchants

and

Commission Agents . . .

Agents:

United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd. . . .

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS,

Large Stocks held

WATER METERS,

in Calcutta.

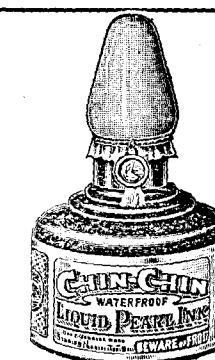
COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



"Pelican" and
"Chin-Chin"



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

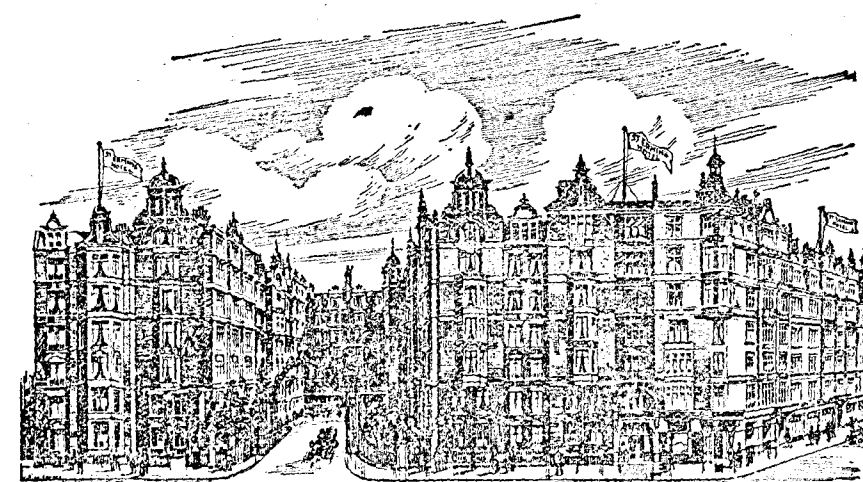
The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1½-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

GÜNTHER WAGNER,

Sole Manufacturer,
MILTON STREET, LONDON, E.C.



ST.
ERMINS
HOTEL

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—

Westminster, 1907.

TELEGRAMS:—

"Erminites," London.

W. EHRENTAUT,

Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmin, London."
Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES.

Manufacturers of every description of

Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

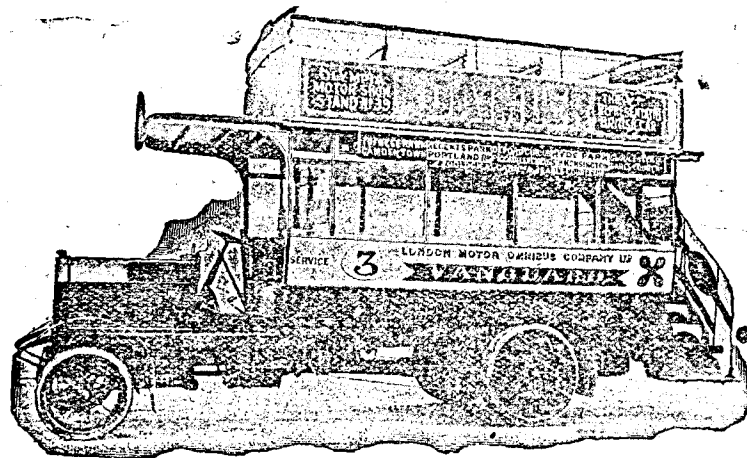
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



Motor Lorries,

- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.

GREAT WESTERN CHARABANC.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

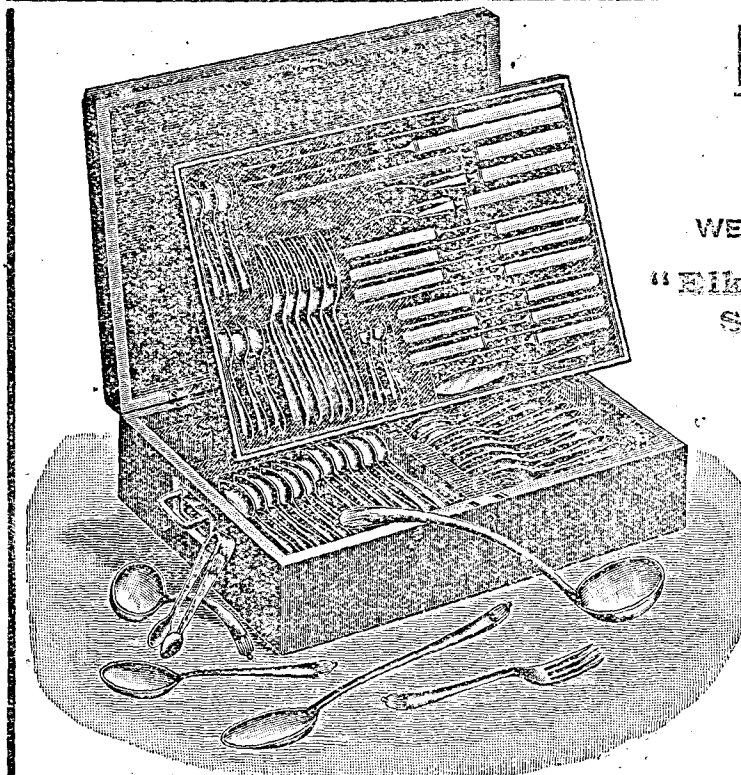
Immediate delivery of all types.

ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.



ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

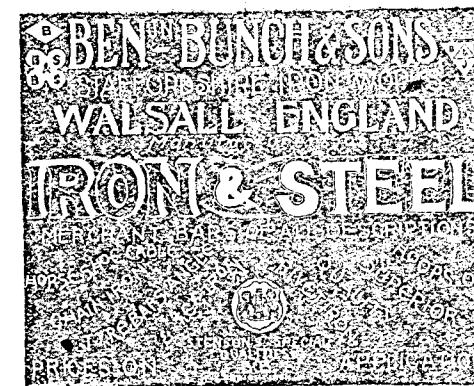
GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,

MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H 

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best.

HALLITE-DOUGLAS,

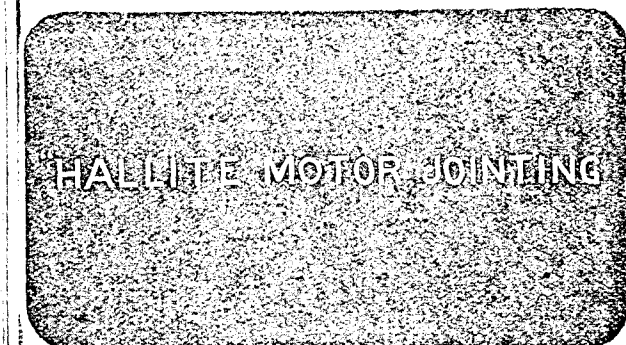
LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



Catalogues can be obtained from

Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

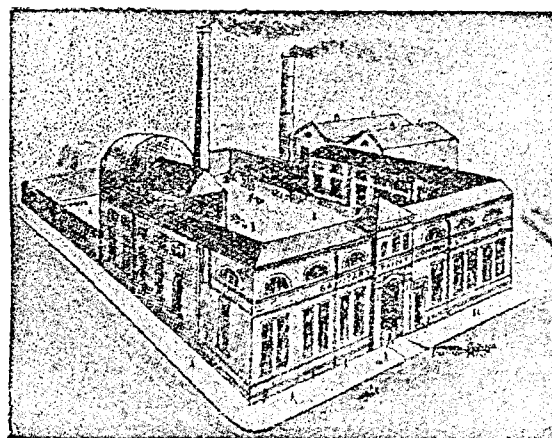
THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"
was received from the Calcutta
Exhibition in 1884,



and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

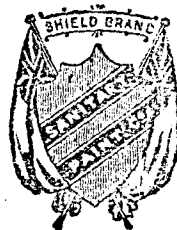
GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.
Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINO WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

They will serve you well and we are confident they will do their best to please you.

THE GRATZE

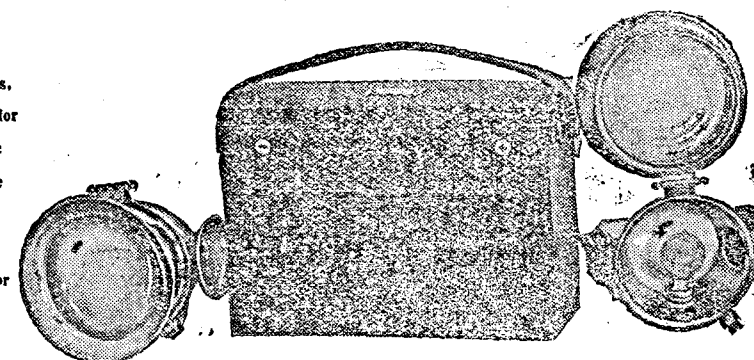
IMPROVED PLANT AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.
(ESTIMATES FREE.)

Suitable for—

Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.

Specially adapted for
hot climates.



Accumulator and Lamps for Carriage or Motor Lighting.

These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

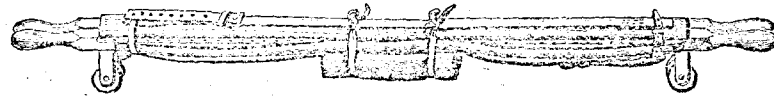
The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES. ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS, LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to

HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS, THE CURRENCY OFFICE, THE GENERAL POST OFFICE, THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS

THE PRINCESS OF WALES

DURING HER STAY IN BOMBAY,

AND BY HIS HIGHNESS

THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING
SAFE & LOCK MAKERS NEAR GAS WORKS PAREL BOMBAY.

FIRE AND BURGLAR

RESISTING SAFES AND LOCKS.

Highest awards at all Exhibitions.

TESTIMONIAL.

PUBLIC WORKS OFFICE,

Bombay, 12th September 1905.

MESSRS. GODREJ & BOYCE have supplied two strong

room doors for the Coin Vaults in the Paper Currency Building,

Bombay. They are of good design and excellent workmanship, and

compare very favourably with more expensive doors of English manufacture.

The locks manufactured by this firm are all that can be desired. They are moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTINESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al, Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

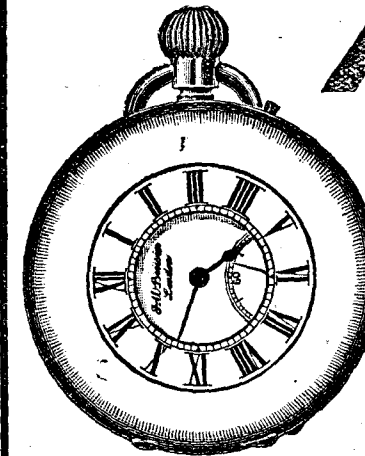
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements special to BENSON'S WATCHES and strongly recommended for the Indian Climate. In 18-ct. Gold Cases, Hunting, Half Hunting or Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL, LONDON, ENGLAND.
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this ad.]

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING Co., LTD., DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD.

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORDS BIRMINGHAM

BRANCHES: LONDON 70, WOOD ST., MANCHESTER 38, THOMAS ST., DUBLIN 15, WICKLOW ST., GLASGOW 71, QUEEN ST.

DEPOTS: CAPE TOWN & JOHANNESBURG, BERLIN, KRAUSENSTRASSE, 40.

TELEPHONE NO. 402-3

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish "SWAN" FOUNTAIN PENS from inferior or imitations are:

- They are always clean and ready for use.
- They neither scratch, blot, nor wear out.
- The regular flow of ink and the smoothness of the nib makes EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers. Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO, & SYDNEY.

STANDS FOR **NELSON**

THIS REPRESENTS THE
WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.
THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY
REALLY DAMP-PROOF
STONE KNOWN.

IT IS EXTENSIVELY
USED BY THE P. W. D.,
PORT COMMISSIONERS,
STATE RAILWAYS,
MUNICIPALITIES,
GOVERNMENT AND
JUTE AND COTTON MILL
COMPANIES.

AFTER 18 YEARS
IT IS STILL
WITHOUT A RIVAL.

The best floor known for Godowns, Offices, Dwelling Houses.
FOR PAVEMENTS IT CAN'T BE EQUALLED.
NO DUNNAGE NECESSARY IN GODOWNS WHERE THE INDIAN PATENT STONE IS USED.
For particulars, estimates and prices for plain & ornamental flooring laid in situ or in tiles

Apply to—

BIRD & CO., MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
100-1, Clive Street, CALCUTTA.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

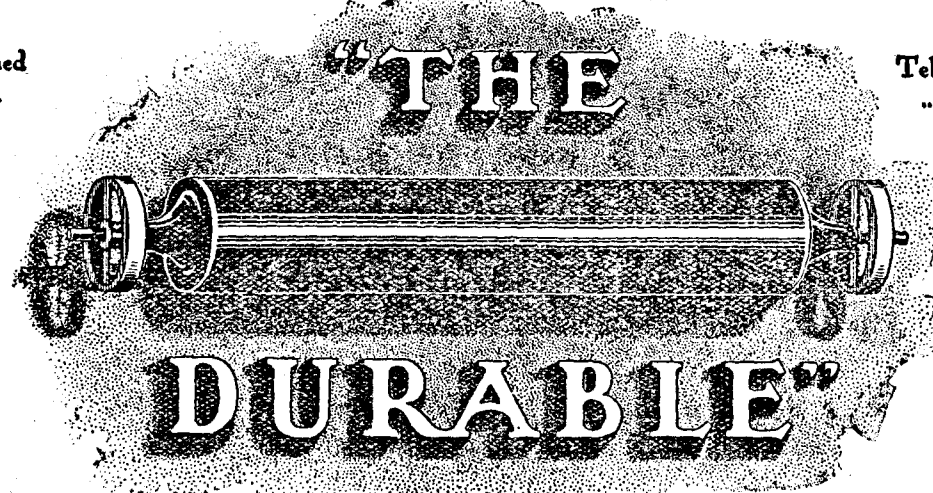
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:

"DURABLE-
ROLLERS.
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

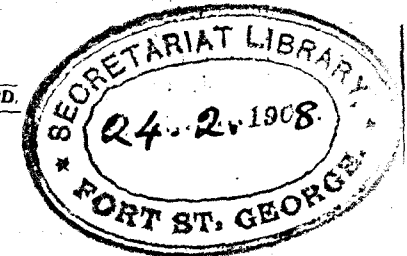
PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

CROP FORECASTS: COTTON, RICE, SUGARCANE.

PUBLISHED WEEKLY.



REGISTERED.



The Indian Trade Journal.

Issued by the Commercial Intelligence Department,
India.

VOL. VIII. No. 99.] CALCUTTA, THURSDAY, 20th FEBRUARY, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	385
NOTICES—	
Enquiries	393
Books of Reference	ib.
LEADER—	
Trade of Seistan and Kain	394
CROP FORECASTS—	
Cotton	396
Rice	399
Sugarcane	401
CHAMBERS OF COMMERCE	403
TARIFF CHANGES	404
SEASON AND CROP PROSPECTS	405
THE FAMINE	406
TUNGSTEN ORE	407
INDIGO AND THE NEW PATENT ACT	408
AGRICULTURE IN EASTERN BENGAL AND ASSAM	409
WHEAT ELEVATORS	410
LIFE OF TEA BUSHES IN INDIA	413
NEW REFERENCE BOOKS	ib.
TABLES—	
Sugar Imports	414
Imports of Cotton Yarns	ib.
Spinning and Weaving Returns	415
WEEKLY TRADE MOVEMENTS	416
INDIAN MANAGNESE INDUSTRY	417
DEPARTMENTAL PUBLICATIONS	418
ADVERTISEMENTS	419

NOTES.

The Presidency Bank rates are as follows:—

Calcutta	9	per cent.
Bombay	9	" "
Madras	9	" "
Exchange—	1.41½	

The Government of Bombay are inviting applications for one or two **State Technical Scholarships** of £150 per annum for candidates in the Bombay Presidency who are willing to proceed to England to undergo a special course of study in (i) the processes of bleaching, dyeing and printing in mills; or (ii) electrical and mechanical engineering. The Chief Commissioner of the **Central Provinces** also offers similar scholarships for students in those Provinces and Berar who may be willing to undergo a special course in mining or textile fabrics in Great Britain, the Continent or America. Applications should be addressed to the Director of Public Instruction in each case.

We have received the preliminary prospectus of the **Rubber Exhibition** it is proposed to hold in the Royal Agricultural Hall, London, from the 21st to the 26th September next, and it may be inspected at this office by intending exhibitors. The main object of the Exhibition, the prospectus explains, is to direct attention to the enormous advances made by the rubber-producer and manufacturer during recent years; and every opportunity is to

be given to enable planter, dealer and manufacturer to bring the results of their labour before the public. The organiser is Mr. A. Staines Manders, 75, Chancery Lane, London, W.C. A strong Executive Committee has been formed with Colonel W. J. Bosworth as chairman; while Viscount Montmorres heads the Advisory Committee.

Apart from Mergui and Shwegyin, where the tree flourishes, *Para rubber*, remarks the *Rangoon Gazette*, has been tried at Pegu and at Tavoy, but has not done well; also at Bhamo where the trees along the roadside and in the forest garden are flourishing. Efforts to grow *Ficus Elastica* in the Mohnyin reserve have mostly failed, but the tree is reported to be doing well in the Rangoon Division, and it flourishes in Maymyo and Myitkyina. A *Ficus Elastica* plantation is to be started in Arakan.

In certain manurial experiments with sugar-cane at the Dumraon Experimental Station last year it was ascertained:—1st.—Three hundred and fifty pounds of nitrogen per acre in the form of cowdung or castor-cake gives a higher yield of *gur* than 150 lbs. of nitrogen in the form of cowdung or castor-cake, or any of the other applications, but the increased outturn of *gur* is not in proportion to the increased amount of manure applied. 2nd.—Owing to the cheap price put on cowdung, 350 lbs. of nitrogen supplied as cowdung has given the best economical result of all the manures. Seven hundred and fifteen maunds of cowdung per acre, however, can be found by very few cultivators. Three hundred and fifty pounds of nitrogen in the form of castor-cake is unprofitable. 3rd.—Practically speaking the highest and most economical return is obtained from 150 lbs. of nitrogen supplied as cowdung, plus castor-cake; viz., 204 maunds cowdung plus 8 maunds castor-cake. 4th.—The manured plots in every case have given a higher outturn than unmanured plots. 5th.—The large applications of cake, bonemeal and saltpetre are generally found to be unpractical. 6th.—From the above results a further set of more practical applications can be arranged. Full details of the experiments in question will be found in the Annual Report of the Dumraon Agricultural Experimental Station for the year 1906-07.

We see it stated in the Annual Administration Report of the Cooch Behar State for 1906-07 that in the year under review 82 bighas (bigah = $\frac{1}{4}$ acre) were placed under tobacco cultivation, as compared with 13 in the year previous. The most interesting feature of the year's working was the experiment to cure tobacco yellow by using artificial heat. Bad weather prevented this experiment being tried often enough to give a definite result. The reports received regarding the tobacco produced have been encouraging, the aim being to produce a local tobacco which

will compare not unfavourably with the manufactured leaf imported in large quantities from America.

In Burma the camphor tree is being experimentally cultivated at Bhamo and at Momeik, and is said to be doing fairly well. This tree also flourishes in Maymyo, and it is believed that it would do well at suitable elevations in the Shan States.

Much of the activity in Manganese mining in Mysore, says the Bangalore correspondent of the *Times of India*, has been temporarily suspended, except in the case of those companies which have large forward contracts. This is attributed to the heavy fall in the price of manganese. The quotation about this time last year was 9 pence per unit, while it now stands at a figure between 5 and 6 pence. In other words, the price has fallen by 40 to 50 per cent. The average price which a ton of Mysore manganese of 45 per cent. grade fetched a year ago was Rs. 22 per ton at the port of shipment, namely, Marmagao; while it has now fallen to Rs. 12 or 14 per ton. The reasons mentioned are the American financial crisis and the reopening of the Caucasus mines.

Attention is called in the *Daily Consular Reports*, says the *Times*, to the great growth of the exports of Indian manganese ores to Baltimore and Philadelphia. Since the closing down of the Russian mines, the Indian product, which ranks high in point of quality, takes probably the first place as respects quantity. The exports of manganese ore from India for 1904-05 were 141,658 tons; for 1905-06, 354,197 tons, and for 1906-07 502,152 tons. It is stated that all Indian manganese ores are purchased by the Carnegie Steel Company, and that the company has acquired a large deposit of this ore in the Balaghat district of the Central Provinces, while another property in Mysore has been purchased by a prominent German firm. The chief four forms in which these ores are found in India are, respectively, as "braunite," "psilomelane," "pyrolusite," and "manganite." The first named is the most important of these products commercially, and this, together with psilomelane, forms the bulk of the ore exported. "There is a great opening," continues the writer, "for the establishment of a reducing plant in India, as all the ore at present leaves the country in a crude state, involving heavy payments for the freight of waste." An article on the manganese industry was published in the *Indian Trade Journal* of the 29th August, 1907.

Acting on the recommendations of the Telegraph Committee the Government of India have decided that, with effect from the 1st April, 1908, postage stamps shall be substituted for the double telegraph stamps now used for the payment of the charges for telegrams tendered by the public. Postage

stamps are already used in all combined postal and telegraph offices, and the change will have the effect of producing uniformity of procedure which from a departmental point of view is most desirable. The main advantage of the reform, however, is that the present method of accepting telegrams at the counter will be greatly simplified and their despatch proportionately accelerated. As soon as postage stamps are brought into use the receipt granted for a telegram will have no stamp or portion of a stamp attached to it. It is therefore of great importance that the public, when despatching their telegrams, should themselves affix the stamps to the message forms as is done in the United Kingdom, and see that they are defaced by the dating stamp in their presence. It is hoped that the public will rapidly accustom themselves to this procedure for by adopting it they will protect both themselves and the Department from the risk of fraud. As a further step towards accelerating the despatch of business in telegraph offices, the Government of India have sanctioned certain changes in the form of the receipts granted to the tenderers of messages at the counter and received by the peon on delivery of a message to the addressee. In the former case the receipt will no longer be attached to the message form, but will be entirely separate from it, and it has been designed so as to reduce to a minimum the entries to be made upon it by the counter clerk. As regards the receipt for delivery, each peon will in future receive at the beginning of the day a tabular form in the first column of which will be entered the number of each telegram entrusted to him for delivery. The same number will also be shown upon the envelope containing the telegram and the addressee, or the person who receives the telegram on behalf of the addressee, should place his initials in the second column against the number of his message as recorded on the tabular form. There will therefore be no separate form or ticket of receipt for each telegram as heretofore. The public can materially assist the Telegraph Department in expediting the general treatment of telegrams by making themselves acquainted with these simple methods and by giving a prompt acknowledgment to the delivering peons. If it could be arranged in public offices, in mercantile firms, hotels and all other establishments at which numerous telegrams are regularly delivered to have a definite point for the delivery of telegrams, it would be of very great advantage. It is feared there is a considerable waste of time under the present system and this is apt to interfere with that general efficiency which should characterise the treatment of public telegrams at all times.

We are informed by the postal authorities that, with effect from the 1st February, 1908, the maximum amount for which a single money order may be drawn in India on Denmark (including Iceland and the Farø Islands) will be raised from £20 to £40.

During the last quarter of 1907 the exports of rice from Bangkok amounted to 131,951 tons of the value of Rs. 1,11,87,695. In the corresponding period of 1906 the figures were 220,552 tons and Rs. 1,81,27,775.

The Automobile show and Motor Gymkhana will be held in Bombay on the 24th to the 29th instant under the auspices of the Motor Union of Western India. Programmes and plans may be inspected at this office.

At the close of the All-India Weaving Competition, which will be decided in Madras at the end of the present month, it has been decided, we are informed, to hold a conference to discuss the many questions connected with the development of the hand-loom industry in this country.

The quantity of salt of every description cleared in Calcutta during the quarter ending December, 1907, amounted to 26,65,577 maunds, as compared with 24,48,940 maunds in the previous quarter, and 28,33,025 maunds in the corresponding quarter of the previous year. The net amount of duty levied thereon was Rs. 24,38,337, as against Rs. 22,10,259 in the previous quarter, and Rs. 38,33,752 in the corresponding quarter of the previous year. Compared with the corresponding quarter of the previous year and the same quarter of 1905-1906, importations were greater by 6.6 per cent. and 31.8 per cent., respectively, but clearances were less by 6.08 and .59 per cent.

A book that may prove useful in India at the present juncture is *Casein: its Preparation and Technical Utilisation* by Robert Scherer (London: Scott, Greenwood and Son, 7s. 6d. nett). The book has a great deal of interesting matter in it and shows the many uses that can be made of casein. The wideness of its scope and the secret nature of many of the processes outlined, prevent a thorough technical treatment of the subject. Chapter IX deals with the various forms in which casein is employed as a food-stuff and suggests, in connection with certain articles upon Indian food grains which have appeared in this journal, that all the casein that might be produced in India would probably be put to the best use in supplementing the ordinary farinaceous diet of the people and making good the deficiency of proteid found in that diet.

The prices of opium per chest for the periods mentioned below were as follows:—
For the week ending 15th February, 1908—

In the Calcutta market—
Behar opium—Rs. 1,394; 1,406; 1,397; 1,397;
1,389; 1,386; 1,378.
Benares opium—Rs. 1,370; 1,380; 1,375; 1,375;
1,365; 1,360; 1,355.

The prices in the time bargains for the Behar opium of the 3rd sale of 1908, were Rs. 1,402; 1,414; 1,405; 1,405; 1,397; 1,393; 1,385.

In the China market—

At Hongkong (exchange Rs. 144 to 145 per \$100). Behar opium—\$980; 977½ and 985; 977½ and 980; 982½ and 985; 980; 980; 980.

Benares opium—On the 10th, 11th and 12th instant respectively \$980; 975; 980.

At Shanghai (exchange Rs. 193 per 100 taels).

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 8th February 1908—

In the Bombay market—

On the 2nd and 5th instant (new, 1906-07) Rs. 1,260 to 1,305 and Rs. 1,270 to 1,300; on the 3rd and 7th instant (new, 1905-06) Rs. 1,324 to 1,360 and Rs. 1,325 to 1,400; on the 2nd instant (old, 1904-05) Rs. 1,375 to 1,440 and on the 5th instant Rs. 1,435; the latest prices at Hongkong and Shanghai respectively were (new) Rs. 1,321 and Rs. 1,375; (old) Rs. 1,399 and Rs. 1,452.

At a meeting of the Directors of the Manchester Chamber of Commerce held in Manchester on the 30th ultimo, letters were placed before the Board from the Calcutta, Karachi, Bombay, and Madras Chambers on India time contracts. Whilst recognising that a serious effort had been made to deal with a difficult question, they expressed inability to accept a scheme of suggested allowances for non-fulfilment in a rising market of contracts to deliver grey cloth, such scheme being based on the advance in the price of raw cotton between the date of contract and its breach. This scheme had been sent to the Indian Chambers on behalf of Manchester, its preparation being undertaken at the request of those Chambers. Among other objections, the Chambers thought the scope of the agreement too narrow, as bleachers and calico printers were not included. The penalties were, in their opinion, not high enough to be deterrent. They disagreed also with the basis of the scale of compensation. The minutes of the sub-committee which had charge of the subject, on behalf of the Board, record regret that the scheme had failed to meet with approval and acceptance in India. The sub-committee deemed it futile to reopen negotiations with manufacturers, bleachers, etc., with the object of securing voluntary agreement to the provisions which the Indian Chamber deem essential. The difficulties in obtaining agreement to the scheme which has proved abortive were very great, and it is exceedingly unlikely that what, from the Indian Chambers' point of view, might be called better terms would have any chance of acceptance amongst Lancashire manufacturers.

We notice that the U. S. A. Bureau of Plant Industry claim that in the cotton improvement work the introduction of practical methods of seed selection has enabled the cotton growers to get rid

of light, inferior seed, and as the result of this work, which has aroused great interest, the yield has been increased from 10 to 15 per cent. The apparatus devised for the purpose of separating the seed has been improved so that it is possible to separate cotton seed into heavy and light seed at a very small cost.

H. M. Consul at Savannah (Mr. J. A. Donnelly) reports that the *Cotton Record*, in estimating the sea island cotton crop of the United States at 80,000 bales, states that the crop contains a very small proportion—only about 15 per cent.—of really high grade cotton, or one-fourth of the amount in the preceding year. At the same time the crop for 1907-08 is estimated at 20,000 bales more than the preceding year's crop.

The number of bales of cotton imported into the United Kingdom during the week ended the 23rd January, 1908, was 147,371 (including 88 bales British West Indian and 469 bales British West African), and the number imported during the four weeks ended the 23rd January was 659,284, including 852 bales British West Indian and 670 bales British West African. As regards exports, the figures are, for the week ended the 23rd January, 13,581 bales; and, for the four weeks, 44,330 bales.

Numerous attempts have been made to grow Egyptian cottons in the United States, and, lately, gratifying progress has been made, Egyptian cotton of the Mit Afifi variety having been grown quite successfully under irrigation at Yuma Ariz. One selection has yielded at the rate of 500 pounds of lint per acre, which is unusually high for Egyptian cotton in America. Some of the improved Upland strains have also given equal and even superior yields in this region. The Upland varieties that seem at present most promising for this important agricultural section of the South-west are the Southern Hope, San Flower, and Columbia, the latter being a variety improved by the U. S. A. Bureau of Plant Industry in South Carolina.

Several comments are made by Sir William Willcocks in a letter to the *Egyptian Gazette* on the subject of the Financial Adviser's remarks on the somewhat disappointing yield of Egyptian cotton this season, and his none too hopeful views into the future of the crop. Sir William Willcocks suggests that the reason why the crop has not increased in quantity for a number of years, and has failed to answer to extraordinary expenditure of effort and money made by Egypt, since 1904, is to be found in the circumstance that all lands in the northern and larger tract of the Delta require frequent refreshing with rice crops to wash out the salts with which the soil has been saturated for centuries. There are few

crops more greedy of water than rice, and it is owing, Sir William Willcocks states, to the scarcity of water in summer that this beneficial rotation of rice with cotton can only be resorted to on a small fraction of the lands that need it. Until more water is available for distribution, Sir William Willcocks says, over two-thirds of the total area of the Delta cotton lands will continue to show no advance in production. The rotation of rice and cotton, he thinks, is quite as needful on the areas more remote from the sea, particularly over a considerable part of the Fayoum, and even on the poorer soil of Upper Egypt.

Statistics of the German cotton trade during the past two years are given by the *Kölnische Zeitung* as follows:—

	IN DOUBLE CENTNERS.			
	1906.		1907.	
	Imports.	Exports.	Imports.	Exports.
Raw cotton and cotton waste	4,475,456	640,412	5,368,226	796,782
Cotton yarn	222,840	121,561	401,004	123,185
Cotton piece goods	85,691	553,952	102,725	566,181
	4,783,987	1,315,925	5,871,955	1,486,148

The increase in imports of raw cotton is thus 892,770 double centners, or 20 per cent. over 1906. With regard to yarns, says the Cologne paper, foreign countries, principally England, have exported to Germany, under the stimulus of the new tariff, 80 per cent. more than in 1906. German exports of yarn increased for the year by 1,624 double centners, or 1 per cent. values of the different classes are given as follows:—

	IN THOUSANDS OF £ (000's OMITTED).			
	1906.		1907.	
	Imports.	Exports.	Imports.	Exports.
Raw cotton and cotton waste	£ 24,491	£ 3,048	£ 28,630	£ 3,921
Cotton yarn	4,121	1,605	6,153	1,677
Cotton piece goods	2,796	19,469	3,044	18,700
	31,408	24,122	37,877	24,293

The great increase in the imports of raw cotton and the absence of any appreciable increase in the exports of German yarn and cloth seem to prove that the shipments of English yarn merely supplemented the domestic production, which alone was unequal to the domestic demand.

The first East India indigo sales of the year, held in London on the 27th ultimo, resulted in the sale of only 155 chests out of 425 chests brought

forward. Last year at the corresponding quarterly sales 424 chests were brought forward and 234 sold, whilst five years ago 2,150 chests were brought forward and 885 sold. The present stock is 1,884 chests, which compares with 1,442 a year ago and 5,423 five years ago, when the trade was on a much larger scale. Messrs. H. S. Willcocks and Co. inform us that the brokers' catalogues comprised a useful selection of indigo, though the commoner grades were too much in evidence; for all useful consuming indigo there was a good demand, and fully last sales' rates to occasionally 2d. per pound advance was readily paid. Sixty-four serons Guatemala indigo were catalogued for a sale to follow that of the East India indigo, but 29 serons were withdrawn by importers in the expectation of higher prices prevailing in the near future. The remainder was sold, with good competition, at fully 1d. per pound advance on last sales' rates. This indigo is still relatively very cheap and is rapidly coming into favour with English dyers.

The market for rape oil in England was lower during a part of January, and at one time English refined oil could have been bought at £32 10s., but a better demand set in and the price stiffened, and on the 1st instant it was now £2 per ton better than at the beginning of January. The improvement in the statistical position of supplies proceeds, and there is an encouraging growth in the receipt of seed from Russia. More than half the total imports for the year from this source arrived during December. As the Indian supplies are now normal again it only wanted this movement of Russian seed to put the market upon an ordinary basis. The present price, therefore, does not appear to be too reasonable. The imports into England during the last four years were:—

Imports of Rape seed from—	1904.	1905.	1906.	1907.
	Qrs.	Qrs.	Qrs.	Qrs.
Russia	154,263	35,690	10,985	25,058
E. Indies	99,873	91,918	87,840	222,295
Unenumerated	55,189	53,718	19,324	14,507
Total	309,325	181,326	118,149	261,960
Price of oil, December 31st	£21 10s.	£25 5s.	£33.	£33

The British market for cotton oil looks rather better than it did in December. Both home and foreign trading have been good during January, and prices have gradually strengthened. A little backward movement was noticeable during the third week of last month, but that has passed away, and prices are again at the highest point. Last year was a record for supplies of seed, but the promise of a greater supply from India than from Egypt which was contained in the figures up to October

was not fulfilled. Large quantities of Egyptian seed came in during the last two months of the year, while the arrivals from India were trifling. The figures for the four years stand as under:—

Imports of cotton seed from—	1904.	1905.	1906.	1907.
	Tons.	Tons.	Tons.	Tons.
Egypt	319,077	385,615	362,592	407,797
Other countries (India)	149,576	183,313	262,175	350,355
Total	468,653	568,928	624,767	758,152

It has to be remembered that only a few years ago there were practically no British imports from countries other than Egypt; and the growth of this extra supply is, therefore, somewhat remarkable.

Prices of linseed oil improved during the first fortnight of January, later they declined, and then finally began again to get better. There is no very definite cause to be assigned for these movements. The total import of seed into Great Britain in 1907 is quite sufficient to supply any anticipated need. The figures are in excess of those of 1905, and are surpassed only in the whole history of the linseed oil trade by those for 1904.

Imports of linseed from	1904.	1905.	1906.	1907.
	Tons.	Tons.	Tons.	Tons.
Russia	162,589	208,780	170,731	182,374
United States	960	9,445	86,105	62,243
Argentina	1,494,323	967,930	555,363	967,908
East Indies	1,025,089	611,053	491,961	741,389
Unenumerated	108,017	126,809	280,940	117,622
Total	2,785,983	1,924,008	1,588,100	2,071,534
Price of oil in Hull, December 31st	£12 10s.	£19 2s. 6d.	£20 17s. 6d.	£21 17s. 6d.

It will be noted that the changes which have taken place between 1904 and 1907 are almost entirely in connection with two sources of supply, viz., Argentina and the East Indies. Here very remarkable fluctuations take place; the quantity coming from these countries being about 2½ million quarters in 1904, or 90 per cent. of the total and only about 1 million in 1906, or 60 per cent. of the total. The question of interest at the present moment relates to the prospect of the supply from Argentina this year. Recent reports have indicated that this will be greater than usual, but it may equal the amount received last year without disturbing the market.

A correspondent writes to the *Times Engineering Supplement*:—"The success attending the utilization of the **Cauvery Falls** for the introduction of electric

power to the Kolar goldfield and elsewhere is well known to all students of engineering progress in India. Since this scheme materialized a few years ago the Mysore Electrical Department has been seeking fresh sources from which electrical power can be obtained for the extension in the State of the various objects which are assisted by electrical energy. A scheme has been worked out for damming up the Cauvery near Seringapatam to create a large reservoir, from which water can be distributed to convert many thousands of acres now lying waste into agricultural land. Thousands of horse-power will be available for the supply of energy, not only to all the large towns of the Mysore State, but also to provide sufficient power to work factories and mills, to illuminate streets, and to serve other purposes required in many other towns of Southern India, including Madras. The scheme is estimated to cost a million sterling."

The essential features of the copper market have not changed, says the *Ironmonger* of the 1st instant, and the fact that electrolytic is being offered freely, particularly on the Continent, at very low prices can hardly be regarded as a particularly hopeful sign. It has been a matter of general comment, too, that the principal sellers in the standard market have been the more powerful interests. In refined and manufactured copper business has been practically at a stand-still. Indian purchases have almost ceased. The sales of Chili copper have been very limited, comprising only 50 tons of C. M. M. for the Continent. American advices are contradictory, but inspire decidedly less confidence in the maintenance of prices. A fair volume of business was accomplished in the second and third week in January, which has enabled producers to stiffen their terms up to 14½c. for lake copper, but, according to the latest cables received, business has once more become indifferent, since consumers, whose policy is now not to exceed requirements more than a month or so ahead, appear to have covered themselves for the time being. It is, of course, realised fully that Europe is over-provided for some months, and that the future course of the market depends largely upon the extent to which domestic demands may proceed. The more free circulation of liquid capital has as yet had no material effect in reviving industrial demand.

In its issue of the 1st instant the *Ironmonger* says:—"The tin market has again pursued an irregular course, strength on one day being succeeded by semi-demoralisation on another. There was a very sharp drop on Monday (January 27th) principally owing to a bear attack on the market and the reticence of buyers, while strong interest sold cash freely. It was reported towards the end of last week that the American Steel Corporation were re-selling some of their tin in New York, but the market stood the news very well, and it would appear that the parties named, while actually re-

re-selling small parcels, bought heavily in the East and pretty freely in London. It was their buying indeed which was mainly instrumental in keeping up prices in the London market when the poor figures realised in Holland and the heavy shipments advised might reasonably have been expected to exert a reactionary influence. The Banka sale went off with anything but *éclat*, the average price realised being only about £122 10s. The figures at the end of the month are bound to be very bad. Shipments from the East up to Tuesday were 5,360 tons, and the February total is put at about 5,000 tons. It would appear therefore that the tin which has so long been held back at the chief centres of production is now coming forward freely."

In a recent issue the *New York Journal of Commerce* says:—"It is stated in local naval stores circles that the so-called 'Turpentine Trust' is again out for the 30,000 barrels of the independents which they have stored at various Southern ports. In confirmation of this story, the cause of naval stores at Savannah is emphasised, turpentine having touched 40½ cents per gallon, the lowest price in six years, and a drop of 34 cents since March. Inasmuch as the independent holdings cost around 62 cents this spring and the carrying charges are about an additional cent a gallon per month, their loss to date is figured at \$350,000. Speaking along these lines a local broker said: 'From what I learn, the trust is doing its best to shake out the independents by depressing the price of turpentine, being favoured in this campaign by an absence of buying demand. The independent operators claim to be well margined in their loans, but unless such is the case their position is not enviable. A few years ago practically the same clique tried to put up turpentine and rosins, and came within an ace of beating out the trust interests, who had sold heavily short, but the banks became worried and refused to renew loans, so that the independents lost fully \$1,000,000. The poor business outlook is working against the independents to-day nothing of the fact that the naval stores 'trust' has the longer purse. Paint and varnish manufacturers are closed down for the season and may not resume full operation for months. There is, moreover, not the usual export demand, trade being quiet abroad, where buyers are also affected by the steady decline. The big interests are said to have sold heavily abroad—'sellers' option'—Jan., Feb., and March delivery at much higher figures, so that a special incentive exists for depressing the market."

The *Corn Trade News* gives the following summary of the world's crops as on the 28th ultimo:—**United States of America**—There are further complaints of insects and weather damage, whilst the weather has continued unfavourable in parts of the belt. **Argentina**—No change in wheat prospects, and crop shipping freely. Linseed surplus

estimate reduced by 1,000,000 qrs. owing to poor threshings. Maize damaged by drought, but surplus still estimated at 12,000,000 qrs., which equals the best of former years. **India**—We hear from Kurachee that owing to the rains the yield may be a full one, whilst the officials report further sowings; however, there is no expectation here that there will be any exportable surplus. **Russia**—Reports from south-west continue unfavourable; from south-east rather better news; elsewhere the seedings are under snow. **Roumania**—Weather mild, condition of seedings unchanged. **Hungary**—Official report says condition of seedings moderate, acreage rather less than last year's. **France**—Weather very variable, crop conditions rather uncertain, but no definite complaints. **Germany**—Weather mild, no complaints concerning crops. **United Kingdom**—Weather improved, crops looking better. **Italy, Spain, and North Africa**—Weather and crop reports are mostly favourable.

We call the following paragraph from the Report of the Secretary of Agriculture, U. S. A., for the year 1907:—"The moisture-testing apparatus for grain introduced last year by the Department has been used with great success in the laboratories. This apparatus has been adopted by many commercial organizations, and they report that it has been of the greatest value to them in determining the moisture content of grain. This apparatus enables us to determine the moisture quickly and accurately, making it entirely practicable for use under commercial conditions. Attention was called in my last report to the unsatisfactory methods of handling and grading grain now in vogue. The laboratories established at Baltimore and New Orleans have continued to receive the cordial co-operation of all interested in the handling of grain and have determined some of the more important factors entering into the question of standardizing present methods and grades. It becomes more and more evident as this work progresses that some uniform system of inspecting and grading grain is absolutely imperative. Our producers of grain suffer through the lack of uniformity in grading, and our markets abroad are injured by lack of confidence in the grades established. It is believed that the end to be attained is through **National inspection** of all grain entering into interstate and foreign commerce, and the attention of Congress is respectfully called to this important question."

A communication appears in the *Ironmonger* giving details of what is being done in America to reduce the surplus production of pig iron. It would appear that no attempt at curtailing the output was made until the November financial smash, notwithstanding the exceedingly dull trade preceding it. In October, for instance, furnacemen were pouring out iron at the rate of 2,336,972 tons per month, or, say, 28,000,000 tons per annum.

During November 500,000 tons less was made, and this was followed by a further reduction of 600,000 tons in December. Meanwhile consumption had so far fallen away that it was still far below the reduced output, and it is said that contraction must be continued if prices are to be maintained at their present rather low level. Idle furnaces and plant are now being overhauled and put into condition, so that they may be restarted the moment an opportunity occurs of working them profitably.

The *Frankfurter Zeitung* of 24th January publishes the following figures showing the production of pig-iron in Germany in 1907 as compared with 1906:—

Kind.	1906.	1907.
	Metric tons.	Metric tons.
Foundry pig-iron	2,061,011	2,259,416
Bessemer "	490,081	471,355
Thomas "	8,039,808	8,494,226
Steel and spiegeleisen	753,678	1,034,650
Puddled pig-iron	829,121	786,113
Totals	12,278,693	13,015,760

The production of Thomas pig-iron is on the increase, especially in Rhenish-Westphalia and Luxemburg, as also is the production of foundry pig-iron and of steel and spiegeleisen in all the districts. The figures for puddled pig-iron, produced chiefly in Siegerland and Silesia, have decreased considerably.

During the week ended January 22nd the clearances of silk at the Lyons conditioning-house amounted to 133,215 kilos., as compared with 139,766 in the preceding week and 147,410 in the corresponding week of last year. We append the usual detailed comparisons:—

Week ended January 22nd.	THROWN.		Raw.	Total.
	Organsins.	Trames.		
	Kilos.	Kilos.	Kilos.	Kilos.
1908	20,634	23,765	83,816	133,215
1907	17,024	24,412	105,974	147,410
1906	19,000	19,085	88,333	126,417
1905	14,003	21,866	88,217	124,086
1904	15,778	16,671	83,428	115,877
1903	15,912	19,389	111,747	147,078

The week was even quieter than its predecessor, and the Lyons market remains weak and featureless.

The German trade returns for the past year have now been published, and they show a large

increase in the value of both imports and exports. We give the figures side by side with those for the United Kingdom:—

	IN THOUSANDS (000'S OMITTED).	
	Germany. 1907.	United Kingdom. 1907.
IMPORTS—	£	£
Merchandise	443,170	645,904
Gold and Silver	13,295	73,072
EXPORTS—		
Merchandise	356,035	518,177
Gold and Silver	12,593	67,787

The respective increases in the merchandise movement as compared with 1906 were:—Imports: Germany, £21,240,000; United Kingdom, £38,015,676. Exports: Germany, £32,105,000; United Kingdom, £57,499,000. The increase in British trade was both relatively and absolutely much larger than that in German trade.

Mail advices from the West Coast of Africa give gloomy reports of the depression of trade in that market, says the *Manchester Guardian*. The comparatively low prices of rubber and other African produce have caused local traders to restrict their purchases of textiles to the narrowest limits and to articles of the lowest quality. Considerable stocks of cotton goods that usually go to the coast towns are held by Manchester merchants in the anticipation of more favourable forwarding instructions. The Paris and Bordeaux houses that buy for Konakri and French Senegal give unsatisfactory accounts of the hinterland trade in those districts, and their orders for grey and blue bafts are exceedingly meagre. Sherboro and Sierra Leone show no improvement, only goods of very low grade being required, principally cheap prints and narrow domestics. Blue and white striped domestics suitable for the Lagos trade are in a depressed condition, many of the dealers being encumbered with heavy stocks bought at high prices. Waste fancies have, however, a fair sale in the lower makes. Coloured goods and special qualities of prints are moving in small lots. The Portuguese colonies now buy comparatively small quantities of Manchester goods, home-manufactured goods being supplied by the Lisbon houses, *via* St. Paul de Loanda.

Judging by the following significant paragraph in the Report of the Secretary of Agriculture, United States, for 1907, America would seem to be threatened with something like a timber famine:—"That the United States is even now nearing a time of severe scarcity of lumber is no longer a matter of doubt. Each year makes a further heavy inroad upon the remnant of our virgin forests, and the growth of our abused and depleted forest lands for three years would not meet our needs for one. Under these grave conditions it

becomes a matter of very practical and exigent importance to know with some degree of accuracy how much standing timber we have. Many commercial organizations have, during the last few months, passed resolutions asking the Government to undertake a census of our sources of supply. The Bureau of the Census and the Forest Service are ready to act together to take such a census, if this is made possible by action of Congress, and I urge most strongly that the appropriation necessary for this purpose be made. Until it is known not only how fast our forests are being used, but also how much is in reserve and how fast new wood is growing, our measures to meet the crisis will be planned in ignorance of some of the essential facts."

Reporting to his Government on a new method of making peat bricklets in Canada, U. S. A. Consul A. G. Seyfert gives the following particulars of a mechanical contrivance made by a firm at Dorchester, near London:—"Over the top of the bog has been placed a series of railway tracks about 5 yards apart, and over them run what are called collectors. The collector can be compared to a large electric car equipped with a suction fan. From the side of the car protrudes a long pipe, perhaps 2 feet in diameter, at the end of which is a shoe with a 'lip,' through which the dry peat dust on the surface of the bog is drawn into the pipe by suction and deposited in the car." This method might be employed in India for the removal of dust from roads, in place of the sweeping which now takes place and only disperses the dust into the air.

NOTICES.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Bauxite.

(214)—A Delhi firm desires to be placed in communication with purchasers of bauxite containing from 60 to 73 per cent. of alumina.

Gypsum.

(215)—A firm in the Punjab is anxious to get into touch with purchasers of gypsum.

Yellow Ochre.

(216)—An Indian firm requires the addresses of purchasers of yellow ochre.

Red Oxide of Iron.

(217)—The addresses of purchasers of red oxide of iron are required by a Delhi firm.

Match-making Machinery.

(218)—An Indian firm requires the addresses and catalogues of manufacturers of hand-power machinery for the manufacture of matches. (*British and American papers please copy.*)

Chemicals.

(219)—An Indian firm requires the addresses of firms in a position to supply the necessary chemicals used form manufacturing the paste employed in the manufacture of matches.

Macaroni.

(220)—A company in Trieste desires to enter into communication with firms in India who are in a position to push the macaroni trade.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the ante-room till Wednesday, 26th February, 1908:—

Parliamentary Publications.

Foreign Import Duties, 1907. Statistical Abstract for the several British Colonies, Possessions, and Protectorates in each year from 1892 to 1906.

Foreign and Colonial Publications.

Australia—Statistical Register of the State of Victoria, 1906. Part IX.—Production. France Resultats Statistiques du Recensement General de la Population Effectue le 24 Mars 1901. Tome V. Germany.—Monthly Accounts of Trade, December, 1907. Mexico—Monthly Accounts of Trade, October, 1907;—Boletin de Estadistica Fiscal, June, 1907. Netherlands—Monthly Accounts of Trade, December, 1907. Newfoundland—Customs Returns, 1906-07. United States—Monthly Consular and Trade Reports, January, 1908.

Diplomatic and Consular Reports.

Cuba—Trade of Cuba for 1906. Portugal—Trade of Goa for 1906.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to *Reuter's Telegram Co., Ltd.*; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted. A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1. for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, FEBRUARY 20, 1908.

TRADE OF SEISTAN AND KAIN.

We believe there is a small colony of Indian traders in the provinces of Seistan and Kain, who do a thriving business on the "large profits and slow return" principle. A turn over of 2,000 to 3,000 krans per day (55 krans=Rs.15) is not unusual, and a correspondent states that a petty Indian trader with a capital of only Rs. 2,000 admitted having made a profit of 1,000 krans in the month. It is believed that if these traders were satisfied with smaller profits a much larger business could be done, but to do a larger business more capital would be required. Under present circumstances the goods they import are of low quality, and they seem to make no attempt to exploit the resources of the country in which they reside. The trade of both India and the United Kingdom with Seistan and Kain is practically confined to about a dozen commodities, the chief of which seem to be cotton piece-goods and yarns. The demand for these is fairly

steady and imports during the past Persian year were valued at Rs.1,27,500. The other large items on the import return are indigo, Rs.1,20,000; tea, Rs. 33,000, of which Rs.975 represented Indian tea "imported from Russia"; hides and skins, Rs.36,000, these being mostly fox and jackal skins, which find favour at Meshed; spices, Rs.25,500; kerosene oil, Rs.17,250, of which Rs.2,250 represented the value of kerosene from India and the Gulf ports, but we believe that this trade from India could be increased if the oil were packed in iron drums, like Russian oil, instead of in tins, which leak. The exports which chiefly interest India are wool, Rs.75,000; carpets, Rs. 2,70,000; saffron, Rs. 37,500; and hides and skins, Rs.1,250, of which Rs.6,000 came to India.

One of the great advantages of Indian trade with Persia is that articles of Indian origin always command prices which leave an ample margin of profit, but the demand for any particular class of article is very limited. But that there are openings for Indian trade in Persia will appear from the following statement of a correspondent in Persia, who has had special facilities for coming to a correct judgment in this matter:—

"That there are openings, and good ones, for Indian trade, I am quite confident, provided it be attacked in a business-like manner and by people who know something about commerce generally. It is useless coming to Persia, as so many have done (particularly to Meshed), with a scrap caravan of goods bought with borrowed money, and expecting to make a fortune in a few months, while they, the would-be merchants, have not the remotest idea of the rudiments of business. If trade in Persia is ever to be a success, it must be ventured upon by people who have been brought up in business, and who can afford to wait for a year or so before seeing large returns for their labours. They must come prepared to stay, and gradually extend their business up as far as Birjand, and from there to Turbat-i-Haidari, and so on to Nishapur, Sabzar and Shahrud. These are all important centres, doing their buying in Birjand and Meshed. It is a known fact that some Indian goods imported via the Nushki route to Meshed actually find their way back to Birjand, and from there to the other towns mentioned.

"Seistan, of course, should be made the headquarters for a time at least, as all goods imported would require to pass the Customs here; and, besides, there is a branch of the Imperial Bank of

Persia, which would be convenient for the trader and would be found willing to assist and facilitate in any way possible a respectable representative of a good firm.

"The intending trader should, above all, bear in mind that what goods he brings should be of fair quality and his prices, at first, as keen as it is possible to make them. Tea of even fair quality would have a large sale, but it must not be such as is to be found at present in the bazars here, which even the Seistani refuses to drink; and his taste, I should not say, was at all a cultivated one. What is required is that a General Stores should be opened which would, besides doing a retail business of its own, attend to the supplying and forwarding of goods to Birjand; the latter place to be the distributing centre for Turbat-i-Haidari, Meshed and Nishapur.

"As an auxiliary to the Stores here, I would suggest a carpet factory. Wool is abundant and cheap, and labour very much so, and I see no reason why such a factory, if run on business principles, should not prove very remunerative; the carpets could be exported to America or England, via India. Most of the carpets made around Birjand are bought by Meshed merchants, who send them to Constantinople, and from there, I believe, the majority find their way to America.

"A machine for making soda-water and all sorts of sweet drinks, and an ice machine, would be useful attachments to the concern, while a couple of carpenters would be found of immense value and very profitable. In fact, they should be prepared to undertake anything that there appears to be a need for.

"So far as is known not a single caravan of produce of Seistan has, to the best of my knowledge, ever left Seistan for India. Yet in Seistan goat and sheep skins and cow hides to the number of at least 300,000 may be bought annually, while wool to the extent of 500 kharwars can be bought at rates that ought to leave a handsome profit on resale in Meshed, which is only the first of three markets it may have to pass through before reaching its ultimate destination. With regard to skins, it is known that a good profit can be made by selling them in Quetta, so that a still greater profit should be secured if they were sent direct to the consumer."

The Persian trader, as a rule, has but little commercial enterprise and though the advantages of the Nushki route to India are manifest, he apparently prefers to obtain the Indian goods he requires

through middlemen at Bunder Abbas, and explains his peculiar methods by stating that he has none of his fellow countrymen to act as agents for him in the buying centres of India.

The chief local products of Seistan are ghee, of which about 700,000 lbs. are obtainable annually at the usual rate of 16 krans per 12½ lbs. (export prohibited); hides, about 20,000 annually at from 20 to 25 krans per 12½ lbs. for cattle and camel hides, and from 1 to 2 krans for sheep and goat skins; wool 1,200,000 lbs. (mostly exported to Bunder Abbas) at from 8 to 12 krans per 12½ lbs. unwashed; feathers, about 35,000 lbs. procurable annually and exported to Meshed only at rates varying from 15 to 18 krans per 12½ lbs. for water fowl feathers, and krans 50 to 60 for down. The chief local products in Kain are the following, the weights quoted being the Kaini *man* of 3½ lbs.:—Dried opium (exported to Bokhara and China via Persian Gulf), krans 85 per *man*; burnt opium, krans 60 per *man*; saffron (exported to India, Afghanistan and Tehran), krans 288 per *man*; wool, krans 3 to 5 per *man*; almonds, kran 1 to 1½ per *man*; caraway seed, kran 1 per *man*; assafoetida, krans 3 to 10 per *man*; sheep and goat skins, krans 2 to 2½ each; fox skins, krans 6 to 7 each; cotton (short stapled variety) krans 2-10 to 2-5.

But perhaps the most valuable industry in Persia is that of carpet manufacture, and we give the following particulars of the important carpet trade of the Kainat, compiled by an independent correspondent, who has had considerable experience of this industry:—

"The carpets manufactured in the Kainat are of two classes: (1) Those known as 'Baluch' and 'Bahluli', which are made by the nomad tribes of these names. (2) Those made by the people of the villages, and called 'Drukhshi,' the name being derived from Durukhsab, a village 40 miles north-east of Birjand, and the centre of the industry. Class (1). These are invariably small rugs of sombre colours (usually the darker shades of red and blue, with a grounding of brown camel wool *shuturi*) and the designs are very simple. Wool is used for both the warp and woof of these rugs. The looms used are stretched over the ground. From 30,000 to 50,000 rupees worth of these rugs are produced annually, the average price being about Rs. 11 per square yard. Class (2). The 'Drukhshi' carpets are woven on upright looms with a white (English) cotton warp and a woof of wool. Variegated colours are used, and the designs are numerous

and effective. The total number of looms has been carefully estimated at 644, but the correctness of this cannot be guaranteed as no record is kept by the Persian officials. Each loom is capable of turning out on an average 1,000 *muqatas*. A *muqata* is equivalent to 6,000 stitches or knots, which in a very fair quality of carpet would work out to 33 square yards. The number of *muqatas* per square yard depends on the closeness of the weaving and the fineness of the material used. The price per *muqata* varies from 1½ to 2½ kranas, but 2 kranas may be taken as the price per *muqata* of a very fair quality carpet. Taking 2 kranas as the price per *muqata*, the cost per square yard (calculated at the rate of 370 kranas per Rs. 100), would be Rs. 16-6, and the annual output of the Kainat would amount to 644,000 *muqatas*, or 21,252 square yards, valued at kranas 1,288,000 or Rs. 3,48,108. The manufacturers always sell by the *muqata* and as the number of *muqatas* in any carpet cannot be calculated exactly before the carpet is finished, they have to be counted after completion, when the exact price is then determined. Buyers of large quantities should place their orders with the manufacturers to save the middlemen's profits. It is necessary at the time of ordering to pay half of the estimated price in advance. An agreement should always be taken binding the makers to use vegetable dyes, otherwise aniline dyes are certain to be substituted. It would be absolutely essential for English firms desirous of purchasing large quantities of carpets to have a reliable agent on the spot."

The bulk of this carpet trade, and, in fact, a considerable portion of the export trade of the part of Persia of which we are writing, is in the hands of the Russian traders. Their success, we understand, is largely due, in Seistan at all events, to the operations of the Russian Bank which are pushed in a methodical and energetic manner. Agents are appointed in all large villages and are supplied with goods to the value of kranas 10,000 to 50,000 on payment of a deposit of 20 per cent., or more often on a bond executed by two guarantors known to the Bank; and it is alleged that these traders bind themselves not to obtain goods from other sources. Competition, except on equal terms is, therefore, difficult.

—The prices of British corn per quarter of 8 bushels, in the week ended the 25th January, 1908, were as follows:—Wheat, 35s. 6d.; Barley, 26s. 11d.; Oats, 18s. 5d.

CROP FORECASTS.

COTTON.

Final General Memorandum on the COTTON crop of the season 1907-08.

This memorandum summarises the provincial reports of the cotton crop up to the 1st February and compares them, so far as possible, with those for the two previous seasons. The reports are complete except for that from the Alwar State in Rajputana; and the figures for that State, as reported in December last, have been repeated.

The character of the season has been very unfavourable owing to shortage and bad distribution of rain. Of the sixteen tracts tabulated at the end of this memorandum six show some increase of cotton area but only two show increases of yield and these insignificant.

The total area in all territories reported on is now computed as 21,074,000 acres, which marks a net decline of 1,414,000 acres or 6.3 per cent on the 22,488,000 acres recorded last season at this time. The total estimated outturn is 3,056,000 bales of 400 lbs., as against 4,945,700 bales estimated last year, the contraction here being apparently one of 1,889,700 bales or 38.2 per cent. But doubt is thrown upon last year's estimated outturn by a comparison of it with the sum of net exports and of estimated internal consumption on a basis recently arrived at in agreement with the Bombay Cotton Trade Association, Limited. The figures taken are in every case for the year ending 30th September 1907, and the calculation is as follows:—

	Bales
Net exports	2,717,000
Mill consumption	1,895,000
Consumption outside mills	750,000
Total	5,362,000
Deduct estimated yield	4,946,000
Deficit	416,000

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the entire cotton area of India is ordinarily cultivated in that province.

Bombay (27.4%).—According to the latest reports the total area under both early and late cotton in the British districts comes to 3,453,000 acres—a decrease of 470,000 acres or 12 per cent as compared with last year's area. The Native States (excluding Baroda) report 2,526,000 acres as compared with 2,767,000 acres of last year—a decrease of 8.7 per cent. Since the publication of the December report, the late crop in Gujarat, which was then considered to be far

from promising, has thriven well, particularly in the south. In the Karnatak also the crop has on the whole improved and promises a fair yield. The total revised estimate of yield now stands at 857,000 bales (388,000 bales in British districts and 469,000 in Native States) as against 1,538,000 bales (692,000 in British districts and 846,000 in Native States) for last year, this representing a decrease of 681,000 bales or 44 per cent. It has, however, to be borne in mind that the high figure of last year was due to abnormally favourable conditions; the total estimated yield of 1905-06 was 1,009,000 bales which is 15 per cent above the estimate of the present season.

Central Provinces and Berar (23.4%) now return the revised total area as 4,455,000 acres (1,384,000 in the Central Provinces and 3,071,000 in Berar) as compared with 4,678,000 acres (1,389,000 in the Central Provinces and 3,289,000 in Berar) for last year—a decrease of nearly 5 per cent. The estimate of the yield remains the same as in the December forecast, namely, 595,000 bales compared with the 881,000 bales of last year—a decrease of 32.5 per cent.

Madras (8.8%).—The total area sown in *raiyatwari* villages (about two-thirds of the province) up to the end of January is reported to be 1,621,000 acres, which is about 5 per cent larger than the area at the corresponding date of last year, the increase being attributed to seasonable rainfall. The crop is reported to be generally in fair condition. The yield is estimated to be 155,000 bales, compared with 157,000 bales last year. *Zamindari* and *whole inam* villages report a total area of 204,000 acres, which is about 56 per cent more than the area for the corresponding period of last year, but the returns are still incomplete. The yield of the reported area is at present estimated to be about 28,000 bales. Native States report a total area of 24,000 acres, which is 4 per cent less than the area reported for the corresponding period of last year. The yield of this area is estimated at 2,000 bales.

Panjab (7.9%). now reports the area to be 1,319,000 acres compared with 1,259,000 acres last year—an increase of nearly 5 per cent. Late pickings have been short this year on account of sharp frosts in the middle of December; but the total yield is estimated at 322,000 bales as against 303,000 bales of last year—this representing an increase of 6 per cent. Native States report a total area of 156,000 acres and an outturn of 35,000 bales, compared with 154,000 acres and 54,000 bales for last year.

United Provinces (6.4%) now report practically the same area as returned in the December forecast, namely, 1,443,000 acres compared with 1,473,000 acres last year—a decrease of 2 per cent. The revised estimate of yield comes to 266,000 bales as against 634,000 bales of last year—this representing a decrease of 58 per cent. As regards conditions of the season there is nothing to add to the particulars given in the December forecast.

The State of **Baroda (3.1%)** reports 581,000 acres compared with 693,000 acres of last year—a decrease of 112,000 acres or 16 per cent. The early crop dried up in places, but the late crop has fared well. The yield is estimated at 103,000 bales as against 224,000 bales last year—a decrease of 54 per cent.

Sind (1.1%) returns a total area of 232,000 acres compared with 250,000 acres last year—a decrease of 7 per cent. The crop is reported to have suffered much through deficiency of water-supply. The total yield is estimated at 121,000 bales, which is nearly 22 per cent below the 154,700 bales of last year. The area under **Egyptian cotton** is reported to be about 6,100 acres and is expected to yield about 2,200 bales.

Burma (0.9%) now reports the total area to be 189,000 acres as compared with 187,000 acres last year—an increase of 1 per cent. The estimated yield is 28,000 bales as against 36,000 bales last year—a decrease of 22 per cent.

Bengal (0.4%) reports the total area sown as 74,000 acres compared with 75,000 acres last year. The crop suffered from floods in August and later from drought. The yield is estimated at 14,000 bales as against 16,000 bales last year—a decrease of 12.5 per cent. Besides this, the crop in the Native States, for which no statistics are available, is roughly estimated at 700 bales.

Eastern Bengal and Assam (0.3%) report that no change is necessary in the figures as reported in the December forecast, namely, 78,000 acres and 24,000 bales as compared with 76,000 acres and 17,000 bales of last year.

North-West Frontier Province (0.2%) also reports no change in the figures as given in the December forecast, namely, 48,000 acres and 9,000 bales compared with 61,000 acres and 13,000 bales for last year.

Ajmer-Merwara (0.2%) now reports the same area as given in the December forecast, namely, 41,000 acres compared with 40,000 acres last year. The revised estimate of yield is 32,000 bales as against 57,000 bales last season—a decrease of 44 per cent.

Hyderabad (13.3%).—There has been no sowing since the issue of the December forecast, and the

area remains as then reported, namely, 3,100,000 acres compared with 3,480,000 acres last year—a decrease of 11 per cent. The revised estimate of yield is 310,000 bales as compared with 449,000 bales of last year—a decrease of 31 per cent.

Central India (4.1%) now reports the total area sown to be 990,000 acres compared with 1,136,000 acres last year—a decrease of nearly 13 per cent. The revised estimate of yield comes to 55,000 bales as against 221,000 bales last year—a decrease of 75 per cent.

The total area reported by **Rajputana (2.1%)** is 438,000 acres and the estimated yield 92,000 bales as compared with 428,000 acres and 176,000 bales last year.

Mysore (0.4%) reports 84,000 acres and 7,000 bales compared with 89,000 acres and 10,000 bales for last year.

The exports of raw cotton by sea to foreign countries have been as follows (in cwt.) :—

April to December 1903	4,941,376
" " " 1904	3,615,046
" " " 1905	4,865,593
" " " 1906	4,370,952
" " " 1907	6,373,599

The course of prices is indicated by the following figures which represent the price of Broach cotton at Bombay in rupees per candy of 784 lbs :—

	1903	1904	1905	1906	1907
September	225	270	250	235	268½
October	225	256	...	241½	270
November	237½	243	245	243	265
December	257	237	252	245	271

FREDERICK NOEL-PATON,

Director-General of Commercial Intelligence.

Final estimate of the Cotton crop of India.

Provinces and States	1907-08		1906-07		1905-06	
	Area (acres)	Yield (bales)	Area (acres)	Yield (bales)	Area (acres)	Yield (bales)
Bombay (a)	5,979,000	857,000	6,690,000	1,538,000	5,925,000	1,009,000
Central Provinces and Berar	4,455,000	595,000	4,678,000	881,000	4,849,000	818,000
Madras (a)	1,849,000	184,000	1,703,000	(b)157,000	(b)1,597,000	(b)145,000
Punjab (a)	1,475,000	357,000	1,413,000	357,000	2,020,000	192,000
United Provinces (a)	1,461,000	268,000	1,489,000	639,000	1,372,000	394,000
Sind (a)	232,000	121,000	250,000	154,700	283,000	84,000
Burma	189,000	28,000	187,000	36,000	183,000	35,000
Bengal (c)	74,000	14,000	75,000	16,000	71,000	16,000
Eastern Bengal and Assam	78,000	24,000	76,000	17,000	61,000	17,000
North-West Frontier	48,000	9,000	61,000	13,000	59,000	13,000
Ajmer-Merwara	41,000	32,000	40,000	57,000	29,000	15,000
Hyderabad	3,100,000	310,000	3,480,000	449,000	2,537,000	303,000
Central India	990,000	55,000	1,136,000	221,000	979,000	130,000
Baroda	581,000	103,000	693,000	224,000	730,000	189,000
Rajputana	438,000	92,000	428,000	176,000	291,000	61,000
Mysore	84,000	7,000	89,000	10,000	76,000	5,000
Total	21,074,000	3,056,000	22,488,000	4,945,700	21,072,000	3,426,000

(a) Including Native States within provincial boundaries

(b) Excluding zamindari and inam villages and Native States

(c) Excluding Native States for which the yield of the current year is roughly estimated at 700 bales compared with 800 bales estimated last year

N.B.—A bale contains 400 lbs. of cleaned cotton

RICE.

Final General Memorandum on the RICE crop of the season 1907-08

The provinces dealt with in this memorandum ordinarily include 78.3 per cent of the total area under rice in British India.

The total area reported is 53,747,100 acres, which represents a net decrease of 410,500 acres or .8 per cent as compared with last year's figures.

The total estimated outturn is 384,484,700 cwts of cleaned rice as compared with 427,743,800 cwts of last year, representing a decrease of 10 per cent.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total rice area in British India is ordinarily cultivated in that province.

No reports are furnished by Bengal (34.8%) and Eastern Bengal and Assam (23.1%) in February, the reports issued by them in December and included in the Second General Memorandum issued in that month being final for those provinces. The Director of Agriculture, Eastern Bengal and Assam, has however revised his estimate of the yield of winter rice, which is now computed at 92 per cent of the normal instead of 77 per cent as in December. On this basis the gross yield is calculated at 104,190,000 cwts instead of 87,203,000 cwts.

Madras (10.6%).—The total area under rice in *rayatwari* villages is estimated to be 6,925,400 acres as compared with 6,944,400 acres last year—a decrease of .3 per cent. The crop is reported to be generally in fair to good condition. The outturn expected is 49,445,600 cwts as against 50,438,200 cwts of last year—a decrease of 2 per cent, attributed to want of sufficient supply of water in the irrigation sources to mature the crop. *Zamindari* and *whole inam* villages report a total area of 351,400 acres, which is slightly more than twice the area reported at this date last year; but the returns continue to be

incomplete. The yield of this area is at present estimated at 2,815,500 cwts.

Lower Burma (9.8%).—The total area under rice in the fifteen chief rice-growing districts is now reported to be 7,292,200 acres as compared with 6,973,700 acres last year—an increase of 4.6 per cent. The total yield is estimated at 64,740,000 acres as against 61,924,000 acres last year—an increase of 4.5 per cent. The surplus available for export is estimated to be 2,486,000 tons of cargo rice, equivalent to 42,135,600 cwts of cleaned rice.

The figures below state the total quantity of rice exported to foreign countries by sea in the last five years (in cwts) :—

	From Burma	From Bengal (including Eastern Bengal and Assam)	From Madras, Bombay, and Sind	Total
1903	34,407,598	6,813,205	4,683,877	45,904,680
1904	37,589,361	8,003,699	4,130,310	49,723,370
1905	34,200,758	8,996,514	2,553,832	45,751,104
1906	28,093,470	6,096,027	4,265,155	38,454,652
1907	28,339,452	3,664,579	6,527,565	38,531,596

The exports from Burma to Indian ports have been for the same period—

	cwts
1903	3,794,673
1904	5,793,429
1905	6,615,659
1906	14,402,870
1907	17,781,191

C. W. E. COTTON,

Assistant Director of Statistics,

for Director-General of Commercial

Intelligence.

Estimate of the Rice crop of the season 1907-08.

PROVINCE	Area (in acres)					
	Of current year's crop (1907-08).	Of previous year's crop (1906-07.)	Average of preceding		Percentage by which column 2 exceeds (+), or is less than (-), area in	
					Column 3	Column 4
1	2	3	4		5	6
			Five years	Ten years		Five years
Bengal { Summer crop . . .	181,700	163,600	173,200	189,600	+11.1	+4.9
Autumn " . . .	4,446,200	4,309,000	4,242,500	4,388,400	+3.2	+4.8
Winter " . . .	19,845,300	20,043,400	19,958,400	20,559,900	-1.0	-0.6
TOTAL . . .	21,473,200	24,516,000	24,374,100	25,137,900	-0.2	+0.4
Eastern Bengal and Assam { Summer crop (a) . . .	281,300	229,500	270,200	310,300	+22.6	+4.1
Autumn " . . .	3,450,000	3,481,000	3,817,000	(b)	-0.9	-9.6
Winter " . . .	11,325,000	12,012,100	12,303,300	(b)	-5.7	-7.9
TOTAL . . .	15,056,300	15,723,500	16,390,500	...	-4.2	-8.1
Madras . . .	6,925,400	6,844,400	7,125,800	6,936,400	-0.3	-2.8
Lower Burma . . .	7,292,200	6,973,700	6,699,000	6,273,000	+4.6	+8.9
GRAND TOTAL . . .	53,747,100	54,157,600	54,539,400	...	-0.8	-1.5

PROVINCE	Yield (in cwt.) of cleaned rice.					
	Estimated yield of current year, i.e., of area in column 2.	Yield of previous year, i.e., of area in column 3.	Average of preceding		Percentage by which column 7 exceeds (+), or is less than (-), yield in	
					Column 8	Column 9
1	7	8	9		10	11
			Five years	Ten years		Five years
Bengal { Summer crop . . .	1,014,600	1,093,800	1,177,800	1,230,900	-7.2	-13.9
Autumn " . . .	23,519,500	22,160,600	26,067,700	27,146,400	+6.1	-9.8
Winter " . . .	115,627,000	172,291,400	190,217,800	193,047,400	-32.9	-39.2
TOTAL . . .	140,161,100	195,545,800	217,463,300	221,424,700	-28.3	-35.5
Eastern Bengal and Assam { Summer crop (a) . . .	1,798,000	1,483,800	1,727,000	1,892,300	+21.2	+4.1
Autumn " . . .	24,150,000	16,249,000	(b)	(b)	+48.6	...
Winter " . . .	104,100,000	102,103,000	(b)	(b)	+2.0	...
TOTAL . . .	130,138,000	119,835,800	...	...	+8.6	...
Madras . . .	49,445,600	50,438,200	54,300,500	51,554,300	-2.0	-9.0
Lower Burma . . .	64,700,000	61,924,000	59,342,000	54,859,000	+4.5	+9.1
GRAND TOTAL . . .	384,484,700	427,743,800	...	...	-10.1	...

(a) For Eastern Bengal only.

(b) Not available.

SUGARCANE.

Final General Memorandum on the Sugarcane crop of the season 1907-08.

This memorandum summarises reports received from seven provinces, the aggregate sugarcane crop of which, on the average of the five years ending 1905-06, represents about 98.5 per cent of the total area under sugarcane in British India.

The total area under sugarcane in these seven provinces is now reported to be 2,620,700 acres, or, excluding Bombay, which has been included for the first time, 2,558,900 acres. The latter figure represents a net increase of 207,100 acres or 8.8 per cent as compared with the acreage of last year.

The total yield is estimated at 2,051,900 tons of unrefined sugar. Excluding Bombay, the yield expected is 1,897,000 tons—a decrease of 308,300 tons or 14 per cent as compared with last year.

Season prospects were generally bright at first, but latterly have been unfavourable, particularly in the United Provinces, owing to deficiency of water-supply consequent on the failure of the rains.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the entire sugarcane area in British India is ordinarily cultivated in that province:—

United Provinces (50.2%).—The total area planted is now reported to be 1,481,700 acres, which is the largest on record. The increase as compared with last year amounts to 95,000 acres or nearly 7 per cent. Since the issue of the second forecast in October, the prospects of the crop have further deteriorated in consequence of continued drought, which has stunted growth and reduced the yield of juice. The good general rain, which was received in January, came too late for the cane crop. The total yield of raw sugar (*gur*) is estimated at 916,700 tons compared with 1,264,600 tons last year—a decrease of 27.5 per cent.

Bengal (18.9%). reports the area sown to be 435,500 acres compared with 424,500 acres last year—an increase of 2.6 per cent. Up to the end of August the season was favourable and prospects were good; but the short rainfall from September to November seriously affected the crop. The total yield of raw sugar is estimated to be 407,200 tons as against 420,300 tons last year—a decrease of 3 per cent.

Panjab (12.6%). reports the area to be 384,700 acres as compared with 277,700 acres last year—an increase of 38.5 per cent.

The high price of *gur* and the favourable rainfall in the early part of the season have been the chief causes of the increase. The outturn, however, is expected to be poor throughout owing to the early cessation of the rains and to the consequent short supply of water in the canals. The total yield is estimated at 288,500 tons as against 212,800 tons last year—an increase of 35.6 per cent. The figures for last year were, however, incomplete owing to the absence of information for seven districts which have been included in the estimate of the present season. Excluding these seven districts, the yield of the present season shows an increase of 25 per cent.

Eastern Bengal and Assam (10.7%).—The area planted is reported to be 174,600 acres compared with 182,200 acres last year—a decrease of 4.2 per cent, which is stated to be probably due to an extended cultivation of rice owing to the high prices prevailing locally. Sugarcane is not usually irrigated in this province. The season commenced very favourably except for some damage done by floods in Sylhet; but deficiency of rainfall during the autumn months (August to November) injuriously affected the crop throughout. Ratoon cane was naturally the least affected, and is expected to yield a normal outturn. The total yield is estimated at 163,200 tons as against 174,400 tons of last year—a decrease of 6.4 per cent.

Madras (2.7%).—The total *raiya* area planted up to the end of December is reported to be 47,200 acres compared with 52,100 acres at the corresponding date of last year—a decrease of 9.4 per cent, attributed to the presence of pest in the Godavari district and to want of seasonable rainfall in South Arcot. The crop is reported to be either fair or good. The yield is estimated at 89,200 tons compared with the 100,400 tons of last year—a decrease of 11 per cent. The total area under sugarcane reported from *zamindari* and *inam* villages is 1,700 acres, which is about 55 per cent more than the area reported for the corresponding period of last year, but the reports continue to be incomplete. The probable outturn of this area is estimated at 2,800 tons.

The British districts of **Bombay (2.3%).** report the total area planted to be 48,500 acres, which is 1.3 per cent below last year's area. The Native States (exclusive of Baroda and Shangli) report a total area of 13,300 acres. Though the crop was adversely affected by excessive rain in July and August and drought afterwards, its condition is reported to be fair. The total yield is estimated at 151,900 tons (121,900 being British for districts).

North-West Frontier Province (1.1%). reports a total area of 35,200 acres compared

with 28,600 acres last year—an increase of 23 per cent. The season was generally favourable for sowing and the crop came to maturity in excellent condition, but before pressing had been carried far, it suffered considerably from severe frosts and heavy rains. The total yield is

estimated to be 32,200 tons as against 32,800 tons last year—a decrease of nearly 2 per cent.

C. W. E. COTTON,

Assistant Director of Statistics,

for Director General of Commercial Intelligence

Estimate of the Sugarcane crop of the season 1907-08

PROVINCE	Area (in acres)						
	Of current year's crop (1907-08)	Of previous year's crop (1906-07)	Average of preceding		Percentage by which column 2 exceeds (+), or is less than (—), area in		
					Column 3	Column 4	
1	2	3	4		5	6	
			Five years	Ten years		Five years	Ten years
United Provinces	1,481,700	1,386,700	1,184,600	(c)1,198,400	+ 6.9	+25.1	+ 23.6
Bengal	435,500	424,500	441,500	...	+ 2.6	—1.4	...
Punjab	384,700	277,700	296,100	(c)313,700	+ 38.5	+ 29.9	+ 22.6
Eastern Bengal and Assam	174,600	182,200	(b)201,500	...	—4.2	—13.3	...
Madras	47,200	52,100	50,000	49,500	—9.4	—5.6	—4.7
Bombay (a)	61,800	...	...	...	...	...	...
North-West Frontier	35,200	28,600	25,500	...	+ 23.1	+ 35.7	...
TOTAL	2,620,700	(c)2,351,800	(c)2,199,500	...	(c) + 8.8	(c) + 16.3	...

PROVINCE.	Yield (in tons) of raw sugar (gur)						
	Estimated yield of current year, i.e., of area in column 2	Yield of previous year, i.e., of area in column 3	Average of preceding		Percentage by which column 7 exceeds (+), or is less than (—), yield in		
					Column 8	Column 9	
1	7	8	9		10	11	
			Five years	Ten years		Five years	Ten years
United Provinces	916,700	1,264,600	964,900	(c)1,007,700	— 27.5	—5.0	—9.0
Bengal	407,200	420,300	447,700	...	—3.1	—9.0	...
Punjab	288,500	212,800	200,600	(d)211,300	+ 35.6	+ 43.3	+ 36.5
Eastern Bengal and Assam	163,200	174,400	(b)188,500	...	—6.4	—13.4	...
Madras	89,200	100,400	98,200	...	—11.1	—9.2	...
Bombay (a)	154,900	...	...	...	...	...	...
North-West Frontier	32,200	32,800	23,000	...	—1.8	—40.0	...
TOTAL	2,051,900	(c)2,205,300	(c)1,922,900	...	(c)—14.0	(c)—1.3	...

(a) Including Native States (b) One year (c) Eight years (d) Seven years (e) Excluding Bombay

CHAMBERS OF COMMERCE.

BENGAL.

We take the following items from the Abstract of Proceedings of the Bengal Chamber of Commerce for the month of January, 1908 :—

It was stated in the Abstract for November that the Chamber had been asked by the Government of India to submit in writing their views upon certain points connected with railway policy, to the **Indian Railway Finance Committee** which is now sitting in London. These points were the following :—

(1) Whether the amounts allotted in recent years for railway construction and equipment in India are sufficient for the needs of the country and for the development of its trade; and, if not, then (2) what additional amounts may properly and advantageously be raised for this purpose; (3) within what limits of time, and by what methods they should be raised; (4) towards what object should they be applied; (5) whether the system under which the Railway Board now works is satisfactory, or is capable of improvement, and to make recommendations.

After some prolonged discussion and consideration, the Committee communicated their opinion quite recently. They expressed regret that the proposed deputation of the Chairman and one of the members of the Finance Committee had been abandoned; and they dealt with each of the foregoing points in detail. Briefly stated, their answer to the first enquiry was that the amounts allotted during recent years have been insufficient for the needs of the country, and the development of its trade. As regards the additional amounts required, they were unable to give a definite reply. But if full information had not been already obtained, they suggested that a Commission of experts should be appointed to prepare a return showing the amounts which could be expended with advantage to the country. In reply to the third enquiry, the Committee proposed the separation of the railway finances from the general finances of the country. If this were effected, Government would be, they said, enabled to issue an altogether new class of Railway Loan Bonds at a rate more attractive than $3\frac{1}{2}$ per cent. As security for these loans, they would be able to offer the railway system of India, which returns over $5\frac{1}{2}$ per cent. on the capital invested in it. They also referred to a suggestion which had been made that a $3\frac{1}{2}$ per cent. Railway Loan Bond, with a share in the surplus profits up to a further 1 per cent. would meet with a ready market. As regards the fourth enquiry, the Committee considered that the needs of the open lines should have the first claim on any additional funds which might be raised. And in reply to the fifth enquiry, they expressed the opinion that the system under which the Railway Board works is not satisfactory. They suggested that the Board should be reconstituted on the lines laid down by Mr. Robertson, and that the Chairman should be given a seat in the Executive Council.

The question of the desirability of undertaking legislation in India on the lines of the English

Life Assurance Companies' Act, 1870, has been brought before the Committee by the Government of Bengal. From the papers, it appears that the Secretary of State has received through the Board of Trade a letter from the Associated Scottish Life Assurance Offices in which the proposal is urged. In forwarding the letter to the Government of India, the Secretary of State has expressed the opinion that the law of India should be assimilated as far as possible to the law of England; and the Government of India have consulted the Local Governments on the subject. The two principal safeguards prescribed by the English Act are: (1) that a deposit of £20,000 is required from each new Insurance Company, and (2) that the liabilities of the Companies are valued at least once in every five years. An expression of the views of the Chamber was invited by the Government of Bengal, and the Committee have the question under consideration.

The Committee have recently expressed their views upon the Bill to consolidate and amend the law for the **limitation of suits**. This Bill was introduced into the Imperial Legislative Council on the 3rd January, 1908, and is now under consideration. Its main object is to remove the hardship which has been caused to the holders of mortgages of immovable property, in forms other than what is known as the English form, over a large part of India by reason of the decision of the Judicial Committee of the Privy Council in the case of *Vasudeva vs. Srinivasa* (11 C.W.N. 1005). A large number of other amendments in the law are also provided for in the Bill, and upon several of these the Committee have offered remarks. They are in agreement with the principal change which is proposed by the Bill; namely, that there should be one uniform limitation period of twelve years for all suits on mortgages, and that the sixty years' rule contained in Article 137 of the existing Act should be abrogated. Their letter has been published for information.

The attention of the Committee was drawn during the month by members of the Chamber to the new **English Companies' Act**, and a suggestion was made that the Government of India should be asked to legislate on similar lines. Upon this suggestion legal advice was taken by the Committee, with the result that they decided not to adopt it. From the information placed before them by their Solicitors, they gathered that, in addition to the English amending Act which has been just passed, there is also before Parliament a Bill which is intended to consolidate into one Statute all the existing English Statutes. This new Act will form a code of the law of Joint Stock Companies as it at present exists in the United Kingdom; and the idea was that when it was passed, the Indian and Colonial Governments might revise their laws on similar lines. In these circumstances, the Committee considered that the matter had better be left in abeyance for the present.

PUNJAB.

We take the following extracts from the proceedings of a meeting of the Punjab Chamber of Commerce held on the 10th ultimo:—

Read letter No. 856 P. W., dated 24th December, 1907, from the Municipal Engineer, Delhi, regarding **Plague precautions in Delhi**, in which he states that nothing cheaper than the chapper huts on view in the city can be erected. The quantities and rates for the various materials used in the construction of each of the two huts which are exhibited are given for information.

Resolution.—Letter to be addressed to the Municipal Engineer, Delhi, pointing out that the figures given by him will not convey any clear information to the general public and suggesting that the approximate cost of each class of hut should be stated. It to be further mentioned that the Committee are still of opinion that a special effort should be made to offer the public a shelter with a small compound at a cost of about Rs. 25.

Letter to be addressed to the Secretary, Delhi Municipality, requesting him to favour the committee with copies both of the notice put on the huts exhibited in the city and of the leaflet which it is understood will be circulated in regard to the facilities which are being offered for evacuation.

Read letter, dated 29th November, 1907, from the Secretary, Manchester Chamber of Commerce, regarding the **Survey on Piece goods**, in which it is stated that the attention of his Board has been drawn to certain awards by surveyors in India which were, in their opinion, irregular, the surveyors having included in their Reports, opinions regarding points which were outside the scope of the reference to them. The Board therefore urge the desirability of survey Reports being confined to the questions upon which the surveyors have been asked to make their award.

Resolution.—The Secretary, Manchester Chamber of Commerce, to be informed that the Committee are in entire sympathy with the views held by his Board and that a copy of his letter has been sent to each member of this Chamber for information and guidance.

Read letter No. 10038-10052-263, dated 5th December, 1907, from the Government of India, Department of Commerce and Industry, to all Local Governments and Administrations, regarding the proposed introduction of a scheme for the exchange of **value payable parcels between the United Kingdom and India**. The letter is forwarded by the Deputy Commissioner, Delhi District, who invites an expression of the Chamber's views on the matter.

Resolution.—The Deputy Commissioner, Delhi District, to be informed that the committee see no reason why the scheme should not be introduced.

CAPETOWN.

We take the following extracts from the January proceedings of the Capetown Chamber of Commerce:—
Customs Returns of Cape Colony for the 11

months ended 30th November, 1907, as compared with the same period of 1906:—

	January-November. 1907.	1906.
IMPORTS.		
Merchandise oversea	13,492,225	15,834,527
Stores for other S. A. Govts.	250,836	118,326
	13,743,061	15,952,853
Less exported to other S. A. Cols.	4,801,796	5,610,688
Retained for consumption in Cape Colony	8,941,265	10,342,165
For the Govt. of Cape Colony	432,128	429,286
Specie	377,638	263,323
Total value of imports	9,751,031	11,034,774
EXPORTS.		
Oversea	40,272,431	36,360,740
Less imported from other S. A. Cols.	30,536,793	26,997,021
Oversea exports of Cape Colony produce	9,735,638	9,363,719
To other Colonies in South Africa	2,755,246	2,551,105
Imported goods re-exported over-sea	353,891	365,879
Specie	550,053	750,550
Total value of exports	13,394,828	13,031,253

A letter has been received from the American Consul-General, stating for the information of members of this Chamber that a commercial information bureau has recently been started at the Consulate General in Cape Town, where any one applying may examine the catalogues of almost any article manufactured in the United States, and obtain price lists, discounts and other valuable information concerning the same.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 30th January, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

DOMINION OF CANADA.—Acetic Acid Free of Excise Duty under certain conditions.

AUSTRALIAN COMMONWEALTH.—Entry of Goods under the Preferential Tariff: Forms of Certificate of Origin. Age of Spirits: Statutory Declaration Required.

SOUTH AFRICA.—Customs Decisions.

DENMARK-CHILE.—New Treaty of Commerce and Navigation.

GERMAN SOUTH-WEST AFRICA.—Rate of Export Duty on Angora Goats.

BELGIUM-SERVIA.—Ratification of the New Treaty of Commerce.

FRANCE.—Vanilla Imported from French Establishments in Oceania.

AUSTRIA-HUNGARY.—"Improvement Trade" in Tissues Imported to be Embroidered.

ITALY.—Customs Decisions.

UNITED STATES OF AMERICA.—Customs Decisions.

PHILIPPINE ISLANDS.—Importation of Live potted Plants without Quarantine Permit.

BRAZIL.—Tariff Concessions to the United States continued in Force.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 8th FEBRUARY, 1908.

Rajputana.—No rain fell during the week. Crops are doing well except for slight damage from frost in Partabgarh and Merwara. Condition of cattle is generally good. Fodder is sufficient. Food stocks, supplemented by imports, are adequate. Prices show a tendency to fall in all the States where they ruled highest. They are steady in Ajmer and Merwara. Prospects of the spring harvest are on the whole fair. Ordinary public works are in progress or will shortly be opened in places where there is a demand for labour, as the situation nowhere as yet amounts to famine. A few persons unable to labour or having no one to support them are receiving relief in Bharatpur.

Central India.—Slight rain fell in parts of Gwalior, Bhopal, Baghelkhand and Jhabua. Irrigation of spring crops continues in Gwalior, Bhopal and Bhopawar. Harvesting of gram is in progress in parts of Bhopawar. Prospects of spring crops are fair to good. The probable outturn is below average in Baghelkhand; and fair to good elsewhere. Slight damage is reported by frost in the Isagarh Pergana of Gwalior and parts of Malwa; and by hailstones in Narsingharh. Agricultural stock is fair to good except in parts of Gwalior, Indore, Bhopal and Bhopawar. Fodder is indifferent in Bhopal; and sufficient elsewhere. Prices of food grain continue high; are rising in Bhopal and parts of Indore; and are falling in Bundelkhand. Opium is good in Gwalior, Indore, Malwa, Bhopal and Bhopawar. The numbers on test and relief works are:—In Rewa on works 77,924; on gratuitous relief 6,967; total 84,891. In Nagode on works 6,065; on gratuitous relief 711; total 6,776. In Jaso on works 952; on gratuitous relief 21; total 973. In Darandla on works 1,603. In Maihar on works 1,805; on gratuitous relief 272; total 2,077. In Sohawal on works 652. In Roth on works 1,139; on gratuitous relief 77; total 1,216. There is no change in the general situation.

Central Provinces.—The nights and mornings are cool and days are getting warmer. Rain fell during the week in all districts except Saugor, Nimar, Betul and the districts of Berar; but in Damoh and Hoshangabad the rain was confined to scattered falls in outlying tracts. The principal falls registered in inches were:—Drug 3½; Bilaspur 2½; Raipur 2½; Balaghat 2½; Bhandara and Chanda each 1½; and Dindori tahsil of the Mandla district over 2 inches. Elsewhere the rainfall ranged from 61 cents in Chhindwara to 14 cents in Wardha. In parts of Jubbulpore, Nagpur and Raipur hail fell but no damage is reported. In Jubbulpore, Mandla and Balaghat the rainfall benefited the spring crops but caused slight damage to the crops in Nagpur, Chanda, Bhandara, Raipur and Bilaspur. Spring crops, except linseed, are generally in good condition, and fair in Damoh, Seoni, Narsinghpur, Hoshangabad and Chhindwara.

Harvesting of spring *til*, pulses, wheat and linseed is in progress in Narsinghpur, Hoshangabad, Nimar, Betul, Wardha, Nagpur and Yeotmal. Frost slightly injured the spring crops in Saugor and Seoni. Wheat is not doing very well in parts of Hoshangabad. Field embankments are being raised in the Chhattisgarh district; and land is being ploughed for the ensuing season in Saugor, Nimar, Buldana, Yeotmal and in the districts of Chhattisgarh. No want of work for labourers is reported anywhere. Fodder and water are sufficient; but fodder is inadequate in Yeotmal; dear in Saugor and Hoshangabad; and getting scarce in Narsinghpur and Nimar. Prices of staple food grains remained stationary in 14 districts. Wheat and gram in Mandla, gram in Balaghat, and wheat in Drug, became dearer by ½ seer; gram and *juar* became cheaper in Narsinghpur by ½ seer. The price of *juar* in Chanda rose by 1½ seer; and fell in Nimar by ½ seer. Rice became cheaper in Jubbulpur and dearer in Drug by ½ seer.

Federal States.—The rainfall during the week measured in inches was as follows:—Khairagarh 4½; Raj Nandgaon 3½; and Sakti 2½. Kanker, Raigarh and Jashpur had also light showers not exceeding 65 cents. The rainfall damaged the spring crops slightly in Khairagarh and Raj Nandgaon. Threshing and winnowing of autumn crops are completed. Spring crops are generally in good condition; but prospects are unfavourable in Sirguja and Jashpur. Fodder and water are adequate. Wheat, gram and rice became dearer in Sirguja by 1 seer; and wheat rose by ½ seer in Raj Nandgaon; elsewhere prices remained stationary.

The weekly report on the famine and scarcity is as follows:—The distress is slight but is increasing in intensity in Damoh. Relief is now being given in five districts; village relief having been started in Mandla. The people are resorting more freely to village works in Damoh where some deterioration has been noticed among children in kitchens. Prospects of standing crops are good in the Jubbulpore district and have improved by the late rains. Slight damage to early sown crops from frost is reported. Employment on ordinary works is still ample. There is no general wandering. Immigration to Assam from the Native States adjoining the Jubbulpore district has slightly increased. The condition of the people is fair. Fodder and water are sufficient. The public health is normal. Prices are stationary. The numbers on relief are:—on village works 1,519; weavers on relief 1,761; on gratuitous relief 2,911; total 6,191.

Bombay.—Standing spring crops are withering for want of moisture in parts of Thar and Parkar, Ahmedabad, Panch Mahals, Kaira, the Deccan and Bijapur; and are elsewhere in good condition except for slight damage by frost in parts of Larkana and Hyderabad. Threshing of autumn crops is in progress in parts of the Upper Sind Frontier, Thar and Parkar, Kaira, Kanara, Khandesh, Nasik, Ahmednagar, Kathiawar, Baroda, Rewa Kantha and Palanpur. Harvesting of spring crops continues

in parts of Gujarat, Colaba, the Deccan and the Karnatak. Cotton picking is progressing in parts of Hyderabad, Panch Mahals, Kaira, Broach, Surat, West Khandesh, Bijapur, Belgaum, Baroda, Rewa Kantha and Kathiawar. The supply of fodder is adequate except in parts of Ahmedabad, Kaira, Sholapur and Baroda. Agricultural stock is generally in good condition and sufficient except in parts of Ahmednagar, Poona, Sholapur and Cutch. The supply of drinking water is sufficient except in parts of Sholapur. Water for irrigation is insufficient in parts of Surat, the Deccan, Baroda and Kathiawar. The quantity of foodgrains purchasable per rupee is in Sind 40 to 52 per cent.; in Gujarat 30 to 68 per cent. in the Konkan 22 to 33 per cent.; in the Deccan 27 to 49 per cent.; and in the Karnatak 37 to 57 per cent. less than the normal. Stocks of grain are generally adequate. The demand for labour is sufficient and wages are normal. Emigration from Ahmednagar, Sholapur and Bijapur continues. The cultivating and labouring classes are in fair condition. Six test works are in progress in Panch Mahals with 3,043 persons on relief on the last day of the week ending the 1st February. Test works are being opened in Rewa Kantha.

Hyderabad.—(Report not received.)

Mysore.—Prices of food grains are steady. Standing crops are in good condition. *Ragi* and other dry crops are being harvested. The prospects of the season are good. Cattle are generally healthy. Water and fodder are available.

Coorg.—Picking of coffee and threshing of rice continue. Prices of food grains are normal. The public health is fair. Water and fodder for cattle are sufficient. Harvest prospects are good.

Madras.—The rainfall was light in Godavari and Bellary; and nil elsewhere. Irrigation supplies are low in parts of all districts except Gunter, Cuddapah, Chingleput, Coimbatore, Tanjore, Tinnevely, Malabar, South Canara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress in parts. Standing crops are generally fair; but some in parts of Bellary, North Arcot, Salem and Madura are withering; and some in parts of Coimbatore require more rain. Harvests continue with outturn poor to normal. Pasture is sufficient except in parts of the Circars, the Deccan, Salem and Madura. Fodder is scanty in parts of Ganjam, Nellore and Salem. The condition of cattle is generally good. The price of rice is stationary in seventeen districts; has fallen in three; and has risen in three. The prices of millets have fluctuated as follows:—*Ragi* is stationary in eleven districts, has fallen in six; and has risen in four. Cholan is stationary in four districts; has fallen in five; and has risen in five. *Oumbu* is stationary in six districts; has fallen in three; and has risen in six. The public health is generally good. Prospects are fair generally but rain is required in parts of some districts. The condition of the labouring classes is good and employment is procurable. Prices are

high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

THE FAMINE. Viceroy's Report.

THE following is a copy of a telegram, dated 17th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

Further general rain has fallen throughout Northern and Central India. It was moderately heavy in parts of the Central Provinces and Chota Nagpur. Slight rain fell in Madras and Eastern Bengal and Assam. The prospects of the spring harvest have further improved, but the demand for relief is increasing rapidly in the United Provinces, where the numbers on relief are now: works, 551,451; gratuitous relief, 225,509. In addition, 13,839 persons are being relieved in the Balrampur Estates, and private works are in operation in several districts. There is no general wandering, but there has been some further increase in crime, and some signs of deterioration have been noticed in places. In the Punjab 1,399 persons are employed on test works.

In Rewa there has been a decrease of 3,000 in the numbers on relief, and the total for the Central India is now: works, 90,120; gratuitous relief, 8,048.

In Rajputana some gratuitous relief is being given in Bharatpur, but the situation does not as yet amount to famine, and the demand for labour is being met by ordinary public works.

In Bengal test works attended by 2,888 persons are now open in five districts, and gratuitous relief is being given to 14,187 persons in Orissa.

In the Central Provinces there is no lack of employment still for ordinary labour, but village relief is being given in five districts, 1,519 persons are employed on village works, special relief is being given to 1,761 weavers and gratuitous relief to 2,911 persons. Some deterioration has been noticed among children attending kitchens in Damoh.

In the Panch Mahals district of Bombay, 3,043 persons are employed on test works.

Test works are being opened in Rewa Kantha Agency.

The total number of persons in receipt of State relief in the whole of India is now 902,836.

There is no marked change in prices, but they have again fallen slightly in some provinces.

—The Frankfort Economic Report for 1906 contains particulars as to the planting of cinchona in German East Africa. In the experimental depôt of Amani there are 30,000 trees in a flourishing condition. Two of these specimens when examined were found to contain 6.80 per cent. and 6.48 per cent. of quinine, so that the bark is quite equal to Java. It would seem possible, therefore, that in time Peruvian bark from the plantations in East Africa will prove an important export product from German colonies.

TUNGSTEN ORE.

Discovery in the Central Provinces.

IN connection with the recent discovery of Tungsten ore in the Central Provinces, Mr. C. E. Low, in charge of the Industrial Survey of these Central Provinces, sends us the following detailed account:—

An interesting discovery of tungsten ore has recently been made in the neighbourhood of Nagpur. A prospecting license for manganese was taken out some months ago by a mining engineer over a part of the village of Agargaon, some 25 miles south-east of Nagpur. During prospecting operations, lumps of a black heavy mineral were found, which, on examination by the Geological Survey Department, were found to consist of wolframite, an ore of tungsten. The ore occurs in parallel stringers of quartz, varying from an inch or two to a foot and a half in thickness, in a belt of mica schist with a persistent strike traversing the country for some ten miles, in a general direction of N. 70° E. and, with a dip of 85° to the North. The mineral is found in crystalline lumps, varying in size from a pea to that of a large hen's egg; though a good many larger pieces have been found. One very fine specimen weighed before cleaning as much as 25 pounds. In some cases the mineral is found more intimately associated with its quartz matrix. The mica, in the immediate neighbourhood of the mineral, is of a peculiar golden-yellowish hue and pearly lustre. Stringers that consist of crystalline milky vein quartz do not contain any mineral, and it is only where the quartz shows signs of crushing that the mineral can be expected. The occurrence of the ore has been proved over a length of over 1,400 feet, and float pieces have been picked up at opposite ends of the present ascertained length of the belt some ten miles apart.

What is Tungsten?

Tungsten is a mineral that is rising in importance, and has passed out of the region of the rare metals into considerable commercial importance. The largest deposits occur in Boulder County in the State of Colorado, and Australia. It is found elsewhere in the United States, in Cornwall, New-Zealand, Canada, Saxony, Bohemia, Spain, Burma, Chota Nagpur and Japan. In Cornwall it is found as a constituent of tin ores, where its presence was at one time most unwelcome, as it injured the tin; in fact its name refers to the fact that it was supposed to be like a wolf that ate up the tin. Improved methods and the growing usefulness of tungsten have made it profitable to separate the tungsten ore from the tin, by magnetic attraction, a weak current being employed to remove the iron oxide, and a stronger one to take off the less magnetic wolframite. In one Cornish mine, 7 lbs. of tungsten ore to the ton are removed by this means, which with the arsenic and copper and 22 lbs. of tin oxide, yields a profit.

The occurrence in Boulder County, Colorado, much more closely resembles that at Agargaon.

Andesite dykes are found over a stretch of country some eight miles, and it is in connection with these that the ore occurs, in the form of a breccia of wolframite, felspar and quartz. The areas between the andesite dykes are entirely barren of ore; and it is probable that the same will be found to be the case outside the band of mica schist at Agargaon. The ore is sometimes sharply distinguished from its matrix, but sometimes it has the appearance of having partially fused, when it is more intimately mixed with its surroundings and is harder to extract.

Composition of Wolframite.

The theoretical contents of wolframite are:—

WO ₃ (Tungstic acid)	76.5
Ferrous Oxide, about	9.5
Manganese Oxide, about	14.0

A characteristic analysis of the best American deposit is:—

WO ₃	66.41
FeO	24.31
MnO	3.25
Si	6.00
P	trace.
S	0.02
Au	trace.
Ag	1.2 (oz.)

An analysis of the Agargaon ore, unconcentrated, and concentrated by a crude panning method, gives the following results:—

	A	B
Iron	9.08	13.01
Phos	.232	.075
SiO ₂	37.50	7.37
Mn	1.20	1.85
WO ₃	42.61	66.48

A = crude ore. B = concentrated ore.

The separation was made by a very cheap form of hand jig. The more elaborate method necessitated by the more intimate connection of the American ore with its matrix necessitates much more elaborate methods in the course of which much of the mineral is lost in sliming. The minerals associated with tungsten are tin, molybdenum, bismuth and gold. The American deposit was discovered in prospecting for gold.

Chief Uses of Tungsten.

The chief uses of tungsten are for so-called high speed steel; i.e., tool steel that can be worked at a high enough speed to generate heat that would alter the temper of other kinds of steel; as an ingredient of crucible and spring steel it is also used for hardening armour plates; as an anti-combustion coating for various materials as an ingredient in certain bronze colourings; and sodium tungstate is used as a mordant and a decorticator. Besides its numerous uses as an alloy of steel, tungsten is employed as an alloy with aluminium. Tungsten is usually introduced as an alloy of steel in the form of ferrotungsten; and its proportion in the metal ultimately prepared is only about 5 to 8 per cent.

The world's consumption in 1904 was said to amount to some 700 or 800 tons. In 1907, the

output of America in tungstic acid, the usual basis of selling contracts, was expected to amount to 1,200 tons. The Australian product is about 700 or 800 tons; but the amount turned out by other tungsten producing countries is a good deal less. This large increase in output has been accompanied by a considerable rise in price. In 1904, an ore averaging 60 per cent. WO_3 ; and containing not more than 0.25 phosphorus, and 0.01 per cent. sulphur sold in New York at \$7 per unit of tungstic acid, or \$420 per ton. The price in 1907 was \$9.50 for concentrates containing 60 per cent. tungstic acid or over. At one time the price did not exceed £40 per ton. The increased supply has evidently paved the way to new and more extended uses for the metal, thereby contributing to the rise in price.

Considering the apparently large extent of the Agargaon deposit, its high quality, and its facility in working, it would seem to be a valuable accession to the mineral deposits. The Colorado deposit is found to be permanent at depths of 300 to 400 feet.

INDIGO AND THE NEW PATENT ACT. Foreign Patents.

In a letter to the *Glasgow Herald*, dated Manchester, January 20th, 1908, Ivan Levinstein writes:—

The new Patent Act, although it only came into force on January 1st, is already bearing fruit. A large number of foreign patentees have been and are now negotiating with British manufacturers to carry out in the United Kingdom their British patents: others have taken land for the purpose of erecting works in order themselves to work their British monopolies. Foremost amongst these are the Hoechst Farbwerke (formerly Meister, Lucius and Brining), with whom are allied Messrs. Casella and Co. These two companies represent a capital the market value of which amounts to more than £8,000,000 sterling. The Hoechst Farbwerke have secured land for the erection of works at Ellesmere Port, near Chester, and one of the first products which they intend to manufacture in these works is synthetic indigo. When addressing Mr. Lloyd-George as a member of a deputation which waited upon him on April 9th, 1906, I pointed out the enormous injury done to India by the synthetic indigo, which had already provided for more than two-thirds of the world's consumption of natural indigo, and that since we have granted a British patent for its manufacture it was and would remain, a close monopoly of our foreign rivals to whom we had granted the patent, who would continue to work it solely and exclusively abroad, unless we amended our law. Thanks to the new Act, an end has been put to this anomaly. Synthetic indigo will be made within the British Isles before the end of the year on an adequate manufacturing scale, and will finally become a British industry, and not as was the case with alizarine an exclusively foreign one. The Elberfeld Farbenfabriken, with whom are associated the Badische Aniline and Soda Works,

and the Berlin Company with a capital of over £13,000,000, are going to erect works for the purpose of manufacturing in this country all the products for which they hold British patents. Their chief representatives have been over from Germany to make inquiry for suitable land and it is not unlikely that the new works will be erected in the neighbourhood of Manchester. This group also holds British patents for the manufacture of synthetic indigo and a number of alizarine colours. A well-known American firm which holds British patents for the manufacture of safety razors, hitherto made solely in the States, have secured land in Sheffield, and expect to employ 500 hands as soon as their works are completed. Scores of other foreign manufacturers holding British patents, which they have hitherto worked solely abroad, are following their example, and there is not the slightest doubt that the new Patent Act will find additional employment for the operative classes—highly trained engineers and chemists—and give a new impetus to British enterprise. This will become more and more apparent as time goes on. Fortunately the new Act, unlike its preceding ones, is so definitely and clearly worded, especially is this the case with Section 27, which deals with the revocation of patents worked outside the United Kingdom, that there are no loopholes to afford escape from it. Surely Mr. Lloyd-George must feel proud of having passed an Act of such far-reaching consequences—an Act that will confer greater benefits on our industrial welfare and on the employment of our people than any other Act passed for the last fifty years.

—In the *Indian Trade Journal* of January 23rd, 1907 (p. 174) there appeared a note referring to the cultivation of lac on Arhar Dal plantations. The facts given were based on particulars supplied by Mr. S. S. Naidu, Forest Officer, Buldana, who also furnishes the following additional details:—“Having noticed a palas tree (*Butea frondosa*) in a bungalow compound at Buldana to have been attacked by the lac insect, I took the advantage of watching the tree from the very commencement of the rains. Till the 10th of July I noticed no activity in the incrustations. Then swarming took place. On the 1st August I found the larvae still on twigs alive, but not active. The whole mass of the lac was also attacked heavily by big black ants which stuck to the tree till the rains ceased. During the period, therefore, I noticed no perceptible increase to the quantity of lac originally found to exist on the tree. I had also induced the tribes in the Ambabarwa forests of this Division to show some lac on selected trees. Here also the first swarming took place, but the moment lac production commenced ants appeared and the formation of lac ceased, and the second swarming did not take place. This may possibly be the reason, as the appearance of ants means certain death to the lac insects, why swarming does not take place as completely as it should, and the lac collected is never free from dead insects and colouring matter.”

AGRICULTURE IN EASTERN BENGAL AND ASSAM.

Programme for 1908-09.

THE Agricultural Department, Eastern Bengal and Assam, have issued a paper detailing the programme of work of the Department for 1908-09. Below are some of the more important features of the programme, which is divided under the following heads:—Organisation of the Department; experimental work at the agricultural stations; promotion of sericulture; experimental work outside the agricultural stations; demonstration of agricultural improvements and dissemination of agricultural information; special work of the expert staff; organisation and work of the Provincial Veterinary Department.

Experimental Stations.

There are seven Experimental Stations now in the Province, viz., the Dacca Central Farm, the Rajshahi Farm, the Rangpur Farm, the Burirhat Farm, the Jorhat Farm, the Upper Shillong Farm and the Shillong Fruit Garden, which are worked as a single concern; and the Wahjain Tropical Plantation.

In connection with the Rajshahi Farm it is proposed to decide the scheme for experiment in mulberry cultivation after discussion at Pusa. It is proposed to abandon the seed selection experiment with winter rice at Rajshahi and to concentrate all selection and breeding experiments and the Dacca Farm under the control of the Economic Botanist. A demonstration of sugar making with Mr. Hadi's apparatus has been made this year at Rajshahi at Bogra. It will probably be repeated next year and some other places in East Bengal. Experiments in jute, sida and malancha will be under Mr. Finlow's direction. In connection with the Rangpur Farm a new station for tobacco research has been opened at Burirhat, a place 5 miles from the Rangpur Civil station, and it is proposed to make over the Rangpur station to the local Agricultural Association, to whom the land belongs, with effect from the 1st July, 1908. The Burirhat Farm is to be mainly devoted to tobacco. As hitherto, the main object will be to produce tobacco suitable for the manufacture of cigars and cigarettes. A large number of exotic and indigenous varieties of tobacco are being cultivated—the treatment of the crop as regards manuring, spacing, topping and suckering, as well as the subsequent operations of curing and spacing, being varied according as the leaf is intended to be used as cigar wrapper or filler or for the manufacture of cigarettes. A small area of Sumatra tobacco is grown under shade, following the practice which has largely come into vogue in the United States. Besides these attempts at producing tobacco suited for expensive cigars and cigarettes, it is also intended to give special attention to the production of tobacco suitable for the cheap cigarettes. Besides tobacco there will be experiments with different varieties of ginger and potato, both being important

crops in the Rangpur district. Groundnut will be tried as a new crop.

The programme of the Upper Shillong Farm and the Shillong Fruit Garden is as follows:—Potatoes:—(a) Trial of varieties. (b) Experiments to test the merits of (i) boxed against unboxed seed; (ii) whole against cut sets; (iii) large against medium sets. (c) Trial of Bordeaux mixture as a fungicide. This may be said to have passed the experimental stage. Arrangements are being made to demonstrate the value of Bordeaux mixture in a number of raiyats' fields in the ensuing season. (d) Manure Experiments—(i) Green manure with pulse crop vs. no manure; (ii) rape cake 20 mds. per acre vs. super, 6 mds., and Sulphate of potash, 3 mds., per acre; both fields receiving 150 mds. of cow-dung in addition.

The introduction of European fruits and fruits of the semi-temperate climate has been decided upon. These include apple, pear, cherry, plum, apricot, peach, grape, strawberry, gooseberry, raspberry, currant, fig, walnut, almond, loquat, tree tomato, cherimoyer and mountain papaya. Three varieties of American sweet potatoes, Jerusalem artichoke, mangel wurzel and groundnut.

The Department will undertake the breeding of maize by cross-fertilising local with superior American varieties; the preservation of fodder in silos as an object-lesson to Khasia cultivators. Efforts are being made to introduce a good milking strain of cattle and to improve the local Khasi breed by crossing it with an half English Patna bull. The farm will continue to distribute young bulls of its own breeding to cattle breeders in the District. The Superintendent of the Veterinary Department will constantly inspect and advise on the breeding operations.

The Wahjain Tropical Plantation will continue to be used as the trial ground for various species of tropical spices, drugs and fruits. These are as follows:—Spices—cinnamon, lesser cardamom, greater cardamom, nutmeg, clove. Drugs—coffee, cocoa, camphor. Fruits—oranges and other citrus fruits, pineapple, papaya, grafted mango, grafted litchi, capota, banana, bread fruit, rambutan, soursop, cherimoyer. Essential oils—lemon grass, teazpat (leaf of a species of cinnamon).

Sericulture.

It has been decided that this province, while working in concert with Bengal in measures for the revival of the silk industry, should have a separate staff for the purpose. This Department is therefore taking over from the Bengal Silk Committee the charge of all sericultural operations in the districts of Eastern Bengal, including the two small pure-seed stations in Rajshahi. These it is intended to supplement shortly by two large rearing stations, one in Rajshahi and the other in Bogra, each controlled by a responsible officer of the grade of Sericultural

Superintendent. One such officer after passing through a course in sericulture in Tokio University is now receiving special training in Indian methods. The sericultural school at Rajshahi will be continued on the lines already established last year. Twelve apprentices are received who must be sons of silk-rearers.

Outside Experimental Work.

The programme of work outside the Agricultural Stations will include helping Government Officers in making experiments in Government and wards' estates with advice as well as with seeds, manure, etc., and rendering similar assistance to private individuals wishing to try new crops, manures or implements. There are several private experimental farms in the province which are being worked in co-operation with the Department and will continue to receive its assistance. An important branch of work, not directly connected with any Agricultural Station, is the investigation of insect pests and the application of remedies wherever possible. It is proposed to issue a small handbook in the chief vernaculars of the province, of more important insect pests locally known for which practicable remedies can be recommended.

In some parts of the province the rearing of poultry and ducks and the sale of eggs are important industries. It is intended to make some experiments on the rearing of improved breeds and in the introduction of improved methods of preserving eggs.

The supervision of measures for the improvement of the hand-loom industry has received a large share of the attention of the officers of the Department during the past year and it is probable that during the ensuing year this work will be largely developed.

Special Work.

Mr. Finlow will continue, in collaboration with the Reporter on Economic Products, the chemical and agricultural study of the various races of jute, having regard to quality as well as yield of fibre. The selection experiments with jute will be continued and, if possible, some cross fertilisation experiments will be made. Mr. Finlow will also be required to advise on measures for the extension of jute cultivation to parts of this province where, though the land is suitable, the crop is not at present grown. Mainly to assist in these measures, he will maintain and distribute a sufficient supply of first class seed. He will also continue to visit other provinces where his services are required in connection with jute experiments. During 1907 Mr. Finlow, in collaboration with Messrs. Cross and Bevan of London commenced an investigation regarding the deterioration of damp baled jute. This will be continued and possibly completed during the year.

Further experiments will be made with flax cultivation and retting. The study of various fibre yielding plants indigenous to this province will be developed. It is hoped that a bulletin on the latter subject will be published during the year.

WHEAT ELEVATORS.

NEW YORK PRODUCE EXCHANGE RULES.

In continuation of the articles on the "Grain Elevator System and Railway Traffic," which appeared in our issues of January 23rd and February 6th last, we give below the rules enforced by the New York Produce Exchange:—

REGULATIONS OF INSPECTION.

Inspectors shall, when necessary, make their reasons for grading Grain fully known by notations in their books.

All wheat to be graded into store or vessel shall be examined before being elevated, and the Inspector-in-Chief and all persons inspecting Wheat under his direction are forbidden to assist, advise or superintend the mixing together of different grades or qualities of Wheat.

All Wheat, Oats and Barley shall be tested, and the weight per bushel entered on the Inspection book.

The Inspector-in-Chief shall exercise care and watchfulness over all Graded Grain which shall be held on storage, and shall cause frequent examinations to be made of its condition. He shall report to the Committee on Grain all cases of improper storing or handling of Graded Grain, and shall object to such storing as will imperil its safe keeping or prevent its proper examination at all times, or allow of its deterioration because of its being so stored as to prevent its being properly handled for the purposes of preservation. In all cases where the Inspector shall object to the manner of storing any Graded Grain in regular warehouses, and the warehouseman shall disregard such objection, the Inspector shall immediately notify the Committee on Grain, who shall cause examination to be made, and if the action of the Inspector is approved, and the warehouseman shall refuse to be guided thereby, or shall refuse to correct the fault complained of by properly storing the Grain, it shall be the duty of the Committee on Grain to make complaint against such warehouseman as provided in Rule 5, Section I.

Any duly authorized Inspector of Grain who shall be guilty of neglect of duty, or who shall knowingly or carelessly inspect or grade any Grain improperly, or who shall accept any money or other consideration, directly or indirectly, for any neglect of duty or the improper performance of any duty as Inspector of Grain, and any person who shall improperly influence any Inspector of Grain in the performance of his duties as such Inspector, shall be immediately reported to the Committee on Grain for its action.

Each Assistant Inspector, when on duty, shall wear a badge furnished by the Inspector-in-Chief, plainly designating his position.

The Inspector-in-Chief, and all persons inspecting Grain under his direction, shall in no case make the grade of Grain above that of the poorest quality found in any lot of Grain, when it has evidently been mixed or doctored for the purposes of deception.

All persons employed in the Inspection of Grain shall promptly report any attempts to defraud the system of Grain Inspection. They shall also report to the said Inspector-in-Chief, in writing, all instances where warehousemen or the Railroad Companies shall deliver, or attempt to deliver, Grain of a lower grade than that called for by the certificate. They shall also report all attempts of receivers or shippers of Grain to instruct or in any way influence the action or opinion of the Inspector, and the Inspector-in-Chief shall immediately report such cases to the Committee on Grain.

The Inspector-in-Chief shall, for the information of members, cause to be exhibited daily in the Exchange fair average samples of inspected and consolidated Grain, received by Rail, and when requested shall give any general information he may possess respecting the quantity, quality or condition of Grain arriving at any or all of the lines; but neither the Inspector nor his Assistants shall give any information whatever respecting specific parcels or boat loads.

The Inspector-in-Chief may appeal to the Committee on Grain respecting the performance of his duties. In no case,

however, shall he reveal to the Committee, or to any member thereof, the ownership of any Grain submitted to him for consultation.

The Inspector-in-Chief shall grade Spring Wheat in accordance with the Rules regardless of the locality grown or point of shipment.

When Grain is transferred from one system of stores to another by order and under direction of the New York Produce Exchange Inspection Department there shall be no charge for inspection.

The said Inspector-in-Chief is hereby authorized to collect until further notice, on all grain inspected under his direction as follows:

FOR INSPECTION AND VERIFICATION OF TRACK WEIGHTS—40 cents per car load.

FOR INSPECTION OF BOAT LOADS OF CANAL GRAIN—Two dollars each.

FOR INSPECTION INTO REGULAR WAREHOUSES—40 cents per 1,000 bushels.

FOR INSPECTION OUT OF REGULAR WAREHOUSES—40 cents per 1,000 bushels.

FOR OUT-INSPECTION and Superintending at place of delivery of Grain afloat (when requested)—40 cents per 1,000 bushels.

Grain ordered inspected on board vessel and examined alongside, which is subsequently loaded without inspection, shall be charged inspection at boat rates.

AFRICAN SHIPMENTS in bags—50 cents per 1,000.

The fees for inspection to be paid by the party in whose interest the inspection was made.

The Inspector-in-Chief shall issue an inspection certificate stating grade and quality.

REGULAR WAREHOUSES FOR THE STORAGE OF GRADED GRAIN DESIGNATED BY THE BOARD OF MANAGERS IN ACCORDANCE WITH RULE 5, SECTION I OF GRAIN RULES.

Port of New York.

NEW YORK DOCK COMPANY.

Docks, Nos. 89 to 97 Pacific Street.
Capacity, 1,800,000 Bushels; 10 Elevators.

ERIE ELEVATOR CO.

Erie Elevator; 20 Elevators.
Capacity, 1,500,000 bushels.

S. W. BOWNE COMPANY. (Oats only.)

Bowne's Stores.
Capacity, 600,000 Bushels; 1 Elevator.

BROOKLYN ELEVATOR AND MILLING COMPANY. (Corn and Oats only.)

Brooklyn Elevator, Foot North 10th St., Brooklyn.
Capacity, 500,000 bushels; 1 Elevator.

CLARK & ALLEN.

Clark and Allen's Elevator, Foot East 32d Street, New York.
Capacity, 275,000 Bushels; 1 Elevator.

Rules and Tariff of Charges for storage of Graded Grain Until Further Notice.

RULE 1.—All Grain placed in store on storage shall be at owner's risk of fire or loss by heating until delivered.

RULE 2.—All Grain of the same kind and grade, without regard to ownership, after the same has been inspected and graded in accordance with the rules of the New York Produce Exchange will be stored with Grain of like grade.

Charges Grain in Store, to take effect June 1st, 1899.

Receiving, weighing and discharging, on all sound Grain, including storage, first ten days or part thereof, $\frac{1}{2}$ cents per bushel.

And every succeeding ten days or part thereof, $\frac{1}{2}$ cent per bushel.

All accrued storage on Grain remaining in store on April 30th and October 31st, in each year, must be paid up to date, under penalty of $\frac{1}{2}$ cent per bushel additional storage if not so paid at each of the abovenamed dates.

Trimming from Canal boats \$1.50 per 1,000 bushels.

Trimming into Ocean vessels and schooners, \$2.00 per 1,000 bushels.

Extra storage on Grain delivered to Ocean vessels, $\frac{1}{2}$ cent per bushel.

Screening and blowing on receipt or delivery, $\frac{1}{2}$ cent per bushel.

Mixing grain of different grades, on receipt or delivery including screening and blowing $\frac{1}{2}$ cent per bushel.

All Grain received after this date, to be lightered out on same conditions that Railroad Grain is now delivered.

All Grain received will be subject to the above rules and the conditions of the warehouse receipts.

BROOKLYN WHARF & WAREHOUSE CO.,

A. C. FETTEROLF, Manager,
Grain Department.

S. W. BOWNE Co.,

W. E. TRUESDELL, President.
BROOKLYN ELEVATOR & MILLING CO.,
AMOS H. CROSBY, Manager.

CLARK & ALLEN.

(To take effect August 23rd, 1900.)

TRUSTEES ESTATE OF WM. BEARD.

Charges—Grain Afloat.

Receiving, weighing and discharging $\frac{1}{2}$ cent per bush l.

Transportation of elevator $\frac{1}{2}$ " "

Canal boat trimming \$1.50 per 1,000 bus.

Trimming (ocean vessels) \$2.00 " " $\frac{1}{2}$ " "

On total quantity mixed $\frac{1}{2}$ " "

Blowing and screening or dusting $\frac{1}{2}$ " "

But the maximum charge where both services (mixing and blowing and screening or dusting) are required on part or all of any parcel shall not exceed $\frac{1}{2}$ c. on entire parcel.

On any parcel less than a towing lot of 4,000 bushels, or any parcel more than 50 per cent. of which is shipped in bags, the charge for transportation of elevator shall be $\frac{1}{2}$ cent instead of $\frac{1}{2}$ cent per bushel.

INTERNATIONAL ELEVATING COMPANY,

EDW. G. BURGESS, President.

TOWING.

Rates of Towing Grain Canal Boats.

As agreed upon by Grain Merchants, Transportation Men and Tow Boat Men, in accordance with Rule 26 of the Grain Rules.

On and after this date it is agreed that the net charge for towing Grain Canal Boats shall be as follows, viz.:—

Loaded. Light.

From Whitehall to Fulton St., N. R.;

E. R.; Brooklyn; Atlantic Dock; and

York St., Jersey City \$4 00 3 00

From Whitehall St. to points between

Fulton and Vesey Sts. 5 00 3 00

From Whitehall to Erie Basin; South

6th St., Williamsburgh; 5th St.,

E. R.; and Pier 45, N. R. and 7th St.,

Hoboken 6 00 3 00

From Whitehall, to 34th St., N. R. 9 00 3 00

From Whitehall, to 39th St., Gowanus;

Mouth of Newtown Creek and 34th

St., E. R. 9 00 4 00

From Whitehall, to Ravenswood and

63rd St., E. R. 10 00 5 00

From Whitehall, to West Shore R. R.;

Weehawken; and 65th St., N. R. 10 00 4 00

From Whitehall, to 135th St., Harlem

River 11 00 5 00

From Whitehall, to Staten Island,

North and South Shore as far as

Staten Island Flour Mill 12 00 8 00

Shifting from Atlantic Dock, \$2.00 and from Erie Basin \$3.00 in addition to the above prices, except in the first

named limit on the East River. Shifting from one River to the other, one tow and one half tow.

Approved at a meeting of the Grain Trade held May 2nd, 1890, and amended March 12th, 1894.

The following rates were established October 8th, 1903, by the Committee on Grain for the towing of canal boats to and from Shady Side or Edgewater, viz.:

Loaded boats from Canal District to Shady Side or Edgewater	\$12
Light Boats from Shady Side or Edgewater	8

Lighterage.

Ungraded Grain shall be subject to lighterage under uniform conditions established by the Railway Companies in conference with the Committee on Grain, as follows:

First—On and after July 15th, 1889, all Ungraded Grain may be delivered afloat in railroad lighters, subject to the following rates of lighterage, exclusive of elevation from boats, viz.:

On lots of 1,000 bushels, or less, 2½ cents per bushel.
On upwards of 1,000, and not exceeding 2,000 bushels, 2 cents per bushel.

On upwards of 2,000, and not exceeding 5,000 bushels, 1½ cents per bushel.

On upwards of 5,000 bushels, 1 cent per bushel.

Second—All grain received for delivery from track must be removed from cars within seventy-two hours after receipt of notice of arrival. Otherwise the railroad company, upon whose track it is located, may put the same afloat for the purpose of lighterage to store, or for other delivery if so ordered by consignee, subject to above charges and to Rules 15 and 26 of the Grain Rules of the New York Produce Exchange relative to ungraded grain.

TRACK GRAIN AND FEED.

Rates for Sampling, Weighing and Superintending Track Grain and Feed.

As established by the Committee on Grain.

For Sampling, per car	50 cents.
For Weighing and Discharging Track Grain, per bushel (excepting Oats)	1 cent.
For Weighing and Discharging Track Oats, per bushel	½ cents.
For Weighing and Discharging Track Feed, per ton	70 cents.
For Superintending into Elevator:—	
Oats, per bushel	½ cent.
Corn, per car	\$1
Feed, per car	\$1.50

(To be paid by the Elevator.)

The above rates for Superintending are based upon the prompt discharging of cars at the elevators.

PRODUCE EXCHANGE WEIGHTMASTER OF TRACK

GRAIN AND FEED,
A. P. REILAY

GRADES OF GRAIN ESTABLISHED BY THE COMMITTEE ON GRAIN OF THE NEW YORK PRODUCE EXCHANGE IN ACCORDANCE WITH THE FOREGOING RULES.

Winter Wheat.

No. 1 WHITE WINTER WHEAT shall be sound, plump, dry well cleaned, and weigh not less than 60 lbs. Winchester standard.

No. 2 WHITE WINTER WHEAT shall be sound, dry and reasonably clean, contain not more than five per cent. of Red Wheat, and weigh not less than 58 lbs. Winchester standard.

No. 3 WHITE WINTER WHEAT shall be sound, dry and reasonably clean, contain not more than five per cent. of Red Wheat and weigh not less than 56½ lbs. Winchester standard.

No. 4 WHITE WINTER WHEAT shall include all White Winter Wheat not fit for a higher grade in consequence of being of poor quality, damp, musty, dirty, and weigh not less than 52 lbs. Winchester standard.

No GRADE WHITE WINTER WHEAT. (See General Rule.)

Red Winter Wheat.

No. 1 RED WINTER WHEAT shall be sound, plump, dry, well cleaned, and weigh not less than 60 lbs. Winchester standard.

No. 2 RED WINTER WHEAT shall be sound, dry and reasonably clean, contain not more than ten per cent. of White Winter Wheat, and weigh not less than 58 lbs. Winchester standard.

NOTE.—Wheat which shall be equal in all respects as to quality to the above standard of No. 2 Red, but which shall be slightly soft or damp, shall have the word "Steamer" prefixed to the grade.

No. 3 RED WINTER WHEAT shall be sound, dry and reasonably clean, contain not more than ten per cent. of White Winter Wheat, and weigh not less than 56½ lbs. Winchester standard.

No. 4 RED WINTER WHEAT shall include all Red Winter Wheat not fit for a higher grade in consequence of being of poor quality, damp, musty, dirty, and weigh not less than 52 lbs. Winchester standard.

No GRADE RED WINTER WHEAT. (See General Rule.)

Mixed Winter Wheat.

No. 1 MIXED WINTER WHEAT shall be Mixed Red and White Winter Wheat; sound, plump, dry, well cleaned, and weigh not less than 60 lbs. Winchester standard.

No. 2 MIXED WINTER WHEAT shall be Mixed Red and White Winter Wheat; sound, dry and reasonably clean, and weigh not less than 58 lbs. Winchester standard.

No. 3 MIXED WINTER WHEAT shall be Mixed Red and White Winter Wheat; sound, dry and reasonably clean, and weigh not less than 56½ lbs. Winchester standard.

No. 4 MIXED WINTER WHEAT shall include all Mixed Red and White Winter Wheat not fit for a higher grade in consequence of being of poor quality, damp, musty, dirty, and weigh not less than 52 lbs. Winchester standard.

No GRADE MIXED WINTER WHEAT. (See General Rule.)

Hard Winter Wheat.

No. 1 HARD WINTER WHEAT shall consist of the Hard varieties, shall be sound, dry, well cleaned and weigh not less than 61 lbs. Winchester standard.

No. 2 HARD WINTER WHEAT shall consist of the Hard varieties, be sound, dry and reasonably clean, and weigh not less than 59 lbs. Winchester standard.

No. 3 HARD WINTER WHEAT shall consist of the Hard varieties, be sound, dry and reasonably clean, and weigh not less than 57 lbs. Winchester standard.

No. 4 HARD WINTER WHEAT shall include all the Hard varieties not fit for a higher grade in consequence of being of poor quality, damp, musty, dirty, and weigh not less than 53 lbs. Winchester standard.

No GRADE HARD WINTER WHEAT. (See General Rule.)

Western Wheat.

No. 1 WHITE WESTERN WHEAT shall be sound, dry, and reasonably clean.

No. 2 WHITE WESTERN WHEAT shall consist of sound White Wheat unfit to grade No. 1. This grade may contain a slight admixture of smutty wheat.

No GRADE WHITE WESTERN WHEAT. (See General Rule.)

NOTE.—The grades of White Western Wheat are to include such wheats as are grown in the Northwest and on the Pacific Slope from either Spring or Winter Seeding.

Spring Wheat.

No. 1 HARD SPRING WHEAT shall be sound, bright and well cleaned, composed mostly of hard Scotch Fife, and weigh not less than 58 lbs. Winchester standard.

No. 1 NORTHERN SPRING WHEAT shall be sound and well cleaned, contain not less than fifty per cent. of the Hard varieties of Spring Wheat, and weigh not less than 57 lbs. Winchester standard.

No. 2 NORTHERN SPRING WHEAT shall be sound, reasonably clean, contain not less than forty per cent. of the Hard varieties of Spring Wheat, and weigh not less than 56 lbs. Winchester standard.

No. 3 SPRING WHEAT shall comprise all inferior, shrunken Spring Wheat, and weigh not less than 54 lbs. Winchester standard.

No. 4 SPRING WHEAT shall include all Spring Wheat not fit for a higher grade in consequence of being of poor quality, damp, musty, dirty, and weigh not less than 52 lbs. Winchester standard.

No GRADE SPRING WHEAT. (See General Rule.)

Macaroni Wheat.

No. 1 MACARONI WHEAT shall be bright, sound, well cleaned, and be composed of what is known as rice or goose wheat.

No. 2 MACARONI WHEAT shall be inferior to No. 1, but sound, and be composed of what is known as rice or goose wheat, and may include wheat that is bleached and shrunken.

No. 3 MACARONI WHEAT shall include all wheat badly bleached or smutty, or for any other cause unfit for No. 2.

LIFE OF TEA BUSHES IN INDIA.

Specific Instances.

UNDER the above heading X writes in the following strain to the *Times* Financial and Commercial Supplement of the 24th ultimo:—

In your article of December 20th upon the production of tea it was stated that the bushes in India are capable of lasting for a very long period, but no specific instances of endurance were named. As the matter is one of special importance, I send you information that has reached me in the course of investigation. It fully confirms what was said.

From Assam I learn that the oldest tea at Chubwa, put out in 1837, was still vigorous in 1902, aged 65 years, when the China bushes were replaced by a finer jāt of plant upon which labour could be more profitably employed; while I hear of tea in the Tingrai district planted by Bruce, probably about 1840, which is still being worked.

In Darjeeling the bulk of the old tea, which is still being cropped, dates from 1865 back to 1860, while there are small plots at Liehong planted in 1856 and 1857 still bearing well. In Cachar and Sylhet some of the bushes first planted at Doloo about 1858 have been cultivated without interruption up to this season; at Arnicherra there are small areas planted in 1857 still being worked; some of the old tea around Lullecherra planted about 1858 is now in bearing, and part of Goolni made in 1864 is yielding well. In Dooars the earliest tea is at Dam Dim and Hohe; it was planted in 1873 or 1874. In Travancore the oldest, dating from about 1888, is still vigorous and healthy, some fields yielding as much as 700 lbs. per acre.

To these statements of fact I appended opinions received from planters of exceptional standing and experience respecting the probable lives of the gardens.

"The measure of endurance of the tea plant on Indian soil is dependent entirely on how both are treated. As planters we cannot claim to have been quite fair to the tea bush until recent years." "I would most certainly say that the life of a garden planted and worked under present conditions would be much longer than one planted 30 to 50 years ago. We know now that young tea must be allowed to arrive at maturity before it can be regularly plucked and pruned." "There is no reason why the tea in Travancore, which is at present 24 years old, should not increase in yielding capacity, and there seems to me no reason why it should not live another 50 years, probably longer, provided it is well treated." "I have such respect for the tea plant that I believe, properly treated, it would live longer than the oldest man."

NEW REFERENCE BOOKS.

ELECTRIC ARC LAMPS.

Their Principles, Construction, and Working. By J. ZEIDLER, Electrical Engineer, the A. E. G., Berlin, and J. Lustgarten, Lecturer in Electrical Engineering School of Technology, Manchester University. Illustrated. 8½ x 5½, 188 pp. c.

Harper.

WRINKLES IN PRACTICAL NAVIGATION.

By S. T. S. LECKY, Master Mariner. Fifteenth Edition, revised and enlarged, by WILLIAM ALLINGHAM, (Nautical) Assistant, Meteorological Office. With 135 Illustrations and Plates. 9½ x 6, 815 pp.

25s. net

George Philip.

INTERNATIONAL COMMERCIAL POLICIES.

With Special Reference to the United States. A text-book. By GEORGE MYGATT FISK, Professor of Commerce, University of Illinois. 7¼ x 4½, 288 pp.

5s. net

New York: The Macmillan Co.

THREE LECTURES BY J. M. ROBERTSON, M.P., ON FREE TRADE.

At the Westminster Palace Hotel, on November 4, 11, and 18, 1907.

2s.

The National Press Agency.

METHODS OF SURVEYING.

By N. F. MACKENZIE.

London: Bradbury, Agnew and Co. ICE AND COLD STORAGE TRADES' DIRECTORY FOR 1908.

9 x 6, 206 pp.

5s.

The Ice and Cold Storage Publishing Company.

AERODYNAMICS.

Constituting the First Volume of a Complete Work on Aerial Flight. By E. W. LANCHESTER. 9 x 5½, xvi + 442 pp.

21s. net

Constable.

MODERN ELECTRICAL THEORY.

By NORMAN R. CAMPBELL, Fellow of Trinity College, Cambridge. (Cambridge Physical Series.) 8½ x 5½, 332 pp.

7s. 6d. net

Cambridge University Press.

BRITISH MINERALS AND WHERE TO FIND THEM.

By J. S. NEIL, F.G.S. (Murby's "Science" Series.) 7½ x 5, 222 pp.

2s.

Murby, 6, Boulevard Street, E.C.

NOTES ON FIBROUS PLANTS OF THE WEST COAST OF AFRICA.

By E. DRABBLE, D.Sc. (Liverpool University: Institute of Commercial Research in the Tropics.) 9½ x 6½, 15 pp.

2s.

Liverpool: The Offices of the Institute. London: Williams and Norgate.

SUGAR IMPORTS.

Imports of Foreign Sugar (excluding confectionery and molasses) into British India in the month of January, 1908, and in the ten months ending January, 1908, compared with the corresponding periods of the previous year. The statement shows, so far as possible, the original sources of all such sugar imported :—

Countries of production of total imports.	Share of each country in the total imports in Jan., 1907.	Share of each country in the total imports in Jan., 1908.	Share in the ten months ending Jan., 1907.	Share in the ten months ending Jan., 1908.	Countries of production of total imports.	Share of each country in the total imports in Jan., 1907.	Share of each country in the total imports in Jan., 1908.	Share in the ten months ending Jan., 1907.	Share in the ten months ending Jan., 1908.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Austria-Hungary	380,926	87,093	1,838,736	559,095	South America	3,143	13	21,233	8,387
Belgium	709	133	103,863	1,209	China	112	3,379	4,758	7,064
Denmark	...	3	...	11	India	...	...	...	66
France	57	160	23,757	9,749	Japan	...	...	4	...
Germany	4,299	2,397	1,651,768	49,602	Java	372,285	726,946	3,214,016	5,906,528
Holland	434	31	909	318	Philippines	...	...	...	400
Italy	...	...	4	4	Straits Settlements	935	544	3,528	11,234
Spain	...	...	3	200	Australia	...	...	9	...
Egypt	...	...	69	...	From non-producing countries. Origin unknown	511	38	801	204
Mauritius	307,160	194,657	1,880,084	2,087,256					
Réunion	...	...	109,471	11,377					
West Indies	...	2	5,081	5,178					
					TOTAL	1,070,598	1,015,396	8,856,094	8,657,912

Quantity of Beet and Cane Sugar imported by sea from foreign countries into each province of British India for the month of January, 1908, compared with the corresponding period of the year 1907 :—

PROVINCES.	Beet Sugar.		Cane Sugar.		TOTAL.	
	1907.	1908.	1907.	1908.	1907.	1908.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	118,064	147	349,686	387,610	467,750	387,757
Eastern Bengal and Assam	...	2	1	1,000	1	1,002
Bombay	92,392	66,090	243,071	315,726	335,463	381,816
Sind	166,597	17,636	60,215	172,014	226,812	189,650
Madras	5,238	4,376	1,092	4,625	6,330	9,001
Burma	4,385	1,583	29,857	44,587	34,242	46,170
TOTAL	386,676	89,834	683,922	925,562	1,070,598	1,015,396

IMPORTS OF COTTON YARN.

Quantity of Cotton Yarn No. 31 and higher counts imported by sea from other countries into each province of British India in the month of January, 1908 :—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	Total.
	lb	lb	lb	lb	lb	lb	lb
Mule and Water, Nos. 31 to 40	192,500	...	213,752	28,500	345,300	...	780,052
" " 41 to 50	56,500	...	48,665	...	57,025	...	162,190
" " above No. 50	199,365	...	89,499	...	60,670	...	349,534
Orange, red and other colours, Nos. 31 to 40.	420,540	...	154,970	229,918	322,945	56,000	1,184,373
Orange, red and other colours, Nos. 41 to 50.	40,707	...	35,300	...	1,467	33,800	111,274
Orange, red and other colours, above No. 50.	9,225	...	14,508	...	44,390	8,050	70,177
TOTAL	918,841	...	556,694	258,418	831,797	97,850	2,663,600

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in the Indian mills in December, 1907, compared with the corresponding period of 1905 and 1906 are published by the Commercial Intelligence Department :—

No. 1.—Abstract Statement of the Quantity (in pounds) of Yarn Spun.

	MONTH OF DECEMBER			NINE MONTHS, APRIL TO DECEMBER		
	1905	1906	1907	1905	1906	1907
British India.						
Bombay	39,992,806	38,625,191	38,950,940	370,450,697	363,439,690	345,180,131
Madras	2,945,755	3,166,243	3,022,826	26,963,580	27,497,617	27,912,439
Bengal	4,361,082	3,965,454	3,602,285	38,249,557	35,325,772	30,876,335
United Provinces of Agra and Oudh (also Ajmer-Merwara)	3,100,443	2,868,774	3,380,160	25,431,010	25,610,440	27,392,256
Punjab	1,339,533	1,195,371	1,130,100	10,684,079	10,586,834	9,547,567
Central Provinces and Berar	2,227,122	2,174,382	2,272,115	21,731,036	20,057,519	20,642,828
TOTAL	63,966,741	61,995,415	62,358,426	493,510,019	482,517,872	461,551,556
Foreign Territory.						
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	2,138,117	1,910,600	2,031,676	19,342,842	17,681,589	18,014,875
GRAND TOTAL	66,104,858	63,906,015	64,390,102	512,852,861	500,199,461	479,566,431

No. 2.—Abstract Statement of the Quantity of Woven Goods Produced.

[N.B.—The weight in pounds represents the weight of all woven goods; the measure in yards represents the equivalent of the weight of the grey goods alone for 1905, but coloured goods are included in the yardage for 1905 and 1907.]

	MONTH OF DECEMBER			NINE MONTHS, APRIL TO DECEMBER		
	1905	1906	1907	1905	1906	1907
British India.						
Bombay	12,233,068	11,753,329	15,793,257	104,444,028	104,733,138	120,283,444
Madras	42,130,784	49,873,898	67,691,797	364,131,178	458,603,671	524,574,584
Bengal	49,174	70,922	67,236	299,487	499,294	539,071
United Provinces of Agra and Oudh (also Ajmer-Merwara)	785,616	705,818	597,521	6,356,921	6,018,920	5,775,333
Punjab	1,233,088	2,279,962	1,954,201	9,760,669	20,274,561	18,892,407
Central Provinces and Berar	...	1,050	1,047	...	9,040	10,810
TOTAL	60,799	90,055	184,330	486,335	938,109	1,393,439
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	246,500	399,199	791,297	1,857,534	4,150,577	5,670,941
GRAND TOTAL	674,650	585,693	897,027	5,649,590	5,342,337	6,302,650
Foreign Territory.	2,548,038	2,266,553	3,394,512	21,484,199	21,783,313	24,774,561
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	...	1,496	1,477	...	23,814	31,614
GRAND TOTAL	18,942	36,264	36,772	196,933	280,592	329,230
Foreign Territory.	43,586	95,939	104,614	536,351	825,477	907,494
GRAND TOTAL	648,278	699,523	637,360	6,268,678	5,593,982	5,812,599
Foreign Territory.	2,125,715	2,854,681	2,651,621	18,812,078	22,664,338	23,835,747
GRAND TOTAL	...	656	296	...	3,957	6,197
Foreign Territory.	14,421,353	13,870,682	18,146,267	123,402,485	122,907,078	139,896,695
GRAND TOTAL	48,327,711	57,770,232	76,588,042	416,582,009	528,301,937	598,655,734
Foreign Territory.	49,174	74,130	70,170	299,487	536,269	588,789
GRAND TOTAL	687,027	612,062	727,434	5,440,366	5,187,803	5,674,938
Foreign Territory.	...	...	...	...	...	...
GRAND TOTAL	2,562,780	2,322,650	2,845,620	21,263,897	19,999,527	21,800,382
Foreign Territory.	15,108,380	14,482,744	18,873,701	128,842,851	128,094,886	145,671,633
GRAND TOTAL	50,890,491	60,092,882	79,433,662	437,845,906	548,301,464	620,456,116
Foreign Territory.	49,174	74,130	70,170	299,487	536,269	588,789
GRAND TOTAL	...	...	...	...	...	...

WEEKLY TRADE MOVEMENTS.

For the Fortnight ending 15th February, 1908
COTTON GOODS.

Twist and Yarn.	
Foreign—Imports by sea into	Calcutta, lbs. 792,674
	Bombay " 409,293
	Madras " 416,200
Indian—Exports by sea from	Calcutta " 664,745
	Bombay " 9,326,759
	Madras "

Grey Piece Goods.	
Imports by sea from	Calcutta, yds. 30,647,427
	Bombay " 6,039,365
Foreign ports into	Karachi " 1,700,345
	Madras " 90,108
	Rangoon " 676,346

White Piece Goods.	
Imports by sea from	Calcutta, yds. 14,242,887
	Bombay " 7,187,549
Foreign ports into	Karachi " 8,326,501
	Madras " 64,043
	Rangoon " 1,694,694

Other Piece Goods.	
Imports by sea from	Calcutta, yds. 5,664,668
	Bombay " 6,163,354
Foreign ports into	Karachi " 4,878,970
	Madras " 152,856
	Rangoon " 2,220,355

Piece Goods.	
(Indian and Foreign.)	
Despatches by rail from	Calcutta, cwt. 53,645
	Bombay " 10,814
	Karachi " 23,814
	Madras " 8,762

Raw Cotton.	
Imports into Bombay	By sea cwt. 10,456
	Coastwise " 45,061
	By rail " 545,292
Imports into Karachi by rail	" 115,771
Imports into Calcutta by rail and river	" 27,802

JUTE.	
Arrivals by all routes in	Calcutta, cwt. 753,380
Exports by sea from	Gunny bags, No. 20,999,913
	Calcutta " cloth, yds. 26,221,160
	Chittagong—Jute " 397,599
	" 35,140

COTTON SEED.	
Exports by sea from Bombay, cwt.	191,382

OILSEEDS.	
Linseed.	
Imports into	Calcutta by rail and river, cwt. 19,665
	Bombay " By sea " 22
	" By rail " 4,335
	Karachi by rail " 14,005
Exports by sea from	Calcutta " 42,360
	Bombay "
	Karachi "

Rape and Mustard Seed.	
Imports into	Calcutta by rail and river, cwt. 47,075
	Bombay " By sea " 622
	" By rail " 555
	Karachi by rail " 77,800
Exports by sea from	Calcutta " 4
	Bombay " 15
	Karachi " 346,961

RICE.	
Arrivals by all routes in	Calcutta, cwt. 1,080,289
	Calcutta " 115,784
	Chittagong "
Exports by sea from	Bombay " 27,750
	Karachi " 31,263
	Madras " 2,711
	Rangoon " 6,067,375

TEA.	
Arrivals by all routes in	Calcutta, lbs. 1,554,454
Exports by sea from	Calcutta " 3,583,754
	Chittagong " 351,798

WHEAT.	
Imports into	Calcutta by rail and river, cwt. 24,017
	Karachi by rail " 6,672
	Bombay " By sea " 12,804
	" Coastwise " 94,542
	" By rail " 4,243
Exports by sea from	Calcutta " 813
	Bombay " 1,563
	Karachi " 43,674

B. B. & C. I. Ry. figures only.

KEROSENE OIL, FORTNIGHT ENDING 15th FEBRUARY, 1908.

Imports by sea into—	FROM			TOTAL.
	Russia.	America.	All other foreign countries.	
Calcutta	galls.	galls.	galls.	galls.
Bombay	...	196,503	...	196,503
Karachi	24,375	790	1,708,936	1,734,101
Madras	...	256,012	...	256,012
Exports by sea from Burma to				741,615
				428,900
				...
				268,585
				...
				...

IMPORTS OF SUGAR, FORTNIGHT ENDING 15th FEBRUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
United Kingdom	cwt. 76	cwt. ...	cwt. 21	cwt. 1	cwt. ...	cwt. 12	cwt. 110
Germany	...	...	...	...	1,250	950	2,200
Austria-Hungary	...	...	26,422	10,000	...	...	46,422
Other European Countries	...	...	...	...	...	7,995	266,195
Java	195,549	...	19,955	42,696	...	...	96,871
Mauritius	...	...	60,079	36,792	...	373	793
Other Non-European Countries	...	...	420	...	...	...	...
Total refined						...	411,591
Total unrefined						...	30,482
Grand Total, cwt.						...	442,073

INDIAN MANGANESE INDUSTRY.

Remarkable Progress.

Writing on this subject in its issue of January 21st the *Manchester Guardian* says:—

During the year just closed the manganese mining industry in India has made remarkable progress, and it promises to become very soon one of the staple industries of the country. Less than a decade ago, according to official figures, considerably less than 50,000 tons of this metal was exported from India, while the export for 1906 amounted, in round figures, to 350,000 tons. The exact figures for last year are not yet available, but there are good grounds for believing that they will not fall far short of 600,000 tons, if, indeed, this figure is not exceeded. A considerable proportion of this great increase is due, of course, to the recent great activity in the steel trade and the consequent demand for manganese for use in converting iron into steel. Prolonged investigation has conclusively demonstrated, moreover, the superiority of the Indian ores to those obtained from Southern Russia and Brazil, the two other principal manganese-producing centres. So far, the principal centres of this industry in India are the semi-independent State of Mysore and the Central Provinces. Extensive deposits have, however, been found in various other portions of the dependency, and these are being developed. Two factors in the rapid progress of this industry are undoubtedly the plentiful supply of cheap native labour and the fact that in the very large majority of cases the ore lies very near the surface, so that there is no deep and expensive shaft-sinking to be undertaken before the veins of metal can be tapped.

In Mysore the deposits of manganese are extraordinarily rich, and in many places the ore veins are to be seen running along the surface for some considerable distance, while entire hills have recently been discovered that are described as being simply masses of manganese ore, which can, of course, be worked with the utmost ease. Naturally the percentage of pure metal to the ton of ore varies considerably, but taken all round the Indian ores are more prolific in metal than are those from other countries. Determined efforts are now being made to place this industry upon a thoroughly sound

and systematised footing, and the Indian Government is cordially co-operating in these efforts. The next development in this industry in India is likely to be in the direction of erecting smelting plant in the chief producing centres. At the present time the ore is shipped from India in bulk exactly as mined, and is smelted either in this country or in Germany or Belgium—India's three best customers for manganese. This is obviously a wasteful system, since freight is being paid upon the useless components of the ore. A suggestion has now been brought forward that the Indian Government should render financial assistance towards the erection of smelters in central positions, to which the mines in the neighbourhood could send their ores to be treated. It is understood, however, that the authorities are not disposed to go so far as this, but are prepared to do all that lies in their power to assist private individuals or companies who desire to erect smelting plant, even laying down special lines of railway where necessary to facilitate the transport of the machinery to the mines.

—According to a recent report by the United States Consul-General at Yokohama, a charter has been granted to Mr. Nishizuka Toyosaburo and two other Japanese residents in Seoul to work a petroleum deposit in Chyong-ju, in North Phyang-an Province, Korea. The area is stated to extend over 439,470 tsubos (=56 square mile) in all. This is said to be the only petroleum yet discovered in Korea.

—Reports are current on the Continent of an approaching combine in the Russian iron industry. According to the Brussels *Revue Internationale* this union will be of a very intimate nature, resembling in many respects the United States Steel Corporation. It is stated that the combinations so far formed have not realised the hopes entertained of them; there are too many outsiders, and there has been a certain amount of friction within the combinations themselves. In view of this state of affairs the three largest companies in Southern Russia (Dnieprovienne Russo-Belge, and Taganrog) have commenced negotiations with a view to a general fusion of interest. Similar negotiations are also in progress with Hughes, Brinsk, and the Providence Russe.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

1. Notes on Sugar in India. R1-8. (2a.)
2. Indian Cotton Seed: Its Industrial Possibilities. As. 12. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- | | |
|--|---|
| E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W. | Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W. |
| Constable & Co., 10, Orange Street, Leicester Square, W.C. | Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford. |
| Bernard Quaritch, 11, Grafton Street, New Bond Street, W. | Messrs. Grindlay & Co., 54, Parliament Street, London, S.W. |
| Deighton, Bell & Co., Cambridge. | Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C. |
| H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London. | Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C. |
| P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W. | |

On the Continent.

- | | |
|--|--|
| R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W. | Karl W. Hiersemann, Leipzig. |
| Otto Harrassowitz, Leipzig. | Ernest Leroux, 28, Rue Bonaparte, Paris. |
| Mr. Rudolf Haupt, Halli-A-S., Germany. | Martinus Nijhoff, The Hague. |

In India.

- | | |
|---|--|
| Thacker, Spink & Co., Calcutta and Simla. | Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore. |
| Newman & Co., Calcutta. | Superintendent, American Baptist Mission Press, Rangoon. |
| R. Cambray & Co., Calcutta. | Messrs. S. Murthy & Co., Madras. |
| S. K. Lahiri & Co., Calcutta. | Messrs. Thompson & Co., Madras. |
| Thacker & Co., Ltd., Bombay. | Messrs. Temple & Co., Madras. |
| A. J. Combridge & Co., Bombay. | Messrs. Combridge & Co., Madras. |
| D. B. Taraporevala, Sons & Co., Bombay. | P. R. Rama Iyer & Co., Madras. |
| Radhabai Amaram Sagoon, Bombay. | Messrs. A. R. Pillai & Co., Trivandrum. |
| Sundur Pandurang, Bombay. | Messrs. Gopal Narayan & Co., Bombay. |
| V. Kalyanarama Iyer & Co., Madras. | Messrs. A. M. and J. Ferguson, Ceylon. |
| G. A. Natesan & Co., Madras. | Messrs. A. Chand & Co., Lahore, Punjab. |
| Higginbotham & Co., Madras. | |
| N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad. | |

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0
FOR LESS THAN 3 MONTHS:—	
To Subscribers	8 0
To Non-Subscribers	10 0
POSTAGE:—	
Abroad	5 0
In India	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0
FOR LESS THAN 3 MONTHS:—	
To Subscribers	1 0
To Non-Subscribers	2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0
For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.	
POSTAGE:—	
Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6
N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.	

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,

STANDARD BUILDINGS,

Dalhousie Square,

CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DE RESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to

J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E. LONDON, ENGLAND.

MARTIN & CO.*Engineers and Contractors**Architects and Builders,*

CAN GIVE PROMPT DELIVERY OF

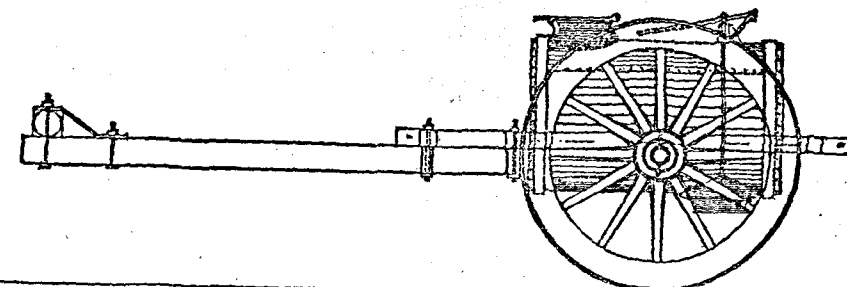
ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.**PORTLAND CEMENT.** As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.**GALVANIZED CORRUGATED IRON.**

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO.'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. **C. I. COLUMNS***Light Railway Material of every Description.***MARTIN & CO.**6 AND 7 CLIVE STREET,
CALCUTTA.**CONSERVANCY CARTS.**GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.

Reg. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., Ltd., MADRAS,

Government Contractors.

**HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE****WARING & GILLOW, Ltd.***Decorative Artists to H. M. the King*HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.*They make a speciality of furniture suited to the EASTERN CLIMATE.*

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

DELICIOUS **COFFEE**
RED
WHITE
& BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.

30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS,
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANNS RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS

COIR MATS AND MATTING

SUPPLIED ON ORDER.

Rope Works at Ghusari.

TELEPHONE NO. 132.



THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.

Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.

Branches at Cape Town, Johannesburg and Durban.

G. W. MUNT & SONS,
WHOLESALE
BOX MANUFACTURERS

(EVERY DESCRIPTION),

LONDON,

ENGLAND

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:

CUNNINGHAM, LEITH.

Reference:

BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.
PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your

Seeds, Plants, Manures and
Books on Gardening and
Agriculture

From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment
TO HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY'

'SAFETY' HORSE NAILS
CONCAVE INSIDE
CONVEX OUTSIDE

Arch section, saves 'challenging,' wry-necking,
driving, notching, nail-pressure & breaking.
Extract from Mr. SHREATH'S Eminent Report:—
'I have nothing to say but un-
qualified praise. I think the nail
is much stiffer to drive, less likely
to buckle in any injurious direc-
tion, and gives increased firmness
in holding on the shoe.'
Japanese Army use exclusively.

SHOE
THE CRUEL TO MAKE THE HORSE STAND
ON SLIPPERY ROADS WITH
NAIL PRESSURES
FRONT SECTION OF HOOF
CUT AT HEEL NAIL
KNIGHT'S SAFETY NAILS REQUIRE NO
CURVING TO DRIVE, NOTCH KASPIING
TO CLINCH & NEVER GO LOOSE
COMPANIES SAVE ALL COST
OF NAILS EVERY DAY THE
SHOE IS CARRIED LONGER

London and EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.
O Telegrams: MORSEKAL LONDON Telephone: No. 6019

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,
DONCASTER, ENGLAND.

Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
in Gelatine.

Beechwood Brand awarded 4 Gold Medals
and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

"CHARLTON"**SILICATE****PAINT**

Registered Patentees:

THE SILICATE PAINT CO.,**J. B. ORR & CO., LD., CHARLTON, LONDON.**

THE ORIGINAL AND ONLY MANUFACTURERS.

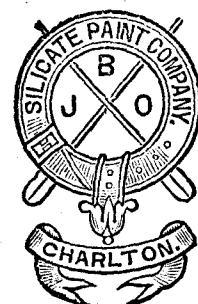
Invented in 1873. In use over 30 years in India.

Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,

and for all

GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.

Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colomb

Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

—A SAFE AND EFFICIENT—
Antiseptic, Deodoriser and Germicide
IS THE WORLD-RENOVED
CREPHOL
Disinfectant.

Destroys effectually all Noxious Microbes existing in AIR, SOIL, and WATER.
Renders innocuous the Gases which produce Disease.*Extracts from Reports by***Dr. A. B. GRIFFITHS, Ph.D., F.R.S.E.,**

The Eminent Bacteriologist—

"In conclusion, I am justified in stating that Crephol Powder is a most powerful germicide or disinfectant, and that it readily destroys disease-producing and other microbes. It will be found invaluable for drains, stables, streets, and for general household purposes."

R. MARLOTH, Ph.D., M.A.,

Professor of Chemistry, CAPE TOWN, SOUTH AFRICA—

"This means that Crephol possesses, generally speaking, the same disinfecting power as PURE Carbolic Acid."

A. SELWYN BROWN,

Analyst and Assayer, SYDNEY, N. S. W.—

"The Fluid Disinfectant is in every way an excellent preparation, and I can recommend it with the greatest confidence as a safe, powerful, and cleanly disinfectant and germicide."

Sole Agent for India: **H. I. ROBERTS, 42, Castle Street, Liverpool.**
Calcutta Agents: Messrs. KINMOND & Co. | Sole Agents in Karachi: Messrs. B. R. HERMAN & Co.Sole Agents in Madras: Messrs. McDOWELL & Co., Ltd.
Bombay Agents:—KINMOND & Co.**CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.**

INCORPORATED BY ROYAL CHARTER.

Capital - - - **£1,200,000** | Reserve Fund - - **£1,475,000**
Reserve Liability of Proprietors **£1,200,000**Head Office—**HATTON COURT, THREADNEEDLE STREET, LONDON.**

Bangkok.	Colombo.	Ipoh (Perak Feder-	Madras.	Penang.
Batavia.	Foochow.	ated Malay States).	Manila.	Rangoon.
Bombay.	Hamburg.	Karachi.	Medan (Deli	Saigon.
Calcutta.	Hankow.	Kobe.	Sumatra).	Shanghai.
Cebu.	Hong-Kong.	Kwala Lumpor.	New York.	Singapore.
	Sourabaya.	Tientsin.	Yokohama.	
	Thaiping.			

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
5, COUNCIL HOUSE STREET.Bombay Agency,
ESPLANADE.Rangoon Agency,
76, PHAYRE STREET.

STRUCTURAL ENGINEERS AND FOUNDERS.

Bridges, Girders, Roofs,

Tanks, Railway Wagons,

Wrought Iron Gates, Doors, and Railings.

THE EMPIRE ENGINEERING Co., LTD.

Cast Iron Columns, Brackets, Beams, etc., Designs and Estimates Free.
TRANSPORT CARTS, WATER CARTS, REFUSE CARTS, WOOD, AND IRON WHEELS,
PATENT ARTILLERY WHEELS, SEPTIC TANKS, LATRINES, AND CONSERV-
ANCY APPLIANCES A SPECIALITY. FOR ILLUSTRATED LIST APPLY TO—

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

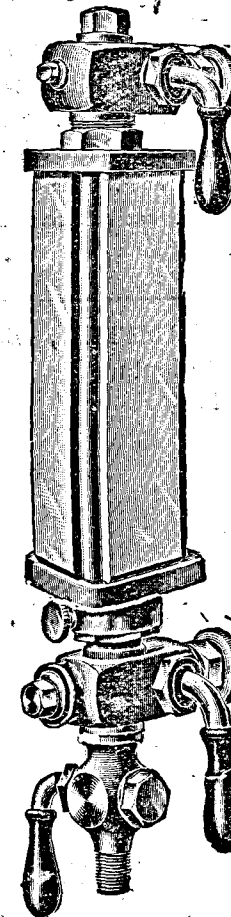
MACBETH BROS. & CO.,

ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities.—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

Showing Protector in Position



Gauge Glass Protector.

"EUREKA" GAUGE GLASSES

ESTABLISHED 1853.

MAKERS OF THE NEW GAUGE GLASSES

"S.H.P."

FOR SPECIAL HIGH-PRESSURE BOILERS.

SEND FOR CIRCULARS AND TESTIMONIALS.

JOSEPH TOMEY & SONS, LD

GLASS TUBE WORKS,

Catherine Street, Aston, BIRMINGHAM.

LONDON WAREHOUSE AND SHOWROOMS—98, HATTON GARDEN, E.C.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments.

THE WOODITE COMPANY,

MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement
Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

A WONDERFUL CIGARETTE MACHINE.

A New Cigarette Machine, making 400 Cigarettes per minute or 150,000 per diem, has recently been brought out in England, and it has proved to be the simplest, best, and most economical Machine in existence. All those yet sold are giving their purchasers great satisfaction. These Machines make either round or oval Cigarettes as well as the best hand-made without waste or trouble. They are very easy to run and to keep in order.

A PERFECT TOBACCO-CUTTING MACHINE.

This Machine has the advantage over all others that it will cut the finest Turkish or any other variety of leaf tobacco without in any way altering or spoiling its flavour, colour or quality. It cuts tobacco for cigarette-making at the rate of 45 lbs. per hour. The width of the cut, from 1/4 to 1/4 per inch, can be altered by simply turning a thumb-screw.

These Machines are made and sold by THE BRITISH SIGARERA, LIMITED, who will send all particulars on application, and who will accept Indents through British Agents. A Wholesale Agent required for India and another for China.

THE BRITISH SIGARERA, LIMITED,
TOBACCO TRADE ENGINEERS,
33, ENDELL STREET, LONGACRE,
LONDON.

MALCAJIK CIGARETTE COMPANY,
CIGARETTE SPECIALISTS,
35, ENDELL STREET, LONDON, W.C.
MALCAJIK CIGARETTES.
TURKISH GRADES.

De Luxe. Special. Princessas.

The Company's Turkish grades of Malcajik Cigarettes are made of the very finest Pure Turkish Tobacco direct from their own extensive and famous Plantations in Turkey.

ALSO
MALCAJIK VIRGINIA ROYAL CIGARETTES.
Made of the very choicest Bright Virginia Tobacco.
AND

MALCAJIK PIPE MIXTURE.

A revelation to lovers of a good Pipe Mixture. The finest ever made.

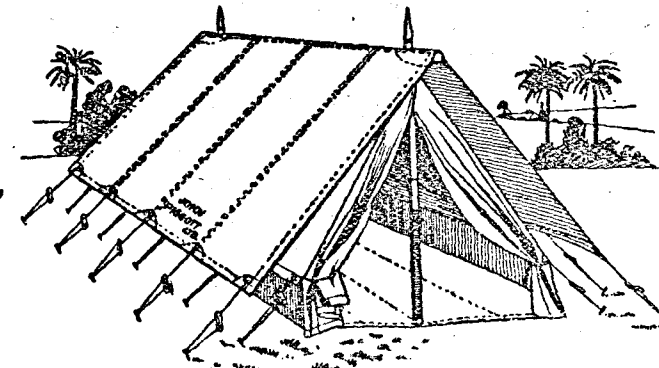
AGENTS WANTED THROUGHOUT INDIA, THE EAST, BRITISH COLONIES, ETC.

Orders through English Merchants.

JOHN PIGGOTT, LTD.,

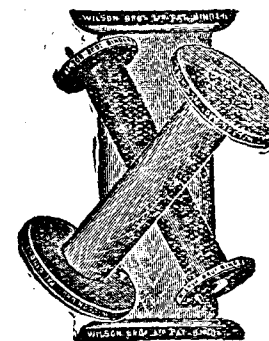
TENT-MANUFACTURERS.

EXPLORERS' TENTS,
BELL-TENTS,
FOLDING BEDSTEADS,
SLEEPING BAGS,
ETC., ETC



TENTS
FOR ALL
PURPOSES.
ESTIMATES
FREE.

ILLUSTRATED PRICE LIST
Free on application to Advertisement Department,
Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO or RANGOON.
117 & 118, CHEAPSIDE & MILK STREET, LONDON, E.C.



WILSON BROS. BOBBIN Co., LTD.
LARGEST MAKERS IN THE WORLD OF
BOBBINS & SHUTTLES.
ESTABLISHED 1823. 63 GOLD MEDALS & DIPLOMAS.
HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORTON. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.
Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

RELIABLE
QUALITY
ONLY. **PADMORE** Over
70 Years' Reputation.
BILLIARD TABLES
Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.
Order through your merchant or write for Catalogues to
Thos. PADMORE & SONS, Birmingham
CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.
Telegrams: Billiards, Birmingham. Tele: 1841

BARLOW & Co.
Import and Export Merchant.
and
Commission Agents.
Agents: **United Alkali Co., Ltd.—Fertilizers.**
Sulphur.
The Summerlee Iron Co., Ltd.
Scotch Pig Iron. Special Brand. Stocks
37, STRAND ROAD, CALCUTTA.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

**DIESEL OIL ENGINES,
JEWELL WATER FILTERS,
VENTURI METERS.**

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS.

Large Stocks held

WATER METERS,

in Calcutta.

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



*"Pelican" and
"Chin-Chin"*



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

These Inks are the best in the world and largely used by various Governments, principal Railway Companies, the largest Engineering and Industrial Firms, Architects, Draughtsmen, Technical Schools, Colleges, etc., all over the world.

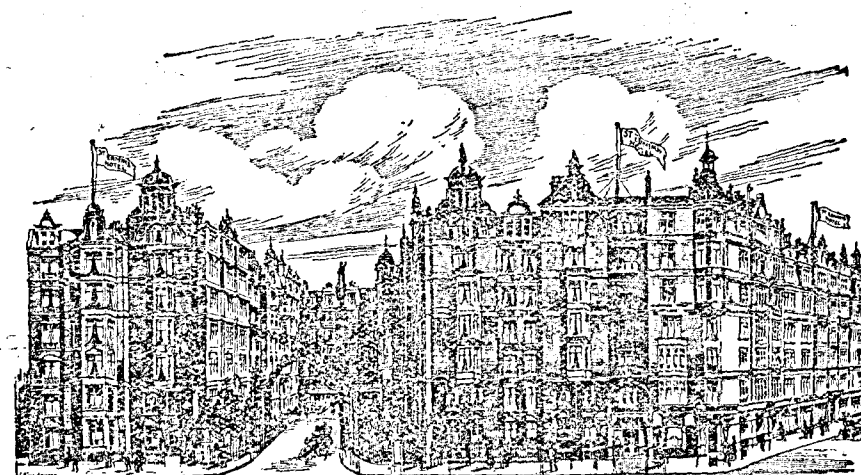
The Colours may be mixed together to produce other tints and diluted with distilled water *ad libitum* and are supplied in 1½-oz. bottles with Quill Filler.

Can be obtained from:—

W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

GÜNTHER WAGNER,

Sole Manufacturer,
MILTON STREET, LONDON, E.C.



**ST
ERMINS
HOTEL**

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmin, London,"
Works:—Birmingham, Halesowen, London.



Established over 200 years.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES.

Manufacturers of every description of

**Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery**

for

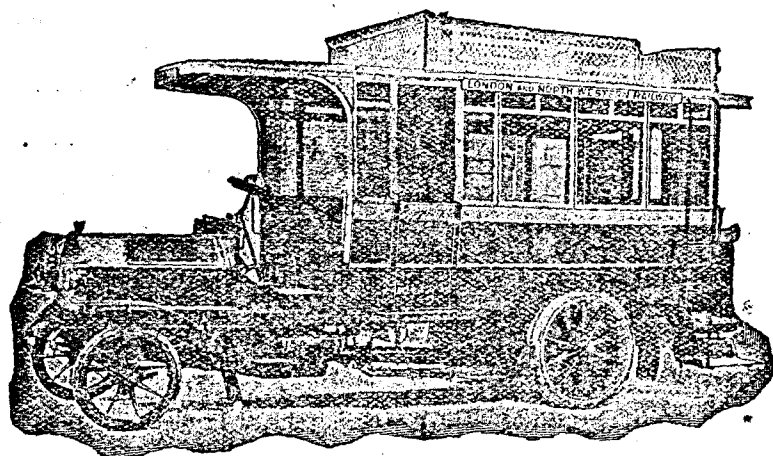
Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



Motor Lorries,

- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.

LONDON & NORTH WESTERN RAILWAY OMNIBUS.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

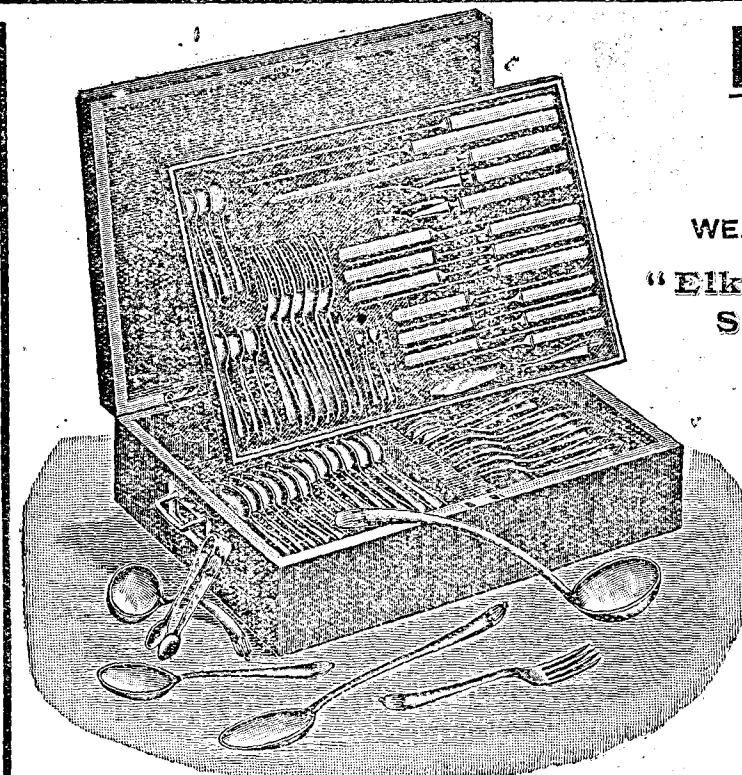
MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & CO.,
MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best.

HALLITE-DOUGLAS,

LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).

"DOUGLAS" GRAPHITE SPECIALITIES.

Flake Graphite, Graphite Paint, Graphite
Grease, Galvanizing Paint, Motor Lubricating
Oils and Greases.

AGENTS WANTED: INDIA, FAR EAST & COLONIES.

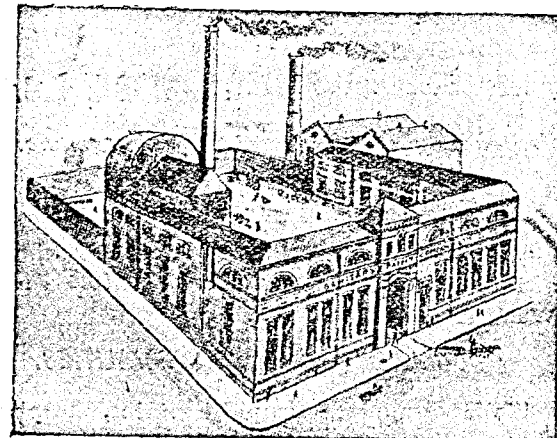
Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"
was received from the Calcutta
Exhibition in 1884,
and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.
Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
X X CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,
FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINC WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.
They will serve you well, and we are confident they will do their best to please you.

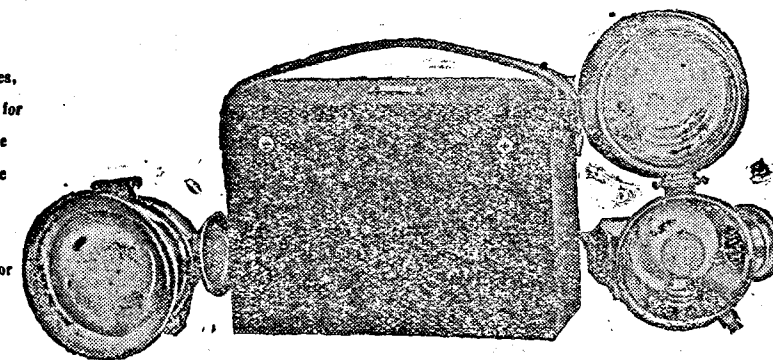
THE GRATZE

IMPROVED PLANT AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

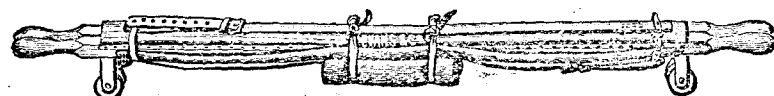
The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES. ORTHOPÆDIO APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS, LONDON, S.E.

By Appointment to His Excellency the Governor of Bombay.
Suppliers to
HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING
SAFE & LOCK MAKERS NEAR GAS WORKS PAREL BOMBAY.

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE,

Bombay, 12th September 1905

MESSRS. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency.

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al, Licher's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

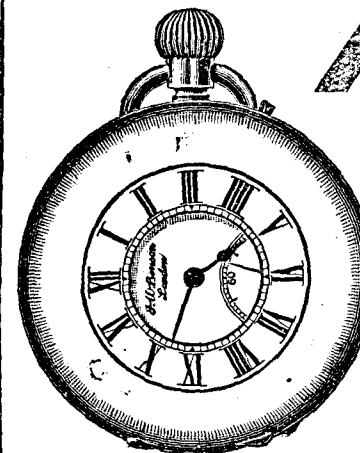
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this ad.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING Co., LTD., DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD.

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORDS BIRMINGHAM

BRANCHES: LONDON, MANCHESTER, DUBLIN, GLASGOW, QUEEN ST.

DEPOTS: CAPE TOWN, JOHANNESBURG, BERLIN, KRAUSESTRASSE, 40.

TELEPHONE No. 462-3

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use.

They neither scratch, blot, nor wear out.

The regular flow of ink and

The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.

Send for illustrated catalogue.

MABIE TODD & Co.,

WHOLESALE & EXPORT MANUFACTURERS,

79 & 80 HIGH HOLBORN, LONDON, W.C.

AND AT MANCHESTER, PARIS, BRUSSELS,

NEW YORK, CHICAGO & SYDNEY.

STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,

BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY ARTIFICIAL STONE WITH AN ESTABLISHED REPUTATION OF 25 YEARS.	EXCLUSIVELY USED BY THE P. W. D., PORT COMMISSIONERS, MUNICIPALITIES, RAILWAYS, JUTE AND COTTON MILL COMPANIES.	FOR DURABILITY AND FOR BEING SANITARY, DAMP, VERMIN AND FIRE PROOF.
--	--	--

The Floor PAR EXCELLENCE for Dwelling Houses, Footpaths, Godowns, Coach Houses, Stables, Mills and Factories.

For illustrated sheet, particulars, estimates and prices for plain and ornamental flooring laid IN SITU or in tiles and for copies of testimonials, analysis and tests,

Apply to— **BIRD & Co.,** MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
101-1, Clive Street, CALCUTTA.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

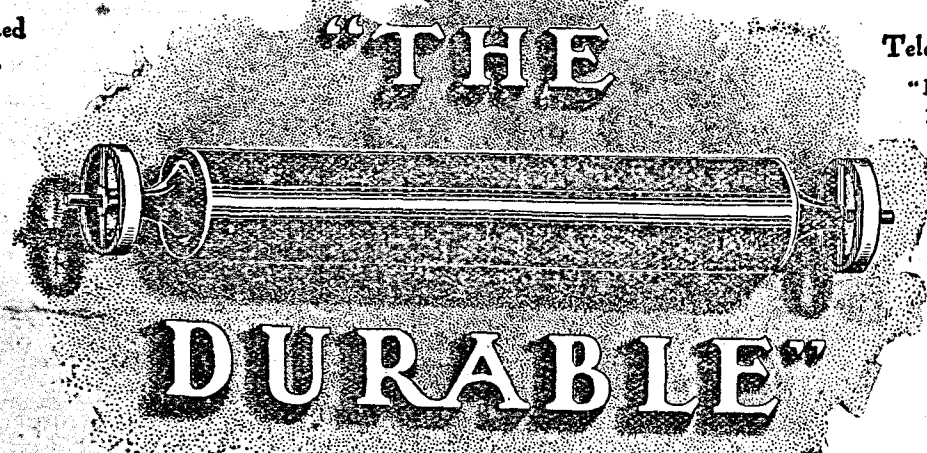
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO HIS MAJESTY'S PRINTING OFFICES THE INDIA OFFICE THE HONORABLE BOARD OF INLAND REVENUE, &c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

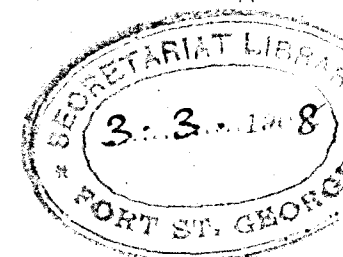
Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, [INDIA,
8, HASTINGS STREET, CALCUTTA.

PUBLISHED WEEKLY.



REGISTERED.



The Indian Trade Journal.

Issued by the Commercial Intelligence Department,
India.

VOL. VIII. No. 100.] CALCUTTA, THURSDAY, 27th FEBRUARY, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	441
NOTICES—	
Calls for Tenders	447
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Food Value of Indian Grains	448
CHAMBERS OF COMMERCE	452
TARIFF CHANGES	456
SEASON AND CROP PROSPECTS	ib.
THE FAMINE	457
THE NAGPUR EXHIBITION	458
PRICES OF COMMODITIES IN 1907	459
COFFEE, CACAO, AND TEA IN BRAZIL	461
EGYPTIAN COTTON IN SIND	ib.
INDIAN LAC INDUSTRY	462
CENSUS OF ARGENTINA	463
WHEAT ELEVATORS	464
BRITISH TOBACCO TRADE RESULTS	465
INDIAN COAL MINING INDUSTRY	466
JUTE AND RICE CULTIVATION	467
NEW REFERENCE BOOKS	468
TABLES—	
Food Grains and Salt	469
Results of Auction Tea Sales in Calcutta	ib.
Land Trade of British India	470
WEEKLY TRADE MOVEMENTS	472
TRADE IN HUMAN HAIR	473
DEPARTMENTAL PUBLICATIONS	474
ADVERTISEMENTS	475

NOTES.

The Presidency Bank rates are as follows:—

Calcutta	9	per cent.
Bombay	9	" "
Madras	9	" "

Exchange—1/31⁵/₁₆ to 1/33¹/₂

A new weaving mill has been started at Ahmedabad under the name of the Himabhai Manufacturing Company.

The Calcutta Customs authorities notify that on and from the 1st proximo, in order that the Custom House Treasury may be enabled to close at the prescribed hour of 4 P.M., cash transactions will not be registered in the Accounts Department of the Custom House after 3-30 P.M. on ordinary days and 12-30 P.M. on Saturdays.

The Government of India have decided to pay off all outstanding Stock Notes on the 24th August, 1908, when twenty years will have elapsed from the date of the notification intimating the discontinuance of such notes; and notice is given that on the date quoted such notes will cease to bear interest. Proprietors of Stock Notes should present the same on or after the 24th August, 1908, duly endorsed, for payment at the Currency Office or Treasury where interest on the notes is payable.

The number of bales of cotton imported into the United Kingdom during the week ended the 30th January, 1908, was 116,963 (including 106 bales British West Indian and 126 bales British West African), and the number imported during the five weeks ended the 30th January was 776,247 (including 958 bales British West Indian and 796 bales British West African). As regards exports, the figures are, for the week ended the 30th January, 8,779 bales and for the five weeks, 53,109 bales.

Mr. R. Larmour Neill, of New Orleans, in a communication dated January 18th, repeats and fortifies by various arguments his November estimate of 11,395,000 bales as a maximum for this season's American cotton crop. His calculations are based upon the movement into sight to December 31st and the average proportion of the crop which has in past seasons come into sight after that date. He says:—"According to Mr. Hester's figures up till December 31st, the crop last year moved more slowly than any on record, only 59.14 per cent. having come into sight by that date. If a similar percentage only has appeared this year, the final figures of the crop will be 11,339,000. In the past small crops moved proportionately more rapidly than large ones. The average percentage in sight on December 31st of the last seven crops is 62.66. The difference between this average and last year's slowest delivery (which I assume for this year also) is 3.52 per cent., equivalent to a holding back by farmers of 678,000 bales over the average of their holdings in these past seven years. This calculation, whilst purely academic, is interesting in that it shows the great amount of cotton farmers must be carrying above the normal, if the crop is to reach my November estimate of 11,395,000."

In a survey of the Shanghai Piece-Goods market Messrs. Noël, Murray & Co., in their weekly Report dated Shanghai, January 30th, say:—"The prospects are much more favourable for a brisk trade at the commencement this year than usual, it being estimated by some of the leading dealers here that not more than ten per cent. of the purchases usually made before China New Year, in anticipation of the opening of the new season, have yet been made. Of course there is still a fair supply already in the hands of the dealers, but there is little doubt but what stocks in the consuming districts are exceedingly low and must be replenished before long. The surviving dealers are, at all events, hopeful and will no doubt benefit by the weeding out that has taken place. A few more of the smaller fry are reported to have left for parts unknown, and we also understand two of the minor Native Banks are retiring from business. Otherwise accounts appear to have been fairly well squared up now, or arrangements made to carry over." Regarding Indian yarns, Messrs. Noël, Murray & Co., write:—"Business since our last has been on a smaller scale

and confined almost entirely to transactions for delivery after the native holidays. Buyers for the River markets and Szechuen have been the chief operators, prices paid showing a further advance at which the market closes firm. The sales reported amount in the aggregate to 2,434 bales, as follows: No. 10s. 1,100 bales; Apollo (Mule) \$74.00, Jubilee (Mule) \$74.00, Hope Mill \$75.00, Connaught Mill and Howard and Bullough Mill \$75.50 and Currimbhoy (Ring) \$76.00."

The American Consul-General at Yokohama in a report to his Government on the financial results of the Japanese cotton mills for the last half of 1907 says that the half-yearly accounts of the Settsu, Amagasaki, Osaka, and Fukushima Spinning Companies closed at the end of November, and that of the Godo Spinning Company at the end of December. The net profit of the Settsu Spinning Company for the period is estimated to yield a dividend at the rate of about 40 per cent. per annum. The profit of the Amagasaki Spinning Company is estimated at about 50 per cent. The Osaka Spinning Company's profit is estimated at 20 per cent. while the Fukushima Spinning Company has made about 30 per cent. The profit of the Godo Spinning Company is equivalent to about 30 per cent. It is understood that the decrease of the dividend of the Settsu Spinning Company by 10 per cent. from the rate for the preceding period is due to the incorporation of the Koriyama Spinning Company, which has been purchased by the Company during the present period. It is stated that all the spinning companies which are also engaged in cotton weaving have advance orders for the whole of their output up to November or December, 1908.

The establishment at Alexandria of a clearing-house for cotton contracts, says the *Manchester Guardian*, has been unanimously approved by a general meeting of members of the Produce Exchange, and the scheme was put into operation on February 7th. Clearings and the adjustment of differences at the periodical settlements will be done through the Alexandria agency of the Comptoir National d'Escompte, of Paris, which will settle differences in gold on demand. The unanimity with which the vote was passed implies the adhesion of a preponderant number of agencies, if indeed the arrangement is not made compulsory for all members of the Exchange. A somewhat analogous matter is the Government regulation of the Produce Exchanges in Egypt. Interest in the question is revived by the announcement that the judicial sub-commission is about to meet to settle definitely the form of official supervision. The subject has long been ventilated in Egypt, and a draft project was not long ago circulated among the business communities. This scheme, while its general principles remain, has undergone radical alteration in many respects, as the result of the criticisms and suggestions

bestowed on it. Its attitude towards operations in "futures" was generally condemned as it appeared to aim at putting a legal ban on "futures" altogether. The new law will probably draw a distinction between "futures" entered into for a real and actual, though ulterior, delivery of produce, and operations destined to terminate in the mere payment of differences. The recent financial crisis in Egypt has afforded experience of great value in the framing of legislation on this subject.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 1st February, 1908, were as follows:—Wheat, 35s. 0d.; barley, 26s. 11d.; oats, 18s. 4d.

The Board of Trade correspondent for Western Australia (Mr. J. F. Conigrave) has forwarded the following memorandum respecting the surplus wheat of the last harvest of Western Australia, which is available for export during the coming season:—

	Bushels.
Quantity available for export at beginning of 1907	870,000
Export to 31st December, 1907	360,000
Available	510,000
Probable crop, 1907-08	8,540,000
Probable quantity available at beginning of 1908	4,050,000
Probable requirements during 1908 for seed and food	2,700,000
Available for export	1,350,000

We are requested to state that the following important changes will be introduced with effect from the 1st April, 1908, in the Rules for the guidance of Depositors in Post Office Savings Banks:—

- (1) The agent of a female depositor withdrawing money from her account will be required to certify on the application for withdrawal that the depositor is alive and sane.
- (2) Every sub-office which does Savings Bank work, instead of only certain selected sub-offices, will repay deposits without previous reference to the head office, provided that funds are available in the sub-office. In the case, however, of applications for withdrawal from minors' accounts, security deposit accounts, and conjoint accounts, payment will, as at present, not be made until a warrant of payment is received from the head office.
- (3) The limit of the amount of withdrawals without notice from the deposits at call at the credit of a public or a conjoint account has been altered from Rs. 2,000 within 12

consecutive months to Rs. 1,000 within a calendar month.

- (4) Deposits in security deposit accounts will be allowed only at call and not subject to six months' notice of withdrawal.

The postal authorities notify, under the orders of the Government of India, that, until further notice, the issue of British Postal Orders to any single individual in one day is limited to £20, and that the maximum amount for which any one remitter may obtain foreign sterling money orders in one day is limited to £100.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 22nd February, 1908—

In the Calcutta market—

Behar opium—Rs. 1,386; 1,386; 1,395; 1,390; 1,385; 1,374; 1,372.

Benares opium—Rs. 1,360; 1,360; 1,370; 1,365; 1,360; 1,350; 1,350.

The prices in the time bargains for the Behar opium of the 3rd sale of 1908, were Rs. 1,393; 1,393; 1,402; 1,397; 1,392; 1,331; 1,379.

In the China market—

At Hongkong (exchange Rs. 142½ to 143½ per \$100).

Behar opium—\$982½; 985; 982½; 982½; 985; 985; 985.

Benares opium—No quotations received.

At Shanghai (exchange Rs. 191½ to 192 per 100 taels).

Behar opium—On the 19th instant 740 taels.

Benares opium—On the 19th instant 735 taels.

For the week ending 15th February 1908—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,270 to 1,300; (new, 1905-06) Rs. 1,325 to 1,400; (old, 1904-05) Rs. 1,435; the latest prices at Hongkong and Shanghai respectively were (new) Rs. 1,321 and Rs. 1,400; (old) Rs. 1,399 and Rs. 1,478.

The following figures represent the quantity and the value of gold and silver imported from, and exported to, foreign countries into and from British India, during the month of January 1908:—The total imports of gold were 150,088 oz. valued at Rs. 92,79,763, of these 78,670 oz. valued at Rs. 50,47,620 represented bullion and 68,853 oz. valued at Rs. 40,77,706 represented sovereigns and other British gold coin and 2,565 oz. valued at Rs. 1,54,437 represented other coined gold. The total exports of gold were 50,576* oz. valued at Rs. 26,87,807, of these 49,202* oz. valued at Rs. 26,07,793 represented bullion and 2 oz. valued at Rs. 105 represented sovereigns and other British gold coin and 1,372 oz. valued at Rs. 79,909 represented other coined gold. The total imports of silver were 4,711,509 oz. valued at Rs. 89,53,038, of these

4,010,053 oz. valued at Rs. 70,82,644 represented bar and 701,164 oz. valued at Rs. 18,69,775 represented Government of India rupees and 292 oz. valued at Rs. 619 represented other coin. The total exports of silver were 346,936* oz. valued at Rs. 8,24,431, of these 10,822* oz. valued at Rs. 26,308 represented bullion and 217,687 oz. valued at Rs. 5,80,500 represented Government of India rupees and 44,911 oz. valued at Rs. 72,583 represented British dollars and 73,516 oz. valued at Rs. 1,45,090 represented other coin. In this month the net imports of gold amounted to 65.9 lakhs of rupees and of silver to 81.3 lakhs. The figures marked with an asterisk* are defective, the weight of certain postal parcels not being declared by Post Office.

The silk clearances at the Lyons conditioning house during the week ended January 29th amounted to 131,027 kilos, as compared with 133,215 in the preceding week and 130,510 in the corresponding week of last year. We append the usual table of comparisons:—

Week ended January 29th.	THROWN.		Raw.	Total.
	Organsins.	Trames.		
	Kilos.	Kilos.	Kilos.	Kilos.
1908 . . .	22,174	21,051	87,402	131,027
1907 . . .	18,032	22,756	89,722	130,510
1906 . . .	20,448	20,655	84,924	126,027
1905 . . .	16,184	22,394	90,701	129,279
1904 . . .	14,640	14,070	79,138	107,848
1903 . . .	19,031	17,086	78,723	114,840

There is no improvement in the general situation of the market, which remains dull and weak.

The *Manchester Guardian* of the 6th instant writes:—The position of the silk trade of late has led to considerable offerings of manufactured goods at prices below those hitherto current. For delivery up to February 20th, dating as May, foreign crapes, chiffons, *peau de soie*, and other standard fabrics are being put forward by certain wholesale houses at considerable concessions. The falling off in the American trade has forced a number of Continental manufacturers to curtail production, and in cases where stocks have accumulated, Lyons agents, both here and in London, quote prices which a short time ago would have been regarded as great sacrifices; owing to the publicity given to the fall in raw silk prices by certain wholesale firms in their sale circulars and other announcements retailers are difficult to deal with. In the English silk districts employment cannot be found for all the machinery, and there have been larger sales than usual of cheap Japanese cloth for the making up trade. It is quite clear that Japan has a much larger

surplus than usual both of raw silk and of cloth for the European market, and during the earlier months of 1908 at any rate she cannot expect to maintain her normal rate of shipments to the United States. The result, of course, is greater pressure to sell in Europe.

Dealing with the copper trade in its issue of the 4th instant the *Manchester Guardian* says:—"The copper market has been irregular and weak of late. Prices are not very much down, the difference between the last two Friday closing rates being only 27s. 6d. per ton, but the tone of business has suffered and the feeling is more despondent. The causes are not far to seek, the report that the Amalgamated Company had decided to reopen all its mines being one of them. It is not easy to appraise all these American reports at their true value, but it may well be that American copper shareholders are tired of a policy of masterly inactivity and desire that their capital should be productively employed. There is plenty of profit in working copper mines when the price of standard is round about £60, and they may prefer to acquire this profit and not to wait indefinitely for a recurrence of extravagant prices. There has been practically no fresh business in refined and manufactured copper, and the Indian purchases have declined; while with regard to the consumption in America, the report that two of the large electrical concerns were about to enter the market is now discredited."

The *Ironmonger* of the 8th instant writes:—"Tin has, at times, an excited market, and on Tuesday there was an advance of £4 a ton. Exactly what started the advance it is hard to say. We are far from admitting that there are not certain elements in favour of the bulls, not the least of which is the depleted condition of consumers' stocks, but an unprejudiced view of the position rather leads to the conclusion that the laws of supply and demand are anything but favourable to the undue hoisting of values. When £130 was reached for three months large sellers came into the market, and although Eastern cables reported on Wednesday morning that business had been done at up to about £131, the market here, after being at that figure for three months, slipped down to £129 10s. in a very few minutes, though on Thursday renewed vigorous speculative buying lifted prices again. America bought largely in the East just before the Chinese holidays. There have been rumours that many of the mines in the East are being closed down owing to the impossibility of working them at a profit. There are good reasons for thinking that practically all the tin mines in the East can produce at a profit at considerably below to-day's prices, and we do not believe that the owners of such will voluntarily put themselves out of the market in order to benefit their competitors. It is neither human nature nor business to assent to such a policy."

It is notified in yesterday's *Calcutta Gazette* that *novocaine* is to be included in the definition of "Intoxicating Drugs" within the meaning of the Bengal Excise Act; and its importation by post is prohibited.

The Annual Report of the Bengal Chamber of Commerce for 1907 has been issued. It chronicles in readable form the multifarious subjects dealt with by the Committee during the year, nearly all of which, however, have been noticed month by month in the *Indian Trade Journal*.

With reference to an announcement that the German Rolled Wire Association is selling at 110 marks per ton for export whilst it is charging domestic consumers 132.50 marks per ton, the *Berlin Tageblatt* says:—"Much the same kind of thing is going on in connection with the German Steel Association. The Düsseldorf syndicate is charging domestic consumers the high prices of 100 marks per ton for bars and 102 marks per ton for plates, both prices being f. o. r. works, so that the consumer has to pay freight. On the other hand, the Association is selling abroad and particularly to its big British customers at probably not more than the prices quoted by the *Ironmonger* for semi-products, viz., 78s. for bars and 81s. for plates per English ton of 1,016 kilogrammes and f. o. b. Thus the difference between the domestic and foreign price is now over 20 marks per ton. What blessings the syndicates bestow on the domestic consumers!"

A great deal has been heard lately about the metallic filament lamps, and how, by the reduced amount of energy which they require, they will change the supply companies' profits into losses, and completely alter the state of the industry and the balance between income and expenditure. As a correspondent states in an article in the *Times Engineering Supplement*, the use of the metallic filament lamp has been discouraged in some quarters lest the interests of the supply companies should suffer; but in other and more hopeful directions it is encouraged as a means whereby the strong competition of gas lighting may be met, and by which consumers may be induced to use electricity as an illuminant. It seems perfectly clear that anything which tends to cheapen electric light, and which will add to the list of consumers, cannot fail to benefit the supply companies. The changes in the systems of distribution which this correspondent deems inevitable will have to be charged against the new lamp; but notwithstanding this capital outlay, with the wide adoption of this lamp, the companies should be in a better position to compete against other forms of illuminants, and thus to improve their business.

The final returns of Egyptian trade in 1907 show that the recovery of imports in November was

followed by a relapse in December. The imports for the year (including tobacco) amounted to £E. 26,120,777, against £E. 24,010,795 in 1906, an increase of £E. 2,109,982. The total exports (including cigarettes) were £E. 28,013,185 against £E. 24,877,280 in 1906, an increase of £E. 3,135,905. From January to July inclusive imports showed an average monthly increase of £E. 320,000. A period of decline began in August, with average monthly decreases of £E. 65,000 up to the end of October. In November an unexpected recovery took place, with an increase of £E. 373,909, but this was followed in December by a decrease of £E. 208,112. The ultimate effect is that the decreases and the increase between August and December almost exactly balanced one another. The import trade, therefore, has been well maintained at the previous year's level since the crisis began. At regards exports, out of the total of £E. 28,013,185 no less than £E. 23,732,570 consisted of cotton. The excess of exports over imports was £E. 1,892,408, and the tendency at present is for that margin to increase. The imports of textiles amounted to £E. 7,006,851 or £E. 7,752 less than in 1906. The decrease in cotton piece goods amounted to £E. 29,442, but it was partly offset by increases of £E. 12,910 in woollen fabrics and £E. 13,290 in carpets and silk fabrics.

The *Manchester Guardian* of the 5th instant has an article on the proposed V. P. P. system between England and India from which we quote the following sentences:—"From a public standpoint it may be urged that the scheme is not likely to inflict much injury on Indian tradesmen. Competition has brought their prices down to the English level, if allowance is made for cost of carriage, import duties, and the loss caused by a destructive climate. Direct purchase from England would involve a delay of about six weeks, and in the case of an article which an Indian tradesman stocks would be more expensive than buying locally, because the large importer secures concessions both in price and in freight. Even if English competition were brought in it would be justifiable at least in those articles which are still sold at high prices in India. The class most likely to benefit are residents in places where there are no European shops. But the needs of these people are now largely met by the inland cash-on-delivery system, which is known in India as the Value Payable Post or, in brief, V. P. P. The V. P. P. started in 1878-9 with 7,400 parcels. The number of parcels sent in this way last year was nearly six millions. From these figures it may be inferred that the wants of interior residents are increasingly supplied by the shops in Bombay, Calcutta, and Madras. An aspect of the question which is scarcely taken into account by the Indian trading classes is the possible effect of the scheme in stimulating the direct purchase of goods from India. Darjeeling tea, cheap towels and cloths, Indian curios and so forth would probably find a considerable market in England."

The following figures showing the quantity of cultivated rubber exported from the Federated Malay States during the year 1907, as compared with the year 1906, are taken from the "Selangor Government Gazette" of 21st December:—

	1906.	1907.
	lb.	lb.
Perak	149,640	224,746
Selangor	681,040	1,072,472
Negri Sembilan	193,112	461,942
Pahang	...	...
Total	1,028,792	1,759,160

According to the *Queenslander*, reports from Boonah (Queensland) tend to show that the rumours of the discovery of petroleum in that district have some foundation in fact. For some time a private syndicate have had representatives testing the favourable indications, and as a result it is stated that crude petroleum—a heavy black oil—has been found in a well less than 10ft. in depth and within two miles of the town. On a farm five miles from Boonah, a bore is said to show a volatile oil, probably kerosene, at 130 ft. The water there is impregnated with oil, and, on being pumped into a reservoir and allowed to settle forms a heavy film on the surface. There are said to be other indications of oil in several parts of the district, notably at Harrisville.

The following statement of the imports, deliveries, and stocks of shellac in London, for the past twelve months, compared with those in the previous year, has been compiled by the "Public Ledger":—

	IMPORTS.		DELIVERIES.		STOCKS.	
	1907. Chts.	1906. Chts.	1907. Chts.	1906. Chts.	1907. Chts.	1906. Chts.
January	4,008	3,008	4,400	4,478	12,145	20,471
February	2,865	2,535	4,153	3,830	10,857	19,167
March	4,633	2,905	3,765	3,533	11,753	18,539
April	5,198	5,678	4,914	2,815	12,030	21,400
May	4,733	5,761	2,880	4,738	13,042	22,423
June	3,146	1,841	2,644	4,637	14,444	19,627
July	5,309	2,224	4,081	4,375	15,782	17,477
August	7,261	2,257	3,800	4,356	19,136	15,377
September	5,032	4,713	4,030	4,480	21,033	15,610
October	7,391	1,475	3,285	4,333	25,134	12,702
November	3,538	4,043	3,510	4,390	25,212	12,355
December	2,812	2,617	3,107	2,623	24,017	12,440
Total, 12 months	57,127	30,655	44,650	49,547	...	...

It is apparent in spite of the lateness of the season, says a contemporary, that there have been extensive sowings of wheat, barley, and taramira in the districts north of Lahore after the recent rain. There have also been sowings to the south of Lahore, but on a much smaller scale. To come to anything these late crops will require very favourable climatic conditions. It is satisfactory that they have done well up to the present. In the last fortnight there have been useful showers throughout the submontane districts, extending to a considerable distance from the hills, and throughout the Delhi Division, except Hissar. Early sown crops are generally in good condition. Prices have not altered much, but they have shown a slight downward tendency.

In their report for 1907 the directors of the Leipzig Cotton Spinning Company of Leipzig Lindewitz say that since February of last year they have been in negotiation with the Colonial Office for the acquisition of cotton land in German East Africa and during the last few days a temporary settlement has been arrived at. The company's net profit for the year amounted to £45,250, as against £45,100 in 1906. A dividend of 16 per cent., as in the two previous years, is declared. The Fine Cotton Spinning of Augsburg shows for 1907 a net profit of £24,800, as against £13,900 for 1906, the respective dividends being 16 per cent. and 12 per cent. The Worsted Spinning Company of Leipzig has declared a dividend of 13½ per cent. as against 12 per cent. for 1906. The Crefeld Carpet Company pays a 10 per cent. dividend, as in 1906. The Woollen Spinning Company of Thuringen also pays a 10 per cent. dividend, as in 1906. The Mühlbach Weaving Company, of Augsburg, has made a net profit for 1907 of £21,600, as against £20,400 for 1906. The dividend is increased from 22½ per cent. to 25 per cent.

It is announced that the Austro-Hungarian Zinc Works have just increased the price of sheet zinc by 25 crowns per ton. The *Frankfurter Zeitung* reports the promotion of a scheme for the establishment of an international convention of producers of zinc. It is proposed, in the first place, to bring about an understanding among the German zinc works, and then to endeavour to extend the arrangement so as to include Belgium, France and England. In 1906 Belgium produced 150,000 tons of zinc, England 52,000 tons, and France 30,000 tons. The Belgian company of Vieille Montagne, is supporting the German scheme by seeking to arrive at an understanding with the Belgian, French and English producers for the limitation of the output. The object of the whole scheme is to secure a restriction in the production and an advance in prices. The production of spelter in Europe, Australia and the United States last year was the largest on record

continuing to show the annual growth which has been almost uninterrupted during the past decade. Henry R. Merton & Co., Ltd., give the total as 726,435 English tons, compared with 688,300 tons in 1906 and 461,640 tons in 1898. The average price ex-ship London is given by the same authority as £23 16s. 9d. last year, which compares with £27 1s. 5d. in 1906 and £17 0s. 7d. in 1901—the highest and lowest annual averages for the past ten years. Great Britain's production of spelter last year was 54,720 tons (against 27,940 tons in 1906) and her imports amounted to 89,327 tons (against 77,521 in 1906).

NOTICES.

CALLS FOR TENDERS.

Meat.

The Divisional Contract Officer, Meerut, is calling for tenders up to the 28th instant for the supply of 1,594,200 lbs. of beef and 245,400 lbs. of mutton to be supplied at Chakrata during the official year 1908-09; and also for tenders up to the 2nd proximo for the supply of 126,000 lbs. of beef and 22,500 lbs. of mutton at Fattehgarh during the same period.

Kerosene.

The Store and Shipping Officer, Supply and Transport Corps, Calcutta, will receive tenders up to the 10th proximo for about 153,474 gallons of kerosene oil of a flashing point not below 76° F.

Woollen and Cotton Goods.

The Director of Army Clothing, Calcutta, is calling for tenders for the supply of woollen and cotton goods, of *bona fide* Indian manufacture, during the official year 1908-09.

Indian Tar.

The Divisional Contract Officer, Peshawar Division, is calling for tenders up to the 4th proximo for the supply of about 235,000 lbs. of tar.

Wool.

Tenders are invited up to the 7th proximo by the Divisional Contract Officer, Peshawar, for the supply of 124,000 lbs. of teased and cleaned wool.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Clive Street, Calcutta.)

Threshing Machines.

(221)—A British firm desires the addresses of firms in a position to push the sale of horse-power threshing machines.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the ante-room till Wednesday, 4th March, 1908:—

Foreign and Colonial Publications.

Australia—Trade Shipping Oversea Migration, and Finance of the Commonwealth of Australia, for October 1907;—Vital Statistics of the Commonwealth of Australia—Quarter ended June 1907;—Summary of Commonwealth Statistics of Transport and Communication for the years 1901 to 1906;—Monthly Statistical Bulletin of New South Wales, November, 1907;—Report of the Board of Governors of the Public Library, Museum, and Art Gallery of South Australia for 1906-07;—Statistical Register of Western Australia for 1906, Part IV—Interchange. Canada—Weekly Trade Report, 20th and 27th January 1908;—Monthly Account of Trade, October, 1907. Italy—Comune di Palermo Ufficio Statistics—Bollettino Statistico, January—April 1907. Sweden—Monthly Account of Trade, December 1907;—Annual Account of Trade, 1906. United States—Monthly Summary of Commerce and Finance, November 1907.

Parliamentary Publications.

Australia and New Zealand—Correspondence Relating to Proposed Legislation of Australia and New Zealand on the Subject of Merchant Shipping. Civil Service and Revenue Department—Supplementary Estimate for 1907-08. Colonial Import Duties, 1907. Consular Report—Trade of Amsterdam, 1906. Queensland—Papers Relative to the Working of Taxation on the Unimproved Value of Land in Queensland. Seamen's Savings Banks, Money Orders and Transmission of Wages, 1906-07. Sugar Convention Correspondence respecting the Adhesion of Russia to the Brussels Sugar Convention of March 5, 1902. Tramways and Light Railways (Street and Road), 1906-07. Treaty Series, No. 1 of 1908—Commercial Convention, Protocol and Declaration between the United Kingdom and Bulgaria, Signed at Sofia December, 1905;—No. 2 Agreement Additional to the Commercial Convention between the United Kingdom and Egypt of October 29, 1889, Signed at Cairo, December 16, 1907;—No. 3—Exchange of Notes between the United Kingdom and France. Arrangements under article X, section 4, of the Convention of October 20th, 1906, respecting the New Hebrides, August 29th, 1907. United Kingdom—Monthly Accounts of Trade, January 1908. Wages and Effects of Deceased Seamen—Return for 1906-07.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuters' Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, FEBRUARY 27, 1908.

FOOD VALUE OF INDIAN GRAINS.

In two articles on the Production and Consumption of Food Grains published in our issues of the 16th and 30th January, we explained that while it is impossible to deduce from the statistics relating to any single food grain how far it is, in a particular year, required for consumption in India, it is conceivable that we might, by reducing all food grains to the common term of their nutritive value, estimate approximately what total quantity of all food grains produced is so required. We also suggested that if any relation could be traced between the nutritive value of diverse grains and the prices customarily paid for them it might be feasible to establish the unit of value, just as the calorie is the recognised unit of energy.

This unit is the measure of energy which, under stated conditions, raises a given volume of water

through a certain degree of temperature. We must not lose sight of the fact that this is a purely conventional unit, both the volume of water and the degree of temperature being arbitrary and determined solely by convenience. There is, therefore, no reason why, in attempting to define a unit of value, we should not likewise consult convenience only.

We have, then, to decide whether we are to adopt as the unit that measure of energy which maintains a human being or a stated number of human beings for one day or for one week or month or year. In treating of value, the unit that naturally suggests itself is that measure of energy which maintains one human being for one day. But in dealing with very large populations and enormous quantities of food it is better to take, in relation to population, the food requirements of one person for one year, and, in relation to crops when discussed separately, the food value of one metric ton of 1,000 kilos.

In India, however, it is necessary at the outset to state both of these units in a manner different from that commonly used in colder climates. It has been explained that the various constituents or principles of a diet should be present in certain relative proportions. The most important of these principles is nitrogen contained in what are called proteids. The others are carbo-hydrates (starches) and fats. Of these three principles proteids are indispensable, and in a grain diet they exist in quantities so small that a person living on such diet must be insufficiently nourished even if he is surfeited. Excessive quantities of grain are consumed in the effort to acquire sufficient proteids; but the capacity of the human digestion is limited and not only is half of the more common constituents left undigested, but a large proportion of the proteids themselves escapes assimilation through this cause. Protein, however, is the one constituent without which vitality cannot persist.

Of the other constituents, carbo-hydrates exist in excess in food grains, and fats in quantity approximately sufficient for inhabitants of India. Subject to reservations that need not be detailed, carbo-hydrates and fats may be said to supply energy and heat. In cold climates the demand for a source of heat is great; and for this reason the virtue of food is in these countries commonly measured in calories

and stated as the "fuel value." But in most parts of India an alimentary source of heat as distinct from energy has less importance than in countries nearer the poles. So far as food grains are concerned, it may be taken that if there be a sufficiency of proteids, there must be an excess of carbo-hydrates; and in measuring the food value of any grain it is enough in this country to measure its content of protein. It thus becomes unnecessary to complicate the enquiry by reducing the various principles of Indian diet to calories.

Captain McCay, I.M.S., Professor of Physiology in the Medical College, Calcutta, has been good enough to advise us on this side of the question. He points out that the diet must depend roughly on the weight of the person concerned and that the average weight of the Bengali, of the native of the Central Provinces, and probably of natives of the plains of India generally, is found by some 32,000 weighments to be about 54 kilos (119 lbs.). Man requires theoretically 0.22 grammes of nitrogen per kilo of body weight, so that an adult weighing 54 kilos would require $(0.22 \times 54 \times 1000)$ 73.9 grammes of proteids per day. But to this must be added at least 25% for waste. The minimum proteid standard for a healthy native of the weight stated would therefore be 90 grammes per day. But it is recognised in all countries that excess of carbo-hydrates occasions a certain saving of protein; and the ordinary Indian native does in fact live and work on something like 40 grammes of protein absorbed per diem. Captain McCay informs us that, having regard to this fact, an allowance of 55 grammes consumed per diem per adult male would be sufficient as a test for Indian grains and that, considering the less weight of women, 46 grammes would be enough for each of this class. In the case of children allowance has to be made, on the one hand, for a special demand for protein during growth and, on the other hand, for the fact that, owing to mortality, younger children with relatively small proteid requirements predominate in the census returns between the ages 0 and 14. A calculation based on these considerations gives an average requirement of 33 grammes per diem. The age 14 is adopted as the limit of childhood, because it is so taken in certain Indian laws. The following statement shows the proportions in which men, women and

children figure in the last census returns per mille of the population and the number of grammes proteid required per mille:—

Men	307.1	@	55	grammes.
Women	303.4	@	46	"
Children	389.5	@	33	"
Total grammes proteid				16,891
" " "				13,956
" " "				12,853
				43,700

Therefore the average requirements per head of the population is about 43.7 grammes proteid per diem and 15.95 kilograms per annum. The total proteid requirements of the 231,522,638 people in India would amount to 3,692,786 metric tons of proteid.

Statement I below shows the areas in diverse territories under the various food grains and pulses.

Statement II shows the total outturn of each grain from the said areas. These, so far as they relate to tracts in respect of which estimates of outturn are regularly furnished, are based upon such estimates. In the absence of such estimates, the calculation of the outturn is based so far as possible upon the reports of crop-cutting experiments. Where no returns or crop-cutting experiments are on record, the outturn is based upon the average yield per acre in the other tracts.

Statement III shows (a) the total area under each grain in acres; (b) total outturn in kilos; (c) average yield per acre in kilos; (d) net imports or exports; (e) net quantity consumed in the country.

Statement IV shows in respect of each grain (a) proteid content per 100 grammes; (b) relative proteid value, the mean being taken as 100; (c) total proteid content of whole crop in kilos; (d) total proteid content of whole crop in units of 15.95 kilos. The figures in this column representing the number of persons which the said crop is capable of maintaining; (e) proteid value per acre in units of 15.95 kilos. These figures represent the number of persons which an acre of the said crop could maintain.

Statement V shows in respect of each grain (a) average wholesale price per kilo of grain; (b) relative wholesale price, the mean being taken as 100; (c) cost per 1,000 grammes of proteid; (d) relative cost per 1,000 grammes of proteid;

(e) proportion borne by the total protein in the particular crop to that in all crops named; (f) average prices based on columns (c) and (e).

Statements I and II require no explanation. They merely state data. With regard to No. III it is only necessary to point out that the quantity shown in the last column allows not only for net exports, but also for loss in husking and cleaning grain for food. In statement IV the facts which it is decided to deduce begin to issue. The fifth column, "Total proteid content in units of 15.95 kilos", practically records the number of persons which, on the assumptions stated at the outset, the food grains should be capable of sustaining throughout one year. Considering all the elements of error existent in the estimation of areas and yields, it is certainly striking that the total of this column (302,823,280) should approximate to the population actually recorded at the last census. This thoroughly justifies the method of estimating the values of Indian food stuffs by their protein content, and points to the conclusion that 15.95 kilos of protein per annum represents with some accuracy the average annual requirements of the people. The last column in statement IV shows in effect the number of persons sustainable on the produce of one acre of the crop named. Statement V deals with money values; and the wide variations in the cost per 1,000 grammes of proteid as shown in columns 4 and 6 indicate how little the price of a grain is

determined by its true alimentary value. It will be seen that the pulses and barley afford the cheapest sources of protein, and that rice is the dearest. It is clear that from no single one of these data could we deduce a unit of value. In the last columns of this statement an attempt is made to ascertain such a unit on the average of all the food stuffs collectively (and these certainly represent the mass of the Indian diet). The cost per 1,000 grammes of proteid is multiplied by the percentage borne by the total protein content of each particular crop to the total protein in all the crops. For Ragi the necessary data are not available, but an average struck upon the other foods gives a mean cost of Rs. 0.6871 per 1,000 grammes protein. Therefore the cost of the 15.95 kilo protein requisite to sustain an average Indian through one year would be Rs. 10.9592 or Rs. 10-15-4. This is the unit of value which we proposed to ascertain; but if it be divided by the number of days in the year it will be found to represent Rs. 0.03 per diem—say between 5 and 6 pies. It is perhaps well to repeat what was said at the beginning, that this must not be taken as comprising the requirements of the average native in respect of clothing, housing, cooking, etc., but the bare physiological requirements as regards nutrition, assuming that certain conditions in the other respects are satisfied. In this the unit of value is imperfect and arbitrary just as the unit of energy or that of heat.

Statement I.—Area (in acres) under the various food grains.

	Rice.	Wheat.	Barley.	Jowar.	Bajra.	Ragi.	Maize.	Gram.	Other pulses.
Upper Burma	1,717,200	28,300	...	987,400	100,700	...	92,400	76,700	158,800
Lower Burma	7,043,200	...	...	400	...	...	17,800	1,700	13,600
Assam	3,885,400	10,100	100	...	...	...	1,300	400	49,800
Eastern Bengal	12,669,700	183,700	60,600	5,500	400	5,000	21,200	69,300	581,100
Bengal	24,904,800	1,263,000	1,423,200	135,100	50,100	969,700	1,878,700	1,019,100	2,253,600
United Provinces	6,863,200	7,094,200	4,276,200	2,445,700	2,123,700	211,900	1,152,700	5,404,500	3,312,100
Ajmer-Merwara	300	12,500	42,800	71,100	35,300	...	63,200	6,700	12,000
Manpur	...	1,200	...	2,800	...	...	1,200	700	200
Punjab	607,700	7,213,200	929,000	1,099,500	1,651,800	25,700	1,139,500	2,285,000	716,700
N.-W. Frontier	28,900	770,300	227,500	54,200	128,800	...	362,800	129,000	44,300
Sind	913,100	487,600	13,700	601,000	839,500	700	1,400	89,600	119,200
Bombay	1,475,500	1,321,700	22,400	7,076,000	4,577,000	477,900	147,000	493,200	1,374,900
Central Provinces	3,631,800	2,783,200	15,100	1,924,800	47,600	34,100	126,500	904,400	2,011,300
Derar	32,400	360,500	100	2,867,500	67,400	...	4,000	161,800	215,400
Madras	7,606,700	20,000	3,000	4,691,900	2,957,900	1,787,500	74,000	143,900	3,254,200
Coorg	79,700	...	...	...	...	7,400	...	1,400	700
TOTAL	71,644,600	21,549,500	7,013,700	21,983,900	12,580,200	3,519,900	6,083,500	10,765,400	14,146,900

Statement II—Yield (in lb.) of various food grains from the areas in Statement I.

	Rice.	Wheat.	Barley.	Jowar.	Bajra.	Ragi.	Maize.	Gram.	Other pulses.
Upper Burma	1,820,232,000	17,970,500	...	394,980,000	50,652,100	...	90,459,600	49,471,500	139,744,000
Lower Burma	6,938,811,935	...	...	278,000	...	...	17,230,400	1,096,500	11,968,000
Assam	388,540,000	7,645,700	95,300	...	...	...	1,272,700	352,400	43,824,000
Eastern Bengal	9,901,664,672	128,590,000	53,388,000	3,822,500	201,200	4,100,000	17,384,000	60,172,300	491,393,000
Bengal	23,793,049,728	867,125,280	1,253,839,200	675,500	25,200,300	785,154,000	1,510,534,000	893,946,100	1,982,288,000
United Provinces	592,216,000	5,617,471,328	4,917,630,000	1,467,420,000	1,061,850,000	189,226,700	2,045,065,000	4,323,609,000	2,941,048,000
Ajmer-Merwara	305,100	9,462,500	55,854,000	22,467,600	17,765,900	...	64,527,200	5,360,000	10,560,000
Manpur	...	908,400	...	1,946,000	...	...	1,174,800	461,300	176,000
Punjab	594,938,300	6,042,930,432	673,183,000	489,397,000	672,282,600	22,959,100	1,074,548,500	1,492,635,000	630,696,000
N.-W. Frontier	20,391,000	491,769,520	182,772,500	32,628,400	51,777,600	...	420,495,200	52,503,000	38,984,000
Sind	928,622,700	315,826,624	13,020,500	1,080,598,000	640,638,500	625,100	1,370,600	42,022,400	1,209,912,000
Bombay	1,614,868,000	663,017,588	21,347,200	4,740,920,000	1,830,800,000	506,874,000	143,913,000	202,212,000	1,789,944,000
Central Provinces	496,134,000	1,620,935,680	14,390,300	1,007,136,000	23,942,800	30,461,300	133,843,500	497,420,000	1,789,944,000
Derar	32,950,800	131,222,000	95,300	2,546,340,000	33,902,200	...	3,916,000	107,111,600	189,552,000
Madras	6,082,925,656	15,140,000	2,859,000	3,185,800,100	1,612,055,500	1,426,425,000	72,446,000	95,261,800	2,863,696,000
Coorg	115,246,200	...	...	...	...	...	...	926,900	616,000
TOTAL	53,832,893,592	15,930,005,552	7,088,494,900	15,043,379,100	6,020,958,700	2,982,114,400	5,618,170,500	7,527,552,700	12,429,272,000

Statement III.

	Total area (acres.)	Total outturn (kilos.)	Average yield per acre (kilos.)	Net exports (kilos.)	Net quantity consumed in the country (kilos.) (b)
1	2	3	4	5	6
Rice	71,644,600	21,418,440,348	341	2,184,663,282	15,640,798,172
Wheat	21,549,500	7,225,803,117	335	1,306,808,208	5,107,327,507
Barley	7,013,700	3,216,315,658	459	13,715,362	2,947,915,584
Jowar	21,982,900	6,823,631,927	311	(a) 41,139,704	6,100,129,083
Bajra	12,580,200	2,731,088,850	217	(a) 41,139,663	2,416,840,402
Ragi	3,519,900	1,312,678,218	394	...	1,217,410,396
Maize	6,083,500	2,648,385,421	419	31,123,250	2,338,875,183
Gram	10,765,400	3,650,554,613	339	34,429,692	2,912,430,637
Other pulses	14,146,900	5,697,880,785	399	104,467,510	4,879,419,113

(a) Figures of Jowar and Bajra equally divided, separate figures not being available.
(b) Quantity shown in this column allows not only for net exports but also for loss in husking and cleaning grain for food.

Statement IV.

	Proteid content per 100 grammes.	Relative proteid value, the mean of column 2 (12.54) being taken as 100.	Total proteid content (kilos.)	Total proteid content, in units of 15.95 kilos.	Proteid value per acre in units of 15.95 kilos.
1	2	3	4	5	6
Rice	6.4	51	1,001,011,083	62,759,316	.88
Wheat	11.5	92	667,692,674	37,472,696	1.74
Barley	17.5	140	468,385,227	31,244,723	4.46
Jowar	9.3	74	667,312,06	35,589,151	1.62
Bajra	10.8	86	261,018,763	16,364,813	1.3
Ragi	7.3	59	88,870,569	5,671,847	1.68
Maize	9.5	76	222,193,142	13,900,605	2.29
Gram	19.7	157	673,748,835	35,971,714	3.34
Other pulses	20.9	167	1,019,798,595	63,937,216	4.52
TOTAL				302,823,280	

Statement V.

	Average whole-sale price per kilo of grain.	Relative whole-sale price mean of col. 2 (-0.725) being taken as 100.	Cost per 1,000 grammes of proteid.	Relative cost per 1,000 grammes of proteid mean of col. 4 (-0.394) being taken as 100.	Proportion borne by the total proteid in the particular crop to that in all the crops named.	Average price based on cols. 4 and 6.
1	2	3	4	5	6	7
Rice	0.848	116.7	1.3227	207	20.7	27.37969
Wheat	0.843	116.7	.736	115	12.4	9.1264
Barley	0.663	86.9	.36	56	10.3	3.708
Jowar	0.745	103.2	.748	117	11.8	8.6284
Bajra	...	...	...	...	6.4	4.0322
Ragi	...	...	...	...	1.8	...
Maize	0.671	78.8	.6099	94	4.6	2.76414
Gram	0.709	97.8	.3597	56	11.9	4.08043
Other pulses	0.728	100.4	.3485	55	21.1	7.35335
					100.0	67.47781

* Not available.

—The production of zinc oxide, or zinc white, in the United States in 1906 was 154,675,188 pounds, or 74,680 short tons, and in 1905 137,206,000 pounds, or 68,603 short tons, an increase of 6,077 tons, or 8.9 per cent. The production of zinc-lead pigment in 1906 was 16,258,000 pounds, or 8,129 short tons, and in 1905 13,558,000 pounds, or 6,779 short tons, an increase of 1,350 tons, or 19.9 per cent. The price at works averaged 4 cents, approximately the same as for 1905, though the price advanced towards the close of the year. Most of the zinc oxide produced is made from ores, only a relatively small portion being made from spelter. The manufacture of zinc oxide and zinc lead is restricted to a small number of companies.

CHAMBERS OF COMMERCE.

BOMBAY.

We take the following extracts from the Proceedings of the Committee of the Bombay Chamber of Commerce for the month of January, 1908 :—

Read letter, dated 17th December, 1907, from the Acting Director of Public Instruction, Bombay, stating that it is the intention of the Government of India to offer in the Bombay Presidency one and possibly two state scholarships to enable natives of the country to study some industry in England. The Director desired to be informed as to the particular kind of industry or industries for which, in the opinion of the Chamber, a scholarship or scholarships should be offered in the present year.

Resolution.—The Director of Public Instruction to be informed that the Committee are of opinion that the Industries that should be studied are **agriculture, electrical and mechanical engineering and mining**. It should be mentioned that agriculture is given prime importance as it is a matter that concerns the bulk of the population and directly or indirectly affects practically the whole economic condition of the country. Mechanical and electrical engineering are placed next to agriculture as it is felt that these are professions for which the demand at present is greater than the supply. As regards mining, the Committee consider that the mineral products of the country, though not perhaps so much of this Presidency, would soon take a leading part in the development of India's commerce, at the same time providing a welcome source of subsistence to an ever-increasing population.

The Committee were further of opinion that such scholarships should—as had previously been suggested by the Chamber—be thrown open to British subjects of all classes and nationalities (Europeans and Eurasians included) resident in India.

Read letter, dated 7th January, 1908, from the Government of India, stating that the Director-General of the Post Office of India has submitted a proposal that the **maximum limit of weight of Indian parcels** which may be conveyed by Post should be reduced from 2,000 tolas (or 25 seers) to 800 tolas (or 10 seers), and that before passing orders, the Government of India desired to have the advice of the commercial public regarding the proposal in question. The views of the Chamber were accordingly invited.

Resolution.—The Government of India to be informed that, in the opinion of the Committee, the suggested modification would be in the nature of a retrograde move, for they considered that in the interest of trade and the public generally the weight, if anything, should be increased rather than reduced. It was pointed out that while the bulk of heavy parcels were now transmitted by train, a comparatively large and increasing class of Europeans and well-to-do natives lived out in the country beyond the reach of railways. To all such people it would be a real hardship to be deprived of the postal facility

hitherto permitted, while on the other hand, considering the enormous number of parcels of all sizes that were annually handled, there should not be any serious inconvenience to the Postal Department in conveying the comparatively small number of 1,700 parcels of more than 10 seers in weight, quoted by Government as an example of the traffic conveyed by Post in this respect in the year 1906.

Read letter, dated 16th January, 1908, from the Bombay Government, forwarding copy of a communication from the Government of India, and of its enclosure, regarding the desirability of undertaking **legislation in India on the lines of the English Life Assurance Companies Act, 1870**, and asking for the opinion of the Chamber on the proposals referred to in the papers.

A further expression of opinion was invited as to the desirability of demanding a deposit or some other security from Insurance Companies operating in India, but registered in countries the laws of which do not provide for a deposit or other security.

Resolution.—Government to be informed that the Committee are in complete accord with the suggestion put forward by the Associated Scottish Life Assurance Societies, and are of opinion that if the Government of India were to legislate on lines similar to those which have been found so advantageous in the United Kingdom and other countries, they would be conferring a benefit on the people of India. The Committee were also in accord with the proposal to demand a deposit or some other security from Insurance Companies operating in India, but registered in countries the laws of which did not provide for such. The Committee further suggested that the Act should, if possible, be extended to include "Friendly," "Death" and similar "Societies"; but these, they considered, should be required to furnish a smaller deposit than would be levied from ordinary Life Assurance Companies.

Read letter, dated 23rd January, 1908, from a member of the Chamber, enquiring whether there are any rulings with regard to the **refusal of Steamship Agents and Captains to sign clean Bills of Lading** against indemnity bond given by the Shipper on account of remarks passed on Mates' receipts.

The firm further enquired whether, in the event of goods being shipped, the shipper was bound to accept any remarks the Captain or Mate chose to write on Mates' receipts; and, if not, what redress the shipper had.

Resolution.—To be informed that there are no rulings on the point mentioned. If cargo is on board before objection is raised, the shipper is not bound to accept any remarks the Captain or Mate chooses to write on the Mates' receipt. The question of damaged cargo should however be definitely settled between the shipper and the ship before the stuff is taken on board.

Read letter, from the Secretary, Railway Board, with regard to the complaints about **corruption and**

extortion among members of the subordinate Railway Staff throughout India.

The letter stated that the Railway Board were in communication with the railways with the object of considering what, if any, steps could be taken by administrations to minimise the evil. One difficulty, it was explained, was that the public would not co-operate by supplying information which would enable a railway to successfully prosecute its employés. It was added that in the particular case quoted by the Chamber in its letter, dated 16th December, 1907, the Railway Board had ordered a special investigation to be made.

Resolution.—To be recorded.

MADRAS.

The following extracts are taken from the Proceedings of the general monthly meeting of the Madras Chamber of Commerce held in January, 1908 :—

Read a letter, dated the 9th instant, from the Superintendent, Government Telegraph Department, Madras Office, forwarding copy of a Notice issued by the Director-General of Telegraphs on the subject of a new system of accounts relating to **call for repetitions in telegrams** without prepayment.

Resolved to approve the proposal generally but to protest against the proposed extra charge of 1 per cent.

Read a letter, dated the 16th January, 1908, from the Government of Madras, inviting an expression of the Chamber's opinion regarding proposals made to the Board of Trade by the Associated Scottish Life Assurance Offices regarding the expediency of legislation in regard to **Life Insurance Offices in India** on the lines of the English Act of 1870, and also regarding the desirability of demanding a deposit or some other security from Insurance Companies operating in India but registered in countries the laws of which do not provide for the deposit of such securities.

Resolved to inform Government that the Chamber was in favour of both proposals.

Read letter, dated the 7th January, 1908, from the Government of India, Department of Commerce and Industry, suggesting that the **maximum limit of weight of inland parcels** conveyed by post should be reduced from 2,000 tolas (or 25 seers), and inviting an expression of the Chamber's views.

Resolved to inform the Government of India that while the Chamber did not think the proposed reduction would greatly inconvenience the public, it would be sorry to see any restriction of the advantages secured under the Postal Rules.

Read letter from the Madras Government, dated the 3rd January, 1908, inviting an expression of the Chamber's opinion regarding a proposal of the Madras Corporation to **levy license fees** on the storage and sale of tobacco, cigars, cigarettes and snuff in Madras city to provide funds for the water-supply scheme.

Resolved to inform Government that the Chamber could not approve of the proposal as it considered that the net revenue likely to accrue from the

fees would be quite inadequate for the purpose for which they were intended.

Read letter, dated the 21st December, 1907, from the Chief Secretary to the Government of Madras, inviting an expression of the Chamber's views regarding the proposed introduction of the system of payment of **"Cash on Delivery"** in respect of parcels and packets exchanged between the United Kingdom and British possessions.

Resolved to inform Government that as the opinions of its members were about equally divided the Chamber, as such, was not prepared to offer an opinion on the subject.

KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, on the 11th instant, the following matters came up for consideration :—

Read again draft letter to the address of the Under-Secretary to Government, General Department Bombay, in reply to his letter No. 489, dated 16th January, 1908, regarding the desirability of undertaking legislation in India on the lines of the **English Life Assurance Companies Act, 1870**.

Resolution.—The Government of Bombay to be informed that the Committee are of opinion that all Life Assurance Companies in India should work under conditions similar to those applying to British Assurance Companies in the United Kingdom.

The subject of the **inadequacy of the Sind Police Force** having been discussed,

Resolution.—"The following telegram to be at once despatched to the Government of India :—The very great delay in reorganisation of the Sind Police Force is producing deplorable results throughout Sind and especially in Karachi. Local Police now seriously undermanned and inefficient with the result that robberies with violence are becoming increasingly prevalent. Native City in a state of great alarm, security of merchants' property is endangered and commercial interests are suffering. Understand representations have been made by Bombay Government. Chamber beg that Government of India will treat the matter as very urgent and issue immediate orders for the amelioration of existing conditions."

Read letter, dated 2nd February, 1908, inviting attention to correspondence which lately appeared in the *Pioneer* on the subject of **lost letters** and numerous appeals to the Editor to bring to the notice of Government the now inefficient and unsatisfactory state of the Postal Department; asking whether the Chamber approve of the present policy of the Director-General in sweeping away the minor circles of **Sind and Baluchistan**, and as to whether they consider it is in the public interest that Postal Circles should now be so extensive; stating that the Upper India Chamber of Commerce have addressed the Postmaster General of the United Provinces on the subject of postal irregularities and inefficiency, pointing out that "the feeling of insecurity thus engendered is very injurious to commerce;" and expressing the hope that the Chamber will take such steps as may be

deemed proper towards bringing this matter to the notice of Government.

Resolution.—The Committee are aware of the abolition of the smaller Postal Circles, but no action is proposed at present until the Chamber have had experience of the working of the new system. The writer to be informed accordingly.

Read letter, dated 29th January, 1908, referring to the fact that the **Government Treasury in Karachi** does not accept sums of money for remittance to **Calcutta**, while it is now possible to make telegraphic remittances through Government Treasuries to various large centres of trade, such as Bombay, Lahore, etc., adding that it would be to the advantage of the mercantile community if Karachi Treasury would accept remittances to Calcutta, and suggesting that the proper authorities be approached with the view of obtaining this facility to the Karachi mercantile community.

Resolution.—The Comptroller and Auditor General Calcutta, to be addressed, asking that the Karachi Treasury may be placed on the same basis as the Bombay and Lahore Treasuries with regard to telegraphic remittances to Calcutta.

Read letter, dated 3rd February, 1908, referring to the Sub-Committee's report, dated 24th June, 1908, appointed to deal with the above question. The Sub-Committee were in favour of a system of **elevators for wheat storage**, provided it was possible to build them at this port, and that the cost of renting and working was not greatly in excess of the present cost of working. In reply to the enquiries made by the Secretary from the various expert elevator builders in England and America, Messrs. Spencer & Co., Ltd., of Melksham, gave a rough estimate from which it would appear that a **grain silo for Karachi** of a capacity of 200,000 tons would cost about £222,000. It was pointed out that a charge of 4 annas per ton on an average yearly export of 800,000 tons would probably cover both interest and sinking fund charges; that the question of labour is becoming very serious, and on this ground alone grain silos would be most desirable; moreover, (1) grain could in this way be stored without the present risk of damage by rain; (2) by the use of carbonic acid gas weevilling might be greatly checked; and (3) probably the discharge of wagons and loading of ships would be much accelerated. It was suggested that the wheat exporting firms be asked to express their views, and if they think that a grain silo scheme is a workable one, the Port Trust be asked to pursue the matter further and obtain from England or elsewhere expert advice on the subject.

Resolution.—The subject to be referred to a Sub-Committee for favour of early report.

Read draft letter to the address of the Secretary, Railway Finance Committee, India Office, London, prepared in accordance with the Committee's Resolution 14 of the 28th ultimo, replying as follows to the various questions referred to this Chamber by the Government of India in their letter No. 9978-9985,

dated 30th November, 1907, on the subject of **Indian Railways and their administration**:—

(1) That the Chamber much regretted that the contemplated deputation to India of the Indian Railways Committee, had been abandoned.

(2) That the amounts allotted in recent years for railway construction and equipment have been insufficient for the needs of the country and for the development of its trade, that the North-Western Railway has, for some years, failed to adequately meet the requirements for the trade of this port by reason of increase of traffic both in Sind and the Punjab owing to large extension of irrigation works, and that the Chamber share the opinion which is implied in the question that, rather than lag considerably behind the actual requirement of the day, the railways in India should be in advance of the same and thereby contribute to the development of the trade.

(3) The Chamber could not definitely state the actual amounts which might properly and advantageously be raised, but they are of opinion (a) that the railway finance in the raising of loans should not be separated from the general finances of the Government of India, (b) that amounts once allotted to Railway Budgets should not be allowed to lapse or to be withdrawn, and (c) that in case of railway extensions, feeder lines and construction of new lines, greater facility and encouragement for the construction of the same should be afforded to private companies.

(4) That a vigorous effort should be made to place the existing lines on a proper footing of equipments so as to enable them to deal with the ever-increasing traffic, and that the doubling of many of the lines is necessary, that the purchase of fresh rolling stock and engines can only be of advantage if more workshops, new yards, etc., were provided to keep pace with the construction and repairs, and that the goods yard accommodation on many stations on the North-Western Railway was quite inadequate.

(5) The system under which the Railway Board works is unsatisfactory, that the Board should be so constituted as to have a free hand in the general administration of the railways in India, that it should be entirely separated from the Department of Commerce and Industry, and that the President should have a seat on the Council of His Excellency the Viceroy.

Resolution.—The draft letter is approved.

PUNJAB.

At a Committee meeting of the Punjab Chamber of Commerce held on January 24th, 1908, the following among other business was transacted:—

Read (1) letters from members of the Chamber bringing to notice a new regulation issued by the American Consular authorities to the effect that all **hides and skins** must in future be **disinfected before shipment to the United States** by immersion in a 1 to 1,000 solution of bichloride of mercury until thoroughly wet with such solution and kept immersed for not less than 30 minutes.

It is pointed out that skins for export to America are either wet or dry salted and that the above process cannot be applied to salted skins. The Committee are therefore requested to take immediate steps to have the working of the regulations postponed or rescinded.

Resolution.—Letters to be filed.

(2) Letter addressed to the Consul General of the United States of America on 17th January 1908, stating that complaints have been received by the Committee regarding the new regulation. That the Committee do not think, however, that it can be intended to apply to salted skins and request to be favoured with precise information on the subject so that the misgivings of up-country hide and skin merchants may be removed.

Resolution.—The letter is approved and the Secretary is instructed to telegraph to the Consul-General requesting the favour of an early reply.

Read letter No. 152-164-6, dated 7th January, 1908, from the Government of India, Department of Commerce and Industry, inviting an expression of the Chamber's views on a proposal that the **maximum limit of weight of inland parcels**, which may be conveyed by post, should be reduced from 2,000 tolas to 800 tolas.

It is stated that it has been represented to the Government of India that in view of the facilities which are now available for the transmission of heavy parcels by railway, it is no longer necessary to despatch parcels exceeding 10 seers in weight by post, and that such parcels are a considerable inconvenience to the Post Office. It is further stated that from figures supplied by the Director-General it would appear that heavy parcels are sent through the Post Office only to a very limited extent only about 1,700 parcels weighing over ten seers having been carried in 1906.

Resolution.—Letter to be addressed to the Secretary to the Government of India, Department of Commerce and Industry, stating that in the opinion of the Committee the regulation at present in force whereby parcels weighing up to 2,000 tolas (or 25 seers) can be conveyed by post is a facility to trade and should not be withdrawn. Further that the Committee understand that the Post Office is now taken advantage of to a greater extent than hitherto for the conveyance of heavy parcels containing articles of a valuable nature such as silk, gold, silver and jewellery, and they believe that the number of parcels over 10 seers in weight carried by the Post Office, has increased considerably during the last twelve months.

Read letter No. 2163 M., from the Manager, North-Western Railway, dated 28th November, 1907, in connection with the **proposed accommodation for the storage of goods at railway stations in trade centres** requesting information regarding the articles likely to be warehoused at Amritsar, and the accommodation likely to be required, also as to what basis of charge would be most convenient.

Resolution.—The Manager, North Western Railway, to be informed that the Committee are of opinion that piece goods and yarns in bales and cases are the goods for which accommodation should at first be provided and they recommend the provision of a warehouse capable of containing say 1,000 packages. As regards the charges to be levied, in the opinion of the Committee, these should be on a basis with the rates charged by the Port Trusts of Bombay and Karachi for similar goods.

BOMBAY MILLOWNERS' ASSOCIATION.

The following extracts are taken from the Proceedings of the Committee of the Bombay Millowners' Association during the month of January, 1908:—

Read letter from Bombay Government asking for the opinion of the Association on the proposed application of a system for the payment of "**Cash on Delivery**" to parcels and packets exchanged between the United Kingdom and British Possessions abroad.

Resolution.—Government to be informed that the Committee see no reasons for objecting to the scheme, and they therefore favour its early adoption.

Read letter from Bombay Government asking for the opinion of the Association regarding the desirability of legislation being undertaken in India on the lines of the English Life Assurance Companies Act, 1870.

Resolution.—Government to be informed that the Committee approve of the entire scheme and are further of opinion that a deposit or some other security should be required of Insurance Companies operating in India, but registered in countries, the laws of which do not provide for a deposit or other suitable security.

Read letter from the Secretary, Chamber of Commerce, giving cover to a copy of a letter from the Secretary of the Indian Sub-Committee of the **Franco-British Exhibition, 1908**.

Resolution.—The letter to be circulated for information among members of the Association.

Read letters from the Secretary, International Federation of Master Cotton Spinners' and Manufacturers' Associations asking this Association to nominate delegates to the Fifth International Cotton Congress to be held at Paris in June, 1908.

Resolution.—The following gentlemen will represent the Association on the occasion, viz.:—Sir Sassoon David, Kt., and Messrs. W. H. Brady and Bezoujee Dadabhoy.

The Committee, in acknowledging receipt of Government's letter of the 9th November, pointed out that they observed with regret that it was proposed to make a **Standard Gauge Cocks** compulsory on all Boiler Users, and referred to previous correspondence between the Association and Collector of Bombay in this connection, which showed that the Association as a body strongly object to any provision in the **Boiler Act** which would compel the use of standard cocks.

The Committee also took exception to the wording of Section 6, 2 (ff) as they were of opinion that much misunderstanding and friction might follow its application. As an example they pointed out that if an engineer left the Boiler House and temporarily went to another portion of the mill, and that portion happened to be more than a thousand feet away, under the proposed sub-section he could not be considered as being in charge of the boilers. The Committee presumed that it could not be the intention of Government that the engineer should never under any circumstances leave the boiler house, as engineers may have occasion to leave the mill premises on account of sudden illness or urgent official business; and if the rule as amended was insisted on, it would mean that not a single mill in Bombay could be worked without a second engineer.

The Committee, in dealing with the various other amendments suggested by Government, asked that prior to the issue of these new rules Government would submit the same to the Association for their final consideration.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 6th February, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Customs Decision respecting Kola preparations.—

DOMINION OF NEW ZEALAND.—Customs Decisions.

SOUTH AFRICA.—Importation of Catalogues and Price Lists. Prepayment of Duty by Stamps.

NEWFOUNDLAND.—Customs Regulations as to Invoices.

FEDERATED MALAY STATES: PAHANG.—Import and Export Tariffs: Consolidation and Amendment.

GERMANY.—Facilities for the Importation of Animals for Exhibition purposes.

EGYPT.—Revised Valuation Tariff for Iron and Steel Manufactures.

FRANCE.—Imports of Coffee from the Ivory Coast.

FRANCE—UNITED STATES OF AMERICA.—New Reciprocity Agreement between the above Countries.

ROMANIA—TURKEY.—Further Prolongation of the Commercial Convention between the above Countries.

COSTA RICA.—Reduction of Import Duties on Sporting Gun Cartridges and Caps.

CHILE.—Law authorising the Reduction of certain Customs Duties.—A Correction.

CHINA.—Exemption Certificates.

—A proclamation has been published prohibiting the importation into the Australian Commonwealth of eggs (not in shell) in liquid form, white and yolks combined, and whites and yolks separately, when not denatured to render them unsuitable for use in articles of food.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 15TH FEBRUARY 1908.

Burma.—Slight showers fell during the week in four of the northern districts and in the Chin Hills. Threshing and winnowing of winter rice are approaching completion. The standing spring rice and miscellaneous crops in Upper Burma are fair on the whole. The price of unhusked rice has risen in four; and has fallen in three districts.

Eastern Bengal and Assam.—Slight to moderate rain has fallen in the Chittagong, Noakhali, Chittagong Hill Tracts, Jalpaiguri and Assam districts except the Garo Hills. Prospects of standing crops have improved by recent rains. Preparation of land for early rice and jute, pressing of sugarcane, gathering of mustard and manuring of tea are in progress. Sowing of potato is going on in the Khasi and Jaintia Hills. Prices of common rice have risen in five; and have fallen in four districts. No scarcity is apprehended at present.

Bengal.—No rain fell in the Province except in Darjeeling where the fall was only 0.98 inch. Sugarcane pressing is still continuing. Transplantation of summer rice, planting of sugarcane, harvesting of oilseeds and preparation of lands for the next season's crops are in progress. Sowings of jute have commenced in Purnea. Prospects of spring crops are fair except in Nadia, Murshidabad, Jessore and in parts of Monghyr and Balasore. Stocks of food-grains are insufficient in Nadia, Murshidabad, Balasore, Palamau and in the Deoghar sub-division of the Sonthal Parganas. Scarcity is still apprehended in Nadia, in the Kandi sub-division of Murshidabad and in Palamau and later on in Birbhum, Jessore and some parts of Manbhum. The price of common rice has fallen in fourteen districts; and has been stationary in all the other districts of the Province excepting Puri, where it has slightly risen. The fodder and water-supply are scarce in parts of Murshidabad and Balasore. The test-works already opened at Bankura, Shahabad, Cuttack, Balasore, Puri and Ranchi have been attended by 3,002 persons; and 16,250 persons received gratuitous relief in Shahabad, Cuttack, Balasore and Puri.

United Provinces.—There was no rain during the week. Prices have fallen slightly in 24 districts but still exceed scarcity rates. Markets in general are sufficiently stocked and importation from the Punjab continues on a large scale. Prospects of standing crops are generally good. The spring crop is being irrigated and weeded. Pressing of sugarcane continues and fields are being prepared for sugarcane, autumn and extra crops. The condition of agricultural stock is generally fair but in a few districts it is reported poor. Fodder is dear but grass is growing and forest hay is being sold or advanced as *shavi*.

The weekly report on the famine and scarcity is as follows:—Relief operations continue to expand.

Famine was declared in Agra and Rai Bareilly on 12th and 13th February. The general condition of the people is still good. The condition of those on relief is fair and there is very little emaciation. Basti continues to report considerable foreign emigration but there is no general wandering. There is some increase in crime. There are aided works in 15 districts and a number of unaided works. In the Balrampur estates 10,139 are on works and 3,239 are being gratuitously relieved. The numbers on Government relief are:—On public works 438,237; on aided works 31,633; on test works 12,783; dependants on works 165,641; on gratuitous relief 247,434; in poor houses 4,980; total 900,708. The largest figures are Bahraich 125,761; Mirzapur with Family Domains 106,996; Gonda (excluding Balrampur Estate) 88,921; Banda 76,167; Jalaun 72,553; Allahabad 70,745; Kheri 56,732; Sitapur 53,442 and Jaunpur 32,260. Prices:—Mirzapur 7½ to 9; Dehra Dun 8; Almora 8¼; elsewhere prices are 8½ to 10½ seers per rupee.

Punjab.—Slight rain has fallen in Rawalpindi. Prices of food grains are rising in 4; and are falling in 6 districts, but they are still above scarcity rates except in Jhang and Multan. Sowings of extra spring crops are in progress in some districts. Harvesting of *toria* continues in Amritsar and also ploughings for the next autumn harvest. The condition of irrigated crops is good to average and of unirrigated generally below average. The opium crop is average in Lahore and Amritsar. Fodder is scarce in Delhi, Sialkot, Gujranwala. Mianwali, Jhang, Multan and parts of Lahore, Shahpur and Rawalpindi. Green fodder is scarce in Ferozepore. Sugarcane is being used as fodder in Sialkot. Cattle are generally in fair to good condition, but in Sialkot they are weak for want of fodder. The water supply canal was closed in Delhi during the week.

North-West Frontier Province.—No rain fell during the week. The weather is favourable to growth and the condition of standing crops is good. In Dera Ismail Khan crops have been slightly damaged by high winds. Pressing of sugarcane continues; the outturn is poor in quality in Dera Ismail Khan. Sowing of extra spring crops has commenced. The water supply in canals is ample. There has been some irrigation from hill torrents in Dera Ismail Khan. Fodder is sufficient. Cattle are generally in good condition. The health of the people is good. Prices are fluctuating. Prices:—wheat 9½ to 12½; gram 9½ to 15; maize 13 to 18½; and *bajra* 12½ to 14½ seers per rupee.

Jammu.—Rain nil. Prices are fluctuating. Wheat is selling from 9 to 14; and maize 11 to 21 seers per rupee. The condition of standing crops is fair. Fodder is insufficient in Kotli, Basohli, Samba, Akhnur, Jasmirgarh, Ramban, Bhimber, Udhampur, Ranbirsinghpura and Jammu tehsils.

Kashmir.—The weather is bright. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, Feb. 25th.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 24th instant:—

Slight rain has fallen in Cachar, the Naga and Lushai Hills and in Upper Assam.

The prospects of standing crops generally are fair.

The preparation of land for early rice and jute and the pruning, hoeing and manuring of tea are in progress.

The pressing of sugarcane and the gathering of mustard are finished in places.

The sowing of potatoes is going on in the Khasi and Jaintia Hills.

Cattle disease is reported from four districts.

The prices of common rice have risen in six and fallen in seven districts.

No scarcity is apprehended at present.

THE FAMINE.

Viceroy's Report.

THE following is a copy of a telegram, dated 24th instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Light rain fell during week in parts of Burma and North-Eastern India. Elsewhere with insignificant exceptions, the week was rainless.

The prospects of the spring harvest continue favourable, but the areas in which the existing distress is so acute as to require relief from the State are extending and the numbers on relief in districts where famine has been already declared to exist are increasing, the total for all provinces now exceeding 1,000,000.

In the United Provinces the numbers on relief are now; works, 648,294; gratuitous relief, 252,414. In addition, 13,378 persons are being relieved in the Balrampur estates. The condition of the people on relief continues, on the whole, to be fair. There has been some increase in crime and some emigration has been noticed, but there is no general wandering.

In the Punjab 1,258 persons are employed on test works.

In Central India the numbers on relief have again risen and are now: works, 92,713; gratuitous relief, 10,290.

In Ajmer-Merwara, public works have been opened in three selected localities, but have not attracted many labourers.

In Bengal, test works, attended by 3,002 persons, are now open in six districts, and 16,250 persons are in receipt of gratuitous relief. The high proportion on gratuitous relief in Orissa is

reported to be due to the large emigration of able-bodied men from the distressed tracts to Calcutta and Rangoon in search of work. Many of them are sending remittances to their families, but in other cases these have been left in a distressed condition, and the absence of men renders it impossible to start regular relief works.

In the Central Provinces, the people are resorting more freely to village works, which are being opened in places where ordinary work is not available. The general condition of the people is fair and wandering is insignificant. 2,160 persons are employed on village works, and special relief is being given to 1,765 weavers and gratuitous relief to 5,821 persons.

In the Panch Mahals districts of Bombay 3,483 persons are employed on test works, and the distribution of gratuitous relief has begun. There is no marked change in prices.

The outturn of rice in the chief rice-growing provinces is estimated at 10 per cent. below that of last year. The shortage is most serious in Bengal, where the estimated yield is 36 per cent. below the average of the last ten years. On the other hand, there has been a good crop in Lower Burma.

The outturn of sugarcane for India, as a whole, will be, it is estimated, almost equal to the average of last five years, owing to the large increase of cultivation in the Punjab. There is considerable shortage in other provinces.

—The *Engineering and Mining Journal* (New York) reports that the magnesite deposits of California, the only ones commercially utilised in the United States, showed little or no change in 1907 as compared with the previous year. Two new deposits became productive during the year, one in Sonoma and the other in Tulare county, but their combined output was small. A deposit was also found in Riverside county, and a company organised to open it, but thus far there has been no output from it. Most of the magnesite in California comes from the deposits in Tulare county, near Poterville, where it is mined very cheaply by quarrying, and it can be shipped by rail to San Francisco at low cost. Calcining furnaces have been built at that point and the product sold to paper manufacturers, who use it in wood-pulp manufacture. The consumption of magnesite produced in California is confined to the Pacific coast, as freight rates eastward are prohibitive. The output of California is never above 8,000 tons crude, and is usually less than that. The crude may be considered as worth about 3 dols. per ton or less. The calcined is worth less than formerly; at present about 12 dols. per ton. Experiments are being made with calcined magnesite as a base for tiles, which, if successful, may cause a greater demand for the material. There are many known deposits of the mineral in California, but, generally speaking only those are utilised which are near the railway lines, where cheap transportation may be obtained.

THE NAGPUR EXHIBITION.

Scope and Prospects.

WE are in receipt of a copy of the provisional prospectus of the Central Provinces and Berar Exhibition, which it is proposed to hold in Nagpur in November next. The management of the Exhibition is largely unofficial, and, though the local Administration have helped with a grant of Rs. 50,000, the funds will also come mainly from unofficial sources. The services of two officers have been lent to the Committee to assist them in the engineering and general organisation. It is believed that a sum of about two lakhs of rupees will be available for the Exhibition, a sum which would have been largely exceeded but for the agricultural distress under which some parts of the Province are at present suffering.

The most noteworthy features of the exhibition will be the following. The textile section will contain examples of the latest weaving and ginning machinery, operated, like all other machinery in the Exhibition, by electricity. There will also be a set of weavers at work, both on different types of fly-shuttle looms, and on ordinary country looms, illustrating the manufacture of the fine Burhampur and Nagpur silk bordered and gold thread work, also the making of gold thread, which is the only remains in the Central Provinces of the manufactures introduced by the Mogul emperors. The tussar work of Bilaspur and Chanda, which is at present largely exported to Madras and Bengal, will also be shown, and those to whom this class of work is a novelty will be surprised at its cheapness and artistic merit. The mining section will contain models of one or two of the leading Central Provinces manganese quarries, and examples of commercial minerals from all parts of those Provinces for the best collection of which a special prize has been offered. It is also proposed to show assaying work, and if practicable, a small electric furnace extracting aluminium from the bauxite deposits that are so abundant in the Central Provinces. The miscellaneous section will contain a large number of works of art and valuable articles of jewellery, lent by local magnates. There will be shown examples of improved pottery and glass kilns and furnaces, side by side with those at present in use in country districts of the Central Provinces and Berar, and the points of difference will be explained to visitors by experts. Messrs. Burn & Co., of the Jubbulpore pottery, intend to send a special exhibit of their wares and the processes by which they are manufactured. There will also be shown matchmaking and oil extracting plant at work.

In the wood and metal section there will be an interesting exhibit of the artistic brass and bell metal work of Nagpur, Mandla and other districts, and the apparatus of the local blacksmith and carpenter will be contrasted with that of workmen using all kinds of improved machinery, both hand and machine. A special show of bullock carts from all parts of the Central Provinces and

other Provinces of India will be arranged for, so as to discover by actual test the relative efficiency under different conditions of draught, load and gradient, of the various types.

The most interesting sections for visitors from outside the Province will undoubtedly be the Forest and Agricultural sections, which are the only ones that are being run by Government departments. In the Agricultural section, besides the various varieties of wheat, cotton and rice that are at present grown in the Province, exotic seed grown on the farms of the Department will be exhibited. A show of cattle, flowers and vegetables will be held. Demonstrations of numerous kinds of improved agricultural implements that are being or have been introduced into the Province by the Department will be shown, especially of pumps, fodder cutters, ploughs and winnowers.

The Forest section will show specimens of all the most important species of timber and minor forest products, and it is believed that quite an exceptional collection of heads and skins will form part of the Forest trophy.

Special facilities for visitors are being allowed by the Bengal Nagpur Railway and Great Indian Peninsula Railway. Combination tickets, admitting visitors to the Exhibition and providing a journey there and back, are being issued at greatly reduced rates, and will be sold through private vendors in the mofassil on commission. Ample provision will be made for the comfort of visitors of all classes, and amusements of every possible description are being provided. It is over 40 years since the Central Provinces held their last Exhibition, and they seem determined to make it worthy of the Province.

—It is announced that an engine of 25,000 horsepower has recently been built by the Allis-Chalmers Company, of Milwaukee, for the Carnegie Steel Company. The engine when assembled weighs 550 tons, and two castings alone weigh 118 tons each. It is a horizontal twin tandem rolling mill engine, with cylinders 42 in. and 70 in. by 54 in. stroke, designed to operate at 175 lb. steam pressure and at a speed of 150 to 200 r.p.m. The engine will be entirely under the control of one man.

—A Rome correspondent states that in conformity with the Bill passed in March, 1907, providing for the installation of pneumatic postal service in the cities of Rome, Naples, and Milan, the Ministry of Posts and Telegraphs has sent invitations to a number of Italian and foreign firms to submit plans and to tender for contracts. Offers have been received in large numbers, especially from foreign firms, which are to be examined shortly by a technical committee formed for the purpose. In the meanwhile negotiations are pending with the town councils of the above cities relating to the necessary work of excavation. It is hoped that operations will be commenced by next spring.

PRICES OF COMMODITIES IN 1907.

Mr. Saurbeck's Figures.

THE following are the index numbers of the prices of forty-five commodities, compiled by Mr. A. Saurbeck for the year 1907, the average of the eleven years 1867-1877 being 100:—

Average.					
1878-1887	=	79	1899	=	68
1887-1896	=	68	1900	=	75
1890-1899	=	66	1901	=	70
1897-1906	=	70	1902	=	69
			1903	=	69
1883	=	82	1904	=	70
1896	=	61	1905	=	72
1897	=	62	1906	=	77
1898	=	64	1907	=	80

The index number is three points higher than in the preceding year, and is 20 per cent. below the standard period, which was equivalent to the average of the twenty-five years 1853-77, but it is 21 per cent. above the average of the lowest decade 1890-99. Last year's number is the highest since 1883.

The monthly fluctuations were thus:—

1889 December	73.7	1907 April	80.7
1895 February	60.0	1907 May	82.4
1896 July	59.2	1907 June	82.0
1900 July	76.2	1907 July	81.1
1901 December	63.4	1907 August	79.4
1906 December	79.7	1907 September	79.1
1907 January	80.0	1907 October	78.8
1907 February	80.7	1907 November	76.7
1907 March	80.0	1907 December	76.2

The figures show an upward movement until May, but a continuous fall afterwards, and the year closes with an average decline of $4\frac{1}{2}$ per cent. as compared with the end of 1906. In December meat was dearer, but there was a further fall in some of the metals and in wool, silk and jute.

Taking articles of food and materials separately the index numbers compare thus (1867-77=100 in both cases):—

	1873-1887.	1887-1900.	1897-1900.	1898.	1900.	1900.	1900.	1900.	1900.	1900.	1900.	1900.	1900.	1900.	1900.
Average.	64	70	67	63.8	65.8	71.2	68.4	73.5	72.5	73.8					
Food															
Materials	76	66	72	57.0	81.9	79.8	67.9	68.9	70.7	73.1					

Articles of food went up in May, remained fairly steady to the end, and are still $7\frac{1}{2}$ per cent. higher, while materials had a further rise till April and May when they had reached the highest point since 1880 and from that time they gradually declined, closing fully 11 per cent. lower than at the end of last year.

The position of the six separate groups of commodities at the end of the last two years and in comparison with former periods is illustrated by the

following index numbers (1867-77=100 in each case):—

	1878-87.	1887-96.	1897-06.	1906.	1906.	1907.	Last Year.
	Average	Average	Average	Average	Dec.	Dec.	percent.
Vegetable food (corn, etc.).	79	62	62	62	62.0	73.4	rise 18
Animal food (meat and butter).	85	81	84	85	88.1	87.9	...
Sugar, coffee and tea.	78	68	49	54	46.7	49.0	rise 5
Minerals.	73	71	86	108	112.7	92.0	fall 18
Textiles.	71	60	64	66	80.8	68.6	fall 15
Sundry materials.	81	67	68	71	77.3	78.1	fall 14

Corn shows a rather considerable advance. With the prospects of an inferior harvest wheat commenced rising in May, and ruled at the end about 8s. per quarter higher. Maize, barley, potatoes and rice had also an important improvement. Animal food experienced very little change in the aggregate, though pork and bacon were cheaper on the average. Tea ruled higher, sugar had a moderate rise, and coffee a slight decline.

The movements of minerals were remarkable. Iron declined from 67s. 6d. per ton for Scotch to 57s. 6d., and from 62s. for Cleveland to 48s. 3d. Copper started at £105½ per ton, touched £110½ in March, declined considerably after May, was as low as £57 in December, and closed at £62. Tin was worth £193½ per ton at the end of 1906, and £123½ twelve months later. English lead went from £20½ per ton to £22½ in June, and finished at £14½. Coal, on the other hand, was higher all through the year, and the average price of best London house coal was 19s. 9d. per ton, against 16s. 6d. in 1906, and the average export value 12s. 9d. per ton, against 10s. 11d. in 1906.

Among textiles American cotton rose from 5.60d. per lb. to 7.57d. early in September, but declined to 6.18d. at the end of December. Flax declined from £31½ per ton to £26, Manila hemp from £42 per ton to £28½ and jute from £26 per ton to £16. Fine wool realised very high prices in September, but closed about 5-8 per cent. lower than a year ago, while for coarse wools the fall amounts to 15.25 per cent. Silk was also very high and declined in July, and again from October.

In the group of "sundry materials" hides were very dear, but show a considerable decline at the end. Tallow and palm oil declined, petroleum was higher, linseed oil rose until June, but lost nearly the whole of the advance.

Silver was worth about 32d. per oz. in February, and about 31d. up to September; from this time the unfavourable conditions in India and the reduction of Government requirements made themselves felt, and the price dropped rapidly, closing 23 per cent. lower than a year ago. The prices and index

numbers were as follows (60.84d. per oz. being the parity of 1 gold to 15½ silver=100):—

	Price.	Index Number.
Average, 1887-1896	33½d.	= 63.8
" 1897-1906	27½d.	= 44.6
" 1893	35½d.	= 58.6
" 1902	24½d.	= 39.6
" 1906	30½d.	= 50.7
" 1907	30½d.	= 49.6
Lowest November, 1902	21½d.	= 35.6
End December, 1904	28½d.	= 46.6
" March, 1905	25½d.	= 42.4
" December, 1906	32½d.	= 53.1
" November, 1907	26½d.	= 43.8
" December, 1907	24½d.	= 40.9

The rate of discount was again higher. The Bank of England rate (4½ per cent.) has not been so high since 1866. The average private rate for best bills in the three markets, London, Paris and Berlin, was 4½ per cent. (the highest since 1873), against 3½ per cent. in 1906 and 2½ per cent. in 1905.

Whatever the final impressions may have been there is no doubt that almost throughout the year the trade of the world was conducted on an immense scale, and the external trade and the railway traffic returns of the leading countries have beaten all records. Most industries had a splendid time for the greater part of the year, and the production of iron, at least for the first ten months, was larger than ever before. But the general tendency was very different in the first and the second half of the year. When in May the prospects of unfavourable harvests had a quotable influence on wheat prices, while coal had reached a high level, it became at least very doubtful whether materials as well as articles of food could continue an upward course in view of the unabated stringency of the money market. After the middle of the year the indications that the zenith of the great trade development had been passed became more frequent, and, although conditions in many branches still remained excellent right into October, the collapse of the copper speculation and the downward tendency of other metals were followed by the great financial crisis in the States and the further rise of money rates. It has not been succeeded so far by real disasters in Europe, and, therefore, the rise of money has, perhaps, been a wholesome warning, particularly for Germany, that matters cannot go on for ever on this basis, and that engagements must be kept within bounds, until assisted by accumulations of capital and cheaper money.

Business on the Stock Exchange was highly unsatisfactory during the past year, and prices suffered a depreciation of about 9 per cent. on the basis of the figures of the *Bankers' Magazine*. Consols touched 80½, and their average price was 84½, against 88½ and 89½ in the two preceding years.

With regard to the future, we have to remember that present conditions are very different from what they were twelve months ago. At that time business was flourishing all over the world, while now we have had bad crops in many countries, depression

in Japan, Chile and India, the crisis in the United States and severe stringency in Europe. It is impossible to say whether the recovery in America will be very slow, as some people think, or comparatively quick, owing to the resources and the great production of the country, and whether the influence of trade depression in States will be acutely felt in Europe or not, but there appears to be little doubt that trade will have to be conducted on a somewhat lower price level, though it is not probable that we have to fear a very severe decline from present values, if peace is maintained, and in view of the great production of gold and the general advance of the world's commerce.

COFFEE, CACAO, AND TEA IN BRAZIL.
Methods of Grading Coffees.

U. S. A. Consul-General G. E. Anderson reports from Rio de Janeiro that the adoption of the New York classification for grading Brazilian coffees, which has obtained practically in Brazil for a long time and which now has more or less official sanction through the action of the Santos Commercial Association in issuing a formal syllabus of the system, has met with considerable opposition in Brazilian coffee circles and may have some very important results in the coffee markets of the world. Mr. Anderson continues:—

The committee of the National Association of Agriculture of Brazil, which was recently named to consider the matter, has published a protest against the New York classification and is carrying on agitation against a continuation of present methods of selling the Brazilian product. The committee objects to the New York classification favoured by the Santos Association on the ground, first, that the recent action was not representative of Brazilian coffee interests; secondly the adoption of the New York classification promotes speculation rather than legitimate selling, resulting in violent oscillations in the prices of coffee and prejudicing interests dependent upon the product. In the third place, the committee declares that inasmuch as the types best known to consumers, as Java Mocha, Porto Rico, and the like, are mostly composed nowadays of Brazilian coffees without any recognition of the fact being made, while the coffees generally known as Brazilian are those of inferior grades, the waste coffees in fact, it is necessary for the protection of Brazilian coffee interests that the present New York system shall be done away with, so that the higher grades of Brazilian coffee now known under other names shall be presented to consumers as what they really are. Lastly, the committee favours an ideal classification based upon chemical analysis.

Whether there will be any change in the present method of grading coffee as a result of this new agitation in Brazil remains to be seen, but in connection with the propaganda movement in favour of Brazilian coffees as such the indications are that there will be a very determined movement to break up the present methods of selling coffee to the American consumer.

EGYPTIAN COTTON IN SIND.

The crops of 1905, 1906 and 1907.

The Government of Bombay have favoured us with the following Note on Egyptian cotton in Sind from the pen of Mr. G. S. Henderson, Second Deputy Director of Agriculture, Bombay Presidency:—

In 1905 the area sown with Egyptian cotton was 1,000 acres—all on the Jamrao Canal, situated in a district measuring 2,000 square miles. The yield was approximately 450 bales. The season, however was said to be unfavourable to all cotton in Sind, Very sanguine estimates were formed early in the season of the yield of this crop, up to an average of 1½ bales per acre; but, while a small percentage of the area sown came up to the estimate, the larger portion was only fair and brought the average yield down to a low level. Nevertheless, the price obtained was very encouraging. Eleven bales were forwarded to Liverpool for valuation, and were sold in the open market at 9d. per lb. The value of good fair Egyptian on the same day was 10d. per lb., and middling American 6.04d. The Vice-Chairman of the British Cotton Growing Association wrote as follows:—"Under these circumstances it would certainly be advisable to endeavour to get as much Egyptian cotton planted in Sind as possible this season, and the planters ought to be able to rely on minimum price of 7d. per lb. out there." Most of the cotton was bought by a Karachi exporting firm and the price obtained by the cultivators worked out at 5½d. for Mit-Affi and 7½d. for Abassi. This firm were said to have obtained higher prices for this cotton in Liverpool.

In the season of 1906 the area under Egyptian cotton was 5,098 acres. It was, as in former years, scattered in small plots over a very large area. Consequently in order that the zamindars might get as large a price as possible for their produce, it was considered necessary to establish a system of receiving depôts for the collection of the cotton. A central depôt was established at Mirpur Khas and there the cotton was auctioned. This scheme was successfully carried out by the Colonization Officer, Jamrao Canal; it was the means of greatly advertising the crop and consequently increasing competition. Even the worst quality cotton, which was greatly discoloured by the attack of boll-worm, sold at a rate of Rs. 11-2-6 per maund. This price compares favourably with the best prices given for Abassi and Mit-Affi in the previous year. It is probable that this system of collection and auctioning the cotton under Government supervision will have to be continued for some years till cultivation is fairly established and buyers fully aware of the nature of the produce.

The amount of Egyptian cotton actually sold at Mirpur Khas was 4,879 maunds (of 80 lbs.) of seed cotton and the average rate Rs. 11-15-0 per maund. Besides this, however, much cotton was disposed of by private sale to Ahmedabad spinners and to a Karachi firm for export. The total yield was pro-

bably under 10,000 maunds of seed cotton. This low yield was generally explained by the ravages of the boll-worm, but if the cultivation in 1906 was similar to that practised by many zamindars in the current year, the low yield for the larger portion of the land is explained apart from the effect of boll-worm. The 1906 ginned cotton, where not discoloured by boll-worm, seems to have been fully equal to average Bebera Abassi. The ginning results were also said to be similar, viz., about 100 lbs. lint to 315 lbs. seed cotton. No complaint was made by spinners as regards length of staple; the strength, however, was reported to have deteriorated.

During the season of 1907 the area sown was 6,335 acres. An area of about 2,000 acres was sown with Abassi seed obtained from the 1906 crop ginned in Sind. The remaining area was sown with Mit-Affi seed imported from Egypt,

In the early part of the season practically no boll-worm appeared on the Egyptian cotton, but a considerable amount was found on Sindhi cotton grown in the same district. The cultivation is in most cases very poor, many cultivators broad-cast the seed on the flat after one ploughing and pay no attention to thinning or weeding. In nearly all cases, too, the irrigation has been excessive, which is a certain means of lowering the grade of the staple. The results of this over-irrigation may be seen on the growing crop, viz., large masses of foliage developed at the expense of bolls and the ground covered with weeds. In some individual cases, however, the crop looks well. There seems to be no reason why with proper cultivation and rotation returns of 1,000-1,500 lbs. of seed cotton per acre should not be obtained on land free from alkali.

The following is an approximate estimate of the 1907 crop, provided the boll-worm does not increase to any large extent :—

	Maunds.
1,835 acres failure sown on alkali land . . .	1,500
3,000 „ fair	7,000
1,500 „ good	15,500
TOTAL	24,000

The value should average Rs. 11 per maund of seed cotton. It is probable that better results will not be obtained in the near future, unless the cotton cultivation attracts European planters. The Sindhi cultivators do not care for the increased trouble caused by the crop, and much prefer the cultivation of indigenous cotton or of food-grains.

—Australian lead exports during the first nine months of last year were valued at £1,152,000; this being 'more than equal to the sum of the value of the exports for the corresponding periods of 1905 and 1906.

INDIAN LAC INDUSTRY.

Origin and History.

AN excellent Monograph on Lac, by Mr. E. P. Stebbing, F. L. S., F. Z. S., F. E. S., Imperial Forest Zoologist, has just been published at the Government of India Press, Calcutta, and will be read with profit by those interested in this branch of trade. It deals at length with the lac insect (*Tachardia lacca*), its life history, propagation and selection. An idea of the Monograph may be obtained from the following extracts :—

Considerable attention has of late been paid to the subject of lac owing to the great value of the exports of this product as compared with the small forest revenue realized from the source. The total value of the export of lac from Indian maritime ports during the year 1905-06 reached the amazing sum of 3,31,39,786 or nearly 3½ crores of rupees. The attention focussed on lac as an article of commerce has resulted in questions being raised as to the possibility of improving the quality of the article by the adoption of better methods of collection. The examination of these methods has led naturally to enquiries as to the manner in which the lac is formed and as to the best periods, from a mercantile point of view, at which it should be collected. Such queries go at once home to the root of the whole matter: into the method of formation or deposition of the material known as 'lac' upon the twigs of the trees upon which it is found and the manner in which it is collected from the trees and sent to the factory.

That lac is the product of an insect is now well known, but considerable ignorance exists as to the manner in which it is produced. To understand this latter a thorough acquaintance with the life history of the insect is indispensable. It is one of the objects of this note to describe in a simple manner the various stages in the life of this valuable scale and to suggest measures by which its cultivation and collection may be both increased and improved. Its distribution and abundance in the different parts of the country will also be dealt with.

Origin and Nature of Lac.

Lac is a resinous incrustation excreted by a scale insect known as *Tachardia lacca*. The mouth parts of this insect consist of a 'beak' or sucking apparatus combined with a pointed lancet. With this latter the scale pierces the bark of the twig of the tree and then inserts the sucking tube and draws up the sap. The insect may be likened to an animated siphon, since the sap continually sucked up through the beak is, after modification and absorption of some of its products, given out as an excretion at the anal end of the body. This excretion 'solidifies on contact with the air and thus there is gradually formed round the body a 'scale' or 'cell.' This scale or cell is popularly known as lac. Were only a single insect present on a branch the scale would appear as a circular

dome-shaped reddish excrescence on the surface of the bark. Owing, however, to the production by the female of a very large number of eggs (as many as 1,000) and the habit of the insects, which indeed is common to many of the family, of living and feeding gregariously closely packed together on one twig, the scales of cells coalesce during their formation and result in the production of a continuous incrustation on the twigs which on collection forms the article of commerce known as stick-lac. From this stick-lac the product known as 'shellac' is manufactured. There is a second substance obtainable from the scales and known to commerce as lac-dye for which formerly there was a considerable demand—a demand which, owing to the introduction of synthetic dyes, has practically disappeared. As will be shown later; this product consists for the most part of the material from which the eggs are developed in the body of the female insect. There is still a small export of this lac-dye from India, but the total value for the whole of India is extremely small.

Historical.

The lac industry is amongst the most ancient of the minor industries of India. The trees *par excellence* upon which the insect lives are the Kusum (*Schleichera trijuga*) and the Palas tree (*Butea frondosa*), the latter of which is known in Sanskrit literature by the name of Lakhsataru, or lac-tree. The aboriginal tribes throughout India recognise the Palas tree as the lac-tree, and the industry would seem to have an antiquity of several thousand years in the country.

In ancient times, as at present, the resinous material or shellac was more valued in India than the lac-dye. It was the latter, however, which was first exported to Europe.

That the lac-resin was used as a varnish some centuries ago, is evidenced by the fact that in the Ain-i-Akbari issued by the great Akbar in 1590, a note is given on the subject of the proportions of the resin to be employed in the varnishes used for the wood work of public buildings.

One of the earliest European writers on the subject of lac was a Dutchman sent to India on a scientific mission by the King of Portugal. His explorations were published in 1596, an English edition issuing in 1598. He gives full particulars as to the uses of the resin, but shows that he was totally ignorant as to the agency by which the substance was formed.

The Growth of the Industry.

The cultivation and collection of lac was, and practically still is, chiefly in the hands of the aboriginal races of the poorer parts of the country, and the methods of propagation and collection still in force are those which were in existence centuries ago. These methods satisfied the demand for the article in the country and, until quite recently, that of the export trade. This latter has developed but slowly. It took nearly half a century for the properties of the resin to be fully appreciated in Europe. As we

have seen, it was the dye which first made its appearance in Europe, and its export was long limited by the difficulty experienced in extracting the colouring matter and applying it to manufactures at home. At first the value of the export was about two lakhs from which it fell to less than one lakh. In 1820-21 it again rose, and in 1824-25 its value exceeded seven lakhs. Its great competitor was cochineal, for which it was used as a substitute.

At the beginning of the century the exports of lac-dye from India were five to six times more valuable than those of the resin. As showing the progress of the export industry and the growing demand for shellac and decrease in utility of lac-dye between 1868 and 1900, the value of the exports of the former increased from Rs. 18,41,491 to Rs. 92,65,600, whilst that of the latter decreased from Rs. 4,45,612 to nil.

Mr. Stebbins then proceeds to discuss his subject in detail, and from practically every point of view.

CENSUS OF ARGENTINA.

Italian Settlers.

MR. A. M. BEAUPRÉ, American minister at Buenos Ayres, reports that the ministry of the interior has issued a bulletin relating to the population of the Argentine Republic, from which he takes the information given below.

The total population and the yearly increase for a number of years is shown by the following table :—

Years.	Increase.	Population December 31st.	Increase per 1,000 inhabitants.
1895	124,883	4,079,794	31.5
1896	174,636	4,254,430	42.8
1897	132,334	4,386,764	31.1
1898	123,027	4,509,791	28.0
1899	146,769	4,656,560	32.9
1900	137,689	4,794,149	29.6
1901	132,764	4,926,913	27.7
1902	95,335	5,022,248	19.4
1903	133,738	5,160,986	27.6
1904	249,042	5,410,028	48.2
1905	268,169	5,678,197	29.6
1906	296,574	5,974,771	52.2

Of the total population of 5,974,771, there are 1,510,920 foreigners, classified as follows: Italians, 795,916; Spanish, 342,422; French 99,740; English, 22,399; Austrian, 24,039; Swiss, 14,527; German, 21,215; Belgian, 5,634; Russian, 37,773; other nationalities 147,354. The number of foreigners from neighbouring republics is estimated as follows: Bolivians, 10,000; Brazilians, 25,000; Chileans, 30,000; Uruguayans, 73,000; and Paraguayans, 20,000. The number of Italians in the Argentine Republic, as given by the Italian representatives in Buenos Ayres, is 1,250,000, but it is probable that many thus enumerated were born in the country, if the figures given in the foregoing official estimates are correct.

WHEAT ELEVATORS.

Quantities of Wheat railed from Up-country Stations.

As a pendant to the articles on wheat elevators which have recently appeared in this Journal, we now give a statement showing the stations in India from which more than 5,000 tons were railed in any one of the last three years, together with the quantities railed in each of these years, and the average for each station. These figures indicate the extent to which an opening exists for elevators at up-country stations. It will be seen that there are sixteen such stations from each of which the average quantity railed exceeds 20,000 tons, and that the average for this group is 33,733 tons. There are fifteen stations that despatch more than 10,000 tons and less than 20,000, and for this group the average is 13,666 tons. The others rail from 5,000 to 10,000 tons. Considering that the average capacity of elevators in the North-West of Canada is about 750 tons, these figures show that there is no lack of produce to be handled in the interior of India.

Statement showing the principal railway stations in India at which wheat railed at a minimum of 5,000 tons in any one year of the three years 1904, 1905 and 1906 :—

Railway Stations.	TONS RAILED DURING THE YEAR.				Average.
	1904.	1905.	1906.	TOTAL.	
Punjab—					
Abohar . . .	9,899	9,591	5,477	25,267	8,422
Amritsar . . .	26,775	12,541	12,693	52,009	17,336
Badhlada . . .	3,067	5,589	1,386	10,042	3,347
Barnala . . .	3,833	7,281	3,477	14,591	4,864
Batala . . .	30,958	19,903	16,997	66,958	22,319
Chiniot Road . .	42,646	29,944	38,405	110,995	36,998
Delhi . . .	3,199	2,361	5,764	11,324	3,775
Ferozepore . . .	35,606	21,903	11,652	69,221	23,074
Gojra . . .	70,168	67,007	72,212	209,387	69,796
Gujarkhan . . .	1,738	6,408	9,428	17,570	5,857
Gujranwala . . .	8,962	4,076	3,166	16,204	5,401
Hafizabad . . .	20,901	14,150	8,061	43,112	14,371
Jullundur . . .	38,181	22,530	27,075	87,786	29,265
Kasur . . .	24,589	19,514	26,890	70,993	23,664
Khanpur . . .	8,417	4,363	2,950	15,730	5,243
Kotkapura . . .	19,090	12,585	1,295	32,970	10,990
Lahore . . .	10,456	2,822	6,703	20,071	6,690
Ludhiana . . .	26,799	22,593	15,561	64,953	21,651
Lyallpur . . .	40,636	60,712	72,838	174,186	58,729
Malerkotla . . .	5,091	3,777	3,524	12,392	4,131
Minchinabad . .	6,710	6,519	7,114	20,340	6,783
Mordani . . .	5,228	9,355	48,010	62,623	20,874
Multan . . .	10,577	7,587	9,765	27,930	9,310
Okara . . .	9,949	4,625	...	14,474	4,825

Railway Stations.	TONS RAILED DURING THE YEAR.				Average.
	1904.	1905.	1906.	TOTAL.	
Patiala . . .	7,553	3,051	2,697	13,301	4,434
Phagwara . . .	35,243	19,750	19,268	74,261	24,750
Sangla Hill . . .	41,744	40,923	45,512	131,209	43,736
Sargoda . . .	5,250	7,577	27,084	39,911	13,304
Sukheki . . .	15,829	14,450	11,053	41,332	13,777
Tobatek Singh . .	35,284	33,145	41,543	109,972	36,657
Umballa . . .	23,640	16,878	10,832	51,349	17,116

United Provinces—

Aligarh . . .	12,300	1,578	2,646	16,524	5,508
Bahraich . . .	5,406	4,228	1,513	11,147	3,745
Balarampur . . .	12,285	4,983	4,440	21,708	7,236
Barilly . . .	10,779	3,992	893	21,669	7,223
Cawnpore . . .	23,105	4,877	4,687	32,769	10,920
Chandausi . . .	41,071	23,005	10,296	75,272	25,091
Etawah . . .	5,397	4,793	563	10,748	3,583
Ghaziabad . . .	8,930	4,935	6,626	20,601	6,867
Hapur . . .	20,861	15,908	9,924	46,693	15,564
Hardoi . . .	21,101	5,236	9,180	35,517	11,841
Hurgaon . . .	5,181	878	1,436	7,495	2,515
Kanpur . . .	14,568	1,492	5,492	21,552	7,184
Khurja . . .	22,659	6,241	6,101	35,001	11,667
Lakhimpur . . .	13,603	11,069	4,147	28,819	9,606
Meerut . . .	19,338	15,172	16,333	50,843	16,948
Moradabad . . .	11,085	9,478	1,643	22,206	7,401
Muzaffarnagar . .	66,212	31,354	31,149	128,715	42,905
Nanpara . . .	7,543	3,071	2,459	13,073	4,359
Saharanpur . . .	25,665	22,404	22,145	70,214	23,405
Sidhauri . . .	7,205	330	2,045	9,580	3,210
Sitapur . . .	18,682	3,460	9,302	31,444	10,481

Central Provinces—

Damoh . . .	10,778	2,568	3,579	16,925	5,641
Dongargarh . . .	5,550	10,444	4,820	20,814	6,938
Harda . . .	9,717	10,523	8,505	28,745	9,582
Itarsi . . .	4,899	12,545	5,652	23,096	7,699
Jubbulpore . . .	11,714	3,070	3,374	18,158	6,053
Kamptee . . .	7,654	2,779	862	10,795	3,598
Kareli . . .	6,393	4,500	2,337	13,230	4,417
Nagpur . . .	219	7,226	910	8,355	2,785
Papariya . . .	7,434	8,531	3,124	19,089	6,363
Raipur . . .	8,359	14,563	5,553	28,475	9,492
Rajuaudgaon . . .	10,183	20,846	6,017	37,046	12,349
Saugor . . .	9,443	1,095	10,613	21,151	7,052
Seoni . . .	7,700	17,007	7,181	31,888	10,629
Sihora Road . . .	10,494	2,173	2,646	15,313	5,104

Central India—

Bhilai . . .	1,143	1,690	5,551	8,384	2,794
--------------	-------	-------	-------	-------	-------

Railway Stations.	TONS RAILED DURING THE YEAR.				Average.
	1904.	1905.	1906.	TOTAL.	
Sind and Baluchistan—					
Karachi	9,533	16,221	26,441	52,195	17,393
Larkana	11,793	6,368	6,057	24,218	8,073
Sukkur Bunder . . .	57,430	27,280	34,670	119,380	39,793
Bengal—					
Howrah	5,283	5,427	9,158	19,869	6,623
Luckeesarai	7,412	6,354	2,909	16,765	5,588
Sasaram	5,122	5,617	1,825	12,564	4,188

BRITISH TOBACCO TRADE RESULTS.

A Year's Record.

THE figures for 1907, which are now available, says the *Glasgow Herald* of January 18th, show that the total consumption of tobacco in the United Kingdom was 98,785,373 lb., an increase of 5,232,521 lb., of the value of £3,084,759, as compared with the previous year. The imports of unmanufactured tobacco amounted to 99,063,830 lb., of the value of £3,084,759, as compared with the previous year. The imports of unmanufactured tobacco amounted to 99,063,830 lb., of the value of £3,084,759, as compared with 115,526,329 lb., of the value of £3,090,646. The article continues :—"The imports of manufactured tobacco amounted to 3,393,235 lb. of the value of £1,143,228, as against 3,803,878 lb., of the value £1,628,181. The striking feature of the figures is that while the consumption has further increased by well over 5,000,000 lb. the imports of leaf have decreased by 16,500,000 lb. The results are that the stocks have fallen from 201,096,000 lb. at December 31st, 1906, to 188,786,000 lb. at the end of 1907. It is noteworthy that the imports of leaf during the last month of the year showed an increase as compared with the corresponding month of the previous year, of 3,200,000 lb. at 13,043,953 lb., although the imports of manufactured tobacco showed a falling off. The exports of tobacco have risen from 11,207,687 lb., of the value of £1,060,660, in 1906 to 14,713,119 lb. of the value of £1,263,815 in 1907. The present situation in the tobacco trade may be described as unique. There is in bond a stock of leaf almost equal to two years' supply but the effect of this is somewhat spoiled by the consideration that almost the whole of the most useful qualities is believed to be property of the British combine, so that the independent manufacturers have practically little or nothing in the way of stocks to draw upon. In view of the unmistakable tendency of tobacco to increase in value this is a serious state of affairs for the independent manufacturers. The price of unmanufactured tobacco is firmly maintained, and in view of the evident inability of the authorities in the United States to put down the lawlessness rampant in the tobacco-growing districts, it is becoming more and more difficult to obtain supplies of leaf at anything like reasonable prices. As was predicted at the time, great purchases of the 1907 crop by the Imperial Tobacco Company and the American Tobacco Company from the

growers has had the effect of stiffening the backs of sellers. Further outrages have intensified the reign of terror which prevails in Kentucky and certain other States, and the time seems not far distant when all the growers of tobacco will be included in the ranks of the American Society of Equity or some similar organisation having for its object the holding up of the crop with the view of compelling manufacturers to pay an exorbitant price.

Increase of Prices.

"The question of the moment in the United Kingdom is, whether the price is or is not to be raised to the consumers. Matter has reached this point, that it is virtually impossible for independent manufacturers, i.e., those outside the combine, to make roll and other common qualities of tobacco to sell at the old prices unless they are prepared to do so at a loss. It is fully recognised that it is hopeless to attempt to raise prices without a lead from the Imperial Tobacco Company, and the question is being asked what is likely to be the policy of the combine in this respect, in view of the latest increase in the price of the raw materials? It may be that the combine is unable to buy its raw material on any better terms than the independent manufacturers; but even if that be so it must be borne in mind that the sale of the cheapest qualities of tobacco, in which the keenest competition exists, is a comparatively small proportion of the Imperial Tobacco Company's turnover and that bulk of their trade shows such a liberal margin of profit that it would take a very large increase indeed in costs to wipe it out altogether. It is quite on the cards, therefore, that the directors of the combine may decide not to pass the increase in the cost of the raw material on to the consumer, in which case there seems no other prospect for the smaller manufacturers but that of total extinction. Representations have already been made on the subject to the Chancellor of the Exchequer by the tobacco section of the London Chamber of Commerce and in a petition praying for the reduction of the duty on unmanufactured tobacco, by 2d. per lb. and a proportionate reduction in the duty on imported manufactured tobacco, cigars, and cigarettes it is stated :—"That with the present duty and moisture limit it is impossible for tobacco to be manufactured for sale at 3d. per oz. and allow a living profit to manufacturers, dealers, and retailers. The greatly increased cost of the raw material has made it impossible for manufacturers to supply tobaccos which are sold at 3d. per oz. at a profit to themselves and retailers. As a proof of the difficulties caused to the manufacturers by the increase of the duty we would mention that the number of tobacco manufacturers in this country has decreased during last seven years by 87. The total of 512 in 1900 has fallen to 425 in 1907. Tobacco manufacturers are not in a position to recoup themselves for the increased cost of the raw material in consequence of the present rate of duty coupled with the restrictions in moisture and oil, and, therefore, they are bound to ask that a workable rate of duty be fixed."

INDIAN COAL MINING INDUSTRY.

Its History and Progress.

At the recent meeting of the Indian Industrial Conference Mr. H. H. Macleod, Chairman, Bengal Coal Company, Limited, read on the Coal Mining Industry of India, from which we take the following extracts:—

The earliest records of coal mining in India come from Bengal and it is the vast deposits of this valuable mineral in Bengal which to-day is responsible for 1/3ths of the entire output of the country. Valuable deposits are also worked at Singareni in the Madras Presidency and also at Margharita in Assam, but in the former case the quality does not approach the best qualities of Bengal and in the latter case the coal although of a high quality is so crushed by geological changes in the strata as to lose much of its value. The latter mines are also distant from the great commercial centres and from the sea-board. It is, therefore, mainly the development of the coal fields of Bengal that is responsible for the great progress made in industrial and railway enterprise in India. The history of the Bengal collieries as revealed in the records which have come down to us reads like a romance. The Raneeunge coal field was the scene of the earliest operations and in the neighbourhood of Raneeunge itself the seams of coal are in such profusion, of such thickness and so readily accessible by reason of their slight inclination and proximity to the surface that their working in the early days of the last century proved a comparatively simple task for the untrained worker.

The records of the oldest company now working extend back to 1827, and it was about this date that capital was brought in to work the seams of coal on a systematic plan. All Bengal collieries are worked on what is known as the pillar and stall system by which coal is left in pillars to support the roof, these pillars being eventually taken out and the surface allowed to fall in. The development of coal mining in India has been greatly encouraged by the interest taken in it and the practical assistance given by the Geological Survey Department of India. India has been fortunate in securing a long line of eminent geologists who have worked quietly but with far-reaching effects towards the development of the mineral resources of the country. In the old half-yearly reports of the Bengal Coal Company an interesting report is recorded over the signature of Thomas Oldham (Geological Survey of India). Mr. Oldham strongly urged the introduction of the panel system as used in the North of England. It is a pity that this system is not more in vogue at the present time, as in many of the existing mines large areas are standing on pillars, and in many cases the area is much too large to be consistent with safety.

The Labour Problem.

Where the coal is outcropping, inclines are run into the beds or seams of coal following the dip or inclina-

tion of the seams. As the surface increases, vertical shafts are sunk. The depth of these shafts varies from 50 to 100 fathoms. Most of the modern mines are equipped with machinery and plant of an up-to-date type, and at least one colliery electrical underground and pumping has been installed with results. Electricity is so flexible a power it is destined to play a great part in the future of Indian mining, and it is with the aid of electricity that the labour problem is about to be seriously attacked. It is strange that in a country teeming with population the main difficulty in the way of increasing the output of coal (and thus incidentally retarding industrial and railway development) is the human factor, but in spite of India's millions, the supply of labour is woefully short of requirements. It may be that under-ground employment is not altogether to the taste of every individual, but I fear the real explanation is not distaste for any particular employment, but an inherent distaste for work of any sort. This feature is not confined to the East, but where the unit of labour in the East is only 1/4th of the value of its confrere in the West it will be seen that the problem, so far as India is concerned is by no means easy of solution. The average outturn of coal per man per day in the United Kingdom is 2½ tons. In India it works out at 1/2 a ton, and in America, with the aid of mechanical coal-cutting plant, the average is fully 5 tons. It is natural therefore that great hopes are placed in the introduction of suitable mechanical coal-cutting plant into India. With improved conditions for the labouring classes of India and the gradual raising of their standard of living, it may be possible to create a desire for greater luxury which would bring with it a desire to earn and save more money.

The coal fields are divided geologically into two series, known as "The Raneeunge" and "The Barakur". The Raneeunge is the younger and Barakur the older and deeper series. The ironstone shales divide the two coal measures, and the metamorphic rocks underlie them, so that the limits of each particular coal field is clearly defined.

Analysis of Indian Coal.

As regards the quality of Indian coal a comparison with Welsh coal will give some idea of the calorific value of the former.

The Admiralty standard of Welsh coal is approximately as follows:—

Fixed carbon	75
Volatile carbon	22
Ash and moisture	3
	100

Railway Stations.	To	100	100
Sind and Baluchistan	Raneeunge	Barakur	
Karachi	Series.	Series.	
Larkana	54	60	
Sukkur	34	26	
Bengal	10	12	
Howrah	2	2	
	100	100	

The striking feature between the Raneeunge and Barakur qualities is the high volatiles and comparatively low fixed carbon in the former as against the high fixed carbon and comparatively low volatiles in the latter. The competition for popularity among consumers between the two grades of coal is very keen, the high volatile coal being very suitable where rapid steam raising is essential. The above are merely proximate analyses of the coal. It is in the ultimate analysis that a close comparison of the respective values can alone be made. Methane or marsh gas is the most valuable constituent to be desired in coal for the volatile matter, and so long as the volatile matter consists of Methane the more volatile matter in the coal the better it should be. Oxygen is deleterious as it combines with hydrogen and forms water. Ash by analysis is generally doubled when actual practical consumption is in question.

Annual Output.

The present annual output of coal for the whole of India is only 9 million tons, of which Bengal contributes 8½ million tons and the industry employs a labour force of over 100,000 persons. The annual export of coal from Calcutta averages about 2½ million tons and quite 50 per cent. of this is shipped to Indian ports for consumption in the country itself. With the increasing expansion of the railways and industrial enterprise the consumption of coal has reached a point which the coal industry is finding it difficult to keep pace with, and there is no doubt that this—the finest of all Swadeshi industries—has a magnificent future before it. With the advent of the steel works, the potentialities are so great that it would be difficult to forecast future developments with any degree of accuracy. Ship-building would naturally follow the manufacture of steel plates, and India might become the workshop of the East.

The dormant energy of coal awaits the commands of India's millions and signs are not wanting that a great industrial awakening is in store for India. If the active energy of this useful commodity is fully reflected in the energy of her people, India will take her proper place among the nations of the earth.

JUTE AND RICE CULTIVATION.
Burdwan Experiments.

The Annual Report of the Burdwan Agricultural Experiment Station for the year 1906-07 contains much information of more than passing interest. From it we learn that the late and unseasonable year for paddy allowed a crop of paddy to be obtained after jute on the same land almost equal to the yield from the paddy crop grown by itself in the usual manner, i.e., when paddy is the only crop taken off the land.

Jute follows potatoes exceedingly well in a one year's rotation. Potatoes should be heavily manured, and when this is done, no manure will be required for the jute crop. As potatoes grow in the dry season and as they occupy the land for such a short period, there is little fear of the potato disease doing any damage. Should the *phytophthora* (potato disease) show itself in a bad attack, potatoes should not be grown on that land for a year or two.

Aman paddy grows well after jute, but of course this is only possible on small areas, as the time between the harvesting of jute and the transplanting of paddy is a restricted one. Still as the great majority of cultivators only have small holdings, the area on which this practice can be carried out is a very large one.

The following conclusions are recorded:—

1st.—Jute grows very well in rotation with aman paddy and potatoes. On low-lying land a good crop of aman paddy can be obtained, while on high irrigable land potatoes may be grown after jute in the same year.

2nd.—For the Burdwan district the third week of April should see all jute sown to ensure a good crop of aman paddy the same year on the same land. For potatoes to follow jute, the jute seed time is not so important.

3rd.—68½ maunds of cowdung, or 7½ maunds, of castor-cake per acre applied just before sowing the seed will well repay the cost of the application.

4th.—In choosing one's seed, it is advisable to select a green-stemmed *capsularis* variety, or a red-stemmed *olitorius* variety; of the former, (1) Baran of Mymensingh, (2) Amonia of Faridpur, (3) Kakya-bombai of Serajganj, (4) Deswal of Serajganj, and (5) Barapat of Mymensingh; and of the latter, (1) Tosha of Pabna, (2) Satnalla of Faridpur, (3) Halbi-lati of Tippera varieties are recommended to the notice of cultivators.

5th.—The jute seed bed can be well prepared by eight ploughings with the ordinary country plough, and by three harrowings with the ordinary country ladder.

6th.—The after-cultivation will be well done by passing the local *bida* over the field when the plants are 2 inches high, and by thinning the plants out to 4 inches apart when they are 6 inches high. Possibly one weeding may be necessary.

7th.—Special emphasis is laid on the great benefit that is to be derived from taking a suitable variety, growing the plants with plenty of light, and saving

the seeds from the strongest and healthiest plants for the next year's crop. If this be continued for several years, there will be produced a seed that will give much stronger and larger plants than the original ones.

Double Cropping.

The report proceeds in this strain:—"The question of growing two crops in one year on the same land is a question of intensive cultivation which means manure. Is Bengal going to remain stationary and carry on the practice of the last thousand years; while Europe, America, Australia and Japan are striving with one another in the progress of Agricultural Science? Is Bengal with her teeming millions willing to enrich the latter countries by exporting them her bones, linseed, and cotton seed? In addition to thus impoverishing her soil, is she also going to complete most thoroughly this work of impoverishment by continuing to burn her own cowdung in spite of the fact that Bengal possesses sufficient coal for all her wants? It behoves every one to thoroughly comprehend these questions, for with an increased industrial population (the trend of the present century) the prices of food commodities are sure to rise. Then on account of the high rates for agricultural labour due to industrial competition much land will become unprofitable and will drop out of cultivation. The result of all this will be increase of population, decrease in the total yield of crops, enhanced prices for food commodities, and enhanced rates for labour and land.

"As these changes gradually take place, manurial applications will become absolutely necessary until eventually all the cowdung that is produced will not suffice, and in addition recourse will have to be taken to artificial manures. Organic matter is the chief ingredient that Bengal soils are poor in and nitrogen is the manurial element that is scarcest and dearest. Cowdung supplies both organic matter and nitrogen, and cultivators will be wise to conserve their cowdung as carefully as possible and not by burning it to send off the nitrogen and organic compounds into the air whence at present it is a costly process to re-obtain them in a useful manurial form."

—Consul-General Soren Listoe, of Rotterdam, states that butterine and margarine are sold in the Netherlands at prices ranging from 4 to 14 annas a pound, according to quality. For the retail trade it is put up in one-half and one pound packages; for the wholesale trade in kegs weighing about 44 pounds. The manufacture of butterine and oleomargarine is a great industry in Holland, and butterine is manufactured there in sufficient quantities to not only supply the domestic demands, but also to export large consignments to other European countries, as well as to the Dutch East Indian colonies. The export of margarine from Rotterdam alone during 1906 amounted to 46,713,057 kilos, and from the entire Netherlands to 54,000,000 kilos (kilo= 1 seer).

NEW REFERENCE BOOKS.

MUNICIPAL AND PRIVATE OPERATION OF PUBLIC UTILITIES.

Report of the National Civic Federation Commission on Public Ownership and Operation. Three volumes 9½ x 6, 489+1,230+768 pp. Part I, Volume I. 7s. 6d. Volume Part II, Volumes I and II 16s. each. P. S. King.

THE INDUSTRIAL REVOLUTION.

Being the Parts entitled "Parliamentary Collectivism" and "Laissez Faire," reprinted from "The Growth of English Industry and Commerce in Modern Times." By W. CUNNINGHAM, D.D., F.B.A., Archdeacon of Ely. 8½ x 5½, xxii+484 pp. 5s. net. Cambridge University Press.

THE MODERN MACHINE SHOP.

Its Tools, Practice, and Design. By RANKIN KENNEDY. Volume III. 10 x 7, 200 pp. 9s. net. The Caxton Publishing Company.

AIRSHIPS PAST AND PRESENT.

Together with Chapters on the Use of Balloons in Connection with Meteorology, Photography, and the Carrier Pigeon. By A. HILDEBRANDT, Captain and Instructor in the Prussian Balloon Corps. Translated By W. H. STORV. (Copiously illustrated.) 9½ x 6, xvi+364 pp. 10s. 6d net. Constable.

DETECTION OF THE COMMON FOOD ADULTERANTS.

By E. M. BRUCE, Instructor in Chemistry, Indiana State Normal School. 7½ x 5, 84 pp. 5s. net. Constable.

THE TEXTILE YEAR-BOOK AND POCKET ANNUAL, 1908, COTTON.

Compiled by S. ECKROYD. Third Annual Issue. With Diary. 6 x 4, 352 pp. 2s. 6d. net. Manchester: The Textile Mercury Office.

LABOUR LAWS FOR WOMEN IN ITALY.

By MRS. THOMAS OKEY. The Women's Industrial Council 1d.

—The Stadtbach Cotton Spinning Company of Augsburg has realized during 1907 a net profit of £61,400, as against £49,600 for the previous year. The dividend declared is 21 per cent, as against 17½ per cent. for 1906. The Augsburg Worsted Spinning Company shows a net profit for 1907 of £34,100 as against £26,100 for 1906. The respective dividends declared are 14 per cent. and 11½ per cent. The Fichtelbach Weaving Company of Augsburg has earned a net profit for 1907 of £5,500, as against a loss of £8,200 for 1906. The profit for 1907 has been written off the existing debt. The Girmes Weaving Company of Oed has declared a dividend of 16 per cent. for 1907, the same rate as in 1906. The Bremen Jute Spinning and Weaving Company of Hemelingen has declared a dividend of 8 per cent. for 1907, which is also the rate paid last year.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the second half of January, 1908. (Prices are stated in annas and pies per ser=2·06 lbs.)

	Rice, common	Wheat	Barley	Jawar	Bajra	Ragi	Gram	Salt
	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.
BURMA—								
Rangoon	1 2	...	...	...	...	...	...	0 11
Toungoo	1 9	...	...	...	...	...	...	1 5
EASTERN BENGAL AND ASSAM—								
Rangpur	2 8	2 2	...	...	...	...	...	0 11
Backerganj	2 0	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 9	2 6	...	...	...	...	...	0 10
Patna	2 4	2 3	1 5	...	...	...	...	0 10
UNITED PROVINCES—								
Cawnpore	...	2 2	1 8	1 8	1 8	...	1 8	0 9
Fyzabad	...	2 4	1 9	1 10	...	...	1 10	0 11
Meerut	...	2 1	1 6	1 6	1 7	...	1 8	0 9
PANJAB—								
Delhi	...	2 2	1 7	1 8	1 11	...	1 8	0 9
Amritsar	...	1 11	1 4	1 7	1 11	...	1 5	0 7
Rawalpindi	...	1 10	1 4	1 5	1 6	...	1 6	0 7
SIND—								
Karachi	...	2 0	...	1 5	1 7	...	1 7	0 7
BOMBAY—								
Belgaum	...	2 0	...	1 2	1 3	...	...	0 10
Ahmadnagar	...	2 2	...	1 4	1 3	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 2	...	1 7	1 9	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	2 3	...	1 9	...	...	2 1	0 11
Nagpur	2 1	1 11	...	1 9	...	...	1 11	1 1
Raipur	1 11	2 0	...	...	...	...	1 11	1 1
MADRAS—								
Bellary	2 6	...	...	1 2	...	1 1	...	0 11
Madras	2 3	...	...	...	...	1 5	...	0 7
Salem	2 2	...	...	1 4	1 8	1 2	...	0 10

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 19th February.		Sold to 19th February.		Sold in sale of 22nd February.		Sold to 22nd February.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
Assam	511	6 8·3	181,422	7 5·8	561	7 0	158,332	6 9·1
Cachar	2,323	5 7	152,125	6 2·9	2,134	5 4	148,854	4 6
Sylhet	979	5 10·8	119,204	6 2·8	1,629	4 4·4	108,205	4 3·3
Darjeeling	49	6 3·6	57,181	9 2·8	...	...	55,147	8 9·9
Dooars	783	5 10	180,778	6 10	527	6 5·4	185,708	5 7·2
Teral	...	...	21,390	6 3·8	...	...	33,363	4 4·2
Chittagong	33	4 10·2	8,789	6 3·1	...	...	12,614	4 4·3
Chota-Nagpore	...	...	1,443	5 10·9	...	...	1,638	4 5·9
Kumaon and Kangra	...	...	4,759	6 1·3	180	7 2	557	6 1·7
Madras	44	6 5	338	6 2·1	90	7 0*	626	5 7
Dehra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	15	5 6	480	6 5	...	...	486	3 11·4
TOTAL	4,692	5 9·8	728,113	6 11·2	5,121	5 8·9	705,583	5 7·1

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)
Season 1907-08. Average price of 39,868 packages Dust * sold to 19th February 6 6
* On account of gardens which sell only that grade on this market.

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and Exports to, each country in the eight months, April to November of each year.

NAME OF COUNTRY.	IMPORTS			EXPORTS			TOTAL		
	1905	1906	1907	1905	1906	1907	1905	1906	1907
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
LUS BELA— Sind and British Baluchistan . . .	3,50,146	3,73,104	5,48,083	1,28,906	1,15,468	1,16,835	4,79,052	4,88,572	6,64,868
KHELAT— Sind and British Baluchistan . . .	3,51,413	4,17,756	5,64,052	3,82,175	2,72,909	3,09,329	7,33,583	6,90,665	8,73,381
PERSIA— Sind and British Baluchistan . . .	2,71,424	1,56,657	2,82,689	1,41,711	1,83,677	3,04,755	4,13,135	3,40,334	5,87,444
AFGHANISTAN— Northern and Eastern (including Kabul and Ghazni)— North-West Fron- tier Province . . .	23,54,023	20,07,143	21,00,813	61,14,172	65,20,923	62,86,829	84,68,195	85,28,066	83,87,642
Southern and Western (including Kandahar and Herat)— Sind and British Baluchistan . . .	29,87,644	51,72,651	46,44,313	30,76,387	33,98,638	38,19,613	60,64,031	85,71,289	84,63,926
North-West Fron- tier Province . . .	1,16,315	1,51,951	3,04,670	1,30,510	96,116	1,68,685	2,46,825	2,48,067	4,73,355
Panjab . . .	45,888	10,542	7,077	26,458	1,07,447	1,096	72,346	1,17,989	8,173
TOTAL . . .	55,03,870	73,42,287	70,56,873	93,47,527	1,01,23,124	1,02,76,223	1,48,51,397	1,74,65,411	1,73,33,096
TIRAH— North-West Frontier Province . . .	2,90,033	3,24,648	3,68,784	2,95,407	4,39,885	3,88,184	5,85,440	7,64,533	7,56,968
DIR, SWAT, AND BAJAUR— North-West Frontier Province . . .	24,54,180	35,06,362	34,36,266	46,40,719	46,34,743	47,26,302	70,94,899	81,41,105	81,62,568
BUNER— North-West Frontier Province . . .	1,18,709	1,06,121	73,895	2,37,661	1,08,071	79,909	3,56,370	2,14,192	1,56,804
KASHMIR— North-West Frontier Province . . .	14,18,109	15,94,311	12,73,570	31,44,834	24,96,369	22,72,233	45,62,943	40,50,680	35,45,803
Panjab . . .	80,31,171	1,11,91,049	31,84,686*	65,70,355	71,33,205	28,97,809*	1,46,01,526	1,83,24,254	60,82,495*
TOTAL . . .	94,49,280	1,27,85,360	44,58,256	97,15,189	96,29,574	51,70,042	1,91,64,469	2,24,14,934	96,22,298
LADAKH— Panjab . . .	5,78,117	6,03,294	9,68,140	1,71,392	2,18,702	1,57,865	7,49,509	8,27,996	11,26,005
TIBET— Panjab . . .	1,29,631	1,04,844	1,87,684	55,459	47,604	30,064	1,85,090	1,52,448	2,17,148
United Provinces of Agra and Oudh . . .	5,91,303	6,23,242	7,26,827	3,54,898	5,65,693	4,79,127	9,46,201	11,83,935	12,05,954
Bengal . . .	7,45,488	10,21,449	11,11,944	9,51,288	7,66,794	7,86,496	16,96,776	17,88,243	18,98,440
TOTAL . . .	14,66,422	17,49,535	20,25,855	13,61,645	13,80,091	12,95,687	26,28,067	31,29,626	32,21,542
NEPAL— United Provinces of Agra and Oudh . . .	49,60,262	48,88,876	47,11,104	23,32,894	20,60,370	19,74,272	72,93,156	69,49,226	66,85,356
Bengal . . .	1,02,39,794	1,06,81,035	1,19,84,427	62,76,136	57,07,993	55,97,776	1,65,15,930	1,64,71,828	1,75,82,203
TOTAL . . .	1,52,00,056	1,55,69,911	1,66,95,531	86,09,030	78,51,163	75,72,028	2,38,09,086	2,34,21,054	2,42,67,519

* Registration discontinued from July, 1907, the trade being considered internal.

LAND TRADE OF BRITISH INDIA—continued.

Total Value of Imports from, and Exports to, each country in the eight months April to November of each year—continued.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1905	1906	1907	1905	1906	1907	1905	1906	1907
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
SIKKIM— Bengal . . .	2,05,883	4,08,423	4,66,430	3,35,138	3,60,405	5,40,379	5,41,021	7,68,828	10,06,818
BRUTAN— Bengal . . .	2,14,477	10,842*	7,466	70,413	7,415*	10,716	2,84,890	18,257*	18,182
Eastern Bengal and Assam . . .	29,481	90,256†	66,121	356	39,467†	75,032	29,867	1,29,723†	1,41,153
TOTAL . . .	2,43,958	1,01,098	73,587	70,799	46,882	85,748	3,14,757	1,47,930	1,59,335
TOWANG— Eastern Bengal and Assam . . .	...	13,472	5,046	...	...	...	...	13,472	5,046
NAGA AND MISHMI HILLS— Eastern Bengal and Assam . . .	95,036	1,45,837	59,559	2,474	7,270	3,287	97,510	1,53,107	62,846
DUFFLA AND AKA HILLS— Eastern Bengal and Assam . . .	17,402	25,085	38,674	...	...	...	17,402	25,085	38,674
WESTERN CHINA— Burma . . .	17,32,619	17,18,696	20,70,371	21,27,088	24,24,399	26,97,945	38,59,707	41,43,095	47,68,316
NORTH SIAM— Burma . . .	14,04,579	15,98,353	19,40,728	9,90,730	12,63,471	12,57,199	23,95,309	28,61,827	31,97,927
SOUTH SIAM— Burma . . .	2,94,042	3,11,270	3,51,401	2,64,756	3,49,036	3,32,064	5,58,798	6,60,306	6,83,465
N. SHAN STATES— Burma . . .	36,69,206	40,21,047	44,51,102	31,25,451	32,45,517	55,51,304	67,94,657	72,66,564	1,00,02,406
S. SHAN STATES— Burma . . .	37,31,411	40,84,165	35,29,030	45,70,155	67,69,628	53,93,166	83,01,566	1,08,53,793	89,22,196
KARENNEE— Burma . . .	18,13,212	17,24,465	16,42,549	5,20,582	12,17,991	12,43,657	23,33,794	29,42,456	28,86,206
GRAND TOTAL . . .	4,92,40,998	5,70,92,926	5,11,09,860	4,70,33,535	5,06,42,009	4,75,01,908	9,62,79,533	10,77,34,935	9,86,11,768
Share of each Province in the total trade—									
Sind and British Baluchistan . . .	39,60,627	61,20,168	60,39,087	37,29,179	39,70,692	45,50,532	76,80,806	1,00,90,860	1,05,89,619
North-West Frontier Province . . .	67,51,369	76,90,536	75,60,998	1,45,63,303	1,42,96,107	1,39,22,142	2,13,14,672	2,19,86,643	2,14,83,140
Panjab . . .	87,84,807	1,19,15,729	43,46,987	68,23,664	75,06,958	30,66,834	1,56,08,471	1,94,22,687	74,33,821
United Provinces of Agra and Oudh . . .	55,51,565	55,12,098	54,37,931	26,87,792	26,26,063	24,53,379	82,39,357	81,38,161	78,91,310
Bengal . . .	1,14,05,642	1,21,21,749	1,35,70,276	76,32,975	69,25,407	69,35,367	1,90,38,617	1,90,47,156	2,05,05,643
Eastern Bengal and Assam . . .	1,41,919	2,74,650	1,69,400	2,860	46,737	78,319	1,44,779	3,21,387	2,47,710
Burma . . .	1,26,45,069	1,34,57,996	1,39,85,181	1,15,98,762	1,52,70,045	1,61,75,335	2,42,43,831	2,87,28,041	3,04,60,516
GRAND TOTAL . . .	4,92,40,998	5,70,92,926	5,11,09,860	4,70,33,535	5,06,42,009	4,75,01,908	9,62,79,533	10,77,34,935	9,86,11,768

* The trade registered in the Jalpaiguri district has been excluded from April, 1906.
† included from April, 1906, in consequence of the transfer of the district to "the new province."

WEEKLY TRADE MOVEMENTS.

For the week ending 22nd February, 1908

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta, lbs.	1,061,592
Imports by sea into	Bombay "	165,936
	Madras "	29,135
Indian—	Calcutta "	399,171
Exports by sea from	Bombay "	5,602,788
	Madras "	...

Grey Piece Goods.

Imports by sea from	Calcutta, yds.	24,554,281
Foreign ports into	Bombay "	4,392,744
	Karachi "	429,077
	Madras "	2,490,635
	Rangoon "	483,000

White Piece Goods.

Imports by sea from	Calcutta, yds.	5,450,893
Foreign ports into	Bombay "	7,412,665
	Karachi "	1,103,996
	Madras "	927,495
	Rangoon "	810,058

Other Piece Goods.

Imports by sea from	Calcutta, yds.	2,655,476
Foreign ports into	Bombay "	4,619,109
	Karachi "	437,845
	Madras "	1,755,426
	Rangoon "	1,430,988

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	30,048
	Bombay "	5,674
	Karachi "	13,481
	Madras "	4,143

Cotton Raw.

Imports into Bombay	By sea cwt.	7,962
	Coastwise "	20,546
	By rail "	197,722
Imports into Karachi by rail	"	53,844
Imports into Calcutta by rail and river	"	13,717

Arrivals by all routes in	Calcutta, cwt.	382,628
Exports by	Gunny bags, No.	14,455,860
sea from	Calcutta cloth, yds.	27,062,805
	Chittagong—Jute	304,776
	"	37,015

COTTON SEED.

Exports by sea from Bombay, cwt.	56,965
----------------------------------	--------

OILSEEDS.

Linseed.

Imports into	Calcutta by rail and river, cwt.	6,790
	By sea "	101
	Coastwise "	2,313
	By rail "	...
	Karachi by rail "	10,013
Exports by sea from	Calcutta "	4,971
	Bombay "	...
	Karachi "	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river, cwt.	43,649
	By sea "	...
	Coastwise "	814
	By rail "	171,402
	Karachi by rail "	8
Exports by sea from	Calcutta "	2,064
	Bombay "	180,439
	Karachi "	...

RICE.

Arrivals by all routes in	Calcutta, cwt.	696,983
	Calcutta "	43,203
	Chittagong "	...
Exports by sea from	Bombay "	26,113
	Karachi "	5,605
	Madras "	1,268
	Rangoon "	1,116,288

TEA.

Arrivals by all routes in	Calcutta, lbs.	477,58
Exports by sea from	Calcutta "	804,960
	Chittagong "	132,791

WHEAT.

Imports into	Calcutta by rail and river, cwt.	11,998
	Karachi by rail "	193
	By sea "	7,608
	Coastwise "	23,981
	By rail "	3,519
Exports by sea from	Calcutta "	397
	Bombay "	945
	Karachi "	42,533

• B. B. & C. I. Ry. figures only.

KEROSENE OIL, WEEK ENDING 22nd FEBRUARY, 1908.

Imports by sea into—	FROM			TOTAL.
	Russia.	America.	All other foreign countries.	
	galls.	galls.	galls.	galls.
Calcutta	...	217,567	1,331,007	1,548,574
Bombay	...	...	...	...
Karachi	...	...	113,101	113,101
Madras	...	...	307,246	307,246
			Bengal	751,569
			E. B. & Assam	...
			Bombay	...
			Sind	...
			Madras	564,700
			Indian Ports, Non-Br.	...
			Foreign Ports	...
Exports by sea from Burma to				...

IMPORTS OF SUGAR, WEEK ENDING 22nd FEBRUARY, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	15	...	16	20	...	46	97
Germany	...	...	...	...	500	...	500
Austria-Hungary	...	...	7,177	...	300	...	7,477
Other European Countries	...	...	...	...	...	...	...
Java	5,759	...	...	...	...	11,984	17,743
Mauritius	31,093	...	42,850	2,666	...	...	76,609
Other Non-European Countries	...	...	803	...	...	70	873
						Total refined	103,299
						Total unrefined	...
						Grand Total, cwt.	103,299

TRADE IN HUMAN HAIR.

Japanese Exports.

H. M. Commercial Attaché at Yokohama (Mr. E. F. Crowe) has forwarded to the Board of Trade the following memorandum on the subject of the Japanese export trade in human hair :—

An industry of recent growth in Japan, although it has existed for some time in China, is that of the collection and preparation of human hair for export. Separate statistics with regard to human hair were shown in the Japanese Customs Returns last year (1907) for the first time, human and animal hair having hitherto appeared together under one heading. The following figures, supplied by the Customs Authorities at Kobe and Yokohama, show the exports of human hair from those ports during the last four years :—

Year.	FROM YOKOHAMA.		FROM KOBE.		TOTAL.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Lb.	£	Lb.	£	Lb.	£
1904	...	...	6,035	280	6,035	280
1905	2,185	610	98,451	4,597	100,636	5,207
1906	16,571	1,118	313,352	11,596	329,923	12,714
1907 (11 months)	6,455	510	188,558	9,911	195,013	10,421

From these it will be seen that the total export, which in 1904 amounted to the trifling sum of £280, reached in 1906 the considerable total of over £12,000. Although this rapid rate of progress was not maintained during last year, yet the industry is one which, it is stated, will well repay watching by British dealers interested in this article.

Of the total for the first eleven months of 1907, 115,710 lbs., valued at £5,528, went to France, 38,253 lbs., worth £2,653 to the United States of America, and 26,187 lbs., worth £1,600, to Hongkong. Great Britain's share was only 3,578 lbs., worth £170, or less than 2 per cent. of the total. It will thus be seen that the bulk of the business is done from Kobe to France and America.

The hair is all black in colour and rather coarse, and consists almost entirely of the combings of women of the lower classes. It is collected during spring and autumn all over the country, the best quality being obtained from the women of Miyakejima in Izu, who are blessed with hair of extraordinary length and is then sold to middlemen in Osaka and Tokio. These either clean and sort it themselves, or sell it in bulk to the hair merchants, who prepare it for the export market. When first brought the hair is in a dirty, tangled mass; it is passed through combs, then washed and heated with sand so as to remove the grease which adheres to it, after which it is again combed, sorted into different qualities according to length, and made up into bundles. In the Tokio district, instead of heating it with sand, it is boiled in water with soda: this is said to render the hair cleaner and consequently lighter, so that the Yokohama prices per lb. appear dearer than the Kobe ones. A French brush manufactory at Osaka has devoted some attention to this industry and exports large quantities to Paris, where, it is stated, the hair is again treated and made up into wigs and other articles which find a market in Poland and elsewhere.

—It would appear from an article on the petroleum industry in the *Archiv fur Post und Telegraphie* for December that the amount of petroleum produced in Germany, mainly from the Hanoverian Heath, is steadily on the increase; the value of the German oil products in 1895 was £48,100, in 1900, £186,300; and in 1905, £260,350. In the Hanover district 25 companies are at work, with an aggregate capital of about £1,000,000 sterling. The other chief petroleum-producing region is in Alsace, and here all the wells have been absorbed by the German Deep-bore Company, whose site is in Nordhausen. The German wells yield chiefly lubricating oils and have, many of them, been worked for a long period. Much of the Hanover oil is refined for employment in motors, and the residue is utilized for the preparation of asphalt, for which there is a good export demand.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India :—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-3. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-S. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in India Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

1. Notes on Sugar in India. R1-8. (2a.)
2. Indian Cotton Seed : Its Industrial Possibilities. As. 12. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta :—

In England.

- | | |
|--|---|
| E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W. | Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W. |
| Constable & Co., 10, Orange Street, Leicester Square, W.C. | Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford. |
| Bernard Quaritch, 11, Grafton Street, New Bond Street, W. | Messrs. Grindlay & Co., 54, Parliament Street, London, S.W. |
| Deighton, Bell & Co., Cambridge. | Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C. |
| H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London. | Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C. |
| P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W. | |

On the Continent.

- | | |
|--|--|
| R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W. | Karl W. Hiersemann, Leipzig. |
| Otto Harrassowitz, Leipzig. | Ernest Leroux, 28, Rue Bonaparte, Paris. |
| Mr. Rudolf Haupt, Halli-A-S., Germany. | Martinus Nijhoff, The Hague. |

In India.

- | | |
|--|--|
| Thacker, Spink & Co., Calcutta and Simla. | Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore. |
| Newman & Co., Calcutta. | Superintendent, American Baptist Mission Press, Rangoon. |
| R. Cambay & Co., Calcutta. | Messrs. S. Murthy & Co., Madras. |
| S. K. Lahiri & Co., Calcutta. | Messrs. Thompson & Co., Madras. |
| Thacker & Co., Ltd., Bombay. | Messrs. Temple & Co., Madras. |
| A. J. Cambridge & Co., Bombay. | Messrs. Cambridge & Co., Madras. |
| D. B. Taraporevala, Sons & Co., Bombay. | P. R. Ramayyer & Co., Madras. |
| Radhabai Atmarām Sagoon, Bombay. | Messrs. A. R. Pillai & Co., Trivandrum. |
| Sundur Pandurang, Bombay. | Messrs. Gopal Narayan & Co., Bombay. |
| V. Kalyanarama Iyer & Co., Madras. | Messrs. A. M. and J. Ferguson, Ceylon. |
| G. A. Natesan & Co., Madras. | Messrs. A. Chind & Co., Lahore, Punjab. |
| Higginbotham & Co., Madras. | |
| N. B. Mathur, Superintendent, Nazair Kanun, Hind Press, Allahabad. | |

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	RS. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS :—

To Subscribers	per copy	8 0
To Non-Subscribers	"	10 0

POSTAGE :—

Abroad	per copy per annum	5 0
In India	"	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS :—

To Subscribers	per copy	1 0
To Non-Subscribers	"	2 0

POSTAGE :—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0
For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.	

POSTAGE :—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,
Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

G. W. MUNT & SONS,
WHOLESALE
BOX MANUFACTURERS
(EVERY DESCRIPTION),
LONDON,
ENGLAND

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc.

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to
J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E.
LONDON, ENGLAND.

MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. **C. I. COLUMNS**

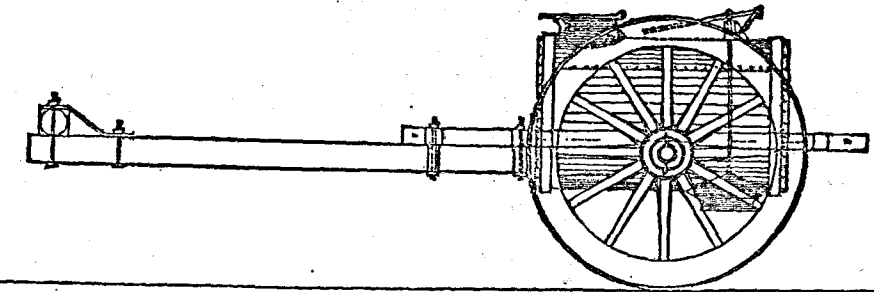
Light Railway Material of every Description.

MARTIN & CO.

6 AND 7 CLIVE STREET,
CALCUTTA.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., LD., MADRAS,
Government Contractors.

**HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE.**

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's
Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS,
COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct,
164-180, Oxford Street, London.

DELICIOUS **COFFEE**
RED
WHITE
& BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.
30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS,
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMAN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS

COIR MATS AND MATTING

SUPPLIED ON ORDER.

Rope Works at Ghusari.

TELEPHONE NO. 132.



THURSTON'S
The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

E. MARLBOROUGH & CO.,
WHOLESALE AND EXPORT
Newspaper Agents and Booksellers.
INQUIRIES SOLICITED.
Lists and Terms on Application.
51, Old Bailey, London, E.C.

J. & J. CUNNINGHAM, LD., LEITH
MANUFACTURERS & EXPORTERS OF
Chemical Fertilisers,
Also Buyers of . . .
Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH.

AHMUTY & CO.
CALCUTTA.
Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.
PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
As supplied to The Government Experimental Farms.
From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

Price List and Membership rules
free on Application.

ALFRED W. KNIGHT,
HORSE NAIL MANUFACTURER By Appointment TO HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL, KNIGHT'S PATENT 'SAFETY.'
"SAFETY" HORSE NAILS
CONCAVE INSIDE
CONVEX OUTSIDE
Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
Extract from Mr. SHARTELL'S Eminent Report:—
'I have nothing to say but unqualified praise. I think the nail is much safer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'
Japanese Army uses exclusively.
BETTER WALL NAIL TO REVERSE
THE ENDEL TO MAKE THE HORSE STAND ON SLIPPERY ROADS WITH NAIL PRESSURES
FRONT SECTION OF HOOF
COAT HEEL NAIL
KNIGHT'S SAFETY NAILS REQUIRE NO CURVING TO DRIVE. NOTCH RASPING TO CLINCH & NEVER GET LOOSE.
COMPANIES SAVE A LOT OF NAILS EVERY DAY THE SHOE IS CARRIED LONGER.
LONDON AND EXPORT BRANCH,
4 Upper St. Martin's Lane, W.C.
Telegrams: 'HORSE NAIL LONDON' Telephone: No. 5012

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,
DONCASTER, ENGLAND.
Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically in Gelatine.

Beechwood Brand awarded 4 Gold Medals and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY
BROWN, WILLS & NICHOLSON

PLYMOUTH, DEVONSHIRE, ENGLAND.

"CHARLTON"**SILICATE****PAINT**

Registered Patentees:

THE SILICATE PAINT CO.,
J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

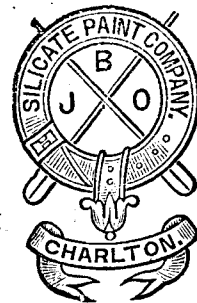
Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
 RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,
 and for all
 GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
 AND
 TRADE MARK.

NON-POISONOUS PAINT.
 FREE FROM LEAD,
 ARSENIC,
 OR
 COPPER COLOURS.



MAXIMUM
 DURABILITY
 AND
 COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.
 Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo
 Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

PATENT

"BITUMASTIC" SOLUTION AND
"BITUMASTIC" ENAMEL

WAILES, DOVES

The Best Paint for protecting iron and steel structures. Avoid spurious imitations containing coal tar and other impurities.

All large Liners are coated with **"BITUMASTIC."**
 British & Foreign Navies are coated with **"BITUMASTIC."**
 TO PROTECT GOOD WORK AND VALUABLE STRUCTURES,

SPECIFY **"BITUMASTIC."**

USE THE BEST

that is

"BITUMASTIC"

Export Agent: H. I. ROBERTS, 42, Castle Street, Liverpool.
 Calcutta Agents: Kinmond & Co. | Karachi Agents: B. R. Herman & Co.
 Bombay Agents: Kinmond & Co. | Madras Agents: Arbuthnots' Industrials, Ltd.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
 Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

BRANCHES:
 Bangkok. Colombo. Ipoh (Perak Feder- Madras. Penang.
 Batavia. Fochow. ated Malay States). Manila. Rangoon.
 Bombay. Hamburg. Karachi. Medan, Deli. Saigon.
 Calcutta. Hankow. Kobe. Sumatra). Shanghai.
 Cebu. Hong-Kong. Kwa Lumpur. New York. Singapore.
 Sourabaya. Taiping. Tientsin. Yokohama.

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
 5, COUNCIL HOUSE STREET.

Bombay Agency,
 ESPLANADE.

Rangoon Agency,
 76, PHAYRE STREET.

THE LARGEST SAW MILLS AND CARPENTER'S SHOP IN UPPER INDIA.

Door Frames, Doors, and
Windows, Ornamental
Woodwork and Camp Furniture.
Wheelwright's work a speciality.

THE EMPIRE ENGINEERING Co., LTD.

Apply for Prices and Catalogue.

Boxes, Pegs, Handles, and all kinds of Woodwork.

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO., ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities.—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

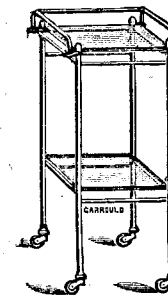
Garrould's

To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS AND
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—
NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS,
OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLETTS, CLINICAL
THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS,
CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

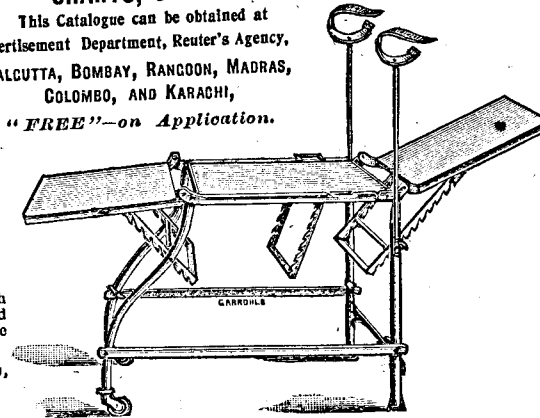
This Catalogue can be obtained at
Advertisement Department, Reuter's Agency,
CALCUTTA, BOMBAY, RANGOON, MADRAS,
COLOMBO, AND KARACHI,
"FREE"—on Application.



ANÆSTHETIC TABLE.

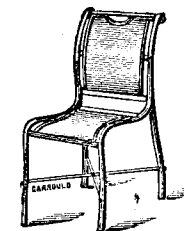
Size 14 in. by 14 in., with
two glass shelves, and
nickel-plated rail on three
sides.

Mounted on castors,
with rubber tyres.



Portable Operating Table designed by Dr. J. J. BUCHANAN.

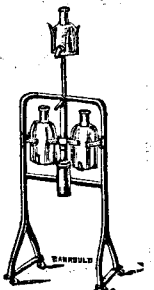
In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors,
complete with Nickel Plated Leg-rest—Will Fold up into a small space.



HOSPITAL CHAIR

(Aseptic).

Tabular frame,
enamelled white.



IRRIGATOR STAND.

Of wrought iron enam-
elled white, on rubber
castors, with 1-gallon
irrigator, adjustable to
any height. Also two
stoppered bottles for
antiseptic solution, and
cylindrical glass for
filling irrigator.

E. & R. GARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.

IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments.

THE WOODITE COMPANY,
MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement
Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.



STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED
SOLELY BY**G. H. NELSON,**CLARKE ROAD,
NORTHAMPTON,
ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,

BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

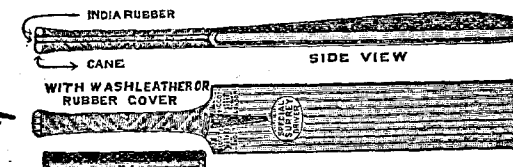
THE ONLY
REALLY DAMP-PROOF
STONE KNOWN.IT IS EXTENSIVELY
USED BY THE P. W. D.,
PORT COMMISSIONERS,
STATE RAILWAYS,
MUNICIPALITIES,
GOVERNMENT AND
JUTE AND COTTON MILL
COMPANIES.AFTER 18 YEARS
IT IS STILL
WITHOUT A RIVAL.The best floor known for Godowns, Offices, Dwelling Houses.
FOR PAVEMENTS IT CAN'T BE EQUALLED.
NO DUNNAGE NECESSARY IN GODOWNS WHERE THE INDIAN PATENT STONE IS USED.
For particulars, estimates and prices for plain & ornamental flooring
laid in situ or in tiles

Apply to—

BIRD & CO., MANAGING AGENTS,
-INDIAN PATENT STONE CO., LD.,
100-1, Clive Street, CALCUTTA.

JOHN PIGGOTT, LTD.

MANUFACTURERS OF ALL KINDS OF

CRICKET REQUISITES.SOLE MAKERS
OF THE WORLD
FAMOUS"SURREY DRIVER
CRICKET
BAT"The Surrey Driver Bat is strongly recommended to all Cricketers. The wonderful GRIP obtained by the peculiar construction of the handle, together with its marvellous balance and driving powers, renders it the most popular bat of the day. C. B. FRY says:—JOHN PIGGOTT'S "SURREY DRIVER" is a good Bat.—*Captain.*

Cricket Balls, Leg-Guards, Batting and Wicket-keeping Gloves, etc.

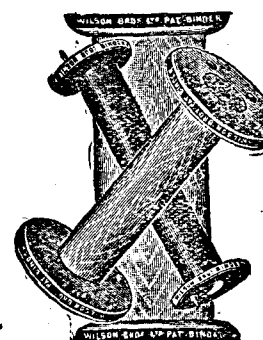
ILLUSTRATED PRICE LIST

Free on application to

Advertisement Department, Reuter's Agency, Bombay, Calcutta,
Madras, Colombo, Karachi or Rangoon.

[Please mention this Advertisement.]

117 & 118, CHEAPSIDE AND MILK STREET, LONDON, E.C.



WILSON BROS. BOBBIN Co., LTD

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TODMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.RELIABLE
QUALITY
ONLY.**PADMORE**Over
70 Years'
Reputation.**BILLIARD TABLES**Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941

BARLOW & Co.

Import and Export Merchant.

Commission Agents.

Agents:

United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd.

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS;

Large Stocks held

in Calcutta.

WATER METERS,

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



"Pelican" and
"Chin-Chin"



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

SUPERIOR QUALITY and 50 per cent.
LARGER BOTTLES than is usual in these goods.

Illustrated Price Lists and Colour Cards may be obtained from Reuter's Agency
(Advertising Department), Bombay, Calcutta, Madras, Colombo, Rangoon and Karachi,

or direct from



A LIST OF INDIAN
DEALERS WILL BE
INSERTED NEXT WEEK.



ST.
ERMINS
HOTEL

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmis, London."
Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES,

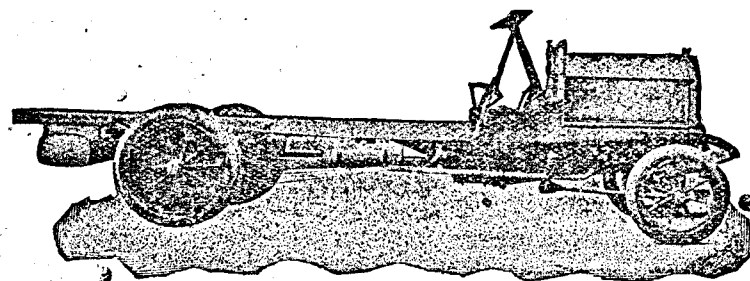
Manufacturers of every description of
**Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery**

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

for
Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.
Woollen & Trimming Warehousemen.
108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



1907 LATEST TYPE CHASSIS.

Motor Lorries,
" Vans,
" Wagons,
" Tower Wagons,
" Mail Vans,
" Omnibuses,
" Charabanc,
" Waggonettes,
" Launches, &c.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.
73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

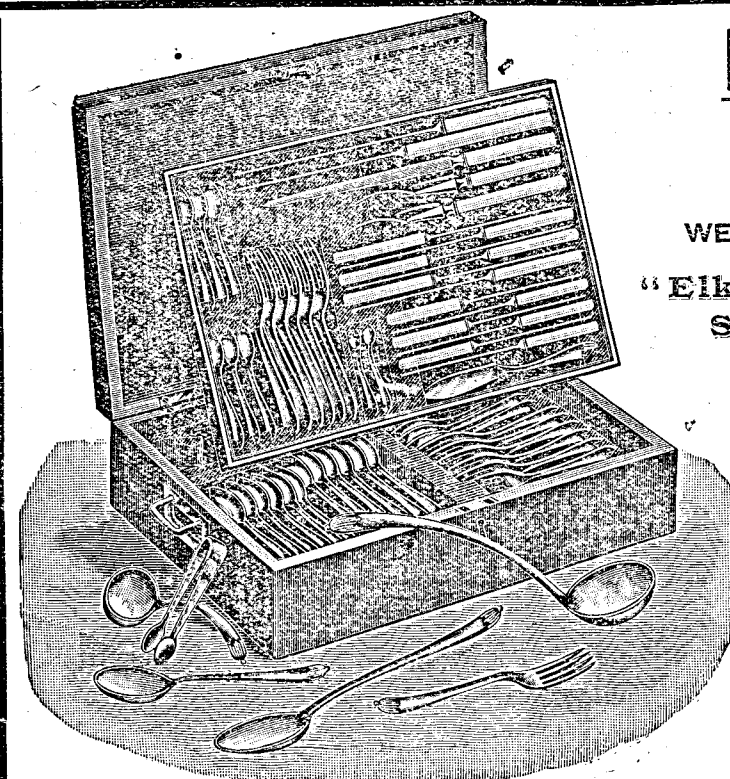
MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & CO.,
MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

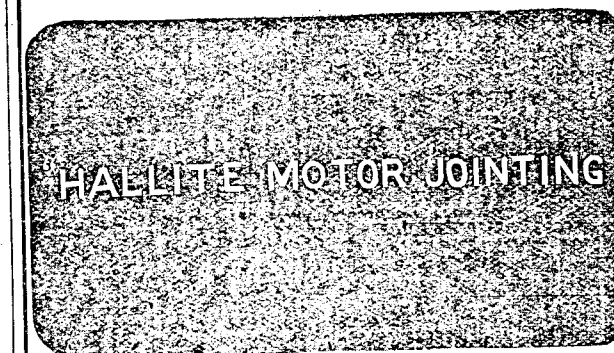
HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



HALLITE MOTOR JOINTING

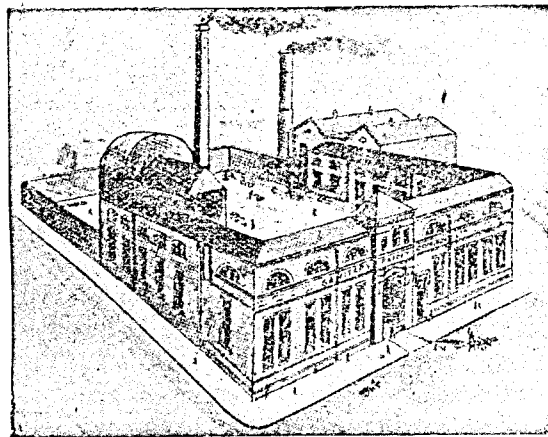
Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
ECN BAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints" was received from the Calcutta Exhibition in 1884, and is the guarantee of the excellence of our Manufactures.

This certificate is, and always has been, in the possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.

Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINO WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.

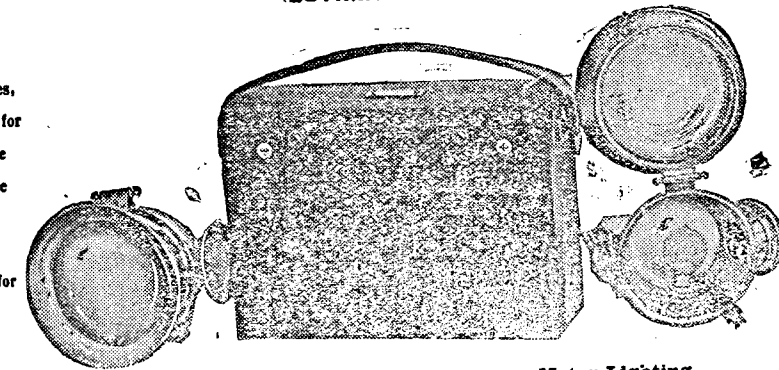
They will serve you well, and we are confident they will do their best to please you.

THE GRATZE

IMPROVED PLANTE AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.
(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratz Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES. ORTHOPÆDIC APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS, LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.
Suppliers to

HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

GODREJ & BOYCE MANUFACTURING
SAFE & LOCK MAKERS NEAR GAS WORKS PAREL BOMBAY.

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE.

Bombay, 12th September 1905.

MESSRS. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTINNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

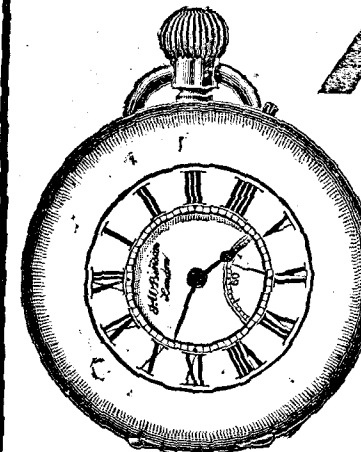
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this ad.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING Co., LTD.,

DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, WOOD ST. MANCHESTER 28, THOMAS ST. DUBLIN 15, WILLOW ST. GLASGOW 71, QUEEN ST. DEPOTS: CAPE TOWN & JOHANNESBURG. BERLIN, KRAUSENSTRASSE, 40.

TELEGRAMS & CABLES "POUND LONDON"

DRAPERS. COSTUME STANDS ETC.

PIONEERS OF SHOPFITTING

TE 5402-3

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & Co.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS
& NEW YORK, CHICAGO & SYDNEY.

TELEGRAMS & CABLES
"POUND LONDON"A.B.C. CODE
4TH EDITION.

JOHN POUND & Co

ACTUAL MAKERS

The "EXPORT" Nest

OF Compressed CANE Trunks.

Best Materials. Light Weight. Splendid Wearing Qualities.

FIVE

USEFUL SIZE

Best Quality Compressed

CANE . .**TRUNKS**

Complete in

ONE NESTBound Stout Hide.
Spring Nozzle Locks.
Lined Drill.Shipping
Expenses
Curtailed.Write for Complete
ILLUSTRATED
LISTS
(Post Free).

Suit Case.

Size ... 28" x 13" x 8 1/2"

Handy Size Trunk,
or Ladies' Visit Case.

Size ... 30" x 15" x 9 1/2"

Short Journey Case,
Suitable for Cabin.

Size 32" x 17" x 10 1/2"

Cabin Trunk,
or Useful Travelling Trunk.

Size 34" x 19" x 12"

NEST COMPLETE
IN P. & O. SIZECabin Trunk.
Size 36" x 21" x 14"INDENT
DIRECT
OR
THROUGH
AGENTS.

ACTUAL MAKERS

OF

TRAVELLING REQUISITES of every description.In SOLID LEATHER, — COMPRESSED CANE, — or FIBRE, —
CANVAS, — WOOD or STEEL, &c.

81-84, LEADENHALL ST., LONDON, ENGLAND.

WORKS: HITECHAPEL, ESTMINSTER & SHEFFIELD.

LISTS May be obtained from Messrs. REUTERS' DEPOTS.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

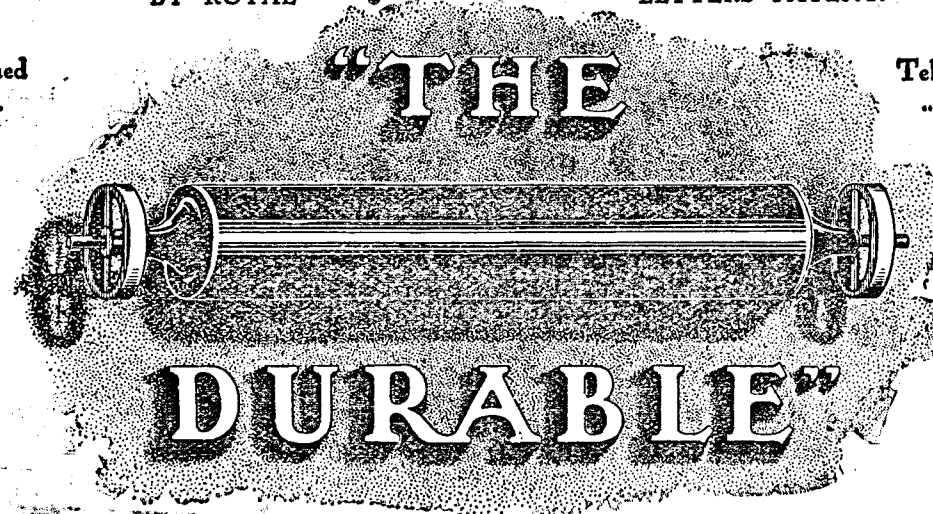
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:

"DURABLE."
ROLLERS.
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE.

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA

PUBLISHED WEEKLY.



REGISTERED

The Indian Trade Journal.

Issued by the Commercial Intelligence Department,
India.

VOL. VIII. No. 101.]

CALCUTTA, THURSDAY, 5th MARCH, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	497
NOTICES—	
Crop Forecasts	501
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Khorasan and its Trade	502
CHAMBER OF COMMERCE	504
SEASON AND CROP PROSPECTS	505
THE FAMINE	506
TARIFF CHANGES	507
JUTE SEED FARMS IN 1907	ib.
MINING IN THE CENTRAL PROVINCES	508
TRADE OF THE UNITED PROVINCES	ib.
IRON AND STEEL WORKS IN EASTERN BENGAL AND ASSAM	509
CARAVONICA COTTON IN INDIA	510
THE UNFLOWER IN INDIA	511
COTTON CULTIVATION IN THE SOUDAN	514
MANUFACTURE OF CALCIUM NITRATE AND CALCIUM CYANAMIDE	515
HEALTH OF BRITISH WORKERS	517
CROSS-FERTILIZATION OF SUGARCANE	518
THE ROSELLE	ib.
MINING PROGRESS IN SOUTH AFRICA	20
FAST PRINTS ON COTTON	521
ARTICLES IN DEMAND IN THE SOUDAN	522
NEW REFERENCE BOOKS	523
RESULTS OF AUCTION TEA SALES IN CALCUTTA	ib.
TABLE—	
Sea-borne Trade of India	524
DEPARTMENTAL PUBLICATIONS	525
ADVERTISEMENTS	526

NOTES.

The Presidency Bank rates are as follows:—

Calcutta	9	per cent.
Bombay	9	" "
Madras	9	" "

Exchange—1:31⁵/₈

Reports continue to be received from Persia of caravan robberies and of the insolence and extortions of the road guards.

As an indication of agricultural advancement in the Punjab, we may state that some fifty reaping machines have been ordered by Government this year on behalf of cultivators in that Province.

Rules for rendering imported spirit effectually and permanently unfit for human consumption and for admitting spirit said to have been rendered so unfit, in order to claim lower duty, are published in yesterday's *Calcutta Gazette*.

Mr. A. Tellery, of the firm of Messrs. A. Tellery and Co., Benares, has just published a useful reference book entitled the *Indigenous Art of the United Provinces*. It is often difficult to determine off-hand where the home of any particular Indian industry may be, and Mr. Tellery's book should prove helpful in all such enquiries.

Steps are on foot to start the first cotton mill at Karachi. The proposed capital is Rs. 12,00,000 in Rs. 100 shares and the venture is to be known as the **Karachi Spinning and Weaving Mill Co., Ltd.** The movement seems to be a *Swadeshi* one, the Directors and all the other officials being natives. Moreover, the Directors seem to have a good deal of faith in their venture, as they claim to have subscribed 4½ lakhs of the capital among themselves, and they boldly proclaim that "Karachi does not want one mill, but twenty." Another project now on foot in Karachi is to float a concern to be known as the **Sindh Light Railways, Ltd.** The capital is to be Rs. 7,50,000 in Rs. 100 shares, and the object is a light feeder railway 47½ miles in length to serve the districts irrigated by the southern portion of the Jamras Canal, which is at present untapped by any railway. Four per cent. interest is to be paid out of capital during the construction of the line, which may be opened for traffic next autumn. The prospectus of each company may be seen at this office.

In their Report on the **Shanghai piece-goods trade**, dated Shanghai, February 6th, Messrs. Noel Murray & Co. say:—"The Yarn Brokers were early afield yesterday, February 5th, the first day business could possibly be resumed after the native holidays, and showed considerable eagerness to buy. Although some of the transactions may have been of more or less a complimentary nature there is no doubt a good consumptive demand. However, the firmness of holders prevented much business; out of a total of 2,098 bales the bulk was booked before the holidays. Buyers for Tientsin have been forced to pay up for a few of their favourite spinnings of No. 10s. but otherwise the bulk of the purchases have been for the River markets and Szechuen. We consider the market to be a tael higher at the opening and firm, the following sales being reported:—No. 10s. 653 bales; Elphinstone (Flag), Imperial Mill, Naigan (New Chop) and Sun Mills (Photo) \$76.00, Tea Carrier \$76.50, Tricumdass (Mule) \$77.00—76.50, Union Spinning Girl \$77.00, Currimbhoy (Ring) \$78.00, Framjee (Petit Fish) \$78.50, Nagpur and Swadeshi (Ring) Kose \$85.50. No. 12s. 220 bales; Loong Farh Pagoda (Chop) \$77.00, Currimbhoy (Mule) \$78.50, Pabaney Mills (Mule) \$79.00—79.50 and David Mill (2 Fish) \$79.50—80.00. No. 16s. 75 bales; Western Indian Pony Carriage \$83.00 and Jeevraj Baloo \$83.50. No. 20s. 1,150 bales; Apollo (Mule) and James Greaves Mill \$89.00, Imperial Mill and Three Fish (Chop) \$89.50, Apollo (Ring) \$90.00, Tea Carrier \$91.00, Pabaney Mills (Ring) \$92.00, Howard and Bullough Mill \$91.00—92.50, China Mill \$91.50—93.00, Hope Mill \$93.00 and Ripon (Mule) \$95.00."

The number of bales of cotton imported into the **United Kingdom** during the week ended the 6th February, 1908, was 190,307 (including 52 bales British West Indian), and the number imported

during the six weeks ended the 6th February was 966,554 (including 1,010 bales British West Indian, and 796 bales British West African). As regards exports, the figures are, for the week ended the 6th February, 11,398 bales, and, for the six weeks, 64,507 bales.

The **German cotton companies** continue to present favourable reports for 1907, and especially is this the case with the Bavarian companies. The Augsburg Spinning and Weaving Company has increased its net profit from £74,500 to £89,000 and its dividend from 28 per cent. to 29.16 per cent. The Bamberg Spinning and Weaving Company has increased its net profit from £51,700 to £77,000, and its dividend from 20 per cent. to 27½ per cent. This latter company, to celebrate its jubilee, voted a sum of £3,300 to its pension and benevolent fund. The Kempsten Spinning and Weaving Company had a net profit of £33,700, as against one of £24,800 in 1906, and declared a dividend of 16½ per cent. as against one of 13½ per cent. The Erlangen Spinning Company realised a net profit for 1907 of £23,300 as against one of £14,100 for 1906, and declared a dividend of 15 per cent. as against 12 per cent. All these are Bavarian companies. The Düsseldorf Worsted Spinning Company increased its net profit during 1907 from £17,500 to £22,300, and raised its dividend from 4½ per cent. to 6 per cent. The Saxony Worsted Spinning Company of Harthau has declared a net profit of £16,900, as against £9,600 for 1906, and a dividend of 8 per cent. as against 6 per cent.

The increase in cotton mills, spindles, and looms last year in the **United States of America** is given by Messrs. Claffin as follows:—

	Cotton mills.	Spindles.	Looms.
Increase in 1907	65	417,993	13,524
Increase in 1906	74	492,996	...

Last year's new mills numbered only three more than the annual average of the previous six years, although 1907 was the most prosperous year in the history of the American cotton industry. It is argued that the extensions have not been overdone. The season in the American dry goods trade has yet scarcely begun, and demand in the meantime is slow. Although stocks generally are said to be small, there is a disposition to wait for a steadier market basis. The export trade, though somewhat more active than in recent years, is still very small.

Messrs. Neill Brothers, in a cotton circular just issued, point out that the movement of the **American cotton crop** up to the 7th ultimo is still 1,614,000 bales behind last year and 485,000 less than that of 1898-99, when the commercial crop was only 11,275,000. If this year's total of 8,230,000 to January 31st should be 73½ per cent. of the

whole crop (this being the average proportion for the period) the final figure will be only 11,200,000, whilst if instead of the average the movement of 1905-06 is taken as the basis of reckoning a total of 11,674,000 bales is indicated. The mean of the two indications is 11,437,000 bales. Taking the average proportion borne by the ginning reports to the actual growth in the past three seasons, Messrs. Neill find that the amount ginned to January 16th this season indicates a crop of 11,445,000 bales, and it may be agreed that these calculations, so far as they go, support Messrs. Neill's own estimate of 11,600,000 bales. Allowing for the falling off in supplies from other sources, they compute the prospective decrease in the supply of cotton for Europe and America this season at about 2,500,000 bales, or "three or four times as much as the wildest bearish estimate of the probable reduction in consumption."

The prices of **British corn** per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 8th February, 1908, were as follows:—Wheat, 34s. 3d.; barley 26s. 9d.; oats, 18s. 3d.

The *Corn Trade News* gives the following summary of the world's crops as on the 11th ultimo:—**United States of America**—The last bulletin of the "Modern Miller" reported unseasonable weather and the presence of field pests over a large area, but no material damage so far. **Canada**—It is now reported that Manitoba farmers have practically ploughed all the land they intend to plant in the spring; will start sowing immediately the weather becomes suitable. **Argentina**—Confirmed (by mail) storms caused much local damage, and many poor samples arriving; generally, however, reports of wheat harvest continue favourable and large crop movement confirm these. Further reports of drought damage to maize. **Australia**—Further mention of bleached samples, but rains at harvest did no serious damage. **Chili**—Good harvest; minimum exportable surplus 200,000 quarters. **India**—Crop outlook continues to improve and shippers now think 1,000,000 quarters may be exported from Kurrachee next season provided prices fairly high. **Russia**—Further complaints that Fall sowings started the winter in bad shape, but confirmed that, except in the south-west, the crops have had capital snow cover for some time. Rostoff reports much land could not be seeded in the Fall. **Roumania**—Weather fine and mild, favourable for crops. **Turkey**—Feared short crop owing deficient acreage. **Hungary**—Splendid fall of snow reported. **France**—Crops not quite so good as year ago and some re-seeding may be needed, but still conditions generally very fair. **Germany**—Occasional mention unseasonable weather, no serious complaints. **United Kingdom**—Weather conditions excellent. **Italy and Spain**—

Reports generally favourable. **North Africa**—Very heavy rains have fallen.

The **London colonial wool auctions**, which came to an end on the 7th ultimo, have not, says the *Manchester Guardian*, tended to relieve the situation. With one exception all classes of the raw material are now lower than at the close of the November auctions. The exception is good to superior merino greasy combing, which has appreciated by a doubtful 5 per cent. Every other class of merino wool, including scoured descriptions, fell from a ½d. to 1 ½d. per pound. In crossbreds, except the finest sorts the drop was even more pronounced than in merinos coarse descriptions gradually giving way in value from the opening to the close, when the fall was often as much as 10 per cent. and in some cases even more. The most prominent feature of these auctions is the fact that whilst (exclusive of South American wools) the quantity available amounted to 187,000 bales, only 157,000 bales have found buyers, thus leaving no fewer than 30,000 bales to be carried forward to the second series, which commence on the 17th instant. It is many years since so large a quantity was held over. Of the quantity sold the home trade took more than half, or 81,000 bales, whilst Continental buyers secured 70,000 and American 6,000 bales. It is thought that about 180,000 bales will be available for the next series. Taking into account the heavy direct imports from all sources of supply, it is evident that the trade will have its work cut out to maintain even the present level of values during the next few weeks and months.

Writing on February 15th, the *Ironmonger* says:—"The standard **copper market** has had a declining tendency throughout owing to an entire absence of favourable features and the steady pressure of sales. In America the position has certainly undergone no improvement, industrial conditions there being exceedingly unsatisfactory and the outlook anything but cheerful. Reports have been circulated on 'Change that influential American interests have figured as sellers of standard copper during the week, and it is also said that the presence of further large reserves of metal has become known in New York and other Atlantic ports. It is not surprising, therefore, that the tendency of the market should throughout have been unsatisfactory for holders. The £60 level was crossed on February 10th and lower prices still seem inevitable. The **tin market** has been the centre of unrelaxed manipulation which has left operators in a state of semi-bewilderment. Persistent buying of forward deliveries and the control exercised over the cash position have given the market at times a very strong appearance, and the only wonder is that prices have not responded further to the vigour of the operations directed to raising them. America has been buying almost from day to day not very large

quantities certainly, but sufficient to further the tactics of the leading operators for the rise. The immediate future is obscure, though there can scarcely be much doubt as to the ultimate course of prices unless there is a radical alteration in the position of the metal.

It is announced that the efforts put forth to form a **German zinc syndicate** have now reached a successful termination. All the German zinc smelters, with one exception, have been brought into line, and the total zinc production has been apportioned amongst them. The present arrangement is to be in force for three years. In all, thirteen zinc works, located in various parts of Germany, compose the Syndicate. Negotiations are in progress with the object of coming to an understanding with the Belgian zinc producers.

The Railway Board have sanctioned a survey being made by the agency of the North Western Railway Administration for a 2' 6" gauge line of railway from Makarwal to Mari, a distance of about 50 miles. This survey will be known as the Makarwal-Mari Railway Survey.

The Agricultural Department, Bengal, has favoured us with "Leaflet No. 1 of 1908," which records the result of all the jute experiments at the **Burdwan Agricultural Station** up to and including the year 1907. The series of experiments, we are told, commenced in 1904 with 57 varieties; but these have now been weeded down to 10, all of which have given excellent yields. These varieties are:—Baran and Nalita of Mymensingh, Amonia and Tosha of Faridpur, Kakya Bombai and Deswal, Serajganj, Barapat of Jagannathganj, Tosha of Pabna, Halbi-lati of Tipperah, and Paknaliya. The following recommendations are made:—(1) Any of these ten varieties; (2) to sow $4\frac{1}{2}$ seers of seed per acre in the third week of April or as soon as possible after that date; (3) to get a fine seed bed and to apply either 70 maunds of cowdung or $7\frac{1}{2}$ maunds of castor-cake per acre before sowing the seed; (4) to thin out the plants to four inches apart at thinning time; and (5) to harvest the crop when pods are being formed on the plants, remembering that steeping may be easy in September and very difficult in October.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 29th February, 1908—

In the Calcutta market—

Behar opium—Rs. 1,365; 1,365; 1,351; 1,360; 1,353; 1,360; 1,360.

Benares opium—Rs. 1,340; 1,340; 1,325; 1,340; 1,330; 1,340; 1,340.

The prices in the time bargains for the Behar

opium of the 3rd sale of 1908 were Rs. 1,370; 1,370; 1,356; 1,365; 1,358; 1,365; 1,365. In the China market—

At Hongkong (exchange Rs. 141 to 142½ per \$100).

Behar opium—\$987½; 987½; 987½; 987½; 987½; 990; 990.

Benares opium—On the 24th and 28th instant \$930 and 980 respectively.

At Shanghai (exchange Rs. 188 to 190 per 100 taels).

Behar opium—On the 24th instant 748 taels.

Benares opium—On the 24th instant 740 taels.

For the week ending 22nd February 1908—

In the Bombay market—

On the 16th and 19th instant (new, 1906-07) Rs. 1,270 to 1,300 and Rs. 1,190 to 1,260, respectively; on the 21st instant (new, 1905-06) Rs. 1,335 to 1,400; on the 17th instant (new, 1904-05) Rs. 1,325 to 1,400; on the 17th instant (old, 1904-05) Rs. 1,435; on the 20th instant (old, 1904-05) Rs. 1,415 to 1,435; the latest prices at Hongkong and Shanghai respectively were (new) Rs. 1,315 and 1,400; (old) Rs. 1,394 and 1,478.

The Bill in amendment of the **German sugar excise law**, of which the Reichstag passed the second reading recently, provides for the reduction of the excise duty on sugar from 14 marks (mark=12 annas) to 10 marks by April 1st, 1909, if by that date the consequent loss of revenue has been made good by fresh taxation. If fresh taxes are only passed after April 1st, 1909, the reduction is to be postponed until the new sources of revenue have become available. The decrease of revenue which will result from the projected reduction is estimated at an annual sum of at least £1,750,000, but the hope is expressed that a reduction of the excise duty will tend to increase the consumption of sugar and so lessen the loss to the Exchequer.

Messrs. Tozer, Kemsley, and Fisher, Lel., of 84, Fenchurch-street, E.C., write to the *Times Engineering Supplement*:—"Our correspondents, Messrs. L. J. Healing and Co., of Yokohama, ask us to draw the attention of manufacturers in this country to the importance of the registration of their **trade marks in Japan**. Small native traders are already registering well-known brands, and, although these can be upset within two years if it can be proved that the trade marks were used in Japan before the date of registration, they will, after that time, hold against all-comers if no protest has been raised in the meantime." With reference to this subject we may add that a Reuter's telegram, dated the 2nd instant, states that it is understood that an agreement will shortly be concluded with Japan for the protection of British trade marks.

The huge profits (writes a correspondent to the *Manchester Guardian*) supposed to be made by **fire insurance companies** are a fruitful source of grumbling in certain quarters. The true nature of these profits will be seen from the figures quoted below showing the results of the operations of between forty and fifty companies during a period of ten years. The profits in certain years appear to have been reduced almost to vanishing point, and certainly would not have provided an appreciable dividend on the capital involved. The average annual surplus for all the companies is £1,056,547, or rather less than ½ per cent. of the premiums received; and even after eliminating the year 1906, which is rendered quite exceptional by the conflagration at San Francisco, we find that the average annual surplus on trading account during a period of nine years amounts to rather less than 8 per cent. of the total premiums received. Even these figures would hardly be regarded as a matter for special congratulation in a commercial undertaking of another nature.

Year.	Premiums.	Surplus.	Ratio of surplus to premiums.
	£	£	
1897	18,462,521	1,538,780	8.3
1898	18,857,669	1,031,413	5.4
1899	20,175,893	661,863	3.2
1900	21,123,434	1,173,436	5.5
1901	20,860,485	310,897	1.4
1902	22,291,386	2,851,114	12.8
1903	22,480,672	3,476,445	15.0
1904	23,494,243	1,280,640	5.4
1905	23,723,279	3,951,583	16.5
1906	23,452,851	5,710,995	24.3

NOTICES.

CROP FORECASTS.

The following general memoranda on crops of the season will be published in the *Indian Trade Journal* of 12th March, 1908:—

Second General Memorandum, Wheat.

Second General Memorandum, Spring Oil-seeds.

The gist of them in tabular form will, as usual, be exhibited at the street door of the office of the Director-General of Commercial Intelligence, at No. 5 Clive Street, Calcutta, on the 11th instant at 4 P. M.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Human Hair.

(222)—A London firm requires the addresses of importers of manufactured human hair.

Rape Seed Oil-cake.

(223)—A Japanese concern requires the addresses of Calcutta manufacturers and dealers in rape seed oil-cake.

Coal.

(224)—A European firm of long standing desires an agency for Bengul coal in Karachi.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Olive Street, where they will be displayed in the ante-room till Wednesday, 11th March, 1908:—

Foreign and Colonial Publications.

Germany—Die Seeschiffahrt in Jahre, 1906, Parts I to II. Norway—Statistique de la justice civile pour l'année 1905. Spain—Estadística general del Comercio Exterior de España en 1906, Parts Primera. United States—(1) Crop Reporter, January, 1908; (2) Bureau of Plant Industry Bulletin No. 106—Seeds and Plant imported during December, 1905, to July, 1906; (3)—Bulletin No. 111—Part V—The Culture and Uses of Bromo-Grass; (4)—Bulletin No. 118—Peruvian Alfalfa; (5)—Bulletin No. 119—Mulberry and Other Silkworm Food Plants; (6)—Bureau of Animal Industry Circular No. 118—The Unsuspected but Dangerously Tuberculous cow; (7) Bureau of Entomology—Report of the Entomologist for 1907; (8)—Bulletin No. 68, Part V—The Lesser Apple worm; (9)—Bulletin No. 75, Part II—Wax Moths and American Foul Brood; (10) Circular No. 32—The Larger Apple Tree Borers; (11) Office of Experiment Stations—Bulletin No. 195—Simple Exercises Illustrating Some Applications of Chemistry to Agriculture; (12)—Bulletin No. 196—Proceedings of the 21st Annual Convention of the Association of American Agricultural Colleges and Experiment Stations held at Lausang, Mich., May 28-30, 1907.

Parliamentary Publications.

Agricultural Statistics, Ireland, 1907. Extent in Statute Acres Produce of the Crops and number of Live-stock for the year 1907. Board of Agriculture and Fisheries—Report on Distribution of Grants, 1906-07. Civil Services (Supplementary Estimates), 1907-08. Colonial Reports—Annual Series No. 554—Southern Nigeria, 1906. Miscellaneous Series—No. 45—Report relating to the Geology of the East Africa Protectorate. Consular Reports—Annual Series—No. 3956—Trade of Colombia, 1907; No. 3957—Trade of Spain for 1906. Trade with New Zealand—Report upon the Conditions and Prospects of British Trade in New Zealand.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, MARCH 5, 1908.

KHORASAN AND ITS TRADE.

Indian Transactions.

KHORASAN is one of the places in Persia the value of whose exports (precious stones, cotton, skins, wool, carpets, etc.) largely exceed imports; but, owing to the difficulties of transport, it is not favourably placed for the development of Indian trade. A single instance will suffice to illustrate this. In 1906 sugar prices ruled very high at Meshed and a consignment of 500 bags was despatched from India. By the time the sugar arrived, however, several months later, the price had fallen and the parties concerned were only able to dispose of the consignment at cost price. Cotton furnishes another example. In Bombay or elsewhere Khorasan cotton is at a disadvantage on account of its short staple and indifferent cultivation, though it is said to be identical with Egyptian cotton; but it is permitted to enter Russia at one-tenth the duty charged on

cotton produced in other countries, and it thus finds a profitable market in spite of its indifferent quality. It so happens, also, that other raw products of Khorasan, such as wool and hides, are too bulky and of a specific value too low to stand heavy transport charges. The result is that caravans from India or the Persian Gulf are compelled to return empty, thus doubling the transport charges on Indian goods. Trade, to be successful, must—more particularly in a primitive country—flow both ways. India manages to hold her own in the matter of tea, spices and indigo, though, as we showed in our issues of October 3rd and 31st, 1907, synthetic indigo continues to find favour in certain parts of Persia owing to its low price and uniformity.

The following table shows the various routes by which British and Indian goods reach Khorasan, together with a table of freights, etc., to Meshed in 1906-1907:—

ROUTE.	Distance in miles to Meshed by caravan routes only.	Average cost of carriage per kharwa (650 lbs.)	Length of journey in days.	Nature of transport.	Rate calculated from.
Nushki via Turbat-i-Haidari.	1,000	Rs. A. P. 89 6 0	85	Camels only.	Nushki.*
Bunder Abbas via Nar-Mashir-Neh, and Turbat-i-Haidari.	900	73 10 0	90-125	Do.	Port.
Bunder Abbas via Yazd and Turbat-i-Haidari.	1,020	81 13 0	100-140	Do.	Do.
Bushire via Yazd and Turbat-i-Haidari.	932	68 2 0	100-140	Mainly mules.	Do.
Baghdad via Kermanshah and Tehran.	1,050	109 1 0	120-150	Mules and camels.	Baghdad.
Trebizond via Tabriz and Tehran.	1,380	136 6 0	180-220	Mainly camels.	Trebizond.
Batoum . . .	170	120 0 0	50	Steamer and Railway to Askabad, thence by camels and carts.	Bombay.

* This rate prevailed under the old contract: but the time limit was seldom observed, as the pace it demanded was beyond the powers of a single set of badly fed camels.

In connection with the above table it is of interest to note that the cost of transport per lb. on Indian goods via the Nushki route to Meshed is $2\frac{1}{2}$ annas, as against $3\frac{1}{4}$ annas from England via Karachi, Quetta and Seistan, and $4\frac{1}{2}$ annas from England via Bunder Abbas. On the other hand, the Russian rates are much lower and the time of transit much

less. During the five summer months the Volga route, the Caspian Sea, and the Trans-Caspian Railway are used for heavy goods. By this route from one to two months are occupied by the transit between Moscow and Meshed, the cost being 95 kopecks per pood of 36 lbs., or about $\frac{2}{3}$ d. per lb. During the winter, railways and the Caspian Sea route carry goods in about 40 days for 1.25 roubles per pood, or $\frac{2}{3}$ of an anna per lb. In addition to this the goods are insured at a 1 per cent. rate. Stamps and commission cost 1.10 roubles and 75 kopecks to 2 roubles, respectively, the latter according to the size of the consignment.

It is almost as cheap and, of course, much quicker to have things sent from Europe to Meshed by parcel post. From England Meshed is reached by Askabad, and parcels up to 11 lbs. are carried for 3s. 6d. as far as the Persian frontier. Thence to Meshed the Persian postal authorities charge on the 11 lbs. at the rate of $2\frac{1}{2}$ d. per lb. In short, the cost from Europe works out at $6\frac{1}{2}$ d. per lb. The average time occupied is about five weeks, and, needless to say, this compares more than favourably with the six to nine months which are occupied by goods on the long round journey. A second point is that there is little fear of articles being spoilt by damp, whereas no tin linings can prevent damage to goods which are exposed to the weather for many months at a time, apart from the daily rough handling incident to camel or mule transport, which works open the tin linings and breaks up the goods. Persian shopkeepers are beginning to utilize this route, which is particularly suitable for watches, etc., and, if only there were suitable agents, much might be done.

Another drawback to Indian trade in Persia lies in the more or less violent fluctuations in exchange. Here is an example. The beginning of April, 1906, found quotations ruling at 57 to 56 to the £. They then dropped steadily till June, when they touched 54 or so in Tabriz and Meshed, and were as low as $52\frac{1}{2}$ in Resht. They rose again to 56 or above in August, after which another downward period lasted till November. From this time rates ruled fairly steady at 51 to 52 till March (except in Tabriz, where there was a sudden, but short-lived, rise to $53\frac{1}{2}$ in February), when they again fell slowly, touching 50 before the end of month. Speaking generally, the fluctuations were most frequent in Tabriz and least so in Meshed, while the average level was lowest in Resht and highest in Tabriz.

The rise in the period June—August was due to the uncertain state of the Russian market resulting in a shrinkage of exports from Persia. As soon as these causes were removed, the tightness of money had the natural result of causing a rapid fall in rates.

Under present conditions the bulk of the trade of Khorasan, both imports and exports, is done with Russia. During the year 1906, for instance, the exports of chemical products from Russia to Khorasan increased from Rs. 8,010 to Rs. 45,480 chiefly owing to the popularity of lemonade; matches jumped from Rs. 60,300 to Rs. 1,52,805, which seems to indicate a rising standard of comfort; petroleum advanced from Rs. 3,75,375 to Rs. 5,66,985, showing that this article is rapidly finding favour; sugar shows a surprising rise from Rs. 15,16,890 to Rs. 29,35,695, an indication of increased prosperity; tea shows a decline from Rs. 4,44,750 to Rs. 3,37,450, owing to the disturbed state of the land routes from China; while thread, flax and hemp advanced from Rs. 77,145 to Rs. 1,91,670, owing to the increased demand for sacking by exporters of wool and cotton.

Turning now to the exports from Khorasan to Russia, we find that the value of carpets increased from Rs. 10,14,360 to Rs. 12,01,620, which represents a larger output but not higher prices, the cost per square *zar* of 40 by 40 inches remaining at Rs. 30 for the highest quality; cotton rose from Rs. 16,89,630 to Rs. 30,22,965, owing to the decreasing cultivation of opium giving more scope for cotton; dried fruits increased from Rs. 8,90,730 to Rs. 15,29,250, owing to bumper crops, particularly of grapes; turquoises showed only a slight rise from Rs. 45,855 to Rs. 62,955, owing, it is said, to systematic smuggling; tea showed a decline from Rs. 1,10,535 to Rs. 93,345, owing to the Batoum route having superseded that via Bunder Abbas for green tea; woollen tissues (shawls) increased from Rs. 1,21,350 to Rs. 2,29,665, owing to the increased demand from Persians residing in Baku and other parts of Russia; while the value of wool advanced from Rs. 23,10,855 to Rs. 25,17,270.

Trade with Afghanistan also showed an increase, exports advancing from Rs. 12,22,260 to Rs. 13,31,310 and imports rising from Rs. 16,03,275 to Rs. 16,741,780. The chief exports to Afghanistan are sugar and cotton tissues; and practically the only article imported from that country is wool, the value of which increased from Rs. 11,28,000 to Rs. 11,99,775 in 1906-07.

Another of the products of this part of Persia is an edible earth, which has found favour with the populace for many centuries both as a food and a medicine. The following is an analysis made by the Reporter on Economic Products to the Government of India :—

Loss on ignition	13.64
Silica	67.57
Ferric oxide	5.76
Alumina	7.87
Lime	2.76
Magnesia	.98
Potash	.67
Soda	.58
Sulphuric acid	.06
Phosphoric anhydride	.11
	100.00

Although trade prospects between India and Khorasan may not be very promising just now, we are informed that a very lucrative trade could be opened up with Russia in the matter of Indian curios. A correspondent, who has specially investigated this matter, states that Indian curios are thought very highly of in Russia, and, "if properly conducted, a business of this description would undoubtedly pay handsomely." The Russian Volunteer Fleet would provide cheap transit between Colombo and Odessa, where, the correspondent thinks, the enterprise might be started, as Yalta, the Riviera of Russia, is close by. This correspondent adds that he has been so much struck by the admiration displayed by Russians for even the more common Indian art products, that he is convinced it would be worth while for an Indian firm to enquire from the British Consul-General at Odessa as to the advisability of following the footsteps of the enterprising Japanese, who have already established themselves at that port and also at Yalta.

Another pleasing aspect, from an Indian point of view, is that the trade of this country with Turbati-Haidari, included in the Khorasan trade returns, continues to grow, and increased from Rs. 4,90,01,010 in 1905-06 to Rs. 7,44,105 last year. This increase is chiefly due to cotton goods, and we are informed that it could certainly be greatly expanded as the demand is large and this market does not appear to be receiving as much attention from Indian dealers as its merits demand.

Finally, we notice that the number of Indians employed in different branches of industry in Persia is increasing, and we believe that there is still ample room for good Indian mechanics, carpenters, etc., in Meshed, and probably in other towns in the Shah's dominions.

CHAMBER OF COMMERCE. KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce held on February 25th, 1908, the following business was transacted :—

Read letter, dated 17th February, 1908, from Messrs. B. J. H. Somake & Co., Karachi, forwarding a copy of a memorial submitted by certain tradesmen of Karachi to His Excellency the Viceroy, protesting against the proposed introduction of the **Value Payable System between England and India.**

Resolution.—To be acknowledged, circulated and recorded.

Read letter, dated 14th February, 1908, from the Deputy Director of Agriculture, Mirpurkhas, forwarding for report and valuation a number of **samples of cotton**, including some cross breeds, grown on the Government Farm at Mirpurkhas.

Resolution.—The Deputy Director of Agriculture to be informed that the Committee are unable to give a valuation of the samples sent, there being no one in Karachi with sufficient expert knowledge to even approximately class and value these varieties. The Committee consider that reliable valuations can only be obtained in Europe.

Read letter, dated 31st January, 1908, from the Secretary, Manchester Chamber of Commerce, acknowledging the replies received from the Indian Chambers to the explanatory note and scheme submitted by his Chamber to the respective Chambers along with his letter of 26th July, 1907, stating that the general recognition of his Chamber's efforts to devise a scheme for meeting the vexed question of **non-delivery on time contracts**, is fully appreciated, that the scheme has failed to meet with approval and acceptance in India is regrettable, though not unexpected, especially after it proved impossible to induce bleachers, printers and dyers to agree to conditions involving a definite penalty for delays in delivery on their part, that in the opinion of the Directors of his Chambers it would be futile to re-open the negotiations with manufacturers, bleachers, etc., with the object of securing, by voluntary agreement, the only footing upon which his Chamber can negotiate, the provisions which the Indian Chambers deem to be essential; and that the Directors are forced to conclude that it is practically impossible to devise a compensation scheme of a character sufficiently comprehensive to be acceptable to all parties concerned at home and in India.

Resolution.—To be acknowledged, circulated, and recorded.

—The production of petroleum in California in 1907 is estimated at 40,000,000 barrels, valued at \$13,800,000, which is a great increase in quantity over 1906. The average value at the wells was 25 cents per barrel up to the end of May, when the price rose to 40 cents per barrel, which continued during the remainder of the year.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 22ND FEBRUARY, 1908.

Rajputana.—No rain fell during the week. Prospects of the spring harvest are on the whole fair and standing crops are doing well. The condition of cattle is satisfactory. The fodder and water supply are sufficient. Prices of food grains have risen in Jaisalmer and Bundi, and slightly in Bikaner; have fallen in Sirohi, Shahpura town, Karauli and Bharatpur; and slightly in Jaipur and Alwar. No famine relief measures have yet been found necessary with the exception of some gratuitous relief in Marwar and Bharatpur. Ordinary public works have however been specially opened in a few places; and generally labour is reported to be scarce.

Central India.—Rain nil. Irrigation and weeding of spring crops continue in Gwalior, Bhopal, Malwa and Bhopawar. Harvesting has commenced in Malwa and parts of Bhopal and Bhopawar. Prospects of spring crops are fair to good. Slight damage by frost is reported in parts of Malwa and Rewa; and by rats in parts of Dhar. Agricultural stock is fair to good except in parts of Gwalior, Indore, Bhopal, and Bhopawar. Fodder and water are beginning to be scarce in parts of Gwalior; they are indifferent in Bhopal; insufficient in parts of Indore; and sufficient elsewhere. Prices have risen in parts of Malwa; but continue high elsewhere. Weeding and watering of opium continued in Gwalior, Indore and Bhopawar. There were 9,174 persons on test and relief works in Datia, Samthar, Ajaiagarh, Baoni and Sarila during the week ending the 15th February. The number on gratuitous relief was 2,780; total 11,954. For the week ending 22nd February the numbers are :—Rewa on works 86,250; on gratuitous relief 11,145; total 97,395. In Nagod on works 3,955; on gratuitous relief 805; total 4,760. In Jaso on works 918; on gratuitous relief 28; total 946. In Maihar on works 2,041; on gratuitous relief 182; total 2,223. In Baraunda on works 1,264; on gratuitous relief nil; total 1,264. In Sohawal on works 6,808; on gratuitous relief 506; total 7,314. In Kothi on works 1,032; on gratuitous relief nil. In Pasara on works 242; on gratuitous relief nil. In Bhaionda on works 1,926; on gratuitous relief nil. In Datia, Samthar, Ajaiagarh, Baoni and Sarila on works 9,331; on gratuitous relief 3,209; total 12,540. In Charkhari and Chhattarpur on works 890; on gratuitous relief 232; total 1,152. Famine conditions prevail in Datia, Samthar, Baoni, Charkhari, Jigni and Beri, but the remainder of the Bundelkhand Agency is as yet free from distress and there is no lack of water or fodder while no immigration or emigration is reported. There is no change in general conditions of other Agencies.

Central Provinces.—No rain fell during the week. The days are becoming hot. Cutting of wheat has not yet begun in the northern and Nerbudda Valley districts, but otherwise the spring harvest is almost in full swing and is somewhat earlier than

usual. Prospects are fair or good but linseed will give a very poor outturn in Nagpur. Preparation of land for next autumn sowings continues. Fodder is inadequate in Narsingpur, Betul, Hoshangabad and Yeotmal; and dear in the Vindhyan districts. Some deterioration in the condition of cattle is reported from Betul. Water is sufficient except in parts of Hoshangabad and Chanda. Prices of staple food-grains remained stationary in eight districts. There was a small but almost general fall in the price of wheat in the Jubbulpore and Nerbudda divisions, and this grain became cheaper by a seer in Narsingpur and Hoshangabad. Prices of the main staple grain of the district rose slightly in Nimar, Amraoti, Raipur and Bilaspur; but on the whole the tendency of prices is downwards.

Feudatory States.—The week was rainless. Spring crops are in excellent condition in Chhuikhadan; and generally good elsewhere. Harvesting of pulses continued. Preparation of land for ensuing crops and construction of field embankments have been started. Fodder and water are adequate. Wheat and rice in Sarangarh became dearer by one seer; rice became cheaper in Kawardha by $\frac{1}{2}$ seer and dearer in Sarangarh by one seer; otherwise there were no noteworthy changes in prices.

The weekly report on the famine and scarcity is as follows :—Except in Damoh where distress is still increasing in intensity the situation remains unchanged. The people resorting freely to relief works in Damoh but are coming on very slowly in other districts. Village relief on a small scale has been started in the Obhindwara district. Relief is being given in seven districts. Relief measures is sufficient. Prospects of standing crops are fair. The condition of the people is fair. Fodder and water are ample but the former is dear in Saugor. Prices show a slight fall in Jubbulpore, Saugor and Mandla; elsewhere prices are stationary. Wandering is insignificant. The public health is good. The numbers on relief are :—On village works 2,885, weavers on relief 7,704; total 12,581.

Bombay.—Standing spring crops are withering for want of moisture in parts of Thar and Parkar, Ahmedabad, the Panch Mahals, East Khandesh, Nasik, Poona and Savantvadi; elsewhere they are in good condition except for slight damage by frost in parts of Karachi and Hyderabad. Harvesting of spring crops continues in parts of Karachi, Hyderabad, Gujarat, Colaba, Kanara, the Deccan, the Karnatak, Kolhapur, Kathiawar, Baroda, Palanpur and Cutch. Cotton picking is progressing in parts of Gujarat, West Khandesh, the Karnatak, Baroda, Kathiawar, Cutch and Rewa Kantha. The supply of fodder is adequate except in parts of Hyderabad, Ahmedabad, Kaira, Sholapur and Baroda. Agricultural stock is generally in good condition and sufficient, except in parts of Ahmednagar, Poona, Sholapur and Cutch. The supply of drinking water is sufficient except in parts of Sholapur. Water for irrigation is insufficient in parts of Surat, the Deccan, Baroda and Kathiawar. The quantity of

food grains purchasable per rupee is in Sind 37 to 47 per cent.; in Gujarat 30 to 68 per cent.; in the Konkan 22 to 33 per cent.; in the Deccan 30 to 45 per cent.; and in the Karnatak 33 to 57 per cent. less than the normal. Stocks of grain are generally adequate. The demand for labour is sufficient and wages are normal. Emigration from Bijapur continues. The cultivating and labouring classes are in fair condition. Six test works are in progress in the Panch Mahals with 1,314 persons on relief on the last day of the week ending the 15th February, and 45 persons were relieved on forest works in West Khandesh during the week ending the 18th February.

Hyderabad.—No rain fell during the week. Standing crops are in fairly good condition. The spring harvest is in progress; the estimated yield is from 8 to 16 annas. Late rice weedings continue. Lands are under preparation for the next monsoon. There is water scarcity in 15 talukas and fodder scarcity in 25. Prices:—wheat $5\frac{1}{2}$; coarse rice $6\frac{1}{4}$ and *juar* 12 seers per rupee. Yellow *juar* is selling in Hyderabad City at $12\frac{1}{2}$ seers per rupee while the highest price in districts is 9 seers in five talukas.

Mysore.—Prices of food grains are generally steady. Sowing and planting operations are in progress. Prospects of the season are good. Cattle are healthy. Water is available except in parts of Bangalore where it is insufficient. Fodder is available in all districts.

Coorg.—Rainfall ten cents. Picking of coffee is completed and threshing of rice continues. Prices of food grains are normal. The public health is fair. Water and fodder for cattle are sufficient. Harvest prospects are good.

Madras.—No rain fell during the week. Irrigation supplies are low in parts of all districts except Guntur, Cuddapah, Chingleput, Coimbatore, Tanjore, Tinnevely, Malabar, South Canara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress in parts. Standing crops are generally fair but some in parts of Bellary, North Arcot, Salem, Tanjore and Madura are withering. Harvests continue with outturn poor to normal. Pasture is sufficient except in parts of the Circars, the Deccan, North Arcot, Salem and Tanjore. Fodder is scanty in parts of the Circars, and Nellore. The condition of cattle is generally good. The price of rice is stationary in eleven districts; has fallen in four and has risen in eight. The prices of millets have fluctuated as follows:—*Ragi* is stationary in nine districts; has fallen in eight; and has risen in four. *Ohlam* is stationary in two districts; has fallen in five; and has risen in seven. *Cumbu* is stationary in five districts; has fallen in three; and has risen in seven. The public health is generally good. Prospects are fair generally. The condition of the labouring classes is good and employment procurable. Prices are high, but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, March 3rd.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 2nd instant:—

There has been slight rainfall in all districts, except Faridpur, Noakhali, Rajshahi, Pabna, Kamrup, Darrang and Manipur.

The prospects of the standing crops are generally fair.

The preparation of land for early rice and jute and the pruning, hoeing and manuring of tea are in progress.

The pressing of sugarcane and the gathering of mustard are finished in places.

The sowing of potatoes is going on in the Khasia and Jaintia Hills.

Cattle disease is reported from seven districts.

The prices of common rice have fallen in eight districts.

No scarcity is apprehended at present.

Reports from six districts have not been received.

THE FAMINE.

Viceroy's Report.

THE following is a copy of a telegram, dated 2nd instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Except for slight rain in Burma, Assam and Coorg, the week was rainless.

The numbers on relief in the United Provinces have again increased largely and are now: works, 826,373; gratuitous relief, 280,275. In addition 16,343 persons are being relieved in the Balrampur Estates. Public relief works are now in operation in 17 districts and test-works in 10 districts. Gratuitous relief is being given in 39 districts. The condition of the people on relief continues fair. The prospects of the spring harvest are still fair, but the area sown is estimated to be about 25 per cent. below normal.

In the Punjab 1,334 persons are employed on test works.

In Central India the distressed area is extending and relief measures are now in operation in seven States of the Bundelkhand Agency and in nine States of the Baghelkhand Agency. There is a large increase in the numbers on relief, which are now: works, 114,657; gratuitous relief, 16,137.

In Rajputana ordinary public works have been specially opened to meet the increasing demand for labour, but no regular famine relief measures have been yet found necessary, beyond the distribution of some gratuitous relief in Marwar and Bharatpur.

In Bengal, there has been only a slight increase in the numbers on relief. Test works in six districts are attended by 3,219 persons, and 16,540 persons are in receipt of gratuitous relief.

In the Central Provinces distress is increasing in Damoh, where people are resorting more freely to village works. The relief measures, which are now in operation in seven districts, are sufficient; and the general condition of the people continues fair. Some 2,885 persons are employed on village works, and special relief is being given to 1,992 weavers and gratuitous relief to 7,704 persons.

In the Panch Mahals district of Bombay, the numbers employed on test works have fallen to 1,314. Forest works have been opened in West Khandesh district, but are attended by only 45 persons.

The total number of persons in receipt of State relief in the whole of India now exceeds a million and a quarter.

Prices have fallen slightly again in several provinces.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The Board of Trade Journal, published on the 13th February, in the section relating to Tariff Changes and Customs Regulations gives particulars about:—

SOUTH AFRICA.—Customs Decisions.

BERMUDA.—Revised Customs Tariff.

GERMANY.—Alterations of the Official Index governing the Tariff Classification of Imported Goods.

NETHERLANDS.—Duty on imported Fruit-Pulp.

FRANCE.—Customs Decisions.

TURKEY.—Importation of Plants through the Salonica Customs House.

MOROCCO.—Enforcement of Special Tax on Imported Goods.

UNITED STATES OF AMERICA.—Inadmissibility of Importers' Evidence on Appeal to Circuit Court. Abandonment. Containers or Coverings—How Durable. Customs Decisions.

PHILIPPINE ISLANDS.—Act regulating the Importation of and Trade in Firearms. Remission of Duties on Importations of the Value of less than One Dollar. Establishment of Manufacturing Bonded Warehouses.

JAPAN.—Customs Treatment of Paragon Ribs.

—Spanish olive oil exports show a remarkable decline according to the just published figures for the first nine months of the last three years. The weight was only 8,624,866 kilos., as compared with over 16,000,000 kilos. in the corresponding period of 1906, and nearly 30,000,000 kilos. in the first three quarters of 1905. The value has similarly fallen off to 8,625,000 pesetas (25 to the £); the price per kilo. has remained practically unchanged.

JUTE SEED FARMS IN 1907.

Bengal Experiments.

The following note, which is published in the *Quarterly Journal* of the Department of Agriculture, Bengal, shows what the Bengal Provincial Agricultural Association has done in 1907 to improve the stock of jute seed in this Province:—

"As will be remembered, this work was started in 1905 with the object of obtaining a more reliable supply of seed than that obtainable from cultivators, whose method is to retain the weakest and most stunted plants in the field for this purpose. In 1905, $12\frac{1}{2}$ acres were devoted to this object at four centres, viz., Gouripur (Mymensingh), Rangpur, Jalpaiguri and Rajbari (Faridpur), under the charge of one Jute Overseer, with the result that $27\frac{1}{4}$ maunds of good seed were obtained. In 1906, $99\frac{1}{2}$ acres were taken over for the same object, viz., 30 acres at Purnea, 23 acres at Berhampur, 28 acres at Krishnagar and $18\frac{1}{2}$ acres at Chinsura. An Overseer was put in charge at each farm, but we were dependent on neighbouring cultivators for labour and ploughs. The result of the year's work was that $268\frac{1}{4}$ maunds of jute seed were obtained for distribution, and the demand for this seed was so great that none was left after February 1907.

"In 1907 only 53 acres were taken at two centres, viz., Berhampur and Purnea. An overseer was put in charge at each farm, and he was given an establishment, with the requisite bullocks, to work the area to the best advantage. The results have justified our decision to work the farms independently of local help, for we have obtained 230 maunds of good seed for distribution, i.e., almost the same quantity of seed as last year from half the area we rented in 1906. Orders will be booked as they come in for this amount at Rs. 15 per maund, or annas 6 per seer. At Purnea, this year (1907) we rented 30 acres, and 21.7 acres were put under the following varieties: Deswal of Seraiganj (11 acres), Kanya Bombai of Seraiganj (7.9 acres) and Hewti of Jalpaiguri (2.8 acres), and the following outturn of seed has been obtained, viz., Deswal, 43 maunds, Kanya Bombai, $38\frac{1}{4}$ maunds and Hewti, $26\frac{1}{4}$ maunds. A first-rate sample of seed has been obtained. At Berhampur 23 acres were sown with Hewti (Rangpur), Deswal (Seraiganj) and Stanala (Faridpur), with the result that the following amounts of seed have been obtained, viz., Hewti, 58 maunds; Deswal, 36 maunds and Stanala, $31\frac{1}{2}$ maunds. The sample of seed is first-rate. The idea of the new large Agricultural Stations is that three-fourths of the area will be reserved for the production of good seed for distribution purposes. As Chinsura will not be ready in 1908 for this purpose, and as the other farms are outside the real jute-growing belt, we may keep our two farms for 1908 and give up one of them for 1909. Whether it be decided to do away with these special farms or not, the fact remains that the Bengal Provincial Agricultural Association has endeavoured to meet a real want—a want that

will be there so long as our Agricultural Stations are not in full working order, or so long as Bengal has no *bona fide* 'seedsmen' to supply the cultivator with improved varieties of seed."

MINING IN THE CENTRAL PROVINCES.

Coal, Manganese and Sand Stone.

We learn from the Report on the Administration of the Central Provinces and Berar for the year 1906-07, just published, that owing to the closing down of the Warora colliery in consequence of a serious subsidence, there was a marked decrease in the provincial output of coal during the period under review. The new mine at Ballarpur is still in its infancy, and although the Mohpani mine has taken on a fresh lease of life under new management and the Chandameta colliery also shows an increased output, these factors are not as yet not considered to be powerful enough to make up the leeway lost by the cessation of the output from Warora. The only other mining industries of importance in the Central Province are concerned with manganese and limestone. A sharp rise in prices called forth increased activity in the output of manganese, which was only limited by shortage of rolling-stock and other difficulties or expenses of transport. The total output of the year exceeded 320,000 tons. The output of limestone, on the other hand, fell by nearly a half, mainly owing to the competition of a more readily accessible deposit at Sutna, in the Rewah State. The outturn of coal during the year is said to be probably the lowest, and of manganese the highest, that will be seen for some time to come, as, on the one hand, existing collieries are now being actively developed, and, on the other, the inflated prices of manganese have subsequently to the close of the year experienced a sharp fall, owing chiefly to renewed activity in the Caucasus.

New Factories.

Nine new factories were opened during the year, seven of them being cotton gins and presses, which, as usual, constitute over 90 per cent. of the factories existing in the Province. The health of the operatives and the general sanitary conditions of the factories appear to be satisfactory. Accidents increased in number, but were in all cases due to the carelessness of the workers, and were not unduly numerous in view of the notorious ignorance and thoughtlessness of the average factory hand. The wages of unskilled labour averaged slightly higher than in the previous year, while those of skilled labour continued to rise almost everywhere. As usual, the local supply of skilled labour was hopelessly inadequate. Although the better conditions prevailing in Northern India led to a considerable decrease in the export of food-grains the prices of agricultural produce, with the exception of cotton, which remained steady, continued to rise.

The total volume of trade decreased by five million maunds in weight and by three and-a-half crores

in value. Part of the decrease is due to the exclusion of Sambalpur for the first time from the returns, but there was also a real slackening of the export trade, consequent on rather less favourable crops. This was more especially the case with cotton, the exports of which declined in value by two and a quarter crores. There was a heavy export of manganese. Imports increased slightly. The most noticeable rise was in coal and coke, and was due to industrial activity on the one hand and to the closing of the Warora colliery on the other. The total imports amounted roughly to seventeen million maunds, valued at nine and three-quarter crores of rupees, and the total exports to thirty and a third million maunds, valued at sixteen and a third crores of rupees.

TRADE OF THE UNITED PROVINCES. A Year's Record.

THERE are several items of commercial interest dealt with in the Report on the Administration of the United Provinces of Agra and Oudh for the official year 1906-07, a copy of which has just reached us. For instance, we note that the manufacture of turpentine and resin in Naini Tal was most successful; the profits rose from Rs. 13,000 to Rs. 34,000, and the market is said to be assured, while at the same time it is found that the tapping of trees does not damage the timber.

A fresh impetus has been given to the technical study of agriculture by the conversion of the school at Cawnpore into a fully equipped agricultural college. The new institution is now definitely established and has made a good start. During the year 1906-07 the accommodation was being altered and enlarged, new permanent buildings were under construction, and the Principal, Agricultural Chemist and Economic Botanist, joined their appointments, and made good progress in organizing both the teaching and the experimental sides of the college. Opportunities will now be offered to natives of India to become trained land-agents and scientific gardeners. Two special officers also made tours of inquiry in connection with the promotion of industries and of technical education. Roadside avenues were extended during the year, and roads were being classified with a view to future planting. The public were supplied with agricultural implements, many of them being of improved design, and the affiliated farms, or depôts, four of which were at work and two more are to be added, distributed increased quantities of seed mostly on credit.

A Valuable Seed Wheat.

Though financially hampered by the inferiority of the wheat harvest, these depôts were able to meet the large demand for Muzaffarnagar wheat seed, the superiority of which is proved, not only by its popularity, but also by experiment. The introduction of improved varieties of seed, as well as of better methods of agriculture and manufacture, is one of the chief objects of the Agricultural Depart-

ment, and the results of experiments in sugar, wheat and acclimatized cotton were again made known to the public by publications and demonstrations, including a demonstration of sugar making at the Calcutta Exhibition.

In a country where whole harvests may depend upon artificial irrigation, the scientific study of well-sinking is of high importance; and this has been recognised not only by the recent well survey, the tabulated results of which will now inform the local authorities of the real needs and possibilities of water supply, but also by providing over half the districts of the province with at least one expert well-borer each. Special details have been investigated in the dry tracts of Bundelkhand and technical experiments are being made in Cawnpore and Jhansi. As the well-boring staff becomes more efficient, land-holders should soon realize that a well scientifically sunk in a properly chosen place is a most profitable form of insurance.

In connection with the increase in the cultivation of cotton and sugar, it is interesting to notice that the corresponding industries are also expanding. A new cotton mill was opened during the year, and the number of gins and presses now exceeds 100, giving employment to over 13,000 hands. Some new sugar factories and refineries are also being started, but the indigo industry continues to decline. The promotion of manufactures is beginning to attract the interest of the public, and should be stimulated by the methodical official inquiry and conference which were held during the year.

Rail-borne Trade.

About 130 miles were added to the railway system of the province, and there was considerable expansion in rail-borne traffic. The general excellence of the harvests, while discouraging the movement of grain within the province, stimulated the exports of oilseeds, of grain, and especially of cotton. That over 25 lakhs of maunds of raw cotton should have left the province, mostly for Bombay and Calcutta, is particularly remarkable if read with the fact that despite the *swadeshi* movement, there was a large increase in the imports of European cotton piece-goods. Export business in raw hides, opium and Indian hemp was also brisk, the last named being in great demand in Bengal as a substitute for jute. The local sugar industry was hampered by the inferiority of the harvest, which, while it invited increased imports of unrefined sugar from outside, left less margin for consignments to other provinces. The continually expanding import of kerosine oil, which has more than doubled in three years, is an interesting indication of the rising standard of comfort of the people.

The trade with Tibet, though hampered by many difficulties, continued to expand, chiefly owing to the increased demand for grain in that country. Imports, however, were stationary, except for a brisker trade in wool and borax. The receipts of grain from Nepal were much restricted by the damage done by floods to the autumn harvest.

IRON AND STEEL WORKS IN EASTERN BENGAL AND ASSAM.

THE *Journal* of the Royal Society of Arts consider that a good deal of interest attaches to a monograph on this subject issued from the office of the Press Superintendent at Shillong. Smelting, though formerly general in the hills of the central range and its vicinity in Assam, was apparently unknown in the plains of Eastern Bengal and the Surma Valley. Now it only survives in the district of the Khasi and Jaintia Hills and in the Manipur State, and in those places only to a very limited extent, though it is not improbable that it may also still linger in the northern and eastern hills, of which we know little. Forging of implements for purely local requirements is more or less common over the province, though there seems to be little external interchange of ironwork, the smithy generally supplying a particular village or group of villages.

In the North Cachar hills ore is no longer extracted, though it was 50 years ago, while in Upper Assam smelting was an important industry about the same time. In the plains, too, the massive guns and other implements of war and agriculture found in plenty in most centres of population, are evidence of an industry once far more widespread than now.

In Manipur, iron is the only metal yet ascertained to exist, and it is not long since an iron-headed spear thrust vertically into the ground used to be the regular way of locating iron beds by observing the particles adhering to the blade, after the rains had washed the soil away. The present mode is by using a long bamboo skewer. The ore is extracted from pits which seldom exceed 9 feet in depth, and after being washed, a special piece of ground is smoothened, alternative layers of ore and straw are laid, superimposed on one another, and the whole set alight. From the ashes the ore can be picked out without trouble and then pounded. In the Khasi hills, this preliminary burning, probably owing to the greater richness of the ore, is not resorted to.

After that the furnace work begins. The furnace consists of a hollow cylinder of clay, 2½ feet in height and 18 inches in diameter. Two smaller wooden cylinder-bellows connect with this furnace by means of pipes, and the lips of the bellows are fastened to the springy branch of a tree and worked by the foot, or rather feet, of the blower. At the bottom of the furnace a layer of live charcoal is laid and fanned to a great heat, and more charcoal and ore added, but no flax. About 230 lbs. of charcoal are required to turn out 25 lbs. of rough iron. In the Khasi hills much the same system is pursued, but not with sufficient variety to call for detailed notice.

Unlike the working out and smelting of the raw material, forging is spread over practically the whole province, the material used being chiefly imported pig-iron and iron and steel bars brought by the local traders from Calcutta. To a less extent and mainly in the more remote districts broken instru-

ments and scrap-iron in any form are bought up to be remade, and where iron is worked the out-turn helps to swell the product. Charcoal is most generally used as fuel, but where available coal and coke are preferred. The number of forges in the plains is estimated at about 5,350, but in the hills an estimate is not possible owing to lack of data.

CARAVONICA COTTON IN INDIA.

The Cuddapah Plantation.

In a report on the cotton plantation at Cuddapah, recently submitted to the Government of Madras, Mr. R. C. Wood, Deputy Director of Agriculture, Northern Division, Bellary, makes the following remarks, which may prove of interest to those who may be carrying on cotton experiments in other parts of India:—

Caravonica cotton has been sown at varying times from June, 1906, onwards in some cases drilled along with ordinary field crops, in others dibbled out by itself, in rows. The seed had been carelessly sown and germination being very poor, the plantation presented a thin and sparse appearance, the land in many cases bearing only 50 per cent. of the trees originally arranged for. The seed, I was informed, was of poor quality; it had been bought by the Syndicate in Bombay direct from Dr. Thomatis, the originator of the three varieties of caravonica cotton. I was told that though "silk cotton" was stipulated for, a mixture of inferior seed was supplied; certainly at the time of my inspection all three varieties "silk," "wool" and "kidney" were to be found. The plants produced are—as would be expected from a hybrid—of many and varied types both in growth, habit and quality.

The bad start the plantation thus received has not been made up subsequently. Sufficient care has not been employed in cultivation and the plants are in many places unhealthy and sickly and show signs of dying back. This is probably due partially to bad seed and partially to starvation. The contrast shown by a portion which had received manure was very marked, the plants were much bushier and gave evidence of a much greater boll-development. The manure applied was a mixture of fish guano (fish refuse) two parts, kainit one part, and wood ashes seven parts.

At the time of my visit, the plants were getting their last irrigation for the season after which they receive one hoeing and are then left to produce bolls in the dry season. The land is laid out into beds as the manager considers it a little irregular for furrow irrigation. The most serious danger, however, which the plantation has to face is the damage caused by insect attack. The causes for the particular vulnerability of this plant are, first that it is a perennial cotton, and this affords food and shelter to the various pests throughout the year, and, secondly, that, being an exotic and naturally

less hardy than the local cottons, it is more affected when attacked. The Imperial Entomologist has made certain recommendations which are quite sound, and consist mainly in endeavouring to restrict the fruiting period. He is also trying the effect of the artificial introduction of the boll-worm parasite. Mention may be made of a small nursery of Egyptian cotton plants grown by the manager. The seed was obtained from Calcutta and showed on planting out about 10 per cent. germination. Acting on the advice of the vendor, the seed was sown after the rains in December. From my experience at Hagari, I should recommend a trial sowing in June or July.

In conclusion, the plantation cannot be said to be in a flourishing condition. I do not think that without very much more intensive cultivation success can ever be hoped for, and it is not certain that caravonica is a good enough plant either in constitution or quality or is sufficiently suited to the soil and climate to give an adequate return for such expenditure. Much of the unsatisfactory position of the plantation at present is due to its bad start and this may be put down to the seed which should, in the first instance, have been tested and examined. It would, moreover, have been better to have filled up the blanks in the earlier sown blocks than to have continued planting out with such inferior seed. Irrigation should certainly be by furrow: the land could be easily laid out for this; much more frequent hoeing is needed, which could be done by bullock power if the lines were straighter and arranged to run both ways. Manuring is necessary but it may be pointed out that the addition of Kainit to wood ashes is unnecessary and wasteful. Finally every effort should be taken to carry out the recommendations of the Imperial Entomologist in combating the insect pests which at present do so much harm. Without them the plantation has a fair prospect of returning a profit; with them it certainly has not.

—From information received from a well-informed source at Haifa, it appears that, in consequence of the opening of the Haifa-Damascus section of the Hedjaz Railway, the town has become a prosperous place. About 3,000 soldiers are in garrison there, all employed on the railway works in the interior. Up to £1100,000 of receipts are cashed annually by the railway, most of which are from the Haifa-Haurah-Damascus section. Seventeen tracks are now laid at the Haifa station yard, and numerous buildings have been erected, including a fire station, at a cost of £12,600. There are regular trains three times a week from Haifa to Damascus and Maan (Petra), beyond which point only Mohamedans are allowed to travel. The European engineers can proceed as far as Meyadin Salih or el Ola in the Hedjaz; from there (940 kilom. from Damascus) the line to Medina and Mecca is being built exclusively by Mohamedans.

THE SUNFLOWER IN INDIA.

A Costly Crop.

DURING the past ten years, Mr. D. Hooper tells us in *Agricultural Ledger*, No. 100, recently published, numerous enquiries have been addressed to the Reporter on Economic Products during the past ten years in regard to the growth of sunflowers for economical purposes, the properties of the seed, and the manufacture of the oil. The enquirers were usually planters who desired information on the methods of cultivation and outturn in India, while the others were merchants desirous of finding a market for the seed and oil. The present *Agricultural Ledger* reviews the experiments in the growth of the sunflower in this country, and gives the commercial importance and uses of the products of this plant in other lands. If it does not stimulate the industry, says Mr. Hooper, it will at any rate serve as a guide to those who contemplate undertaking further experiments in the cultivation. We take the following extracts from Mr. Hooper's essay:—

The sunflower is a native of Mexico, known as *tournesol* in France, *podsolnetchnik* in Russia, and *suriya phul* in India. The industry first began to assume importance in Russia in 1830, and since that time has steadily increased. In that country it is most extensively grown in Kielce and Podolia, and the district of Birutch in Voronezh. In Italy its cultivation is confined to the neighbourhood of Pieve and Conegliano in Venetia. It has also been introduced into Hungary, Germany, and France. The production of seed in Europe a few years ago estimated at 228,000,000 pounds from an area of 216,000 acres or 1,325 pounds to the acre. In Tartary and China it is said to be cultivated in immense quantities, but no statistics are available.

The seed is the most useful portion of the plant, and this is commonly eaten raw or cooked or used for the extraction of oil. The oil-cake left after expression forms a valuable cattle food and a condition powder for horses. The leaves and the stalk have distinct food values, and when reduced to a sufficient state of fineness possess nutritive properties of a high order.

The sunflower stem has rather strong bast fibres, and the plant has often been suggested as a source of cellulose for paper mills. The amount of cellulose even in Indian-grown plants is comparatively high. The fibre is too weak and brittle, however, to be of value for cordage or textile purposes, and perhaps its highest value is obtained in its use for fuel, the ash being rich in potash.

Cultivation.

The method of cultivating sunflowers for commercial purposes is best described by Dr. H. W. Wiley from the results of their growth in the United States. "As a rule the soils which are best suited for the growth of Indian corn (maize) produce the best crop of sunflowers. If the soil is not naturally fertile,

liberal fertilisation must be practised in order to secure large crops. The character of the fertilisation depends upon the nature of the soil and the deficiencies of plant foods therein. The kind of fertilisation necessary to produce a good crop of maize will be found suitable for the sunflower. The soil should be prepared by careful ploughing, and the surface of the ploughed soil should be reduced to good tilth by the use of the harrow. Sunflowers are best planted by a drill in rows from 3 to 3½ feet apart. In order to secure a good stand the seeds may be placed by the drill 2 or 3 inches apart; but should they all grow, at least half of them should be cut out when the plants are thinned. The seeds should be planted deep enough to secure abundant moisture to germinate them; from 2 to 3 inches in depth when the soil is not too heavy will be found the best. With heavy, stiff soils, which are likely to become very hard on the surface after heavy rains, it is better not to plant the seeds so deep. The seeds should be planted as early as possible in the spring, as they endure very well a slight degree of cold. After the plants are well formed they should be thinned so as to stand at a distance of from 12 to 18 inches in the row. The cultivation should be of the ordinary kind, mostly superficial, and sufficient to prevent the weeds from growing and preserve the moisture during periods of drought. When the production of seed is sought, the best results are secured by limiting the number of seed heads on each plant to a very few. The superfluous heads when formed should be removed. No special directions need be given for the cultivation, since it is so much like maize as to be practically the same."

In Russia the seed is drilled into lines 18 inches apart, and the plants are thinned out to 30 inches apart in the rows, thus giving about 11,000 plants to the acre. The quantity of seed required for an acre is five pounds.

Experimental culture in France gave a return of 1,778 pounds of seeds yielding 15 per cent. of oil and 80 per cent. of cake from an acre; but the product varies considerably according to soil, climate and cultivation, and the average may be roundly stated at 50 bushels or 1,150 pounds of seed from an acre and one gallon of oil from one bushel of seed. In America the yield of seeds is from 800 to 1,500 pounds per acre.

The sunflower in its cultural requirements and its products is related to another oil seed plant, grown also for its dye, in this country, namely, the safflower *Carthamus tinctorius*. A European writer has recommended safflower as a suitable plant to replace sunflower in Russia where the latter is subjected to insect ravages. Safflower survives in arid lands, shows a relative insensibility to frost, and is immune to insects and other parasites which decimate sunflowers. On the other hand safflower furnishes an oil-cake inferior to sunflower in consistence and taste. At the same time these undesirable matters residing, as they do in the husk may be removed by decortication before the grains are pressed. The leaves of

the safflower plant are extremely prickly, which make them difficult to handle, but it is possible to obtain by selection a variety which has no spines. The heads should be harvested before the seeds are quite ripe to avoid shattering and loss. After drying, the seeds can be thrashed out or beaten with a flail, or, where large quantities are grown, the heads may be placed in a machine consisting of a rotating disc studded with iron nails. The seeds should be stored in bags in a dry place to prevent mould.

The Seeds.

There are three principal varieties now cultivated in Russia, known by the shape and size of the fruits (achenes), conventionally called seeds, one with large white seeds which are said to yield the largest amount of oil; one with small black seeds which are sweeter and regarded as best for eating; and an intermediate form with striped seeds, used both for eating and the production of oil.

From experiments made in America it was found that the total weight of the seed is about equally divided between kernel and shell, a series of weighings giving from 41 to 60 parts of kernel in 100 of the seed. Inasmuch as the shell is rather an absorbent material it is important, in the expression of the oil, that it should be removed so as to avoid the absorption which otherwise would take place; 100 seeds of the striped Russian variety weighed 6.99 grams, 100 seeds of the ordinary black variety weighed 10.60 grams.

In Indian-grown plants, 100 seeds from Coimbatore weighed 6.57 grams and 100 seeds from Behar weighed 10 grams. Dr. Voelcker found the Kashmir seed to contain 45 parts of kernel and 55 parts of husk. The writer calculated the percentage of kernel in Behar seeds as 53.16, and in the Coimbatore seeds 44.68. The Indian-grown seeds, therefore, compare favourably with those produced in America and Europe.

Uses of the Seeds.

These are the most valuable part of the plant on account of their edible kernels and the superior quality of the oil prepared from them. In Russia the seeds are used largely for local consumption. They are sold by the farmer at 4 to 6 shillings per pound and are salted by purchasers, who retail them at 12 shillings per pound, at every street corner in the provincial cities. Sometimes they are roasted like coffee beans and are sold in large quantities at fairs, on feast days and holy days, under the name of "Semotchky." In some seasons the streets of St. Petersburg are littered with the empty husks. Sunflower seeds in Russia are, therefore, eaten as food, as are salted peas in Burma, monkey-nuts in India, and chestnuts, in England.

Birds of all kinds thrive upon them, and they are specially employed in feeding caged birds and in fattening fowls for the table, and the diet has been said to increase their laying powers. In America the seeds are at present employed in feeding poultry and to some extent mixed with other fodder as a cattle food.

The oil-cake left after the expression of the oil forms a valuable cattle food, being superior in this respect to maize or linseed cake, while it is also said to act as a natural "conditioning powder" for horses owing to its easy digestibility and its great nutritive property. Sheep, pigs, rabbits and pigeons also fatten rapidly on the oil-cake.

As an instance of the magnitude of the industry, the production of sunflower seed oil-cake in the Northern Caucasus during the year 1906 was estimated to be from 50,000 to 60,000 tons. The price of the oil-cake was about £6.13 per ton in the spring, advancing to £7.10 during the summer months and falling back to £6.13 in the autumn. Denmark and South Sweden are the principal buyers.

The Oil.

Sunflower seed oil in its pure state, on account of its palatability and sweetness, is said to be excellent for table use, for frying fish and other culinary purposes. In Russia it is already in use as an adulterant of, and substitute for, olive or salad oil for all domestic purposes. It may also be used for woollen dressing, lighting, and varnish and soap-making. It has recently been substituted for other fixed oils in the making of margarine.

The oil expressed in 1875 from seeds of plants experimentally cultivated in Bangalore proved a disappointment commercially, for its thinness made it useless for railway trains, it dried too slowly for paints, and, though in the Ordnance Department it was found to serve all requirements, the price was prohibitive.

The prospects of a trade in the seed outside the cultivated lands of Russia are not well established. In 1896 Sir Frederick Abel endeavoured to obtain a reliable opinion on the value of Indian-grown seed from oil-crushers in England, but he found there was no likelihood of the seed competing favourably with other sources either in England or France. One firm of eminence stated that they purchased 100 tons of seed in the London market but they would not touch it again; the results as regards yield for crushing being very unsatisfactory. A sample of the Kashmir seed was also sent to one of the leading seed-crushers in Marseilles, who stated that there would be no sale for the seed in the market as it was too shelly and poor in yield of oil.

As an inducement to planters in Behar a market was said to have been arranged in 1901 to purchase oil at the favourable rate of Rs. 15 (20s. 0d.) per maund (=82½ lbs.) but as we shall notice, the cultivation in that district has never gone beyond an experimental stage.

A writer in the *Journal d'Agriculture Tropicale* for January 1907 records the case of a planter in Mozambique who sold a crop of sunflower seed in England in 1905 for fr. 20.5 (17s.) for 100 kilos (200 lbs.), a price which fully recompensed him. Later experience, however, showed that the market was limited, and that no purchaser could be found for large quantities of the seed.

Experiments in India.

The sunflower (*Helianthus annuus*, Linn.) is known as *Suraj mukhi*, *Suriya mukti* and *Suriya phul*, and grows everywhere in the plains and in the hills and occasionally runs wild. In *Firminger's Manual of Gardening* (fifth edition, 1905) Mr. Cameron says: "This well-known annual thrives well in India; the varieties *grandiflorus-plenissimus* and *californicus* are remarkable, the first for its enormous flowers, the second for its exceedingly double one.

The seeds should be sown in July, both on the hills and on the plains. The plant requires no particular treatment, and no care beyond attaching stakes to the tall growing plants to prevent them being blown down and uprooted.

Dr. Cooke in "Flora of Bombay" says the finest variety of the annual species is the *globosus-fistulosus*.

The first experiment on record made with sunflower oil is recorded in the *Agri-Horticultural Society's Journal*, Volume IX, page 366. Mr. Michael Betts of Berhampore in 1855 obtained from 6 cottahs (480 sq. yds.) of land 9½ seers (19½ lbs.) of seed, which produced 15 chittacks (1.65 pint) of oil and 6 seers (=12½ lbs.) of cake. The latter was greedily eaten by cattle. A report made at the time by Babu Ramgopal Ghose states, "The oil from the sunflower seed is pretty well known. I do not think it can be produced at a cost which will enable it to compete with other oils of a similar character, and Mr. Betts' statement seems to bear this out. A seer and a half (about three pounds) of seed to a cottah (80 sq. yds.) of land is poor produce, and 10 per cent. of oil from the seeds is a still more unsatisfactory result. Unless both the produce of the seed and the percentage of oil can be greatly improved it will not pay to cultivate the sunflower for its oil-seeds."

The experimental cultivation of sunflower was undertaken in Bangalore in 1873 for the purpose of testing its value in the reclamation of marshy land and its efficacy in removing malaria from swampy districts. The experiments proved that the malaria dispelling virtues attributed to the plant did not exist, though the drainage which had to be employed before it would thrive naturally improved the climate of the district. The cultivation of the sunflower was continued up to the end of 1877 with the view of utilising it profitably in the extraction of the oil and other economic products from its seeds and stems. The reports proved that the cost of production of the oil did not permit of profitable cultivation.

An experiment with Russian sunflowers was initiated by Mr. N. G. Mukerji in the Experimental Farm, Sibpur, in 1895. In the report of the Farm for 1896-97 the following account is given of the progress of the experiment; "Russian sunflower has grown on a plot having an area of one-tenth of an acre, first as a rain crop, and a second time in the cold weather. The outturn of the plot was 8½ lbs.

in the rains, and 47½ lbs. in the cold weather. Birds appeared to be a great enemy of the crop, and a labourer had to keep constantly on the watch to prevent them from alighting on the crop and picking off the seed. Out of the 56 pounds of seed obtained 50 lbs. were crushed and gave 4½ lbs. or 9 per cent. of oil. The yield of oil compared with that of the usual kinds of Indian oil-seeds was very low. The oil appears, however, to be clear and agreeable to the taste. The experiment of last year has shown that Russian sunflower can be grown with ease in Bengal. Whether its cultivation will pay is extremely problematical.

In 1904 the Superintendent, Central Jail, Coimbatore, made the following report on the cultivation of sunflower to the Inspector General of Prisons, Madras:—

"Experiments were made during last year with two varieties of sunflower, one the Giant Russian sunflower, and the other the garden or ordinary variety.

The area sown with the Giant Russian seed was 12 acres, while the garden kind was sown in the borders of small gardens and along a water channel 100 feet long, planted 5 inches apart.

The total yield of both varieties as reaped was	lbs. 396
Deduct for husk, light seeds, etc.	273
Balance kernel	123

Oil obtained 38 lbs. or 30.89 per cent.

No special manuring or other care was given to the Russian plants except weeding and watering as requisite, but it was noticed that the plants ran too much into stalk, thus injuring the yield of seed, due no doubt to the richness of soil. For commercial purposes or to raise a paying crop, it seems to me the Russian variety should be sown as a dry crop on moderately good land irrigated, if possible, or left as a rain-fed crop. The best crops of gingelli are obtained from the stunted and almost leafless plants, while those grown luxuriantly have a very large percentage of empty pods.

One Giant sunflower gave	1,644 seeds.
The ordinary garden one	744 "
Picked and selected the yield was—	
For the Giant, good seeds	347 "
Ordinary garden	326 "
And the percentage of good to light seed was—	
For the former	21 "
For the latter	44 "

In Behar a few experiments were conducted in the cultivation of Russian sunflower in 1900. Mr. T. Cox of Puddumkir, in the Champaran District, went into the matter carefully, employing seed imported from Odessa. Fifteen seers (30 lbs. 13 oz.) of seed were sown in 1 bigha (1,600 sq. yds.) of land in October. Twenty per cent. only germinated, which grew well, yielding plants of 5 feet in height and heads 12 inches in diameter. The crop was harvested in March; but on beating out the seeds it was found that nearly the whole of the seed was hollow and worthless.

Another 15 seers (30 lbs. 13 oz.) were put down in March 1901, and an outturn of $3\frac{1}{2}$ maunds (=288 lbs.) of seed was obtained in November from 2 acres of land planted. The plants did not grow so well as in the previous year, and the heads were only about half the size, though the proportion of empty seeds was small. The crop all along had a sickly appearance and many of the young plants were attacked by grasshoppers. Cattle would not eat the leaves and stalk. As a commercial experiment it was considered a failure.

A more recent experiment has been made in Behar by Mr. E. Hamilton Hudson of the Rajpore Indigo Concern. Two years ago some of the best sunflower seed was procured from Messrs. Sutton & Co. and sown in October 1905. The seed was kept from this crop and sown again next year, so that it should be acclimatised. From one-tenth of an acre 72 lbs. of seeds were obtained. The seeds were sound, and the oil expressed from them was of good quality. The cultivation was not costly. The seeds afforded 40 per cent. of husks and 60 per cent. kernels, and from the latter 30 per cent. of oil was expressed. The experiment was not considered a success, as more profitable returns were obtained from mustard and linseed.

Lieutenant J. F. Pogson, an authority on Indian agricultural subjects a generation ago, wrote to the Secretary of the Agri-Horticultural Society of India in 1875: "I notice that attention is being paid to the oil which may be extracted from the seeds of the sunflower. I look upon this as time and money wasted. Oil and oil-seeds always command a good price, if the seed is sufficiently rich in oil, which the sunflower is not." Lieutenant Pogson, however, notices the leaves, stalks, and seed vessels of the sunflower to be available for conversion into manure; these he found to be superior to leaf manure, but inferior to megass.

We are thus led to conclude that sunflower is a costly crop to grow in India. The leaves and stalks are eaten by cattle and they make a fairly good manure. The ashes of the stalks form a potash manure. As a garden plant yielding seeds for feeding home poultry, its preparation can be encouraged, but not as a regular oil-seed crop.

—It is stated that Professor Rossi, bacteriologist in the Royal College of Agriculture at Portici, near Naples, has discovered a new method of degumming ramie. Artificial cultures of microbes are used, and apparently the weakening of the fibre that has resulted from some attempts to discharge the insoluble gum by fermentation has been avoided. The method applies equally to the setting of flax and hemp, and the immersion being shorter than in the usual course a better colour is said to be preserved. The bacilli die when their work is done, and it is claimed that a stronger fibre and one which loses less in scutching results. The single indication given as to cost is that "an enormous amount" of time and labour is saved.

COTTON CULTIVATION IN THE SOUDAN.

THE following memorandum on cotton cultivation in the Soudan, supplied by the Soudan Agency, has been received from H. M. Agent and Consul-General at Cairo:—

Land has to be bought either from the natives, or from the Government. Purchases from the natives are not encouraged as they are prone to dispose of all their land and become destitute. The areas of Government land suitable for cotton cultivation on a small scale are insignificant in size and number. In some special cases the Government arranges "concessions" on a large scale, comprising land over which natives have rights of occasional cultivation, but at present the condition of the labour market hardly warrants any increase in the number of concessionnaires beyond those whose applications have already been received.

Before an application is considered, the applicant must satisfy the Government that he has command of sufficient capital to develop the land. To ensure this, bankers or similar references are required. The amount of capital required varies with the area applied for and the nature of the land, etc. In the case of an application being received from a syndicate, a copy of the Deed of Association is required showing the several interests of the respective parties. The concessionnaire then pays a deposit which becomes forfeitable if he does not take up the concession. The Government grants the concessionnaire permission, to enter on the land, to make the necessary surveys, etc., and before the expiration of this preliminary period, which varies in length from one to two years, the concessionnaire must submit a scheme of development to be approved by the Government. After the approval of the scheme of development, the concessionnaire is granted a lease of the lands at a small rent. During this period, which varies according to the size of the concession, the concessionnaire must bring into cultivation a certain area each year and carry out specified works to the satisfaction of the Government. A graduated tax is levied on the land which is in itself an inducement to bring the land under cultivation as soon as possible. Clauses are inserted in this lease prohibiting the concessionnaire from alienating or assigning his interest in the land without the written consent of the Government.

In the case of the death or bankruptcy of the concessionnaire, the Government reserve the power to cancel the lease and re-enter the property. After the period of leasing has elapsed and the concessionnaire has brought the land under cultivation and fulfilled the obligations of the lease, he is given the option of purchasing the land.

In the case of granting a concession to a company the Government's approval is required to certain details of its formation, such as allotment of founders, shares, the amount allowed for preliminary expenses, etc.

The Government does not provide seed—it must be purchased.

MANUFACTURE OF CALCIUM NITRATE AND CALCIUM CYANAMIDE.

The Wheat Supply Problem.

AN engineering correspondent writes as follows to the *Times* Engineering Supplement of January 22nd:—

In an article upon the "Fixation of Nitrogen," published in the issue of this Supplement for February 21st, 1906, Sir William Ramsay discussed the problem of the supply of combined nitrogen to the soil, and described briefly the two methods which have been devised for tapping the immense reservoir of free nitrogen existing in the atmosphere, and thus rendering it available for the requirements of agriculture.

The importance of the problem is proved by the figures first made public by Sir William Crookes in the presidential address delivered before the British Association at Bristol in 1898, and since republished in a pamphlet upon the food supply of the world. The population of the world and its demand for cereal foods grows unceasingly, and in little over 20 years, or by 1931, it is estimated that all the land in the temperate zone adapted for wheat growing will have been put under cultivation. But at the expiration of another ten years, or in 1941, an additional 330,000,000 bushels of wheat will be required to feed the ever-growing population of the world, and this increased yield can only be obtained from the land by the use of artificial manures containing nitrogen in combined form.

This nitrogen is at present supplied to the soil in three forms:—Farmyard and stable manure, sulphate of ammonia, and nitrate of soda. The first of these is diminishing rather than increasing in amount, owing to the substitution of mechanical for horse traction in the leading European countries. The production of sulphate of ammonia, which is manufactured as a by-product in illuminating and power gas works, is no doubt increasing, and is now estimated to be 400,000 tons per annum. But even the whole annual coal supply of the world, if gasified in Mond producers and treated by the recovery process, could not yield sufficient nitrogen for the yearly needs of agriculture.

As regards nitrate of soda, the most important of these three forms of combined nitrogen, the annual production of this chemical has grown from 250,000 tons in 1850 to 1,540,000 tons in 1903, and the consumption has doubled within the last 13 years. The natural deposits of nitrate of soda occur, however, only in Chile (hence its trade name of Chile saltpetre), and since these deposits only cover a limited area and do not extend to any great depth, it is evident that at no very distant date the supplies of this artificial manure must diminish in amount and ultimately fail. Both the sources from which we now draw our chief supplies of combined nitrogen for the soil—our coal measures and the nitrate grounds of South America—are, in fact, being drawn upon to an ever-increasing extent, and are certain at some future date to be exhausted.

The processes and methods for tapping the enormous reserves of free nitrogen in the air must, therefore, assume greater and greater importance as the years pass on. The manufacture of calcium nitrate by the Birkeland and Eyde process, now being carried on at Notodden in Norway and of calcium cyanamide, or lime nitrogen, as it is to be called, at Paino d'Orta, in Italy, are in reality the beginnings of an industry which is likely to become of enormous magnitude. In the remainder of this article the writer proposes to give some details of the works in Norway and Italy where these manufactures are now being carried on, and also of the important industrial developments which are now in course of realization.

The Birkeland and Eyde Process for Manufacture of Calcium Nitrate.

This process is based upon the production of nitric oxide gas by the union of the oxygen and nitrogen of the air in furnaces of special design, in which an electric arc flame raises the two gases to a temperature of 3,000 deg. C. The cooled gases are then passed through absorption towers, down which water or milk of lime is flowing, and, after evaporation of the liquid obtained from these towers solid nitrate of lime is obtained.

The first plant for carrying out this process with units of industrial size was put into operation at Notodden, in Norway, in May, 1905, the development being under the control of a company named Aktieselskabet Notodden Saltpetrefabrik, with head offices in Christiania. The plant comprised three generating units and furnaces, each of 700-h. p., and when in full work was capable of dealing with 75,000 litres of air per minute. Each furnace produced the equivalent of 250 tons 100 per cent. nitric acid per working year, and this, when converted into nitrate of lime, represented an annual production of 325 tons. The plant, which has been operated at Notodden since May, 1905, has, therefore, a capacity of close on 1,000 tons of nitrate of lime per year.

The success of the original installation has led to the granting of licences to important companies for working this process in Norway and in the other countries of Europe. Of these schemes those planned in Norway are in the most forward stage of their development, French and German capital having been obtained in order to carry out the large extensions of water power and manufacturing plant required. The works at Notodden are to be greatly enlarged, and a plant utilizing 40,000 h.p. and producing 20,000 tons of basic nitrate of lime per year is now in course of erection.

The large increase of water power at this place has been obtained by constructing a dam above the waterfall of Svalgfos, three miles from the nitrate factory, and by leading the water through conduits to the power house, which is situated in a narrow gorge at the foot of the fall. The construction is of concrete throughout, and the conduits are for a distance

of 230 ft. tunnelled through the solid rock. The first unit of this plant was to be in operation by September 1st of the present year. Another large scheme of water-power development, for nitrate of lime and other manufactures, is being carried out at the Rjukanfos, one of the largest water falls in Norway, where 250,000 h. p. is said to be available. The volume of water here is 45 cubic metres per second and a head of 550 metres can be obtained at the power house. Two companies are carrying out these important developments in Norway, one in Norske Kraftaktieselskab, with a capital of 16,000,000 kr., having in hand the power side of the schemes, and the other, the Aktieselskabet de Norske Saltpetreværker, with a capital of 18,000,000 kr. being responsible for the manufacturing side of the undertakings. A recent improvement in the process is the mixture of 40 per cent. ammonium sulphate with the calcium nitrate. This addition reduces the hygroscopic properties of the latter, and increases the percentage of nitrogen in the mixture.

The Frank and Caro process for Manufacture of Calcium Cyanamide.

This process is based upon the absorption of nitrogen by calcium carbide, when this gas, in the pure form, is passed over the carbide heated to a temperature of 1,100 deg. C. in retorts of special form and design. The calcium carbide required as raw material for the cyanamide manufacture is produced in the usual manner by heating lime and coke to a temperature of 2,500 deg. C. in electric furnaces of the resistance type. Further details of the theory and chemistry of the process will be found in the article by Sir William Ramsay already quoted.

The European patent rights of the Frank and Caro process have been purchased by the Societa Generale per la Cianamide of Rome, and the various subsidiary companies promoting the manufacture in Italy, France, Switzerland, Norway, and elsewhere, are working under arrangement with the parent company as regards sharing of profits.

The first large installation of plant for carrying out this process was erected at Piano d'Orta, in Central Italy, and was put into operation in December, 1905. The power for this factory is developed by an independent company, and is obtained by taking water from the river Pescara and leading it to a point above the generating station at Tramonti. A head of 90 ft. equivalent to 8,400-h p., is here made available for the industries of the district. The power for the cyanamide factory is transmitted a distance of 6½ miles at 6,000 volts. An aluminium and chemical works are also dependent upon the same power station.

The Piano d'Orta works contains six furnaces for the manufacture of cyanamide, each furnace containing five retorts for absorption of the nitrogen by the carbide. A retort is capable of working off three charges of 100 kgs. (220 lbs.) of carbide per day of 24 hours, the weight of the charge increasing to 125 kgs. by the nitrogen absorbed. The present

carbide consumption of the Piano d'Orta factory is, therefore, at the rate of about 3,000 tons per annum, and the output of calcium cyanamide is about 3,750 tons per annum. The company controlling the manufacture at Piano d'Orta is named the Societa Italiana per la Fabbricazione di Prodotti Azotati. Extensions of the factory at this place to a capacity of 10,000 tons per annum are already in progress. Another company is also planning the erection of similar works at Fiume and at Sbenico, on the eastern borders of the Adriatic Sea. The additional electric power required will be obtained by carrying out the second portion of the power development scheme on the river Pescara. A fall of 235 ft., equivalent to 22,000-h.p., is available at the new power station, which is being erected at Piano d'Orta.

In France a company named the Société Française des Produits Azotes has been formed, and a works is in course of completion at Notre Dame de Briançon, in Savoy, which will have a capacity of 3,750 tons cyanamide per annum.

A similar company has been formed to control the manufacture in Switzerland, and a factory of the same capacity is being erected at Martigny, on the river Rhone, above Lake Geneva.

As regards this country, the Frank and Caro process is being exploited by the North-Western Cyanamide Company of London, and a large factory is being erected at Odde, upon the Hrdanger Fiord, in Norway. The power at this place is developed by an independent company; the power house being located higher up the fiord—11 kilometres distant from the cyanamide works. The water is brought by means of a tunnel, four kilometres in length, to a point on the cliff above the generating station, and here an effective head of 1,350 ft. is obtained. The present installation of turbines and dynamos is designed for an output of 20,000-h.p., but four times this amount of power is available if required. The power station is to be ready for supplying current to the cyanamide works by March 1st, 1908. The carbide for the cyanamide works is to be obtained from the Alby United Carbide Factories (Limited), a company which has a carbide works at Odde. The cyanamide factory when completed, will have a capacity of 10,000 tons per annum. It is hoped that this works may be in regular operation by April, 1908.

In Germany the Bavarian Government have granted a concession to the Cyanide Gesellschaft of Berlin for utilization of the waters of the River Alz at Trostberg, in South Bavaria, for cyanamide manufacture. A works is now in course of erection at this place. The Siemens-Schuckert Company, as joint owners of the German patents, are financially interested in this development scheme, and it is expected that 15,000-h.p. will ultimately be devoted to the manufacture here.

A second works for cyanamide manufacture is already in operation at Muhlthahl (Bromberg), in

Posen, where 2,500 tons are being produced by the Brandenburgische Carbidewerke under a license from the Italian company. The Gesellschaft für Stickstoffdüngen are also producing cyanamide by a rival process at Westergelen.

As regards America, a company named the American Cyanamide Company is about to erect a plant, which will ultimately have a capacity of 20,000 tons per year, at Muscle Shoals, on the Tennessee River, in Northern Alabama.

These facts prove that the manufacture of the new nitrogenous manure will soon be carried on in all the more important countries on both sides of the Atlantic. If the financial result come up to the promoters' expectations the industry in five years' time will have become one of considerable magnitude.

A modification of the original process of some importance has been suggested by Polzeniusz. This chemist has found that the addition of fluor-spar (CaF_2) to the carbide reduces the temperature required for the absorption process by 400 deg. C., while it also produces a less deliquescent finished material.

As regards costs of manufacture, no very reliable figures are yet available, but the companies promoting the new manufacture are regulating their sale prices by those of the two rival artificial manures—ammonium sulphate and nitrate of soda. Calcium cyanamide is now being sold in Germany 1s. to 1s. 6d. per unit cheaper than nitrate of soda. Whether the manufacture will prove remunerative at this price of about £10 10s. per ton remains to be seen. It is evident that, as the raw material of the cyanamide manufacture (calcium carbide) costs at least £8 per ton to produce under the most favourable conditions, the margin of profit will not be large, and that very efficient management will be required to earn fair dividends on the capital sunk in the new industry.

It must be noted, however, that the processes are new and are doubtless capable of improvement as experience is gained in working them; while, on the other hand, the competition of the two rival artificial manures, for the reasons already given earlier in this article, is likely to diminish as the years pass on.

The new industry is, therefore, likely to be a permanent addition to the list of electro-metallurgical processes. But for the present its success can only be expected in centres of very cheap water-power, as, for instance, in those localities where the e.h.p. year can be generated and transmitted to the cyanamide works at an inclusive cost of £2 or under.

—Spanish salt exports during the first nine months of last year amounted to 331,565,140 kilos., valued at £152,640. The figures show a steady growth.

HEALTH OF BRITISH WORKERS.

Effect of High Factory Temperature.

U. S. A. Consul F. W. Mahin sends to his Government from Nottingham the following report on the investigations of the healthfulness of textile work-rooms in England:—

Lace dressing has been considered a necessarily unhealthy occupation on account of the intense heat required to be maintained in the room. In some cases the temperature exceeds 100° Fahrenheit, and much moisture is evaporated from the wet fabric. The dressing of lace is an intermediate process between weaving and the finishing touches, and includes stretching and attendant operations. It is not possible to vary the established conditions in which this industry is carried on without impairing the quality of the work done.

So much concern was shown for the health of lace dressers that the Nottingham medical officer made an exhaustive investigation, which required him, among other things, to go carefully into the history of individual lace workers. The result is now embodied in a report, prepared at the request of the Government Home Office. To the general surprise, and apparently to that of the medical officer himself, the evidence shows lace dressing to be an exceptionally healthy pursuit. New hands are often temporarily upset at the beginning by the high temperature, but no cases could be found where health had broken down. On the contrary, some ailments—colds, for instance—were found less prevalent among lace dressers than among workers in other branches of the industry. Time-keepers' books showed few absences from illness. No special tendency toward lung diseases could be found, notwithstanding that most of the workers lived in poor and insanitary localities and led irregular lives.

Longevity of Lace Workers.

Many lace dressers now enjoy vigorous old age after doing this work from childhood. The ages of eleven employees in the lace-dressing rooms of one firm were between 37 and 72 years. One had been working at this trade 54 years, one 53, two 52, two 50, one 46, one 34, one 33, one 30 and one 24. The mean of all the ages was 58.1 and of the years continuously at work 43.5. There was nothing exceptional in the conditions of these rooms. This instance is offered as one of many similar cases, only more striking than the others.

Inquiry into the cause of death of lace dressers for ten years ending with 1906 disclosed that the rate from phthisis among the females was 0.5 per 1,000, as compared with 1.4 for the city population as a whole and with 0.881 for all working females aged above 15 in Nottingham. The death rate from phthisis among male lace dressers was higher, but the males being few in number, and, besides, constantly passing in and out of the rooms and working also as porters and carters, they were considered beyond the scope of the inquiry.

As the medical officer remarks, the result of his investigation seems to indicate that average persons of both sexes can work without injury all their lives in a relatively dry and pure air of a temperature as high as 100° Fahrenheit.

CROSS-FERTILIZATION OF SUGARCANES.

In a recently issued pamphlet, entitled "Cane Sugar or Beet," written by Mr. F. I. Scard, F. I. C. (and which, by the way, is mainly devoted to setting forth the points of superiority of cane sugar over beet), the writer gives in a few lines a resumé of the problem which is at present engrossing the attention of cane sugar experts, viz., the advantages of the new system of cross-fertilization of definite varieties of canes over the older system of seedling cane selection. He says:—

"Like all members of the 'grass' family, the sugarcane is capable of propagation from seed, but in those varieties which have been cultivated industrially, it has been the custom to reproduce them from cuttings, each joint having a bud, which in the growing part of the cane is capable, under suitable conditions, of developing into a new cane. In this way the natural methods of reproduction had been lost sight of until quite recently; so much so that it had been generally accepted that the sugarcane could not be propagated from its seed.

"Recent researches have shown, however, that although cultivation leads to a considerable diminution of the fertility of the seed, it is possible to raise canes therefrom, the difficulty increasing with the degree to which the cane has been cultivated, e.g., the Bourbon, which is one of the most cultivated canes grown, being the most difficult to reproduce in this way. This re-discovered power, however, is now being utilized in the direction of the raising of new varieties of cane, which till recently could only be done by careful selection. So marked is the tendency of the sugarcane to hark back to old types from previous haphazard fertilizations, that this process is attended with an infinity of trouble. It is not an uncommon thing among the hundreds of seedlings which may germinate from the sowing of a single 'arrow' for almost as many different features to be shown. The observation of these seedlings through the earlier stages of their life, and the selection of the fittest during the observation of several years in the nursery and educational periods until the best are sent out to the estates for practical trials forms one of the most arduous studies of the tropical chemist and botanist. It is not too much to say that the dozen or thereabouts of new varieties which are being cultivated on estates in the West Indies represent selections from hundreds of thousands of seedlings. Recently, however, efforts have been made to cross-fertilize known varieties, a botanical feat the difficulties of which were looked upon, until lately, as insurmountable, and it is hoped that in this way an enormous amount of labour may be saved and definitely pedigreed canes obtained, although the tendency to atavism mentioned above will always be a source of trouble."

THE ROSELLE.

Its Culture and Uses.

DISCUSSING the Roselle in U. S. A. Farmers' Bulletin No. 307, Mr. P. J. Webster, Special Agent, Bureau of Plant Industry, says:—

Introduced several years ago into California and Florida, the roselle (which is well-known in parts of India) deserves a wider cultivation than it now enjoys and should prove a valuable acquisition to the tropical islands of the United States and to the Canal Zone. The cultivation of the roselle is so simple and its requirements so few that in the Tropics and Sub-tropics it should be an indispensable plant in the garden of every family. This fact, in view of its peculiar adaptability for jelly making, should cause the roselle to become a plant of considerable importance in the United States at no distant date. The roselle is probably the only plant in cultivation in which the part utilized for food is the calyx. Of rather low nutritive value, the thickened calyx possesses excellent qualities for the manufacture of jelly and allied products. Preparations made from it closely resemble in colour and flavour those made from the cranberry. It is rather singular that its season of maturity also coincides with that of the cranberry.

In Queensland, where the culture of the roselle has in recent years assumed considerable proportions, the fruit is utilized largely in the manufacture of jam. In the United States its principal use would probably be as a substitute for cranberries in the household and in the manufacture of jelly.

Cultivation and Fertilization.

The roselle will thrive on any soil that is moderately rich or that is supplied with the necessary plant food in the form of commercial fertilizer. Stable manure should be used sparingly only and should be supplemented by phosphates and fertilizers containing potash, as an excess of ammonia in the soil tends to the development of large plants at the expense of their productiveness. This is particularly true on lowlying land where moisture is abundant, and the high pine lands in Florida are for this reason preferable to the muck and prairie lands. Land that is subjected to inundations and soil insufficiently drained should be avoided. The plant has been found well adapted to the clayey soil of California. Henricksen says that a sandy loam is preferable to other soils.

The roots of the roselle descend to greater depths than those of many other crops, and the land should be ploughed deep and, when the soil is clayey, well pulverized. This plant is very much subject to root-knot nematodes (*Heterodera radicicola*) and should not be planted on land infested with this pest, as that would only result in almost absolute failure.

Make the seed bed in a place sheltered from high winds and work in thoroughly a moderate quantity of stable manure or commercial fertilizer. Sow the seed thinly in drills, 6 inches apart, covering the seed from $\frac{1}{4}$ to $\frac{1}{2}$ inch; then firm the soil and, if dry,

water thoroughly. The seed will germinate in a few days. If the weather is dry, the young plants should be watered as occasion requires. When the plants are 3 to 4 inches high they are ready for transplanting to the field.

The plants should be set out in rows 6 to 10 feet apart and 4 to 8 feet apart in the row, according to the fertility of the land and the supply of moisture. The seedlings are easily transplanted if proper precautions are taken. The work should preferably be performed on a cloudy day or late in the afternoon. Where a few plants are desired for home use only it will be found advantageous to sow a few seeds where the plants are to remain permanently and when the plants are well developed to thin out to one plant to a hill.

Experiments with different fertilizers have been started at the Sub-tropical Laboratory, but have not been carried on for a sufficiently long time to indicate the best form in which the fertilizer should be applied. Meantime a formula of nitrogen, 4 per cent.; potash, 7 per cent.; and phosphoric acid, 6 per cent. has given good results. One-third of the actual ammonia is derived from nitrate of soda and the other two-thirds from dried blood. The sources of potash and phosphoric acid are muriate of potash and acid phosphate, respectively.

The fertilizer should be applied at the rate of from 1,000 to 2,000 pounds to the acre, according to the fertility of the land. On lands rich in ammonia the nitrogenous elements should be greatly reduced. It should be understood that this applies to Florida soils and conditions. The amount, and possibly the formula, would probably have to be modified in other sections. In the sandy and leachy soils of Florida, it will be found advantageous to make several small applications instead of applying the total quantity at the time of planting. No cultivation is necessary, except to stir in the fertilizer and to keep down the weeds while the plants are small. When the ground is well shaded by the plants, cultivation may be discontinued.

Yield.

During 1906 experiments were well under way to ascertain the total yield of the roselle plant, but a hurricane in October inflicted so much damage on the plants in the experimental area that accurate data were unobtainable. Henricksen quotes the yield as four pounds of fruit to each plant, averaging two pounds of calyces, the useful part, and adds, "Plants observed at Pueblo Viejo in sandy loam were estimated to yield double that amount."

Harvesting and Marketing the Calyces.

In less than three weeks from the time of flowering, the calyces are ready for picking. In south Florida the first fruit is gathered about the middle of November.

It has been already pointed out how the yield may be largely increased by picking-going over the field every few days to pick the full-grown calyces, which will force the plant to send out new flower buds.

By these repeated pickings the plants are forced to fruit continuously until late in February, whereas otherwise they would cease to bear in December. Moreover, the calyces are more brittle and more easily broken from the plants while young and tender, and in the manufacture of jelly make a lighter red and a more transparent product than those from the more mature fruit. On poor land it would be of advantage to make a small application of fertilizer to the plants in December.

The fruit is seen at present in local markets only and is sold by the quart. Its excellent qualities for making a sauce so closely imitating in flavour the cranberry as to deceive the very elect are not well known by the public or it would be a formidable rival in the South to that fruit, on which transportation charges are necessarily high owing to the great distance it must be transported. The crisp and juicy appearance of the roselle is diminished by being too long in the hands of the dealer, but this does not indicate deterioration of its useful qualities.

Composition and Uses of the Fruit.

In the roselle it is the large, reddish, fleshy calyces surrounding the seed pod that are used for food. As already stated, a considerable industry has lately been developed in Queensland, where the fruit is made into jam and exported. There is no reason why a similar industry should not grow up in the United States. The usefulness of the roselle as a substitute for cranberry sauce has been emphasized already, and its qualities for making jelly are unexcelled. In the United States it would probably become of greatest importance in the manufacture of jelly.

An analysis of the calyx was made by the food laboratory of the Bureau of Chemistry, which at the same time made an analysis of the cranberry for comparison; the uses of the two fruits being so similar. It will be seen from these analyses that the constituents of the two fruits occur in nearly the same proportions, practically the only difference being that traces of benzoic acid in some form are present in the cranberry, while absent from the roselle.

The calyces may also be separated from the seed pods and dried in the sun or in an evaporator, and are in this form, according to Mr. O. F. Cook, occasionally seen in the markets of the Tropics. The juice of the calyces could probably be boiled to a syrup and used as a flavouring extract at soda fountains, and the fruit might also be used in colouring jellies, jams or similar products as a substitute for coal-tar dyes where a bright red colour is desired.

Use of the Plant for Fibre.

While this paper has been prepared primarily with reference to the utilization of the fruit of the roselle, the plant is, as previously stated, grown in India for its fibre, which is used in the manufacture of cordage and coarser textile products. Considered from this standpoint, the plant without further breeding could be cultivated over a large area in the Southern

States, as the crop would be harvested before it was damaged by early frosts. On account of the vigour of the plant and its easy cultivation it is well worth a trial with this end in view. "For this purpose the crop is cut while in flower, dried, made into bundles, and soaked in water for fifteen or twenty days. It is then possible to wash out a strong silky fibre known in commerce as roselle hemp, considered by some to be the equal of jute. The leaves are sometimes used as a salad and the seeds are supposed to have medicinal properties. They are also fed to cattle and poultry."

Breeding.

The roselle is an annual, and consequently seed must be saved every autumn for planting the next spring. To improve the strain the grower should go over his field repeatedly when the fruit is setting and tag such plants as combine great vigour with large bearing capacity and have calyces large and well formed. To obtain the best results in a comparatively short time, it would be expedient to bag and hand-pollinate the flowers. When the seed pods turn yellow, they should be gathered from time to time and dried, after which they are easily thrashed out. Keep the seed in a dry place secure from moths and rats.

During a long period of cultivation nearly all of our vegetables have become so domesticated that they may be forced to grow and produce at will where frostless conditions prevail; hence we have fresh tomatoes, eggplants, etc., in midwinter in the South. The roselle, not having had this advantage, can at present be cultivated only where frost is unknown, or nearly so, as its growing period is very long and its blooming and fruiting season extends late in the year. Should it, however, be found desirable to grow the plant in temperate climates, there is no reason to doubt that the roselle would adapt itself to shorter summers. Its near relative, Sea Island cotton, is a striking illustration of how a plant may adapt itself to entirely new conditions, and the following quotations from Dr. H. J. Webber are, in this instance, of timely interest:—

According to tradition and the reports of growers, Sea Island cotton when first introduced into this country from the West Indies was a perennial unsuited to the duration of the seasons of the latitude of the Sea Islands off South Carolina and Georgia, where it seldom matured fruit. However, through the selection of seed from early maturing individual plants and through better methods of culture, there has developed an improved race which now seems to be thoroughly adapted to the conditions of growth in the regions referred to. Furthermore, under the continuous and rigorous selection to which the plants have been subjected, the fibre has gradually improved, and now that produced along the coast and on the islands lying off South Carolina and Georgia is considered superior to that grown in any other part of the world. The custom of carefully selecting the seed has grown with the industry, and may be said to be inseparable from it, and it is only by such careful selection that the staple can be kept up to its present superior excellence. Several different strains have been developed, and are maintained by different growers selecting with different ideals in view. This method and similar ones employed by numerous other growers are applicable, with slight variations, to most of our common crops, such as corn, wheat, etc.

About 1,785 seeds of this cotton were brought to Georgia from the Bahamas. Notwithstanding the good care they received and the mild winter, the plants were killed down, but they came up again from the roots and with this start succeeded in ripening a few seeds before the first frost in the fall. The earliest of these seeds were sown in turn and by continuing this process of selection the flowering period became earlier and earlier, until now the plants ripen a large proportion of their seeds before frost, even along the coasts of the Carolinas. Besides striving to obtain earlier maturing sorts, very careful selection has for years been made with a view to increasing the length, fineness, and strength of the staple. The selection is regularly practised by all intelligent growers and to-day it may be regarded as one of the necessary cultural methods. Every year a special patch of cotton is grown from selected seed; the plants in this patch are examined very carefully and the seed of the best individuals retained for planting a similar patch next year, the seeds of the remaining plants being used to plant the general crop. Under such continuous and rigorous selection, the length and fineness of the fibre have gradually increased until it is now recognized as superior to that grown anywhere else in the world and commands the highest price in the market.

With the object in mind of breeding an early ripening variety of the roselle, the breeder might find it expedient to harvest some of the seed before it is fully mature, as it has been shown that plants from green seeds tomatoes for instance have a tendency to mature fruit earlier than plants from ripe seeds.

MINING PROGRESS IN SOUTH AFRICA.

The Gold Industry.

Writing to the *Times* Financial and Commercial Supplement a Johannesburg correspondent says:—

The year 1907 has been a prosperous one for the mineral industry of the Transvaal. Progress has been made in all departments of the great gold industry, the nucleus has been formed of a base metal industry, and but for the fall in the price of diamonds the expansion in production of the Premier Diamond Mine would have been accelerated. The gold production has been marked by steady growth in spite of the serious dislocation of work caused by the substitution of native labour for efficient Chinese coolies and by the strike of white miners, which lasted for three months or more in the middle of the year. Had Chinese labour not been interfered with there can be no doubt that a still better record would have been obtained, while the strike of white miners, though it disorganized underground work at the time, has made it possible to introduce economic reforms which have led to greater efficiency. The mines are now reaping the benefit of the struggle, which should never have been entered upon.

Increased gold production has been brought about by the operation of more stamps, the later additions being of heavier type, and by the installation of the tube mills, which has not only enabled a greater number of tons per stamp to be crushed, but has simultaneously contributed to improved extraction. On some of the more recently equipped mines, the percentage of extraction of the gold contents of the ore treated has been raised to 96-97 per

cent., a standard which it will be difficult to improve upon.

Advance in Gold Production.

During the first month of the year 8,450 stamps and 54 tube mills crushed 1,321,915 tons, producing in value £2,283,741, the value won per ton being 34s. 2d. In October, the latest for which complete data are obtainable at the time of writing, the number of stamps employed had grown to 8,713, supplemented by 60 tube mills. Tons milled in October were 1,407,157, or 85,242 more than in January. A quarter of a ton more per stamp per diem was milled in October than in January. The total value produced in October was £2,351,344, or £67,603 more than in January, though the value per ton extracted was only 32s. 9d., or 1s. 5d. per ton less. Contrasting the costs for these two months shows clearly that considerable strides have been made in economic working, but the limit has certainly not yet been reached. While the working charges for January were 21s. 10½d. per ton, by October they had been reduced to 20s. 4d., which more than compensates for the difference in grade. Indeed, it is the deliberate and avowed policy of the most efficiently controlled mines to endeavour to reduce working costs, whereby lower grade ore may be brought within the payable zone and thus extend the profitable lives of the mines. If the standard which has been attained at the Robinson mine of 15s. per ton for total working costs could be made the average of all the producing mines, many millions of tons of ore which are already developed could be very profitably extracted, the lives of the greater portion of the present producers would be greatly extended, and virgin ground which has never yet been attacked would be available for opening up new mines. These remarks apply not only to the Witwatersrand, but probably with more force to outside districts, such as Klerksdorp, Heidelberg, and Venterskroon, where large bodies of low-grade ore occur over wide areas.

Profits.

It is, however, in the distributable profit derived from the immense gold production in which investors in South African gold shares residing in Great Britain and on the Continent are more interested. And here the advance is more substantial proportionately than in the gold production itself, for while the output has increased by over 12½ per cent. the dividends declared during the year are nearly 17½ per cent. more. In round figures the total dividends for 1907 distributed to shareholders in the gold mining industry will be seven millions sterling, as compared with five and three-quarters for 1906.

Though it would be hardly reasonable to look for a similar advance in distributable profits for 1908, yet it is quite certain that the ratio of 1907 will be maintained, and it is not unduly optimistic to say that it is practically a certainty that they will be improved upon.

FAST PRINTS ON COTTON.

A New Method.

A RECENT German process deals with the improvement of cotton prints as regards fastness to light. The after-treatment of certain direct dyes, such as Benzoazurine, Diamine Brilliant Blue, Diamineral Blue, etc., with copper sulphate has been known for years, as increasing their fastness to light in particular, and to other agencies in general. This process, excellent as it is in piece dyeing, is not, of course, suitable for calico print. After-treatment of goods after printing is only practicable in very rare cases. Naturally, attempts were made to exploit the fastening properties of copper sulphate in calico printing, by adding the metallic salt to the printing colour, under such conditions that no premature formation of a copper-lake should hinder the fixation of the dye. This difficulty is only avoidable in one way, viz., by adding the copper to the printing colour in the form of an alkaline solution. If this is done, the coppered printing colour keeps sufficiently well, and gives results which are in no way inferior as regards fastness to light and washing to those obtained by the after-treatment of the finished dyeing with copper sulphate. The alkaline copper solutions may be either solutions of copper hydrate in ammonia, or of copper hydrate in a mixture of caustic soda, lye, and glycerine. German patent 169,923 protects a process, in which colour lakes prepared from basic dyes are printed on together with a solution of copper sulphate mixed with glucose. As, however, the copper solution so prepared is acid, all dyes belonging to the diamine or benzidine group are precipitated in the printing colour before it can be used, so that steaming cannot fix them upon the fabric.

Process Explained.

The application of the new process may be best explained by means of the following sample recipe of a printing colour; Dissolve 2 lb. of Diamine Pure Blue FF, in a mixture of 52 lb. of water and 11 lb. of glycerine. Then thicken with 120 lb. of tragacanth mucilage (65:1,000) and add 15 lb. of glycerinated solution of cupric hydrate in caustic soda lye. The composition of this solution is explained below. It can be replaced by an ammoniacal solution of the copper hydrate having the same strength. The colour is printed on and fixed by steaming, whereupon nothing more is wanted but rinsing and drying.

The caustic soda cum glycerine copper solution is prepared as follows: Dissolve 5 lb. of copper sulphate in 12 gal. of water, and precipitate completely in the cold with dilute caustic soda, adding as little excess of that re-agent as possible. The pale blue precipitate of copper hydrate is filtered off, washed thoroughly with cold water, and pressed to remove as much as possible of the superfluous moisture. The resulting paste contains about 2 lb. of cupric hydrate. It is stirred up with 20 lb. of glycerine, and then hot caustic soda lye of 40 deg.

B is cautiously stirred in until the hydrate is dissolved avoiding excess of caustic alkali. The amount required will be probably about 3½ lb. of lye of 40 deg. B. The result is a clear dark blue solution which is finally made up with glycerine to 4 gal.

ARTICLES IN DEMAND IN THE SOUDAN.

THE Board of Trade have received a copy of the Soudan Almanac for 1908, compiled in the Intelligence Department, War Office, Cairo, from which the following particulars of articles in demand in the Soudan are taken:—

Place or Tribe.	Article in Demand.
<i>Abyssinians on Boundary—</i>	
General	Tera hats; cheap umbrellas; coloured cloth with glass surface; gun metal watches (up to 10s. each); scissors; needles; black silk stockings; coloured silk for sewing; threads and white cloth.
Wives of Rasas, etc.	Soap; scent; stockings, and other articles of dress.
Gambela	White thread in skeins; black silk thread in packets; terai hats, chief demand on Italian grey, black, and brown; cheap blue enamelled tea-pots; enamelled iron drinking-cups; glass bottles; coffee-cups, China, very thick, very wide, without handles (Soudanese pattern); swords, curved, without handles, and straight, Dervish like, two grooves on centre of each side.
Gallabat*	Black silk stuff; red and white thin threads, rolled on paper and not reels; large and small carafes; red, blue, and green soft leather for shoes; soft felt hats; coffee-pots; yellow jar for washing hands and face, cheapest possible; coffee-cups, cheapest possible; red, green, and yellow silk stuff, one colour; blue velvet, one colour; large silk handkerchiefs, coloured; large pocket knives, containing four or more blades; silk burnouses.
Gallas	Beads; ornaments; coloured threads; Manchester cotton; cloth of all sorts (green especially), and single terai hats.
<i>S. E. Districts, Semmer Provinces—</i>	
Abu Shanina	Scents, salt; dark blue cotton cloth; calico; Manchester cotton; tea; locks; razors; handkerchiefs; candles; threads; coloured waistcoats; matches; antimony; coffee-cups; tea-kettles; shoes; sesame oil; buttons; sugar.
Beni Shangul	Salt; beads white, red and blue.
Bertas	Red cloth.
Kirins	Beads, red and blue.
<i>Upper Nile Province—</i>	
Benk to Kaka	Skins beads.
Nuers on Sobat	White beads (small); spear heads; axes; large amber beads; large opaque white beads; long dark-blue spotted beads; small white ditto; brass wire.

* The demand for these articles is influenced by colour, general appearance, and price.

Place or Tribe.	Article in Demand.
Nuers on Pibor	Small white beads; small dark blue beads (not larger than pin's head); brass wire; coloured fancy cloths; false amber beads—transparent (cherry size.)
Nuers on Bori (East of Mongalla).	Brass wire; bracelets; leads.
Nuers on Bori	Cotton stuff (strong calico—American); iron; needles; cotton; sugar; salt; looking glasses.
Nuers on Bahr El Zeraf	Thick copper bracelets; brass and iron bracelets and spear heads; iron-red Kummer-bands.
Nuers in Ajung	Brass wire; small white beads.
Anuaks	Brass wire and cloth; light blue and opaque beads.
Berri	Brass wire; empty brass cartridge cases (solid); beads, black, with white and green spots.
Baris	Dark blue cloth; shirts and drawers (ready-made, of coarse calico); long robes, coloured or patterns; beads, flat ends, heavily spotted; iron hoes; old bits of iron (eagerly sought for); tobacco; salt; sugar; old muzzle-loading guns. (Brown Bess pattern.)
Baris (west bank villages).	Brass wire.
Bor	Brass bracelets, worn by ladies round wrists and waist.
Mandaris	Beads of all descriptions; brass wire; salt.
Agibbas (Pibor)	Cowrie shells; beads; brass wire; red, white and other beads (in big demand.)
<i>Bahr El Ghazal Province—</i>	
General	Small red beads; salt; soap (in fair demand); small white and blue beads; bright green beads; thick brass wire; brass bracelets; cotton handkerchiefs; threads; pipes and cake tobacco; canvas belts.
Agar Dinkas (Rumbek) and Shambe (Dinkas).	Brass bracelets; small white beads; brass wire (any kind); iron hoes; salt.
Jurs (Rumbek and Mvolo country).	Brass wire and bracelets; small white beads; cloth; salt.
Tembura's country	Cloth; clothing in general (suits); brass bracelets; beads; mirrors; soap; wearing apparel for women (coloured); cooking pots; salt.
Buff district (river Rodo).	Cloth; beads; brass; copper.
Telgona	Blue cloth; salt.
Kossinga	Cloth; salt.
Wau district	Beads (large glass ones); blue cloth; salt.
Between Meshra-el-Rek and Tonj.	Salt; brass; copper rings; bracelets; iron implements; spades.
Wau to Tanfikia	Brass wire (popular everywhere); blue and white cloth; pipes; snuff.
<i>Kordofan—</i>	
S. Kordofan	Copper and brass wire; zinc.
Sultan Rob's country	Salt; sugar; cloth.
Dar Jangé	Copper wire; beads.
Koalib (Nuba)	Brass military buttons; brass wire-coils (thick and thin); brass bracelets; iron wire (thick); a particular kind of white button; black, yellow, red, white and blue beads of a special kind.

NEW REFERENCE BOOKS.

STEPHENS' BOOK OF THE FARM.

Fifth Edition. Revised and largely rewritten. By J. MACDONALD, F.R.S.E., Secretary of the Highland and Agricultural Society of Scotland. In three volumes. Volumes I, LAND AND ITS EQUIPMENT. Division I. 10 x 6½, xx+260 pp. 10s. 6d.

(The new edition of this well-known work, which in its previous edition has been before the public for nearly three-quarters of a century, will be in six divisional volumes, to appear at intervals of three months, or three volumes of over 500 pp. each, price £1 1s. per volume. The second volume will deal with farm crops, the third with farm live stock.)

FERTILISERS AND FEEDING STUFFS.

Their Properties and Uses. A Handbook for the Practical Farmer. By B. DYER, D.Sc. With the full text of the Fertilisers and Feeding Stuffs Act, 1906, the regulations and forms of the Board of Agriculture, and Notes on the Act. By A. J. DAVID, 5th Edition, Revised. 7 x 4½, 150 pp. 1s. net.

REPORT ON THE POULTRY INDUSTRY IN DENMARK AND SWEDEN.

By E. BROWN, F.L.S., National Poultry Organization Society. 9½ x 6, 112 pp. 1s. net.

THERMODYNAMICS OF TECHNICAL GAS REACTIONS.

Seven lectures. By DR. F. HABER, O. Professor at the Technische Hochschule, Karlsruhe. Translated by A. B. LAMB, Ph.D., Director of the Harnemeyer Chemical Laboratory, New York University, New York City. 9 x 6, xix+356 pp. 10s. 6d. net.

WORK AND WAGES.

In continuation of Lord Brassey's "Work and Wages" and "Foreign Work and English Wages." Part II. WAGES AND EMPLOYMENT. By S. J. CHAPMAN, Professor of Political Economy and Dean of the Faculty of Commerce in the University of Manchester. With an introduction by LORD BRASSEY, G.C.B., etc. 9½ x 6, xxii+494 pp. 10s. 6d. net.

(This work, designed to bring up to date the subjects dealt with in LORD BRASSEY's two books, opened with a volume on "Foreign Competition" the relative efficiencies of the leading countries in the great industries. The present work deals in ample detail with trade unions here and elsewhere, the principles of industrial peace, unemployment, and workmen's insurance and old-age pensions. A third volume will cover the progress made in factory legislation, co-operation, and social betterment.)

—The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes, during January, 1908, amounted to 3,035,400 tons, and the tonnage cleared to 4,288,175 tons, as against 3,196,394 tons entered and 4,354,463 tons cleared during January, 1907. With regard to the coasting trade the tonnage entered with cargoes during January, 1908, amounted to 2,498,927 tons, and the tonnage cleared to 2,454,587 tons, as against 2,604,429 tons entered, and 2,569,998 tons cleared in January, 1907.

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 2nd March.		Sold to 2nd March.		Sold in sale of 5th March.		Sold to 5th March.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
Assam	41	6 8-1	181,463	7 5-8	128	7 1	158,743	6 9-1
Cachar	894	5 5-4	153,193	6 2-8	466	5 8-3	149,698	4 6-1
Sylhet	642	5 1-8	119,846	6 2-8	230	5 6	108,934	4 3-4
Darjeeling	13	6 1	57,194	9 2-8	...	...	55,149	8 9-9
Dooars	16	4 8	180,794	6 10	...	...	185,708	5 7-2
Tera	...	...	21,390	6 3-8	...	...	33,366	4 4-2
Chittagong	...	...	8,789	6 3-1	18	5 3	12,632	4 4-3
Chota-Nagpore	...	...	1,443	5 10-9	...	...	1,638	4 5-9
Kumaon and Kangra	...	...	4,759	6 1-3	40	6 10	657	6 0-6
Madras	18	7 3	356	6 2-8	...	...	626	5 7
Dehra Dun	...	...	204	6 3-3	61	7 8	111	6 5-6
Nepaul	...	...	528	6 4-9	...	...	486	3 11-4
TOTAL	1,624	5 4-6	729,959	6 11-2	943	6 0	707,748	5 7-2

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1907-08. Average price of 40,017 packages Dust * sold to 2nd March As. P.
6 5-9
* On account of gardens which sell only that grade on this market.

SEA-BORNE TRADE OF INDIA.

The following is a summary of the accounts relating to the Sea-borne Trade and Navigation of British India for the month of January 1908, and for the ten months, 1st April 1907 to 31st January, 1908, compared with the corresponding period of the years 1905-06 and 1906-07 :-

	MONTH OF JANUARY			TEN MONTHS, 1st APRIL TO 31st JANUARY.		
	1908	1907	1908	1905-06	1906-07	1907-08
IMPORTS—						
MERCHANDISE, PRIVATE—						
Bengal	3,87,98,319	4,12,13,341	5,17,94,671	34,64,86,803	35,56,24,490	44,72,92,198
Eastern Bengal and Assam	(a)	2,98,930	3,69,229	(a)	33,80,021	43,62,056
Bombay	3,98,52,080	4,09,71,101	4,58,61,454	30,29,22,382	31,71,12,494	36,73,49,392
Sind	79,35,441	1,01,91,890	1,15,25,462	6,93,66,824	7,91,06,863	8,31,45,729
Madras	62,91,586	94,54,920	1,09,58,050	6,54,16,935	7,75,20,857	8,40,31,048
Burma	80,99,448	85,31,292	1,36,97,904	6,79,55,125	8,01,86,257	9,07,68,669
TOTAL	10,09,79,874	11,06,61,474	13,42,06,770	85,21,48,089	91,29,30,982	107,69,52,092
DITTO, GOVERNMENT STORES	57,01,921	52,56,686	67,28,461	7,32,73,005	7,26,39,545	5,40,56,886
TOTAL MERCHANDISE	10,66,81,795	11,59,18,160	14,09,35,231	92,54,21,074	98,55,70,527	113,10,08,978
TREASURE, PRIVATE—						
Bengal	14,66,765	50,92,209	24,43,989	5,33,78,953	7,74,73,574	6,40,21,678
Eastern Bengal and Assam	(a)	23,848	(a)	(a)	60,323	99,820
Bombay	1,20,20,791	1,13,78,132	1,50,10,657	11,32,82,750	13,93,91,616	18,82,64,803
Sind	1,99,534	6,15,599	4,55,845	29,13,306	43,78,373	59,79,668
Madras	3,19,286	12,60,437	49,895	33,48,873	73,12,406	65,40,648
Burma	64,623	2,61,795	2,72,415	4,84,423	12,61,013	12,86,741
TOTAL	1,40,70,999	1,86,32,020	1,82,32,801	17,34,08,205	22,98,77,305	26,61,93,563
DITTO, GOVERNMENT	1,73,55,126	86,10,395	...	5,70,28,443	14,41,71,450	9,46,22,124
TOTAL TREASURE	3,14,26,125	2,72,42,415	1,82,32,801	23,04,36,648	37,40,51,755	36,08,15,687
GRAND TOTAL OF IMPORTS	13,81,07,920	14,31,60,575	15,91,68,032	115,58,57,722	135,96,22,282	149,18,24,165
EXPORTS—						
MERCHANDISE, PRIVATE—						
(Foreign Merchandise)—						
Bengal	1,93,794	1,88,215	1,27,004	16,27,671	15,61,912	17,19,462
Eastern Bengal and Assam	(a)	...	...	(a)	250	750
Bombay	25,20,929	32,91,415	25,47,420	2,22,78,780	2,22,43,556	2,45,26,550
Sind	3,75,571	4,75,523	5,88,254	32,46,998	39,70,112	42,29,270
Madras	93,153	1,08,607	56,321	7,20,882	13,43,533	9,62,941
Burma	37,567	57,816	49,109	3,18,101	5,12,268	5,59,291
TOTAL	32,21,014	41,21,581	33,18,108	2,81,92,432	2,96,31,631	3,19,98,264
(Indian Merchandise)—						
Bengal	7,10,74,403	7,59,45,341	5,04,95,438	58,55,43,460	65,64,60,816	60,58,97,439
Eastern Bengal and Assam	(a)	39,86,254	41,07,318	(a)	3,60,09,697	3,59,48,421
Bombay	5,80,45,285	5,49,34,142	3,40,43,327	37,56,62,161	33,94,66,562	33,52,46,504
Sind	62,13,068	1,17,79,901	73,33,435	9,57,32,700	11,99,15,051	15,82,90,545
Madras	1,57,95,735	1,58,16,123	1,55,64,456	12,28,61,881	14,00,06,341	15,47,17,402
Burma	1,05,27,546	1,10,83,478	1,56,13,113	10,48,90,432	9,38,90,371	11,23,27,131
TOTAL	16,16,56,037	17,35,45,279	12,71,57,087	128,46,90,634	138,57,48,838	145,24,27,442
Total Foreign and Indian Merchandise exported—						
Bengal	7,12,68,197	7,61,33,556	5,06,22,442	58,71,71,131	65,80,23,728	60,76,16,901
Eastern Bengal and Assam	(a)	39,86,254	41,07,318	(a)	3,60,09,697	3,59,48,421
Bombay	6,05,66,214	5,82,25,557	3,65,90,747	39,79,40,941	36,17,10,118	40,97,73,054
Sind	65,83,639	1,22,55,489	78,71,689	9,59,79,698	12,38,85,163	16,25,19,815
Madras	1,58,88,888	1,59,24,730	1,56,20,777	12,35,82,763	14,13,49,874	15,56,30,343
Burma	1,05,65,113	1,11,41,274	1,56,62,222	10,52,08,533	9,44,02,639	11,28,86,422
TOTAL	16,48,77,051	17,76,66,860	13,04,75,195	131,28,84,066	141,53,80,469	148,44,25,706
DITTO, GOVERNMENT STORES	84,180	91,162	53,273	10,17,481	8,56,187	11,07,522
TOTAL MERCHANDISE	16,49,61,231	17,77,58,022	13,05,28,468	131,39,00,547	141,62,36,656	148,55,33,228
TREASURE, PRIVATE—						
Bengal	75,466	73,834	66,784	27,76,998	57,80,820	27,86,920
Eastern Bengal and Assam	(a)	...	...	(a)	...	...
Bombay	37,63,078	28,97,711	27,91,528	3,69,20,440	4,43,49,482	3,79,28,989
Sind	...	5,797	1,45,230	9,70,371	8,10,408	12,85,318
Madras	...	5,797	5,03,746	16,00,625	14,28,006	45,29,414
Burma	51,000	66,800	5,000	4,22,750	2,49,815	98,275
TOTAL	38,89,544	30,44,142	35,12,288	4,26,91,184	5,26,18,529	4,68,28,916
DITTO, GOVERNMENT	1,50,00,000	...	...	9,01,08,985	52,450	18,520
TOTAL TREASURE	1,88,89,544	30,44,142	35,12,288	13,28,00,169	5,26,70,979	4,66,47,436
GRAND TOTAL OF EXPORTS	18,38,50,775	18,08,02,164	13,40,40,756	144,67,00,716	146,89,07,635	153,21,80,664
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	60,61,882	65,97,077	68,63,617	5,59,96,652	5,78,43,158	6,07,09,609
DITTO, EXPORT DUTY COLLECTED	9,33,830	5,29,128	8,41,590	78,55,290	66,13,223	64,60,919

(a) Included with Bengal.

COMMERCIAL INTELLIGENCE DEPARTMENT.
INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India :—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

1. Notes on Sugar in India. R1-8. (2a.)
2. Indian Cotton Seed: Its Industrial Possibilities. As. 12. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta :—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambray & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoo, Bombay.
Sundur Pandurang, Bombay.
V. Kalyanarama Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanna Hind Press, Allahabad.
Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	8 0
To Non-Subscribers	"	10 0

POSTAGE:—

Abroad	per copy per annum	5 0
In India	"	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	1 0
To Non-Subscribers	"	2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
--	-----

In India—One copy per annum despatched daily	20 0
--	------

In India—One copy per annum despatched in batches once a week	5 0
---	-----

The above charges apply also to back numbers.

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
---	-----

Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
--	-----

Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
---	-----

Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
--	-----

Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6
---	-----

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco * * *

¶ These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

¶ This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc. * * *

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established * * *

It will pay you to stock the "DeReszke."

¶ Write for full particulars and samples to

J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E.
LONDON, * * * ENGLAND.

MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL

C. I. PIPES OF ALL SIZES. C. I. COLUMNS

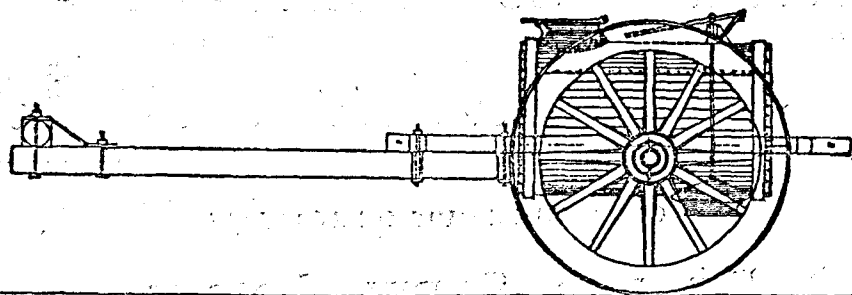
Light Railway Material of every Description.

MARTIN & CO.

6 AND 7 CLIVE STREET,
CALCUTTA.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM CO., LD., MADRAS,

Government Contractors.

**HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE.**

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

DELICIOUS **COFFEE**
**RED
WHITE
& BLUE**

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.

30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS,
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING

SUPPLIED ON ORDER.

Rope Works at Ghusari.

TELEPHONE No. 132.



THURSTON'S

The Parent
House of
the
Trade.

**BILLIARD
TABLES**

By Appointment
to
His Majesty
King
Edward VII.

Thurston's 'Perfect' Low Cushions

FAST, TRUE & RELIABLE.

SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.

Branches at Cape Town, Johannesburg and Durban.

G. W. MUNT & SONS,
WHOLESALE

BOX MANUFACTURERS

(EVERY DESCRIPTION),
LONDON,

ENGLAND.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH

AHMUTY & CO.
CALCUTTA.

Engineers. Hardware Merchants,
Railway Storekeepers, Mill Furnishers.

PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
 As supplied to
 The Government
 Experimental
 Farms.
 From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

*Price List and Membership rules
 free on Application.*

ALFRED W. KNIGHT,
 HORSE NAIL MANUFACTURER By Appointment
 TO HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'
"SAFETY" HORSE NAILS
 CONCAVE INSIDE
 CONVEX OUTSIDE
 Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
 Extract from Mr. SHRAETH'S Eminent Report:-
 'I have nothing to say but unqualified praise. I think the nail is much safer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'
 Japanese Army use exclusively.
 FRONT SECTION OF HOOF
 GUT AT HEEL NAIL
 KNIGHT'S SAFETY NAILS REQUIRE NO CURVING TO DRIVE, NO NOTCHING TO CLUNCH, NEVER GET LOOSE.
 COMPANIES SAVE ALL COSTS OF NAIL EVERY DAY THE SHOE IS CARRIED LONGER.
 THE CRUEL TO MAKE THE HORSE STAND ON SLIPPERY ROADS WITH NAIL PRESSURES
 London and EXPORT BRANCH,
 4 Upper St. Martin's Lane, W.C.
 Telegrams: "HORSE NAIL LONDON" Telephone: No. 5012 Over 2-11.

LITTLE'S "PHENYLE" DISINFECTANT

The best & most powerful for all purposes.

THE MOST EFFECTIVE AND SAFEST DISINFECTANT
 FOR THE BUBONIC PLAGUE.

ADOPTED BY THE INDIAN GOVERNMENT.

Cheap, economical, harmless and effective. A liberal use of this preparation prevents and arrests contagion in cases of Fever, Cholera, Scarletina, and kindred infectious diseases. Pronounced by an expert Committee (appointed by the U.S.A. Government) to be the BEST DISINFECTANT.

REFUSE IMITATIONS.

The Proprietors hereby give notice that action will immediately be taken against all infringements of "Phenyle."

Manufacturers and Proprietors:

MORRIS, LITTLE & SON, LTD., DONCASTER, ENGLAND.

Agents for Bengal Presidency:

M. M. FRASER & Co., 59, BENTINCK STREET, CALCUTTA.

Sole Agent for Sindh, Punjab, and N.W. Provinces:

MR. MUNCHERJEE MANECKJEE, MULTAN, LAHORE, ALLAHABAD
 AND RAWALPINDI.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
 in Gelatine.

Beechwood Brand awarded 4 Gold Medals
 and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON.

PLYMOUTH, DEVONSHIRE, ENGLAND.

MARSHALL, SONS & CO., LIMITED, ENGINEERS.

Works.—GAINSBOROUGH, ENGLAND.

HEAD OFFICE IN INDIA—99, Clive Street, Calcutta.

BOMBAY BRANCH—Marshall's Buildings, Ballard Road.

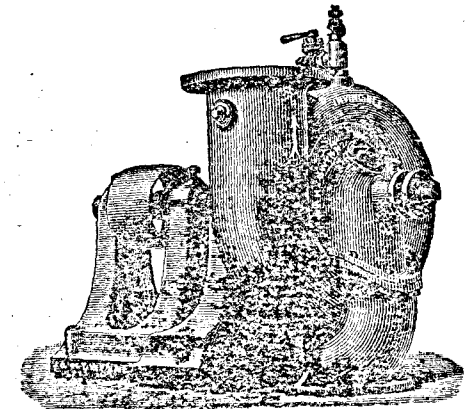
Ready for immediate delivery from stock in Calcutta.

SINGLE AND DOUBLE

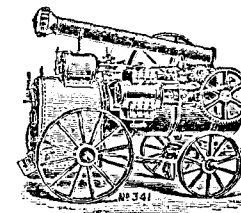
CYLINDER PORTABLE ENGINES

FROM 6 TO 20 NOMINAL

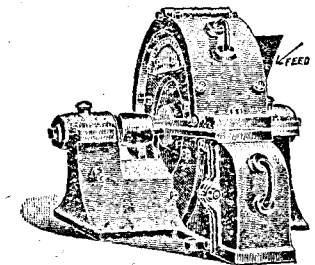
HORSE POWER.



Gwynne's Centrifugal Pumps from 3" to 12" diameter for Irrigation and
 Pumping work.



Carter's Original Disintegrators
 in three sizes for grinding kunker
 Lime, Soorkey, Cement and Broken
 Bricks.



Smedley's Overdriven Mortar Mills, with 7 ft. Pan for grinding or mixing
 very large quantities of Soorkey Lime, etc.

To let out on hire Portable Engines for driving temporary Electric Light
 Installations, pumping out tanks, Irrigation Schemes, etc.

Quotations, Catalogues and Plans promptly submitted by mentioning
 "Indian Trade Journal" to—

MARSHALL, SONS & CO., LIMITED,

Engineers, Enquiry Department,
 POST BOX NO. 22, CALCUTTA.

"CHARLTON"**SILICATE
PAINT**

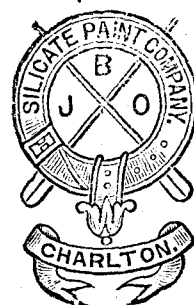
Registered Patentees:

THE SILICATE PAINT Co.,
J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,
and for all
GENERAL PURPOSES.**BEWARE OF SPURIOUS IMITATIONS.**ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.
Messrs. John Fleming & Co., Bombay.Messrs. Walker Sons & Co., Ltd., Colomb.
Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

CHEAPEST PAINT IN THE WORLD FOR ALL PURPOSES.

In use by the Largest Steamship Companies, Railway Companies and Gas Companies.

**THOMPSON'S "EMISSARY"
ELASTIC NON-POISONOUS PAINTS.**

One cwt. "Emissary" will cover 8,500 superficial feet, while one cwt. of red or white lead will only cover 1,500 superficial feet, the results being in favour of the "Emissary" Paints: (a) BY MORE PERFECT PROTECTION; (b) FOR A MUCH LONGER PERIOD OF TIME (c) AT LESS THAN ONE-THIRD OF THE COST.

It is the only absolutely Elastic Paint on the Market, as it will contract and expand in the same proportion as iron, from below the freezing point up to beyond 700 deg. Fah. It is absolutely non-corrosive. Metal that is thoroughly covered can never corrode, as the paint goes into the metal and not like ordinary paint simply remaining on the surface.

Marine Superintendents of some of the largest liners, Engineers, etc., say it is the best Paint they know of.

TRY IT AND YOU WILL SAY SO.

SOLE EXPORT AGENT FOR INDIA, BURMAH & CEYLON—

H. I. ROBERTS, M.I.Mech. E., 42, Castle Street, LIVERPOOL.

Agents in Calcutta: Messrs. KINMOND & CO.

Bombay Agents: KINMOND & Co.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

Bangkok.	Colombo.	BRANCHES:	Ipoh (Perak Feder-	Madras.	Penang.
Batavia.	Foochow.		ated Malay States).	Manila.	Rangoon.
Bombay.	Hamburg.		Karachi.	Medan (Deli	Saigon.
Calcutta.	Hankow.		Kobe.	Sumatra).	Shanghai.
Cebu.	Hong-Kong.		Kwala Lumpor.	New York.	Singapore.
	Sourabaya.		Tientsin.	Yokohama.	
	Thaiping.				

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
5, COUNCIL HOUSE STREET.Bombay Agency,
ESPLANADE.Rangoon Agency,
76, PHAYRE STREET.

SANITARY ENGINEERS

Water works and Sewage systems. Engines, Tanks, and Fittings. Septic Tank systems a speciality. Light Railways for refuse removal.

THE EMPIRE ENGINEERING CO., LTD.

New patent Receptacles and Lorries, Improved carts, Latrines, and Conservancy Appliances of all kinds.

Apply for Illustrated Catalogue to
GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

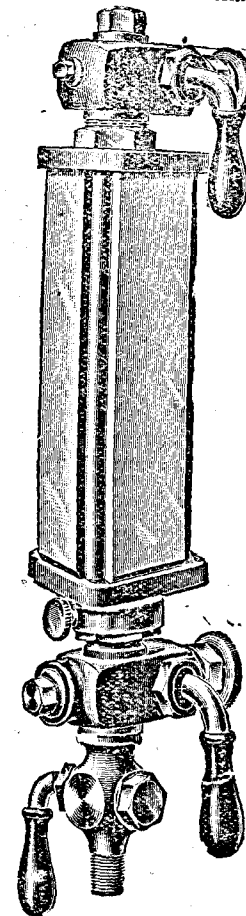
MACBETH BROS. & CO.,

ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities,—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION, CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

Showing Protector in Position.



Gauge Glass Protector.

"EUREKA" GAUGE GLASSES

ESTABLISHED 1853.

MAKERS OF THE NEW GAUGE GLASSES

"S.H.P."

FOR SPECIAL HIGH-PRESSURE BOILERS.

SEND FOR CIRCULARS AND TESTIMONIALS.

JOSEPH TOMEY & SONS, LD

GLASS TUBE WORKS,

Catherine Street, Aston, BIRMINGHAM.

LONDON WAREHOUSE AND SHOWROOMS—88, HATTON GARDEN, E.C.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,

MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.



STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY ARTIFICIAL STONE WITH AN ESTABLISHED REPUTATION OF 25 YEARS.	EXCLUSIVELY USED BY THE P. W. D., PORT COMMISSIONERS, MUNICIPALITIES, RAILWAYS, JUTE AND COTTON MILL COMPANIES.	FOR DURABILITY AND FOR BEING SANITARY, DAMP, VERMIN AND FIRE PROOF.
--	--	--

The Floor PAR EXCELLENCE for Dwelling Houses, Footpaths, Godowns, Coach Houses, Stables, Mills and Factories.

For illustrated sheet, particulars, estimates and prices for plain and ornamental flooring laid IN SITU or in tiles and for copies of testimonials, analysis and tests,

Apply to— **BIRD & Co.,** MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
101-1, Clive Street, CALCUTTA.

JOHN PIGGOTT, Ltd.

MANUFACTURERS

OF ALL KINDS OF

FOOTBALL REQUISITES.

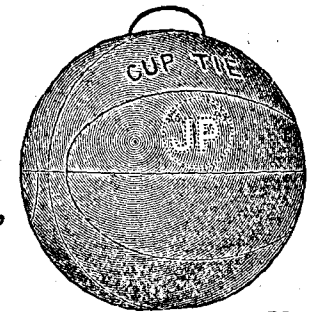


JERSEYS, SHIRTS,
HOSE, Etc.

ILLUSTRATED LIST

Free on application to—

Advertisement Department,
Reuter's Agency,

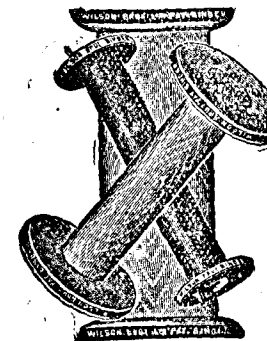


FOOTBALLS. BLADDERS
SHIN-GUARDS, Etc.

BOMBAY, CALCUTTA, MADRAS,
KARACHI, COLOMBO or RANGOON.

[Please mention this Advertisement.]

117 & 118, CHEAPSIDE & MILK STREET, LONDON, E.C.



WILSON BROS. BOBBIN Co., LTD.

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TOOMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

RELIABLE
QUALITY
ONLY.

PADMORE BILLIARD TABLES

Over
70 Years'
Reputation.

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941

BARLOW & Co.

Import and Export Merchant.

and
Commission Agents

Agents: **United Alkali Co., Ltd.—Fertilizers.**

Sulphur.

The Summerlee Iron Co., Ltd.

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

JAMES SIMPSON & Co., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS.

Large Stocks held

in Calcutta.

WATER METERS,

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



*"Pelican" and
"Chin-Chin"*



WATERPROOF LIQUID DRAWING INKS.
(As again supplied to the Indian Government.)

Can be obtained from:—

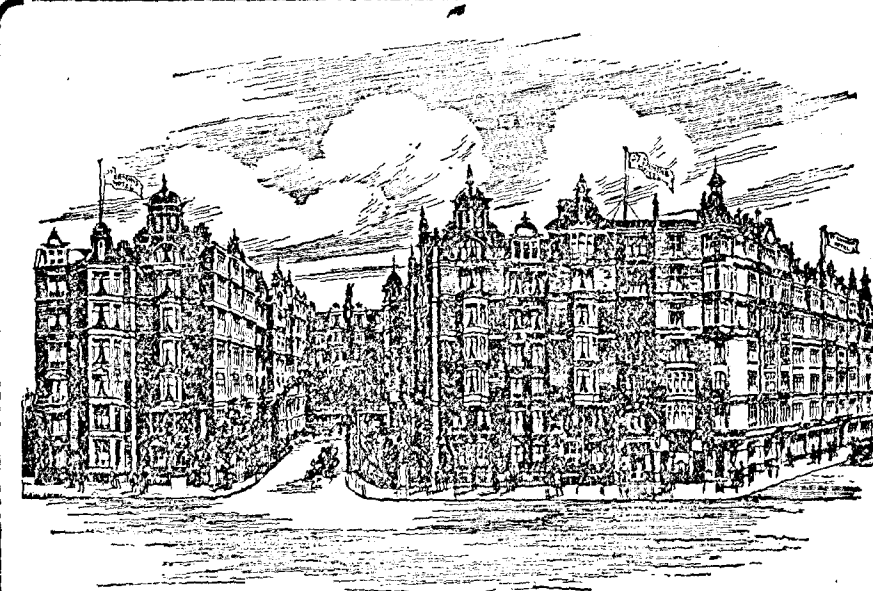
W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.

Bombay Stationery Mart, Bombay.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Roorkee.
C. A. Rebeiro & Co., Singapore.

Illustrated Price Lists and Colour Cards may be obtained from Reuter's Agency
(Advertising Department), Bombay, Calcutta, Madras, Colombo, Rangoon and Karachi.



GUNTHER WAGNER
Sole Manufacturer
80 MILTON STREET LONDON E.C.



**ST.
ERMINS
HOTEL**

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmen, London."
Works:—Birmingham, Halesowen, London.



Established over 200 years.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES,

Manufacturers of every description of

**Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery**

for

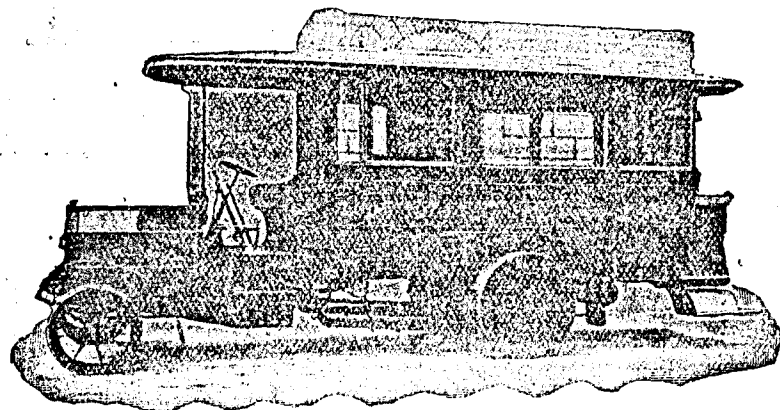
Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



GLASGOW & SOUTH WESTERN RAILWAY MOTOR OMNIBUS.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

Motor Lorries,

- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.

ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

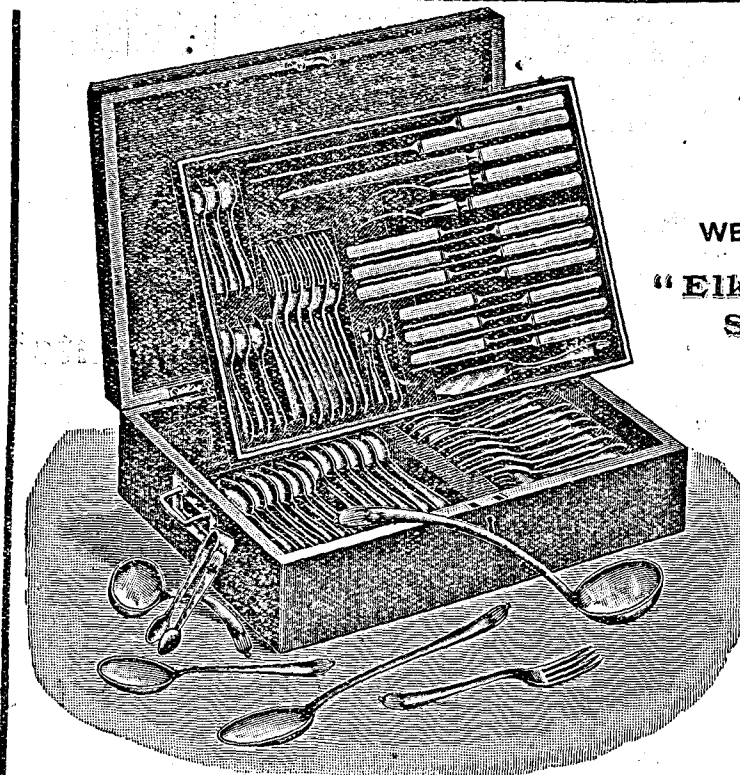
GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,

MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

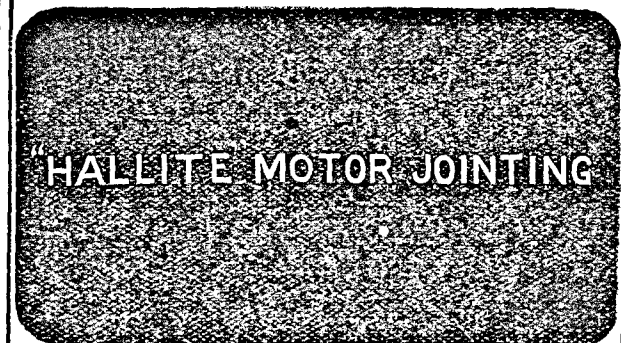
HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

SANITARY PAINT COY., LTD.

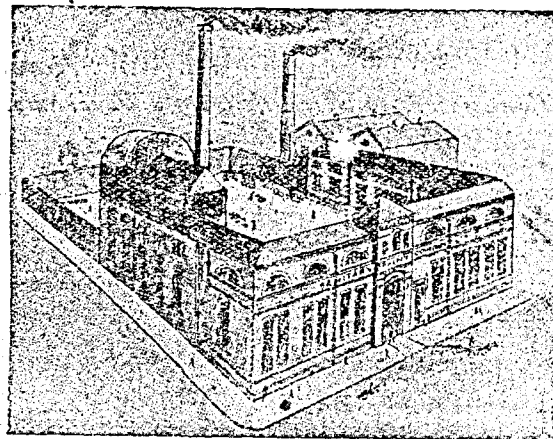
THE MANUFACTURERS OF
"SILICATE PAINTS."

Our Gold Medal for Genuine "Silicate Paints"



was received from the Calcutta
Exhibition in 1884,
and is the guarantee of the excellence
of our Manufactures.

This certificate is, and always has been, in the
possession of this Company.



SILICATE PAINTS,

GUARANTEED MANUFACTURED BY
THE SANITARY PAINT COMPANY, Ltd.
Factory: BOOTLE, near LIVERPOOL, England.

Sole Agents: Messrs. F. HARLEY & CO.
10, LALL BAZAR STREET,
X X CALCUTTA.

Give them your support, they have faithfully served us
FOR MORE THAN THIRTY YEARS.

SHIELD BRAND.—

Note that every package is
marked accordingly.



We received the Gold Medal at the Calcutta Exhibition, 1884,

FOR
PAINTS, ENAMELS, VARNISHES, MARINE PAINTS, ZINO WHITE,
ANTIFOULING PAINT, WASHABLE DISTEMPER AND PETRIFYING LIQUID.

Apply to our Agents, Messrs. F. HARLEY & Co., as above.
They will serve you well, and we are confident they will do their best to please you.

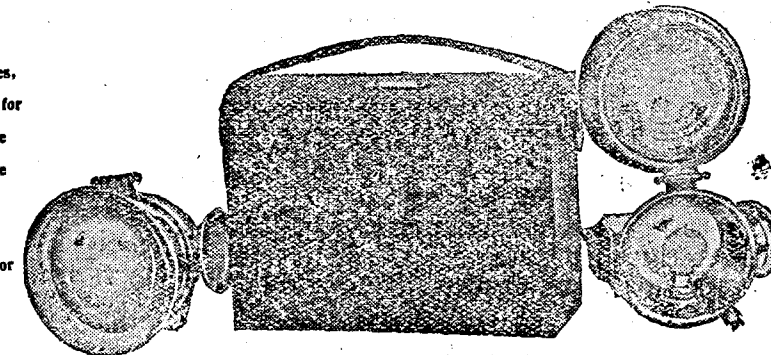
THE GRATZE

IMPROVED PLANTÉ AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratzé Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

EVANS & WORMULL'S IMPROVED STRETCHER.



MANUFACTURERS of all kinds of SURGICAL INSTRUMENTS AND APPLIANCES, ORTHOPÆDIO APPARATUS, ARTIFICIAL LEGS, BELTS, TRUSSES, ELASTIC STOCKINGS and all kinds of INDIA RUBBER goods, FIELD MEDICAL EQUIPMENTS, ASEPTIC FURNITURE, AMBULANCES, etc.

CONTRACTORS TO THE BRITISH ARMY, INDIAN GOVERNMENTS, THE ROYAL NAVY, ETC.

31, STAMFORD STREET, BLACKFRIARS,
LONDON, S.E.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to

HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS

THE PRINCESS OF WALES

DURING HER STAY IN BOMBAY,

AND BY HIS HIGHNESS

THE AMIR OF AFGHANISTAN.

**GODREJ & BOYCE, MANUFACTURING
SAFE & LOCK MAKERS, GAS WORKS PAREL, BOMBAY.**

FIRE AND BURGLAR

RESISTING SAFES AND LOCKS.

Highest awards at all Exhibitions.

TESTIMONIAL.

PUBLIC WORKS OFFICE.

Bombay, 12th September 1905.

MESSRS. GODREJ & BOYCE have supplied two strong

room doors for the Coin Vaults in the Paper Currency Building,

Bombay. They are of good design and excellent workmanship, and

compare very favourably with more expensive doors of English manufacture.

The locks manufactured by this firm are all that can be desired. They are

moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency.

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al, Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

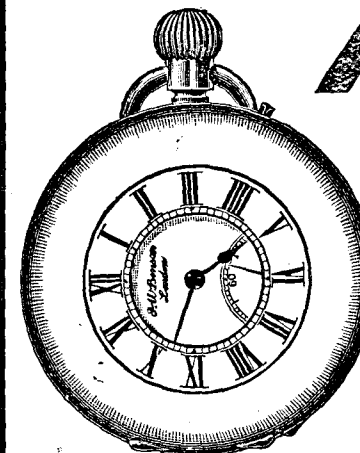
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this advt.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING CO., LTD.,

DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORD ST. BIRMINGHAM

BRANCHES: LONDON, 75, WOOD ST.; MANCHESTER, 38, THOMAS ST.; DUBLIN, 15, WILKINSON ST.; GLASGOW, 71, QUEEN ST.

DEPOTS: CAPE TOWN & JOHANNESBURG, BERLIN, KRAUSENSTRASSE, 40.

TELEGRAMS: "HARRIS & SHELDON LTD"

PIIONEERS OF SHOPFITTING

DRAPERS' COSTUME STANDS ETC.

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

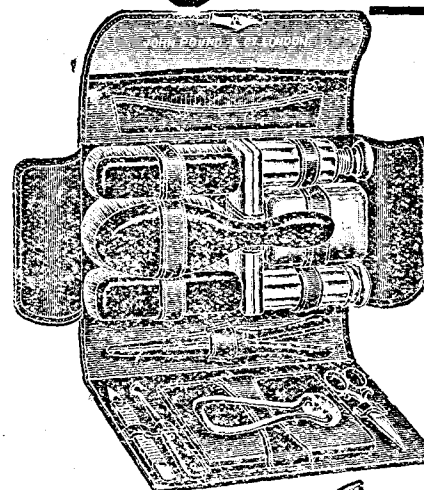
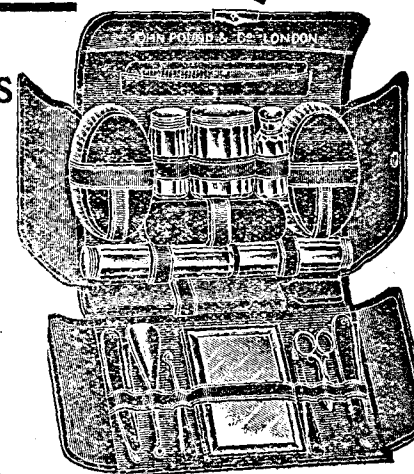
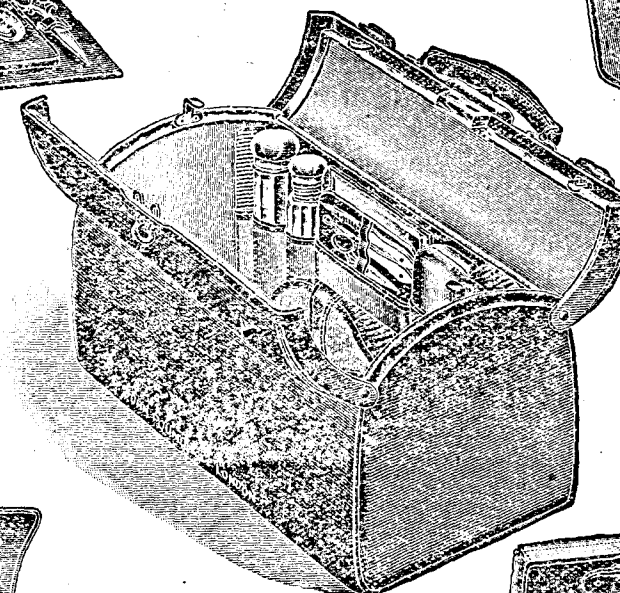
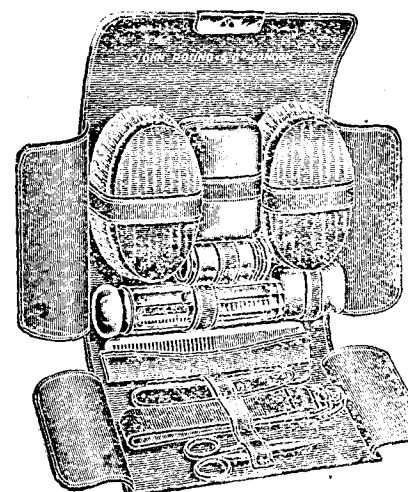
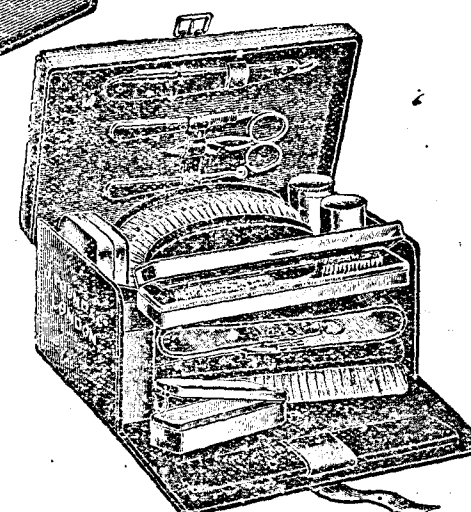
EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
CALCUTTA, MANCHESTER, PARIS, BRUSSELS
NEW YORK, CHICAGO & SYDNEY.

TELEGRAMS & CABLES
"POUND LONDON"A.B.C. CODE
4TH EDITION**JOHN POUND & Co**
ACTUAL MAKERSOF
Fitted Travelling Goods

OF EVERY DESCRIPTION.

ACTUAL MAKERS of every
description of
TRAVELLING GOODS.SHIRT,
HAT,
COLLAR,
SUIT**Cases**CABIN,
OVERLAND,
COMPRESSED CANE,
FIBRE**Trunks**Indent DIRECT - -
or
Through AGENTS.Write for LIST of
FIBRE & CANE Goods,
Post Free.WRITE FOR
ILLUSTRATED CATALOGUES,
FREE.**Waterproof Canvas
HOLDALLS,
CABIN BAGS, &c.**Airtight Japanned
TIN BOXES
In Deal Chests.

8, HASTINGS STREET, CALCUTTA

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

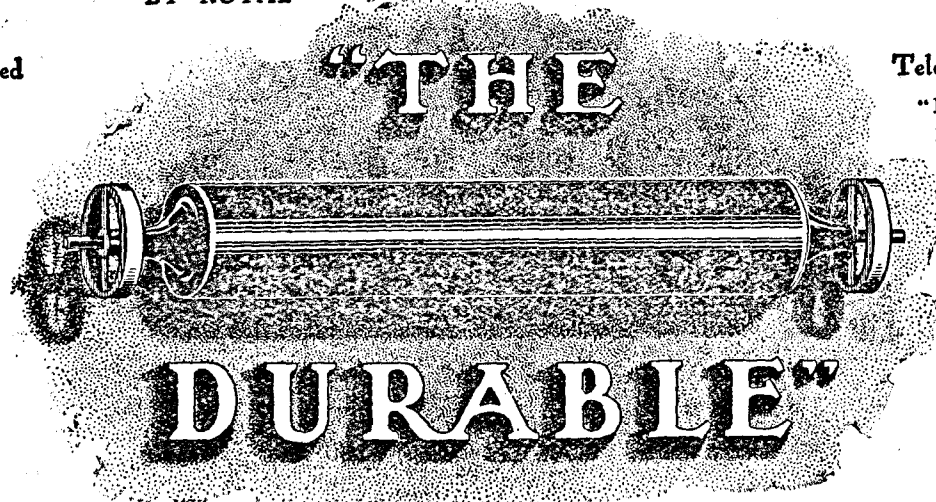
14, Charles Street,
Hatton Garden, E.C. **London.**

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

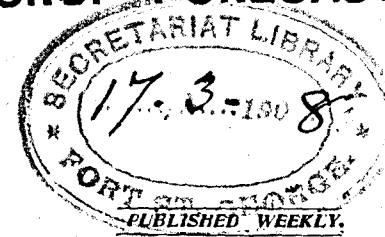
COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING, SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRESS, INDIA.

CROP FORECASTS: WHEAT, SPRING OILSEEDS.



REGISTERED.



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department,
India.*

VOL. VIII. No. 102.] CALCUTTA, THURSDAY, 12th MARCH, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	549
NOTICES—	
Call for Tenders	555
Enquiries	ib.
Books of Reference	ib.
LEADER—	
Lac Cultivation in India	556
CROP FORECASTS—	
Wheat	558
Spring Oilseeds	559
CHAMBERS OF COMMERCE	561
THE FAMINE	563
TARIFF CHANGES	ib.
WHEAT ELEVATORS FOR INDIA	564
SUGAR AND CINCHONA CROPS OF JAVA	566
TRADE OF FOREIGN COUNTRIES AND BRITISH POSSESIONS	ib.
AGATE LEATHER	567
TRADE OF THE BOMBAY PRESIDENCY IN 1906-07	568
FRONTIER TRADE OF BENGAL	570
USES OF TANTALUM	571
NEW REFERENCE BOOKS	ib.
TABLES—	
Spinning and Weaving Returns	572
Indian Customs Revenue	573
Food Grains and Salt	574
TRADE MOVEMENTS	575
RUBBER FROM INDIA	576
DEPARTMENTAL PUBLICATIONS	577
ADVERTISEMENTS	578

NOTES.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	.8 per cent. (Mar. 5).
	Bombay	.9 per cent. (Feb. 7).
	Madras	.9 per cent. (Feb. 11).
	On demand	.1-3½
EXCHANGE	Telegraphic Transfers	.1-3½
	3 months	.1-4½
	6 months	.1-4¾
	GOVERNMENT PAPER (3½ per cent.)	—95½

We have just received a copy of the *Index to Consular Reports*, which may be obtained through any bookseller at a cost of 1s. 2d. As its name implies, it is an index to the Reports of His Majesty's Diplomatic and Consular Representatives abroad on trade and subjects of general interest, with an appendix giving the list of Reports indexed and the price of each Report. The evidence before the Departmental Committee on Commercial Intelligence under the Board of Trade in 1897 disclosed the fact that the very existence of this index was unknown to some of the best-informed witnesses. Although the years have passed and its quality has improved steadily and very greatly, it is to be feared that the mass of business men have never seen it or heard of it, and are, therefore, unable to make intelligent and profitable use of the quantity of practical information recorded in the British Consular Reports. This is probably due in some

measure to the fact that Government publications are not advertised and are put on the market through a plurality of agents, none of whom can be sure that he would reap the benefit of any steps he might take to bring the publications to the public notice. And yet if it is worth while to incur the expense of collecting and printing trade information and of compiling and issuing a wonderfully complete index for the purpose of instructing the public, it might be well to incur a little more expense in order to make the world aware of the facilities so rendered available. Copies of the index in question are, no doubt, received by all Chambers of Commerce, and we venture to suggest that all merchants who are not familiar with it should take an early opportunity of examining the new issue and satisfying themselves as to its practical value.

The following are the comparative trade figures of the Nushki-Seistan trade route for December, 1907, compared with the corresponding month in 1906:—

	1907.	1906.	Increase.	Decrease.
EXPORTS.	Rs.	Rs.	Rs.	Rs.
Afghanistan	42,960	6,130	36,830	...
Persia	28,950	40,169	...	11,219
Baluchistan	62,822	17,057	45,765	...
IMPORTS.				
Afghanistan	8,747	22,427	...	13,680
Persia	10,212	19,157	...	8,945
Baluchistan	1,34,909	7,456	1,27,453	...

The total of export and import trade for the 9 months ending 31st December, 1907, amount to Rs. 14,33,625 as compared with Rs. 9,80,807 for the corresponding period of last year.

In the *Indian Trade Journal* of November 22nd, 1906, and March 21st and July 18th, 1907, we gave some particulars of the growing export of frog skins from Japan, to be used in foreign countries for the manufacture of purses and other fancy articles. We have now received several samples of these skins, which may be inspected at this office during the next fortnight. Yokohama is the centre of the trade, and we find that the exports from that port during 1904 comprised 2,348 skins valued at 375 yen (yen=Rs.1-8-6). In 1905 the exports had increased to 4,291 skins valued at 828 yen; but in 1906 there was a sudden rise to 49,347 skins of the value of 6,199 yen. The importing countries are England, Germany and the United States. As we have before indicated, there seems to be room for an industry of this sort in India, particularly Southern India.

We learn that benzine is now being made at Chimion in large quantities for export; and that

200,000 poods (pood=36.1 lbs.) of Chimion benzine have been exported from Russia during the last twelve months.

The terms of the Jubbulpore electric license are published in the *Central Provinces Gazette* of the 7th instant.

In our last issue we drew attention to the extortion of road-guards in Persia. A correspondent now points out that these exactions from caravans and muleteers have become so common on the Bushire road that the authorities have been reminded that the levy of such sums is contrary to the Commercial Agreement of 1903.

Among the experiments which the Madras Forest Department is carrying out, the growing of camphor gives good promise. A further large supply of seed was obtained from Japan last year, and the seedlings and trees in the Waltair plantation are flourishing. Rubber of many varieties—Assam Cereia, Africana Acera, Mexican and Para—continue to be experimented with, and in the majority of cases successfully.

The Indian inland rates for telegrams will be applied to all messages exchanged between India and the telegraph offices of the Indo-European Telegraph Department in British Baluchistan and the Mekran Coast with effect from the 1st April, 1908. The offices affected are Guadar, Pasni, Ormara, Las Bela, Panjgur and Karachi. The inland rates will also be extended to press messages exchanged with these places.

We are informed that samples of the wool produced in Kain, Persia, and locally hand-spun yarns used in the manufacture of carpets and woollen fabrics have been sent to England with the idea of introducing hand-power spinning machines in Kain. Two of the chief traders of Birjand have deposited sufficient money to cover the cost of two of these machines with the Imperial Bank, whose local Manager is undertaking the agency for their purchase. It is believed, if the machines turn out satisfactory, that a large number will be purchased, both for Seistan and Kain. In Seistan, there are at present no looms for carpet making (excepting the nomad pattern), but it is asserted that the Deputy Governor intends to start a factory.

The National Wool Growers' Association, comprising 741 members, in its recent convention at Helena, Mont., U. S. A., unanimously adopted a resolution recommending for favourable consideration by wool growers the plan of holding wool auction sales in America similar to those held in London.

The Department of Agriculture, United Provinces, as started, under the orders of the Local Government, a sugar factory at Panchli, about eight miles west of Meerut city, in co-operation with a well-known *raia* of Meerut, who owns the village. The system of sugar manufacture followed is the one which has been elaborated by Mr. S. M. Hadi, Khan Bahadur, Assistant Director of the Department. The objects of the concern are:—(a) To demonstrate the new process; (b) to impart practical training in the art of manufacture to students, most of whom have been sent by the various provincial departments of agriculture, and a number of agricultural associations in the Madras Presidency; (c) to give the public an opportunity of determining the merits of the system by practical examination of details on the spot; and (d) to compare the new process with the indigenous system of sugar boiling which is working side by side. The factory was formally declared open to the public on the 27th February, the opening ceremony being performed by Mr. L. C. Porter, C.S., the Collector of the District, at a public meeting which was representative of the landholders and sugar manufacturers of Meerut and the adjoining districts.

An elaborate Note on *Sericulture in Mastung*, Kalat State, during 1907 and a few months of the previous year, has been compiled by Lieutenant H. R. Lawrence, Assistant to the Political Agent in Kalat, and should prove of rather more than passing interest to sericulturists. The experiments were made with various kinds of seeds, the following being the order of merit: Var, Alpes, Pyrene, Caucasian and Local seed. It was found that cocoons killed by steaming yielded a silk of much brighter yellow than that obtained from sun-killed cocoons; were also easier to reel, and produced a larger percentage of silk. The general results obtained are summarised in this way: In 1906 one box (30 grammes) of seed occupied 235 square feet, consumed 27½ maunds of mulberry leaf, and produced 13½ seers of green cocoons. In 1907 one box (30 grammes) of seed occupied 498 square feet, consumed 37½ maunds of leaf, and produced 23½ seers of green cocoons. The whole of the 1906 crop was reeled towards the end of last year and produced 332½ lbs. of raw silk, or an average of 4½ lbs. per maund of green cocoons. This outturn, though badly reeled, is valued at about Rs. 489. The figures for last year are not given, but we are told that the native reelers have shown a most unexpected aptitude for their work, and much better results and prices may be expected from the reeling of the 1907 crop.

Specimens of a new "silk" were recently forwarded from Uganda, and have been examined in the Scientific and Technical Department of the Imperial Institute. The silkworm (*Anaphe* sp.) feeds principally on the leaves of species of *Ficus*, but the cocoons are found

in almost all the forest trees. The caterpillars spin a large nest, inside which they form their cocoons in considerable numbers. These nests are composed entirely of "silk"; the outer layers are of somewhat loose texture, whilst the inner part is firm and paper-like, but, on degumming, each portion yields the same silky material. It seems probable that the whole of this product may be capable of utilisation as "waste" silk. On examining the cocoons it has been found possible to reel a small quantity of silk from selected specimens, but usually they are too loose to allow the reeling to be satisfactorily carried out. Technical trials have shown that the whole of the silk can be spun into lustrous yarns which can be dyed without difficulty. Similar cocoons have been received from Southern Nigeria, Northern Nigeria and Nyasaland. In Southern Nigeria the silk is used by the natives in conjunction with cotton for making the so-called "soyan" cloths. There appear to be several varieties of these silkworms, and they probably occur in many parts of Africa.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 7th March, 1908—

In the Calcutta market—

Behar opium—Rs. 1,370; 1,376; 1,392; 1,394; 1,393; 1,400; 1,401.

Benares opium—Rs. 1,350; 1,355; 1,370; 1,370; 1,370; 1,375; 1,375.

The prices in the time bargains for the Behar opium of the 3rd and 4th sales of 1908 were Rs. 1,374; 1,380; 1,402; 4th sale 1,403; 1,402; 1,409; 1,410.

In the China market—

At Hongkong (exchange Rs. 141½ to 142½ per \$100).

Behar opium—\$990; 990; 995; 995; and 997½; 1,000; 1,000; 1,000.

Benares opium—On the 4th and 5th instant, \$985 and 985.

At Shanghai (exchange Rs. 190 per 100 taels).

Behar opium—On the 2nd and 4th instant, respectively, 747 and 750 taels.

Benares opium—On the 2nd and 4th instant, respectively 735 and 738 taels.

For the week ending 29th February 1908—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,190 to 1,260; (new, 1905-06) Rs. 1,335 to 1,400; (old, 1904-05) Rs. 1,415 to 1,435; the latest prices at Hongkong and Shanghai were (new) Rs. 1,315 and 1,389; (old), Rs. 1,394 and 1,446, respectively.

It is notified for general information that the Railway Board have sanctioned a survey being made by the agency of the Oudh and Rohilkhand Railway Administration for an extension of the Madhoganj branch of that railway to Sandee, a distance of about 17½ miles. The survey has been placed under

the control of the Manager, Oudh and Rohilkhand Railway, and will be known as the Madhoganj-Sandee Railway survey.

Shippers of Jute bags to Australia should note that the *Commonwealth Gazette* publishes a Proclamation to the effect "that on and after the fifteenth day of May, 1908, the importation of cornsacks into Australia shall be subject to the following conditions and restrictions, namely, that the cornsacks shall comply with the standard hereinafter set out, and that the bales containing those cornsacks shall be plainly branded or marked with the trade name, measurement, weight porter, and shot of the cornsacks therein contained; and that the standard for cornsacks shall be as follows:—Size, 41 inch by 23 inch; substance, 8 porter, 9 shot."

The annual statement of Lloyd's Register of Shipping, just published, shows that the total addition of steam tonnage during the year 1907 was 1,249,515 tons gross; and of sailing tonnage 28,599 tons gross; or, in all, 1,278,114 tons gross. Of the tonnage added to the Register over 95 per cent. consists of new vessels, nearly all built in the United Kingdom. The largest items among the other additions to the Register are those of vessels transferred from foreign countries and from British Colonies to the United Kingdom. The net additions and removals to the Register during the last few years are as follows:—

	Steam.		Sail.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.
1898 . .	+245	+415,108	—344	—205,815	—99	+209,293
1899 . .	+194	+520,492	—389	—140,537	—195	+379,955
1900 . .	+179	+144,770	—389	—158,292	—210	+236,478
1901 . .	+279	+684,961	—202	—113,916	+77	+571,045
1902 . .	+324	+787,748	—123	—44,394	+201	+743,354
1903 . .	+319	+500,108	—113	—83,179	+206	+416,929
1904 . .	+249	+575,920	—121	—72,167	+128	+503,753
1905 . .	+163	+526,357	—151	—140,860	+12	+385,497
1906 . .	+383	+904,507	—202	—120,961	+181	+783,546
1907 . .	+493	+707,703	—197	—99,833	+296	+607,870

The average size of the steamers classed in 1907 was rather smaller than in former years. During 1907, eight steamers of over 7,000 tons each have been classed, as compared with 17 in 1900, 9 in 1901, 23 in 1902, 21 in 1903, 15 in 1904, 14 in 1905, and 12 in 1906. The largest steamers classed were the two big Cunard steamships *Mauretania*, 31,948 tons, and *Lusitania*, 30,822 tons; *Heliopolis*, 10,897 tons; *Arawa*, 9,372 tons; and *Iroquois*, 9,202 tons. Three sailing vessels of over 1,000 tons have been classed during 1907. Of the tonnage classed during the

year, 1,215,535 tons, or over 88 per cent., have been built in the United Kingdom. Among foreign countries, Germany, Holland, United States of America, and Denmark have contributed the largest amount of tonnage.

A small Committee of the Port Commissioners has been appointed to confer with the executive officers on the question of extending the accommodation of the port of Calcutta, the plans on which such accommodation should be provided, and the order in which the work should be carried out with a view to sufficient and suitable accommodation being provided to meet the requirements of the trade at present and in the near future.

In their India rubber Market Report, dated the 21st ultimo, Messrs. Gow, Wilson & Stanton, London, state that since the last auction the private market has declined considerably in the face of large shipments from Para, increasing stocks, and the serious depression of the Congo industry and consequently the Antwerp market. It is satisfactory to note, however, that there has been a steady demand privately for all except the lowest kinds of Plantation Crepe, and a fairly large business has been done in this at rates comparing very favourably with the auction prices of the above-mentioned date. The quantity advertised on the 21st February was considerably in excess of immediate requirements, and owing to the great scarcity of orders for any kinds except medium crepe, a very large proportion of the sale had to be bought in for want of competition. Among the lots disposed of, medium crepe met with most attention. A few lots of biscuits changed hands at in the neighbourhood of Rs. 3, the highest price of the auction being realised for a small lot of Rangbode Biscuits which sold at Rs. 3-5 per lb. There were also a few orders for unwashed scrap, a fair proportion of which was sold at prices showing a decline of about 3d. to 5d. per lb. on last sale rates, medium crepe being about 2d. to 4d. lower. The annual exports of plantation rubber from Malaya and Ceylon have been:—

	Singapore. Tons.	Penang. Tons.	Ceylon. Tons.	Total Tons.
1903 . . .	...	...	18	...
1904 . . .	...	...	34	...
1905 . . .	83	47	75	205
1906 . . .	327	58	146	531
1907 . . .	649	236	243	1,133

The Organising Manager of the Rubber Exhibition, to be held in London on September 21st to September 26th next, informs us that the Board of Trade has certified the Exhibition to be an

international one and that his Committee have received support far exceeding their expectations. He sends us a specimen of the form of application for floor space, and this may be inspected at this office.

The quantity and the value of gold extracted from the Indian Mines in January, 1908, were 45,066 ozs. and Rs. 25,71,204 and those of April to January, 1908, were 456,005 ozs. and Rs. 2,60,26,328. The output as compared with the corresponding period of 1906-07 and 1905-06 was as follows:—

	Month of January, 1908.		
	1908.	1907.	1906.
Mysore . .	{ ozs. 43,943 Rs. 25,06,329	{ ozs. 44,975 Rs. 25,63,462	{ ozs. 50,932 Rs. 29,07,604
Nizam's Territory.	{ ozs. 1,123 Rs. 64,875	{ ozs. 1,121 Rs. 64,000	{ ozs. 1,139 Rs. 66,000

	10 Months, April to January, 1908.		
	1907-1908.	1906-1907.	1905-1906.
Mysore . .	{ ozs. 444,814 Rs. 2,53,81,328	{ ozs. 462,538 Rs. 2,65,72,866	{ ozs. 515,335 Rs. 2,96,18,013
Nizam's Territory.	{ ozs. 11,191 Rs. 6,45,000	{ ozs. 11,623 Rs. 6,67,448	{ ozs. 11,057 Rs. 6,80,890

We see from the Review of Forest Administration in British India for the year 1905-06, a copy of which has just reached this office, that the total area of forest lands at the close of the year was 233,651 square miles, which is equal to 24.1 per cent. of the total area of British India. By way of contrast we give the forest areas of the following countries in square miles:—France, 32,408; United States, 98,127; Germany, 21,868; European Russia, 706,487; and the United Kingdom, 4,325. Silviculture, on which the Indian timber supply of the future largely depends, is reported to have received detailed attention in all forest circles during the year under review, natural and artificial reproduction, as well as fire and cattle protected areas, being matters of special concern. Out of the total outturn of timber of 67½ million cubic feet, 10½ millions were removed by departmental agency, 51 millions by purchasers, 1½ million by free grantees, and 4½ million by right-holders. The outturn of fuel was 171½ million cubic feet, or nearly 14 millions cubic feet less than in the preceding year. The total yield of bamboos was 210 millions. Including minor forest produce, the gross revenue during the year was Rs. 2,66,74,593 against an expenditure of Rs. 1,42,58,521, leaving a surplus of 1,24,16,072, the proportion of expenditure to gross revenue being 53 per cent. The gross revenue of the department has approximately quadrupled during the past 33 years, while the surplus has during that period increased six-fold; but the gross revenue and surplus for 1905-06, quoted above, are the highest on record. The total value of exports of forest products at ports of shipment amounted to rupees 469 lakhs, as compared with 442 lakhs in the preceding year. These exports included 279 tons of caoutchouc against 211 tons in 1904-05; 13,723 tons of lac valued at 318 lakhs of rupees,

against an average of 10,988 tons for the five preceding years; and 52,768 tons of teak wood valued at Rs. 70½ lakhs, as against 46,912 tons, valued at Rs. 60 lakhs in the preceding year. A interesting section of the Report is devoted to forest administration in Native States. In Mysore, for instance, the gross forest revenue rose to Rs. 20,07,514 from Rs. 19,28,250 in the previous year, and the surplus to Rs. 13,32,410, against Rs. 12,89,655. The ratio of expenditure to gross receipts was 33.6 per cent. The contribution to receipts from the sale of 2,466 tons of sandal was Rs. 12,52,394, or an average of Rs. 507 per ton, the highest price yet realised. In the Indore State experiments were undertaken in propagating lac. The climatic conditions are said to be favourable, and it is believed that a large revenue will ultimately be realised from this product.

The *Corn Trade News* gives the following summary of the world's crops as on the 18th ultimo:—United States of America.—Reports of winter wheat crop moderately unfavourable, owing to unseasonable weather and the presence of insect pests. Argentina.—Rains relieved the drought yesterday, which most welcome for pasture and may help maize in the later districts. The latest estimate of the wheat crop, published in Chicago, shows about a million quarters increase on official figure. India.—Improvement crop prospects maintained. Australia.—No change. Russia.—General condition, winter crops not considered unsatisfactory, but south-west worse than other parts, and this an important grower of winter wheat. Roumania.—The weather is mild and favourable, with some snow. Bulgaria and Hungary.—Weather fairly seasonable and crops still have snow cover. France.—Occasional complaints about crops heard but outlook generally favourable, and liberal offers by growers confirm this. Germany.—Weather rather variable; crops without snow cover, but no complaints beyond this. United Kingdom, Italy, Spain, and North Africa.—Weather and crop news generally favourable.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 15th February, 1908, were as follows:—Wheat, 33s. 1d.; Barley, 26s. 9d.; Oats, 18s. 0d.

Commenting on the copper market, the *Ironmonger* of the 22nd ultimo remarks that somehow outside operators, especially those who dabble in shares and copper at the same time, seem to take a favourable view of the outlook, which view, however, is not taken in trade quarters in the closest touch with the situation in the metal market. A level will of course be reached at which copper will be safe to buy, but at present Europe is gorged with

metal at a time when trade is wretchedly poor, while there are considerable stocks in the United States and a general resumption of operations is in progress in the leading American mining camps. In manufactured copper business is almost at a standstill and the same applies in a lesser degree to refined descriptions. As regards tin, the same paper states that neither the intrinsic nor the technical position of tin has changed materially. Eastern prices have been fairly well sustained. There has been a good deal of "bear" covering, and some American buying; but a noteworthy point in the position has been the way in which cash has been sold by "bull" interests, although, nevertheless, at a premium of £1 to 25s. a ton over three months. It is not out of place to refer to the eagerness with which sales of English tin have been made by leading interests, who have accepted low bids quite readily.

At the meeting of the Belgian Glass Manufacturers' Syndicate held recently it was decided to make no further reductions in prices for window glass for the export trade with India, China, or Canada, this business being far from profitable already. A Canadian offer for 100,000 cases of sheet glass at a price a little below the standard rate was refused. It was asserted that middlemen were accepting lower prices than the manufacturers, and it was agreed to investigate the matter and, if possible, take steps to remedy it. Fears were expressed that the Japanese trade would be seriously affected when the glass works now being erected at Osaka are finished. The plant will be on a very complete scale and is expected to be running shortly.

The depression in the New York cotton market, and indeed in American trade generally, has, in the view of Messrs. Hubbard Brothers and Co., obscured "the broad fact that we are at the meeting-point of two short crops in America and India, at a time when the American spinners are without supplies of either cotton or cotton goods and with the agricultural population unable to appreciate the depression in other lines of industry because they themselves are so prosperous." Messrs. Hubbard point out that in other years of panic and depression the recovery in enterprise and business has been attributed to the growth of crops and their sale at profitable prices. But the United States has just grown large crops and has largely sold them at the best prices obtained for many years, and it is argued that the effect of this increased wealth must in a very short time overcome the depression through which the country is now passing. Meanwhile American spinners appear to be satisfied that the hand-to-mouth policy which they have steadily pursued for the past three months will in the end exhaust the patience of the holders of the balance of the cotton crop.

From advices to hand by the China mail which reached Calcutta this week it appears that the Indian yarn market at Shanghai has felt the effects of the sudden rise of rate of exchange about the middle of last month in consequence of which buyers wanted concessions in prices. This was only acceded to in a few quarters, with the result that the market fell nominally about a tael lower. The reaction that has latterly taken place in silver, however, had already caused a firmer tone to prevail. Business has been confined to the River markets and Szechuen, and chiefly for Nos. 10s. and 20s.

The directors of the British South Africa Company report that exceedingly good prices have been realised for cotton grown in North-eastern Rhodesia, and extensive areas in North-western Rhodesia in close proximity to the railway line have been proved to be capable of producing cotton of a marketable quality. The natives on the banks of the Kafue River are well acquainted with the cultivation of this crop, and are accustomed to weave their own cloth from the indigenous product. The Board considers that the experimental stage has been passed, and the time has arrived when the Company should undertake cotton growing on a commercial basis in this part of its territory. Steps have been taken with this object.

Two samples of cotton were forwarded recently to the Imperial Institute from Cape Colony and are of interest as representing varieties of cotton which could be grown in quantity if a sufficiently remunerative price could be realised. Sample A, grown in Griqualand West, consisted of clean, ginned cotton, free from stains but of uneven colour, varying from light-reddish to cream. The product was soft, silky and lustrous, and of normal strength. The sample evidently consisted of a mixture of two varieties, apparently Sea Island and brown Egyptian, one of which was from 1.6 to 2.1 inches long and 0.0004 to 0.0008 inch in diameter, whilst the other was from 1.0 to 1.6 inches long and 0.0005 to 0.0010 inch in diameter. Both varieties were of satisfactory quality, and if care were taken to keep them distinct they would be readily saleable. The mixed product was regarded as worth about 9½d. per lb., when "fully good fair" brown Egyptian cotton was quoted at 10½d. per lb. Sample B, grown at Port Elizabeth, was of the Sea Island variety, and consisted of clean, ginned cotton of an even cream colour. The material was soft, silky, very lustrous, and of fairly good strength. The cotton was 1.5 to 2.1 inches long and 0.0004 to 0.0008-inch in diameter. This sample was of promising quality and would be readily saleable at about 1s. per lb.

His Majesty's Consul at Rostov-on-Don (Mr. A. F. H. Medhurst) reports, with reference to the

importation of tea into Russia, that all teas received at the ports in the Rostov district are imported *via* Odessa. The leading Rostov tea firms state that Ceylon teas are rapidly ousting China teas from the market, and one firm, receiving Ceylon and Indian tea direct (*via* Odessa), state that their imports have increased from 16,000 lbs. in 1896 to 160,000 lbs. in 1906, Ceylon tea forming by far the largest part of this quantity. His Majesty's Consul at Batoum (Mr. P. Stevens) states that China has always been the principal country supplying Russia with tea. Java teas are imported in very small quantities, and are quite unknown in the Caucasus and Central Asia. From 1895 to 1899 no Ceylon teas entered Russia, and during the same period only 2,032 tons of Indian teas were imported, but from 1900 to 1904 inclusive Ceylon furnished 3,160 tons and India 935 tons. In 1905 the quantity imported from Ceylon was 8,371 tons and from India 3,258 tons. Tea from Great Britain, which very probably came from India and Ceylon, amounted to 4,194 tons from 1895 to 1899, 4,448 tons from 1900 to 1904 and 436 tons in 1905. The influx of Indian and Ceylon teas into the Caucasus, in transit for Persia, continues the Consul, apparently suddenly assumed considerable proportions towards the end of 1906, as a result of the extension, to tea traders in general, of facilities whereby the payment of duties on teas, in the event of their remaining in the Caucasus, was allowed to be guaranteed by letter in lieu of depositing the equivalent of the duty at the Custom-house of the port of entry. It may further be noted that quantities of tea shipped in Calcutta and landed at Trebizond for transport through Erzeroum to Tabreez, have, in view of the troubles on the Turco-Persian Frontier, recently been shipped to Batoum to go by rail to Djulfa, and thence by the newly-made vehicle road to Tabreez. This will probably lead to the cessation of the transport of teas for Persia by the old Asia Minor caravan route. A return of all teas imported into the Caucasus and Russian Central Asia from 1901 to 1906, and the first nine months of 1907 gives the following totals:—

	Tons.		Tons.
1901	3,410	1904	6,026
1902	4,042	1905	6,068
1903	4,291	1906	9,249
First nine months of 1907, 4,672 tons.			

NOTICES.

CALL FOR TENDERS. Kerosene.

THE Divisional Contract Officer, Meerut, is calling for tenders up to the 20th instant, for the supply of 22,860 gallons of kerosene oil.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)
Indian Produce.

(225)—A firm in Alexandria is prepared to act

as sole agents for Indian produce suitable for the Egyptian Market.

Turbans.

(226)—A merchant in Sfax desires to be placed in communication with manufacturers and exporters of silk-embroidered turbans.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Olive Street, where they will be displayed in the ante-room till Wednesday, 19th March, 1908:—

Foreign and Colonial Publications.

Australia—Intelligence Department, N. S. Wales—Bulletin No. 20—Report on Manchuria, 1907; Bulletin No. 22—Report on the Trade of S. Africa, 1906; Bulletin No. 23—Report on the Trade of China, 1906; Monthly Statistical Bulletin, December, 1907; Trade Shipping, Oversea Migration and Finance of the Commonwealth of Australia, November, 1907; Agricultural and Live Stock Statistics of S. Australia; for the year ending March 31st, 1907; Report on the Department of Agriculture, Victoria, 1905-07; Statistical Register, Western Australia, for 1906:—Part III—Accumulation; Part VI—Industrial Establishments; Part VIII—Law, Crime, etc.; Part IX—Hospitals, Charitable Institutions, etc.; Part X—Education, Science, and Art; Part XII—Miscellaneous; Statistical Register, New South Wales for 1906; Part V.—Commerce. Belgium—Monthly Account of Trade, January 1908. Canada—Weekly Trade Report, 3rd February, 1908. Ceylon—Customs Returns—January, 1908. Egypt—Monthly Account of Trade—January, 1908. United States—Mineral Products of the United States, 1897 to 1906; The production of Petroleum, 1906; The Preservative Treatment of Fence Posts; Management of Second Growth in the Southern Appalachians; Consumption of Tanbark and Tanning extract in 1906; Consumption of Pulpwood in 1906; Wood used for Distillation in 1906; Productions of slack Cooperage stock in 1906; Consumption of Cross-Ties in 1906; Some Factors in the Natural Control of the Mexican Boll Weevil.

Parliamentary Publications.

Colonial Reports—Miscellaneous Series—No. 46—Northern Nigeria, Second Report on the Results of the Mineral Survey, 1904-05; No. 47—Northern Nigeria—Report on the Results of the Mineral Survey, 1905-06; No. 48—Nyasaland Protectorate—Report on the Results of the Mineral Survey, 1906-07. Foreign Trade and Commerce—Monthly Accounts, January, 1908. Post Office Telegraphs (including Telephones)—Return for 1906-07. Treasury Chest Fund—Account for 1906-07.

Diplomatic and Consular Reports.

Mexico—Mexican Budget for the year 1908-09.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, MARCH 12, 1908.

LAC CULTIVATION IN INDIA.

WE have already noticed in these columns Mr. Stebbing's "Note on the Lac Insect," but it covers such a wide field, hitherto only imperfectly explored, that we make no apology for returning to the several matters dealt with by him. Not the least interesting part of the Note are the chapters dealing with the question of improving and systematizing the cultivation of lac, and thereby increasing the production. The methods initiated some years ago in the Central Province have passed beyond the experimental stage and deserve to be more widely known and followed in other parts of the country. Mr. Stebbing tells us that the chief improvements required are in the direction of the formation of regular areas of coppice, either from seed or cuttings, to be worked on a definite rotation. Of course, a tree that might suit admirably in one

locality for the purpose of a lac crop might not do so well in another; and only experience can show the best tree for any given locality. In the *Indian Trade Journal* of January 23rd, 1908 (p. 174), some particulars were given of the experimental cultivation of *Cajanus indicus* (arhar dal) for this purpose. If sown in November in Assam arhar dal is fit to plant out at the close of the following monsoon, the plants being by then stout saplings averaging 4 feet in height. Planted in rows 4 feet by 8 feet apart (1,360 to the acre), this tree would be ready to receive the lac insect exactly two years after first sowing. The best lac produced in Assam comes from these shrubs, and seed lac can be easily transferred from them to other suitable hosts such as *Ficus coriifolia*, *F. Comosa*, *F. elastica*, *F. religiosa*, *F. altissima* and *Zizyphus jujuba*, and Mr. Stebbing dwells upon the importance of forming nurseries for this very purpose. As we pointed out in our issue of February 20th last, experiments are now being carried on at Buldana to test the correctness of these claims, and we hope in due course to be able to report the results.

In the year 1876, and Mr. Stebbing states that the conditions are very much the same to day, Mr. McKee found that the total cost of cultivating Palas trees (*Butea frondosa*), which yield the garnet lac of commerce, averaged Rs. 5-11 per 100; and Rs. 15 per 100 for Kusum trees (*Schleichera trijuga*), from which the best orange shellac is obtained, and which are very much larger. Allowing for only one crop of lac per year (though, except in very dry areas, it will be generally possible to gather two) Mr. McKee, estimating the yield per tree at the moderate quantities of 3 seers for Palas and 15 seers for Kusum, or trees of like size, obtained, after deducting 25 per cent. for wastage, a net outturn of 5.25 maunds from 100 Palas trees, and 27.32 maunds from 100 Kusum trees. As we write, the price of shellac is somewhere in the vicinity of Rs. 60 per maund, which gives some idea of the handsome profit that could be made by an up-to-date lac farm. An important point to be remembered in lac cultivation is that the wood of the tree on which the brood-lac is to be sown is not of denser composition than the wood of the tree from which the brood-lac is gathered; though the brood-lac yield by the Kusum which is a very hard-wooded tree, appears to succeed well on every other species of trees. Another important point is that the lac incrustation may be gathered or plucked several

days before the larvæ appear and be placed on the trees destined to receive them. According to McKee, moisture is one of the great essentials for a fine crop of lac, and many disappointments, if not total failure, will result by fixing on dry, arid spots for the formation of lac plantations.

Another interesting aspect of Mr. Stebbing's Note is the information he has collected regarding the steps to be taken to improve the collection of lac. From remote antiquity it has been realised that the correct time for gathering the two broods of lac vary from May to June and from October to December. For many centuries lac was gathered for the sake of the dye it contains; but the advent of the aniline product killed that trade, and now lac is sought after solely on account of its resinous properties. To obtain the dye it was necessary to collect the lac before the larvæ swarmed out. As we have seen, the conditions have completely changed, but the old methods of collecting still continue, with the result that the manufacturers have to go through the whole process of removing the now useless dye from the stick-lac. Mr. Stebbing says that analyses of larvæ submitted in a living state to Dr. Hooper have shown that they contain 48 per cent. of pure colouring matter. It was thought at one time that lac from which the larvæ had swarmed (*phunki*, i.e., empty lac) would be devoid of colour. Such, however, is not the case, as we showed in an article in the *Indian Trade Journal* on February 21st, 1907. Mr. Stebbing records that two samples of phunki lac were sent to Dr. Hooper for examination. The first, which was taken from the tree before the larvæ had swarmed, and was sent for analysis a couple of months later when the larvæ had swarmed out and died on and around the branches, contained 3.5 per cent. of dye. The second sample comprised a set of branches gathered after the larvæ had swarmed out of them on the tree. In this case the percentage of dye was only 1.4. The distinguishing characteristics of the two samples should be carefully noted. It is clear that all the dye does not disappear with the swarming of the larvæ, and it is a question for the manufacturer to decide which kind of lac suits his purpose best. In any case, it seems, the washing processes to free the seed-lac from colouring matter will have to be undertaken, though it is reasonable to suppose that phunki lac requires less wasting than lac containing larvæ.

Mr. Stebbing next deals with the steps to be taken to increase the production of lac. The rise in the price of lac from about Rs. 15 to Rs. 60 or

more per maund is attributed to the extensive use of shellac in electrical work and in the manufacture of gramophone records, and there seems to be no present reason why the demand for it should decrease. Its systematic cultivation, therefore, would probably add in no small measure to the value of many a tract of land now given over to the production of much less valuable crops. In fact, lac cultivation on *Cajanus indicus* is said to yield more valuable returns than cotton cultivation. The necessary brood-lac can be easily imported; and, in the case of forest reserves, a good deal of scrub jungle could be profitably replaced by lac-bearing trees. Once headway had been made in the forests, owners of private land in the vicinity would not lag far behind in following the excellent example set them. In several Native States, also, a great deal might be done to further develop lac cultivation. At the present moment Mysore, Hyderabad and the Central Indian States are the most prolific lac producers, Rewah leading with a revenue of upwards of five lakhs of rupees per annum from this item alone. The chief lac tree in Rewah is *Butea frondosa*. Under present conditions, the lac grown in Native States does not hold an unenviable position in the commercial world, complaints being frequent of its dirty and mutilated condition; but these defects could be quickly altered.

In this country lac enters very largely into the agricultural, commercial, artistic, manufacturing and domestic operations of the people; and those of our readers who desire to go more deeply into the lac industry are referred to Mr. Stebbing's Note, Dr. Watt's Lac and Lac Industries (Agricultural Ledger ix of 1901), and to the various articles on lac which have appeared from time to time in the *Indian Trade Journal*, particularly those in Vol. I, pp. 102 and 437; Vol. III, p. 294; Vol. IV, pp. 9, 380 and 563; Vol. V, p. 19 and Vol. VI, p. 733.

—Writing from Singapore, the United States Consul-General states that in the province of Bienhoa, Cochin China, it is reported that the cultivation of the ylang ylang tree has been taken in hand on several estates with satisfactory results. The high price given for ylang ylang essence makes the cultivation of the tree highly remunerative. It is stated officially that two acres planted with 300 tree may give 6,500 lbs. of flowers, which at the least may yield 33 lbs. of essence.

CROP FORECASTS.

WHEAT.

Second General Memorandum on the WHEAT crop of the season 1907-08.

The provinces dealt with in this memorandum contain on an average 99.7 per cent of the total reported area under wheat in India.

The area sown this year is now estimated at 20,259,100 acres—a decrease of 8,240,700 acres or 29 per cent as compared with the figures at this date last year. The Native States of the Panjab, from which reports were not hitherto received, report a total acreage of 750,500; adding this to the figures stated above the total reported area of the present season comes to 21,009,600 acres, as against 28,499,800 acres last year.

In the British provinces the acreage is estimated at 17,246,100—a decrease of 6,996,600 acres.

In the Native States (excluding the Panjab States) the decrease amounts to 1,244,100 acres, the acreage being 3,013,000 as compared with 4,257,100 last year.

The decrease is generally attributed to deficiency of moisture in the soil owing to the early cessation of the monsoon and the prolonged drought of October—December. The winter rains though late have greatly improved the prospects of the crop, which is now reported to be in fair to good condition in all the important wheat-growing provinces except Hyderabad and parts of Bengal and Bombay. But more rain is urgently needed, especially in the Panjab and Bengal.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total area under wheat in India is ordinarily cultivated in that province; the ratio of irrigated to total wheat acreage in the province is also stated.

Panjab (29.3% ; ratio of irrigated to total wheat acreage=52.3%).—The total area sown is now estimated at 6,458,300 acres (irrigated 3,646,800 acres) compared with 9,100,100 acres last year—a decrease of 29 per cent. The figures of last year were however far in excess of all previous records: and taking the normal area at about 8,000,000 acres the present estimate falls short by about 19 per cent. Sowings on irrigated land were restricted owing to the shortage of water in the canals and the extended cultivation of fodder crops on lands watered from wells. The winter rains, though late, were copious all over the province. Late sowings on an appreciable scale have

been confined to the sub-montane districts. The rain which fell on 10th and 11th January was of the greatest benefit to the early sown crop and was just in time to save considerable areas which had been sown on light unirrigated land. The prospects of the early sown crop are from fair to average, but more rain is urgently needed. The late sown crop has germinated satisfactorily; the most favourable conditions are essential for its success, and these were obtained up to the first week of February. Since then there has been practically no rain, and unless there is a good fall immediately, the late crop will probably be a failure. The Native States report a total area of 750,500 acres sown with wheat.

United Provinces (27.1% ; ratio of irrigated to total wheat acreage=52 per cent).—Figures of acreage actually sown are not yet available; in the December forecast the total area sown was roughly estimated at 4,457,000 acres compared with 6,865,000 acres last year—a decrease of 35 per cent—and no change has been made in the present report. December was rainless, but during the second week of January good and general rain fell in all districts. In the last week of that month several districts got a sprinkling. The rain did immense good, especially to the crop which could not be irrigated. It also helped the seed sown on dry land to germinate satisfactorily. No damage from rust or any other cause has yet been reported, and the prospects are so far generally good. For the province, as a whole, the crop is estimated at 85 per cent of the normal. This estimate is however provisional, and should the strong westerly winds which have commenced to blow continue, the late sown crop is likely to be injured.

Central Provinces and Berar (12.1% ; ratio of irrigated to total wheat acreage=1 per cent). The total area sown is now estimated to be 2,843,200 acres (2,564,900 in the Central Provinces and 278,300 in Berar) as compared with 3,710,600 acres (3,270,300 in the Central Provinces and 40,300 in Berar) for last year—a decrease of 23.4 per cent, attributed mainly to the sudden cessation of the monsoon and consequent hardening of the soil. The area would have been still smaller, but that the cultivators were able after the winter rains, which set in in January, to get in some fresh seed which germinated well. Good showers were received in the first week of February except in Berar and the Nimar and Betul districts. The showers were most opportune and greatly benefited the crop which had suffered from the abnormal heat of November and the absence of dew. The crop was damaged to some extent by frost in the

northern districts. For the province, as a whole, the crop is expected to be 71 per cent of the normal.

Bombay (6.9%).—The British districts report 977,000 acres compared with 1,270,000 acres at this date last year—a decrease of 23 per cent. The Native States (including Baroda) return a total area of 405,000 acres which is 4.6 per cent larger than the area at the corresponding date of last year. The decrease in the British Districts is attributed mainly to deficiency of rain for sowing. Since the issue of the first forecast in December, some rain has fallen in Karnatak and Gujarat. The dry crop has done fairly well in Gujarat, Khandesh and Satara, but in eastern Deccan and Karnatak, it has suffered severely from deficiency of moisture in light soils. The irrigated crop promises to yield well except in east Deccan.

Bengal (4.8%).—The total area sown is reported to be 1,008,000 acres as compared with 1,402,600 acres last year—a decrease of 28 per cent, attributed to continued drought in October and November. Some rain was received in December in places, but not in Bihar where the crop is of most importance. Prospects are reported to have been somewhat improved by showers received in January, but rain is still wanted in many districts, and owing to its general scarcity up to the present a good outturn cannot be expected. A little damage by insects is reported from places in Orissa. The outturn is at present estimated to be 63 per cent of the normal.

North-West Frontier Province (3.5% ; ratio irrigated to total wheat acreage=27%).—In the December forecast the area was estimated at 854,800 acres, but the winter rains received in January made further sowings possible; and the total area is now estimated at 994,300 acres (irrigated 267,400 acres) as compared with the 1,129,400 acres of last year. The prospects of the crop are generally excellent so far.

Sind (1.9% ; ratio of irrigated to total wheat acreage=88.5%).—The total area is 441,000 acres (25,000 in Native States)—a decrease of 34 per cent as compared with last year, attributed to low inundation. Damage by frost is reported from places. The crop is in fair to good condition.

Eastern Bengal and Assam (0.7%).—The area is estimated to be 92,300 acres against 135,000 acres last year—a decrease of 31.6 per cent. Occasional showers have been beneficial; but owing to drought at the end of 1907 only a 50 per cent crop is expected.

Central India (6.6%).—The total area sown (excluding that in Gwalior from which report has

not been received) is reported to be 1,090,000 acres as compared with 1,989,000 acres last year—a decrease of 45 per cent. The condition of the crop is reported to be fair to good throughout, except on the unirrigated area in Indore.

Hyderabad (3.4%).—The area sown is reported to be 934,000 acres as against the 1,039,500 acres of last year—a decrease of 10 per cent, attributed to the holding off of the late rains. The crop is generally said to be a failure owing to insufficient rainfall and is expected to yield only one-fourth of a normal outturn.

Rajputana (3.2%).—The total area is reported to be 556,500 acres as compared with 797,000 acres last year—a decrease of 30 per cent. The crop is reported to be generally in fair to good condition.

Mysore (0.02%).—The area sown is reported to be 2,500 acres against 4,600 acres last year—a decrease of nearly 46 per cent. The crop is generally in fairly good condition.

C. W. E. COTTON,

Offg. Director-General of Commercial Intelligence.

SPRING OIL SEEDS.

Second General Memorandum on the SPRING OILSEEDS crop of the season 1907-08.

RAPE AND MUSTARD.

The British Provinces dealt with in this memorandum ordinarily bear some 5,726,500 acres of Rape and mustard seed or 99.35 per cent of the total crop of British India. The United Provinces, however, do not at this season furnish any estimate of the acreage sown with the 'mixed' crop which ordinarily represents about 37.3 per cent of the total crop of British India. Excluding this, the total acreage sown with rape and mustard this year in the British Provinces is now reported to be 3,084,100 acres—a decrease of 1,027,100 acres or 25 per cent as compared with the corresponding period of last year. To this is to be added a decline of some 16,300 acres in the smaller crop (this year 57,400 acres) reported from Native States. The total reported acreage is therefore 3,141,500 acres, and this marks a decrease of 1,043,400 acres or about 25 per cent as compared with the area at this date last year.

The crop in its early growth was badly affected by drought, but the winter rains have improved prospects, and the crop is now reported to be generally in fair condition, except in parts of the United Provinces, Bengal, and Assam where the rains were too late to be of much benefit.

LINSEED.

The British Provinces dealt with in this memorandum ordinarily bear some 3,081,200 acres of Linseed or 96 per cent of the total crop of British India. The United Provinces, however, do not at this season furnish any estimate of the acreage sown with the 'mixed' crop which ordinarily represents some 18 per cent of the total crop of British India. Excluding this, the total acreage sown with linseed this year in the British Provinces is now reported to be 1,549,400 acres—a decrease of 843,100 acres or 35 per cent as compared with the corresponding period of last year. The Native States show a decrease of 132,400 acres or 27 per cent as compared with the 677,900 acres of last year. The total reported acreage is therefore 2,044,900 acres as against 3,070,400 acres at this date last year—this representing a decrease of 33 per cent.

The season has on the whole been an unfavourable one for linseed owing to the early cessation of the monsoon and the prolonged drought; for, although the winter rains improved prospects in places, they were either insufficient or came too late to be of much benefit in some of the most important linseed growing tracts.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total area under the crop in British India is ordinarily cultivated in that province.

RAPE AND MUSTARD.

United Provinces (40%).—The area sown with the *unmixed* crop was roughly estimated in the December forecast to be about 79,000 acres—48 per cent below the 153,000 acres of last year. No change has been made in the present report. No estimate of the area under rapeseed grown in combination with other crops is available at present. The drought continued till the 10th of January when good general rain fell in all districts and greatly benefited the crop. No injury from fungoid diseases has been reported, and an outturn of 70 per cent of the normal is expected for the province as a whole. In Bundelkhand, Mirzapur, and the central sub-montane districts, where the crop is largely grown unmixed, it has been badly affected by the drought.

Eastern Bengal and Assam (24.3%).—The total area sown is reported to be 1,478,300 acres (228,500 in Assam) as compared with 1,432,400 acres (224,000 in Assam) for last year—an increase of 3 per cent. The increase is attributed to the early cessation of the rains, one effect of which was that some land which would ordinarily have

been put under transplanted rice was sown with rapeseed. The drought continued till well into the cold weather and seriously affected the growth of the crop, especially that which was sown early. Subsequent rain has, however, effected some improvement in Eastern Bengal where an outturn equal to 82 per cent of the normal is expected. In Assam the winter rains came too late to be of much benefit and the yield is expected to be smaller.

Panjab (19%). reports the area to be 723,100 acres compared with 1,402,400 acres last year—a decrease of 48 per cent. Sowings were restricted owing to the shortage of water in the canals. The copious rain received in the second week of January benefited the early sown crop and facilitated late sowings. The crop was reported to be in good to average condition at the end of January.

Bengal (13%). reports the area to be 614,600 acres compared with 818,100 acres last year—a decrease of 25 per cent. As in the case of linseed, the season on the whole has been a very bad one and the outturn is expected to be only 61 per cent of the normal.

North-West Frontier (1.6%). now reports the area to be 129,800 acres compared with 218,800 acres last year—a decrease of nearly 41 per cent. The prospects of the crop, owing to the general rain received in February, have much improved and are generally good.

Sind (1.3%). reports a total area of 60,200 acres (2,600 in Native States) compared with 88,100 acres last year—a decrease of nearly 32 per cent, attributed to low inundation. The crop has been damaged by frost in the Hyderabad district; elsewhere its condition is from fair to good.

The British districts of **Bombay (0.05%).** report a total area of 1,700 acres as against 3,000 acres last year. The Native States report 45,300 acres compared with 58,400 acres last year—a decrease of 22 per cent. The condition of the crop is reported to be generally fair.

Hyderabad now reports 9,500 acres under mustard compared with 10,700 acres last year—a decrease of 11 per cent. The season has not been a good one.

LINSEED.

United Provinces (34.3%).—The area sown with the *unmixed* crop was roughly estimated in the December forecast to be about 169,000 acres compared with 315,000 acres last year—a decrease of 46 per cent. No change has been made in the present report. No estimate of the area under linseed grown in combination with other crops is available at present. The general rain received in January greatly benefited the crop. No injury from fungoid diseases has been reported and an

CHAMBERS OF COMMERCE.

PUNJAB.

At a meeting of the Committee of the Punjab Chamber of Commerce on the 15th ultimo the following matters came up for consideration:—

Read letter No. 14033-T. from the Director General of Telegraphs, dated 5th February, 1908, enclosing a statement of the delays to telegrams crossing China from Hongkong and Shanghai to Bhamo in November and December, 1907. As the statement indicates that this route has improved much of late, it is thought that it may, on account of its cheaper tariff, commend itself to the commercial public.

Resolution.—Letter and enclosure to be circulated and filed.

Read letter from the Honorary Secretary, **Famine Relief Fund**, Delhi, to the President of the Chamber inviting the Chamber to subscribe to the fund.

Resolution.—The Secretary is instructed to point out to the Honorary Secretary of the Famine Relief Fund that the demand for labour in and around Delhi at the present time is in excess of the supply and that while the prices of food-grains have risen to a high level, the rate of wages has correspondingly advanced. It is to be stated that the Committee while they do not doubt that there is distress in the city, are of opinion that it is of a parochial nature which should be relieved by private subscription.

Read telegram from the American Consul-General, Calcutta, stating that the regulation issued on 16th August regarding disinfection of all hides and skins before shipment to the United States of America, has been revoked.

Resolution.—Telegram to be circulated and filed.

Read (1) Resolution passed at a meeting of the Anjuman Wakil-i-Kaum (Punjabian) Delhi held on 6th December, 1907, regarding a proposal that the Punjab Government be approached with a view either to the opening of a currency office in Delhi or to arrangements being made with the Bank of Bengal to accept and deliver Government Currency Notes at par. (2) The views expressed by members of the Chamber in Delhi on the proposal.

Resolution.—The Anjuman Wakil-i-Kaum to be informed that while the Committee are of opinion that it would be a convenience to trade to have a currency office in Delhi, they do not consider that there is sufficient justification for approaching Government for an additional currency office in the Province; moreover that the necessity of a currency office in the city has been to a great extent obviated by the free acceptance of sovereigns in the bazar.

Read letters Nos. 111 and 227 from the Amritsar Flour and General Mills Co., Ltd., Amritsar, and enclosures forwarded by the Honorary Secretary, Amritsar Local Branch, regarding the railway freight on Kapas to Amritsar market. It is pointed out while a concession of 10 per cent. on the freight is allowed to the Kasur and Lahore markets, merchants at Amritsar have to pay the full rate.

outturn of 70 per cent of the normal is expected for the province as a whole. In Bundelkhand, Mirzapur, and the central sub-montane districts, where the crop is largely grown unmixed, it has been badly affected by the drought.

Central Provinces and Berar (26.6%).—The total area is reported to be 684,500 acres (626,700 in the Central Provinces and 57,800 in Berar) as compared with 1,165,500 acres last year—a decrease of 41 per cent. The unfavourable sowing season and want of moisture in the soil caused by abrupt cessation of the rains precluded sowings over a full area, and germination was generally defective. The winter rains somewhat improved the prospects, but the crop was damaged in places by cloudy weather, frost, and insects. The outturn for the province as a whole is at present estimated at only 44 per cent of the normal.

Bengal (22.8%).—The total area sown is reported to be 507,900 acres as compared with 671,800 acres last year—a decrease of 24 per cent. Through the failure of the monsoon in September and the total want of rain in October and November much of the land ordinarily cultivated with linseed could not be sown, and the early growth of the seed which germinated was stunted. The rain in December and January improved prospects, but came too late to render further sowings possible. The season, therefore, has been a very bad one for linseed. The outturn is now estimated at 59 per cent of the normal.

The British districts of **Bombay (9%).** report 100,200 acres under linseed compared with 152,400 acres last year—a decrease of 34 per cent. The Native States report a total area of 10,700 as against 13,600 acres last year—a decrease of 21 per cent. The decrease is attributed to insufficient rain for sowing. The crop is reported to be fair only in Gujarat, Khandesh, Satara, and the western tracts of Karnatak. Elsewhere it has almost withered.

Eastern Bengal (3.3%).—It is reported that the area sown is practically the same as last year—namely, 87,800 acres. The growth of the crop was seriously affected by continued drought. The winter rains have, however, effected some improvement, and the outturn is estimated at 77 per cent of the normal.

Hyderabad now reports 484,800 acres under linseed as compared with 664,300 acres last year—a decrease of 27 per cent attributed to insufficient rainfall. The season has not been a good one.

C. W. E. COTTON,

Offg. Director-General of Commercial Intelligence

The Chamber is requested to take some action in the matter.

Resolution—The Manager, North-Western Railway, to be informed that complaints have been received by the Committee regarding the higher rate charged to Amritsar, than to Kasur and Lahore for the carriage of Kapas and that they will be glad to hear whether the concession allowed to the latter markets can now be extended to Amritsar.

Read letter dated 30th January, 1908, from the Secretary, Upper India Chamber of Commerce, enclosing copy of rules in connection with a register started by his Chamber for the **registration of trade marks** and designs. It is requested that publicity may be given to the fact that such a register has been opened.

Resolution—Papers to be circulated and recorded. The Secretary, Upper India Chamber of Commerce, to be thanked for his letter and informed that the Committee intend to recommend to the members of this Chamber the adoption of a similar system of registration of trade marks and designs in this office.

Read letter dated 31st January, 1903, from Messrs. Rai Sahib M. Gulab Singh & Sons, Lahore, enclosing copy of correspondence between themselves and their London Agents regarding **damage to consignments** of goods shipped to them by way of **Karachi**. The London Agents in their letter state that for some time past they have had endless complaints of the way in which goods are landed at Karachi and Messrs. Rai Sahib M. Gulab Singh & Sons, Lahore, request that the matter may be represented to the Karachi Chamber of Commerce for necessary action.

Resolution—Letter and enclosure to be filed. Letter to be addressed to the Secretary, Karachi Chamber of Commerce, stating that complaints have been received by the Committee regarding the manner in which goods are handled on discharge at Karachi and that they would be glad if his Committee would take the matter up with the proper authorities and urge that greater care be taken in future in the unloading of goods.

BURMA.

At a Committee meeting of the Burma Chamber of Commerce held on the 20th ultimo, the following items received attention:—

Read letter No. 468-2P-16, dated 11th February, 1908, from the Secretary to the Government of Burma, saying that the Lieutenant-Governor has come to the conclusion that the time has not yet arrived for the establishment of **Port Trusts at Moulmein, Akyab and Bassein**, but that he has under consideration a proposal for the establishment at Moulmein and Akyab of Advisory Councils to assist the Port Officers, which in the meantime would possess no administrative powers, but which would, if they proved useful, pave the way for Port Trusts, should such be considered desirable afterwards; also saying that other measures for improving the administration of the minor ports include a scheme for the appointment of a joint engineer for the three ports, which could not afford a wholetime

officer of the necessary experience, and that the appointment of a fully qualified engineer, whose salary should be paid by the three port funds concerned, to direct any works of importance at each place has been suggested, and also of a port conservator for Moulmein, where the complex problems presented by the navigation of the river seem to indicate the desirability of such an appointment.

Resolved.—That the letter be circulated to Members.

Read letter, dated 4th February, 1908, from Messrs. J. & F. Graham & Co., asking that the Director-General of Telegraphs may be invited to express his opinion as to whether certain artificial code words were defensible on the score of their similarity to certain genuine words; also asking that the Director-General of Telegraphs may be requested with regard to his circular concerning **deposit for telegraphic repetition calls** to sanction a system of deposits without commission, as not more than 4 per cent. of mistakes are due to the words having been so written by the sender, whereas the remaining 96 per cent. are the fault of the Telegraph Department, and saying that it is difficult to see why the public should be called upon to pay a commission seeing that the deposit system will benefit the Telegraph Department much more than the public; also letter, dated 10th February, 1908, from the Bengal Chamber of Commerce, enclosing copy of a letter from the Director-General of Telegraphs on the subject of mutilation of telegrams, to the effect that the typewriter has not been in use long enough to allow of any improvement being noticeable.

Resolved.—That a representation be addressed to the Director-General of Telegraphs in terms of Messrs. Graham & Co.'s letter.

Read letter, dated 12th February, 1908, from Messrs. E. Dyer & Co., Mandalay, regarding **Excise Administration in Burma**; also saying that they ordered some goods from an English firm, which were despatched per S. S. *Worcestershire* in August, 1906, freight paid and insured to Mandalay, but the goods were sold by the Port Trust to defray wharfage, and asking for the advice of the Chamber on the subject with a view to obtaining redress.

Resolved.—(1) That the points raised with regard to excise be referred to the Special Excise Sub-Committee. (2) That, with reference to the goods sold by the Port Trust Messrs. Dyer and Company be referred to their Home Agents.

Read letter, dated 23rd January, 1908, from the Upper India Chamber of Commerce, Cawnpore, forwarding a copy of a letter received from the Accountant-General, Patiala State, with reference to **corruption and extortion** among members of subordinate railway staffs in India, and asking whether the Chamber would be in favour of submitting a joint representation to the Government of India on the subject.

Resolved.—That the Upper India Chamber of Commerce be informed that this Chamber will join a representation to the Government of India on the subject if other Indian Chambers do likewise.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 20th February, in the section relating to Tariff Changes and Customs Regulations gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Duty on Bottles. Commerce Act: Importation of Tinned Vegetables. Commerce Act: Proof of Country of Origin. Trade description of Imported leather.

GOLD COAST-ASHANTI.—Ashanti Firearms Ordinance, 1907.

NYASALAND PROTECTORATE.—Tariff Valuations. EGYPT.—Revised Valuation Tariff for Cotton yarns and Tissues. Revised Valuation Tariff for Linen, Hemp and Jute Wares. Revised Valuation Tariff for Rangoon and Saigon Rice. Valuation Tariff for wood. Revised Valuation Tariff for Sesame (Former, 16½ Milliemmes Present, 15½ Milliemmes.)

EGYPT-SOUDAN.—Arms Ordinance, 1907.

GERMANY.—Alterations of the Official Index governing the Tariff Classification of Imported Goods. Alterations in the Guide to Customs Clearance.

NETHERLANDS.—Stocking of Excise-free Raw Salt.

FRANCE.—Imports of Coffee and Cocoa from the Congo District. Imports of Cocoa from Dahomey.

SWITZERLAND.—Regulations relative to the Assay of Gold Watch Cases.

SERBIA.—Reduced Duty on "Articles de Glarus" applies to similar British Goods.

TURKEY.—Prohibition of the Exportation of Cereals from the Aidin Vilayet withdrawn.

BRAZIL.—Budget Law for 1908.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, March 10th.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 9th instant:—

There has been no rainfall, except in Dinajpur and Lakhimpur.

The prospects of the standing crops generally are fair.

The preparation of land for early rice and jute and the pruning, hoeing and manuring of tea are in progress.

The pressing of sugarcane and the gathering of mustard have finished in places.

The sowing of potatoes is going on in the Khasi and Jaintia Hills.

Cattle disease is reported from six districts. The prices of common rice have risen in seven districts and fallen in one only.

No scarcity is apprehended at present.

THE FAMINE.

Viceroy's Report.

THE following is a copy of a telegram, dated 9th instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Some rain fell during the week in Madras and in a considerable part of Northern and North-Eastern India. Its effect has been good, but it extended to only fourteen districts in the United Provinces and from both that province and the Punjab reports are made of damage from westerly winds or from want of rain.

There has been a further increase in the numbers on relief, which, in United Provinces, are now: works, 895,585; gratuitous relief, 305,308. In addition 17,060 persons are being relieved in the Balrampur Estates. The Spring harvest will be later than usual, and it is expected that the demand for relief will go on increasing until the middle of March.

In the Punjab 1,321 persons are employed on test works.

In Central India the numbers on relief have risen to: works, 128,988; gratuitous relief, 19,684.

In Rajputana gratuitous relief on a small scale continues to be given in Marwar and Bharatpur.

In Bengal 4,000 persons are now employed on test works and 17,338 persons are in receipt of gratuitous relief.

In the Central Provinces village works have been started in the three districts and are attended by 3,724 people. Special relief is being given to 2,137 weavers and gratuitous relief to 9,315 persons in seven districts. There is now a considerable amount of immigration into Northern districts of that province from Central India.

In the Panch Mahals district of Bombay, 1,328 persons are employed on test works and 90 persons are attending forest works in west Kandesh.

Some relief measures may be required during the hot weather in parts of five districts in Upper Burma.

The total number of persons in receipt of State relief in the whole of India is now 1,388,818.

Prices are slightly easier.

The condition of the standing crops at the end of February was generally fair, but rain is wanted, especially in the Punjab and the United Provinces to mature late sown crops.

—The steam trawler which is to be used for the purpose of developing the fisheries in the Bay of Bengal has already been purchased at home. Its name is the *Golden Crown*, and its former owners were Messrs. Hall, Leyman and Co. The trawler has been refitted for the special purpose for which it is intended, and is shortly to leave England for Calcutta.

WHEAT ELEVATORS FOR INDIA.

Discussion at Karachi.

Mr. NOËL-PATON while at Karachi attended an informal meeting of the Chamber of Commerce on March 2nd of representatives of the wheat exporting trade to discuss the question of introducing wheat elevators into India. From the *Sind Gazette* we reproduce the more important portions of his speech. After explaining that the elevator system in the United States and Canada was primarily designed to meet a traffic difficulty as was shown by the part played by the railways in financing and erecting them, Mr. Noël-Paton continued:—

Now I find no one to deny that at present the most salient and troublesome characteristic of the Indian wheat export trade is a similar demand for transportation immediately after harvest. But the most salient and troublesome feature of the testimony I have obtained from gentlemen engaged in this trade is the diversity of opinion as to the cause of the rush for carriage and shipment. I had happily concluded, from certain statistical evidence and from a slight practical knowledge of the Indian wheat trade, that the desire to get the wheat shipped early was due to a fear of damage by various agents and to the natural wish to realise the value of stocks as soon as possible—in other words, that the pressure came from this side. But I was surprised to find that this was flatly denied by one or two gentlemen more or less engaged in the trade. They contended that the desire for June to July shipment was due to a pronounced demand on the other side for Indian wheat in or about August. In support of this view I was cruelly referred to a table which had appeared in the *Indian Trade Journal* and which purported to show the monthly variations in the prices of wheat in England. From that statement it appeared that the price of wheat in August over a series of years was to the average price as 114 is to 100. It is true that the prices there quoted are the British Gazette averages for English wheat. But until I arrived here and Mr. Robson was good enough to give up part of his holiday on Saturday and help me to go more fully into a comparison of the various sets of prices, I had no idea of the extent to which the prices of Indian wheat are independent of those for English wheat. I find not only that there is little or no relation between them, but that the British Gazette prices are useless for the purpose of our present discussion.

Liverpool Options.

Mr. Robson and I have got out the monthly quotations for Liverpool options for three years, and these, I agree, are much more instructive. I have here a very primitive chart showing, on the average of the three years 1905-06-07, the extent to which the respective sets of prices diverge in different months from the average. It is, perhaps, scarcely necessary to remind you that the abnormal course of prices in the latter half of 1907 counts for a great

deal in the high levels of options and Indians in September to December, as shown in the chart. It might almost have been wise to leave out such an exceptional year; but as an alternative I have in the Indian curve included 1903 and 1904 to get a sounder average.

	White, Karachi.	Liverpool Options.	Gazette average.
	per cent.	per cent.	per cent.
January	99.6	99.0	95
February	99.1	98.6	96
March	98.6	95.2	96
April	98.8	94.6	96
May	98.5	98.0	98
June	96.0	98.0	105
July	98.1	100.4	104
August	98.3	96.0	114
September	101.0	100.2	97
October	105.0	106.5	96
November	103.9	105.8	102
December	103.0	108.1	100

The following facts are to be noted:—

(1) The Gazette prices have no apparent relation to the prices of options or of Karachi wheat. They rush up rapidly from April when presumably the home wheat becomes scarce; and they come down with a run when the new crop and the American crop are to hand. (2) There is a clear relation between the prices of options and of Karachi wheat. (3) Karachi wheat is not at its best as regards prices in the month of August as was contended, but is considerably below its average level. Therefore, so far as the level of prices has any value as evidence regarding supply and demand—and their value in that sense is generally admitted—the evidence here points not to a demand exceeding supply, but to offering greater than the demand. In other words, the diagnosis must be that the main cause of the heavy arrivals in August is the desire of holders on this side to sell. One friend assured me positively that it arose from the desire that the Indian crop should come on the home markets as a stop-gap between the Argentine crop and those from Russia and the United States. This, however, has been successfully refuted by another friend in the trade; and yet a third friend has furnished what, I think, must be accepted as the principal reason for such special demand as exists in August. It is that the home crop has not come on the market.

British Wheat Crop.

The home crop does not come on the market month by month like the imports, so it is unfortunately impossible to show it on the same chart with monthly arrivals from abroad. The home crop usually amounts to some 1,634,000 tons per annum or 136,200 tons per mensem, this being roughly one-third as much as the total imports. I speak, of course, from such statistics as I have been able to get together here and on a holiday. The total

imports are about 4,796,000 tons per annum or not far from 400,000 tons per mensem. The sum of the home crop and imports is about 6,430,000 tons per annum, or say 536,000 tons per mensem, and although the imports in April, May, June, July and August are largely above the mean, they in no case attain the said figure of 536,000 tons to satisfy consumption. It follows that during these months, and still more during the other months, stocks of home wheat are drawn upon, and there is a certain and measurable demand for external supplies in August. India is able to satisfy that demand for three reasons: Firstly, this is the season when the Indian new-crop wheat naturally reaches the home markets if shipped soon after harvest. Secondly, Indian wheat is cheap. Thirdly, it is a dry wheat and suitable for mixing with fresh English descriptions. For this purpose, however, it is wanted, not in unlimited quantity in one month, but in successive months. In the one month it is wanted only to make good the momentary shortage till the home crop and the American crop become fully available. It is quite possible to show what the extent of that shortage in August has been in recent years. It is not unlimited; and the point to be borne in mind is that if the supply of Indian wheat increases, as we hope it will, the United Kingdom will refuse to take it all in July and August, even if we can arrange to send it at once—which we can't. A close examination of the records for the bumper year 1904 will show that forward buying was a characteristic of that year's business; and I suggest that the explanation of that feature will be found in the fact that saturation point, as regards the interval before the offering of the home crop, was reached. This accords with the view which one would *a priori* be disposed to maintain: that if millers at home could get sound Indian wheat in constant supply throughout the year, they would prefer to have it so; and I find that all the most experienced shippers in Karachi endorse that view unreservedly. But it was just as confidently controverted by a very leading merchant—though not personally engaged in the wheat trade—in another port, and that is my chief reason for coming here.

The Main Point.

This is the crux. If there is a strong and unlimited demand for Indian wheat in August, we shall probably never be able to meet it much better than at present. If, on the other hand, the demand for August delivery is limited, and forward buying takes place as soon as that momentary demand has been satisfied, then we must put ourselves in a position to hold our stocks and to send them forward in sound condition as they are required for consumption. When the new irrigated wheat areas up-country come into full bearing, we may reasonably look for larger supplies for export in good years and larger surplus for internal consumption in times of famine. But not only will foreign countries refuse to take this additional crop in

July and August and store it till they want it, but it is impossible to justify financially any proposals for further railway expenditure on which a return cannot be earned except during the months or weeks of the wheat rush. Here I am met with statements that, in this part of India at all events, wagons are not at any season of the year obtainable in the numbers wanted for other trades; and one merchant has even asserted to me that if there were purchases of sufficient wagons to move the whole of the export wheat crop before the rains, they might be profitably employed in other trades during the rest of the year. I do not quite know on what specific grounds the statement is based, and I do not find it supported either by the persons professionally engaged in testing such propositions, or indeed by the mass of the practical merchants in this and other ports. It is well known that, owing to the predominance of various crops at certain seasons, a very large proportion of the haulage done on certain lines is empty haulage. No doubt it is possible to procure by clamour a little more railway expenditure than could be justified by direct argument. But there is a limit to this, and it behoves business men, among whom I try to keep myself mentally if not in fact, to recognise when the limit has been reached and to look about spontaneously for a new escape from our *impasse*. So the points, on which I should like to have your collective opinion, are:—

A Few Questions.

1. Is it agreed that the buyers on the other side would take Indian wheat more or less throughout the year if they could get it sound, free from weevil and at a low price? Would they not, in fact, prefer to have it uniformly throughout the year?

2. Is it agreed that when the new irrigated areas up country come into bearing, there will be a large increase in the wheat supply for export in good years?

3. Is it seriously contended that sufficient rail-equipment should be provided to move that increased wheat supply to the coast before the rains?

4. If not, what arrangements are to be made to hold the produce in security? Is storage in pits and godowns likely to give such security from damage by weather, weevil and rats or likely to cost as little in the long run as bins, especially as it will probably be found that these will enable us to deal with our weevil damage to a large extent?

An informal discussion ensued on the question of providing grain silos at various large wheat-exporting stations in the Punjab and elsewhere. The general opinion expressed was to the effect that the provision of silos would not at present in any way lessen the demand on the part of exporters for greatly increased facilities in the North Western Railway to enable that railway to move wheat more expeditiously to Karachi.

SUGAR AND CINCHONA CROPS OF JAVA.

Last Year's Returns.

MR. JOHN W. STEWART, H. B. M. Consul at Batavia, has furnished us with particulars of the Java Sugar and cinchona crops during the past year. The following figures show the production of sugar in Java during 1907, as compared with the previous year :—

	1907.	1906.
Planted area . . .	281,750 acres.	260,810 acres.
Total production . .	1,144,383 Tons	1,046,691 Tons.
Production per acre . .	406 "	401 "
In exploitation . . .	176 mills	176 mills.

As a result of a most favourable monsoon, the 1907 sugar crop surpassed the production of all previous years in quantity and it is a matter for congratulation that the area under cane was considerably larger and the production per acre proved to be also the largest ever obtained. Systematic and scientific cultivation, the rational and frequent application of fertilizers, a careful selection of the cane, based on the experience of past years, coupled with the best possible attention to the prevention of cane disease, were the chief factors which, under the above mentioned propitious weather conditions, went to bring about this satisfactory state of affairs.

Valuable work has again been done by the Experimental Stations both as regards improving the class of cane and in the direction of rendering it immune from disease. It is stated that a new variety has this year been discovered which will combine a prolific growth with a very high percentage of sugar.

The late breaking of the monsoon hindered the growth of the 1908 crop, which on this account is likely to prove later and less than last year. The area planted is estimated at 284,190 acres, or 9 per cent. greater than in 1907. The lateness of the paddy crop this year will, it is feared, seriously hinder the planting of the sugar for the 1909 crop.

QUININE.

Notwithstanding the fact that the demand for quinine during 1907 was good, prices obtained in European markets for this article were extremely low and manufacturers must certainly regard the past year as an unsatisfactory one. Exports of bark were larger than ever, the figures being 8,540 tons against 6,565 tons in 1906, but it must not be lost sight of that at the end of 1906 a considerable quantity was held over for export during 1907.

The sulphate of quinine disposed of at auction and by private sales in Batavia during the last 4 years was as follows :—

1904	821,608 ozs.	9½ d. per oz.
1905	534,400 "	9½ " "
1906	916,561 "	7½ " "
1907	1,205,042 "	6½ " "

Large quinine contracts were again closed with the Italian Government, whose method for combating malarial fever is being followed by the Netherlands Indian Government.

TRADE OF FOREIGN COUNTRIES AND BRITISH POSSESSIONS.

THE following summary table has been prepared in the Board of Trade showing the total imports and exports of merchandise of the principal countries for which the particulars can be given up to November, 1907, inclusive, and referring in all cases to the same period, viz., the eleven months ended November. The corresponding figures for 1906 are added for comparison :—

	Imports (see Note below). Eleven Months ended November.		Exports (Domestic) (see Note below). Eleven Months ended November.	
	1906.	1907.	1906.	1907.
	£	£	£	£
Belgium*	116,065,000	126,133,000	92,204,000	96,130,000
France . . .	201,774,000	218,706,000	190,293,000	202,393,000
Spain . . .	36,708,000	33,922,000	32,121,000	32,813,000
Austria-Hungary . .	85,190,000	86,865,000	87,997,000	87,684,000
Egypt . . .	21,907,000	24,285,000	21,123,000	24,774,000
United States . . .	247,115,000	277,299,000	330,129,000	352,151,000
Japan . . .	39,401,000	46,330,000	38,342,000	40,552,000
British India . . .	72,245,000	78,967,000	101,721,000	115,826,000
Canada . . .	60,029,000	70,233,000	44,711,000	44,510,000
British S. Africa†	29,223,000	25,470,000	38,705,000	43,404,000
United Kingdom . .	476,018,000	504,659,000	344,264,000	393,463,000

* Value of principal articles only.
† Including bullion.

A comparison of the total figures for twelve months ended 31st December is possible for five countries, as follows, viz. :—

	Imports (see Note). Twelve Months ended December.		Exports (Domestic) (see Note). Twelve Months ended December.	
	1906.	1907.	1906.	1907.
	£	£	£	£
Germany . . .	394,410,000	422,707,000	312,652,000	337,722,000
Belgium* . . .	128,339,000	137,144,000	102,282,000	108,681,000
France . . .	225,090,000	241,906,000	210,008,000	221,681,000
United States . . .	275,105,000	298,526,000	359,316,000	394,831,000
United Kingdom . .	522,786,000	553,932,000	375,575,000	426,205,000

* Value of principal articles only.

NOTE.—In the case of Germany, Belgium, France, Austria-Hungary, Egypt, Japan, Canada and United Kingdom, the import figures given in the above summaries represent imports for home consumption. In all cases the export figures are intended to represent exports of domestic produce. In most cases, however, they include a certain amount of "nationalised" goods, i.e., goods originally imported

for consumption, and which, if dutiable, have been charged with duty, but which are subsequently re-exported.

The latest figures available as regards other countries from which returns are received by the Board of Trade are as follows :—

	Imports.		Exports (Domestic.)	
	1906.	1907.	1906.	1907.
	£	£	£	£
Russia* (9 months) .	47,074,000	53,043,000	78,489,000	78,000,000
Switzerland (9 months) .	40,743,000	45,227,000	30,600,000	33,532,000
Italy (10 months) . .	81,713,000	91,104,000	62,120,000	60,614,000
Mexico† (10 months) .	20,507,000	21,169,000	21,646,000	22,102,000
Austrian Commonwealth† (10 months)	37,029,000	42,412,000	48,608,000	52,540,000
Portugal (12 months)	13,653,000	13,598,000	6,518,000	6,863,000

* European, Russo-Finnish and Black Sea Frontiers.
† Including bullion and specie.

AGATE LEATHER.
How Manufactured.

MANY small fancy articles are made of leather dyed in such a way as to imitate the hands of colour seen in agate. Leather so dyed is called agate, or marbled leather. The skins chosen for marking marbled leather are usually sheep's skins, generally split, but sumach tanned East Indian goat, and even calf skins are sometimes used. These are too thick or strong to be used in making most of the articles for which marbled leather is employed. Agate leather, in fact, affords an excellent opportunity for making use of very thin, weak stuff, and also of skins that are useless for dyeing uniform light shades, by reason of want of uniformity in the original colour or of irregularities on the grain side. The dark agate bands hide all these defects capitally.

If not already tanned, the skins are first treated, preferably, with sumach, and are then marbled either on a natural or on a dyed ground. If the skins are to be dyed uniformly, this is done usually with a red, green, or yellow dye; other colors are less usual. The process is to dye the skins in pairs. The two must be of the same size, and laid to each other flesh side to flesh side. After dyeing rinse and drain, but do not dry the skin. It is then ready for marbling.

If the skin is not to be dyed before marbling, it should be chosen with a pale and natural colour as possible, and should be further whitened with sulphate of lead. To do this two baths are prepared, one of sugar of lead and one of sulphuric acid, each of about 3 per cent. strength. The skin is worked alternately first in the lead bath and then in the vitriol bath, giving as many dips in each case as may be necessary to get the desired colour. It is

then rinsed and drained, and it is ready for marbling without being dried.

The secret of marbling—that is to say, the production of dark panelled stripes shading one another is to dye the skin in a pleated condition. The inside of the pleats are more or less from the dye bath in proportion as the pleats are lighter or looser, and there is a great art in putting the right number of pleats into a skin to obtain the exact effect wished. The dyer has a number of square boards handy, and selects one of proper size, in all cases smaller than the skin. He then pleats the skin uniformly or unevenly, according to the timed-at-effect, until it just covers the board. A brass wire grating is then applied to keep the skin in position, and the whole arrangement is put into the dye bath, with the board uppermost. The effect of course depends not only on the pleating, but on the strength and temperature of the dye bath, on the penetrative powers of the dye, and on the time during which the dyeing lasts. All these points have to be considered by the dyer, and only experience will enable him to adjust matters properly. It may be mentioned, however, that the actual dyeing time rarely exceeds three minutes.

During the dyeing the board is moved up and down vertically. The dye-bath must be rather strong in dye, as the outside of the pleat must be dyed quickly to preclude over penetration of the bath into the inside of the folds. As above stated, no exact directions can be given as to the strength, but about 2 lb. of dye for every 4 gal. of bath is probably a fair rough average. The bath should be tested before using with a scrap of the same skin that is to be dyed. After lifting the goods they are rinsed, drained, laid flat on a bench, oiled slightly on the grained side with a pad dipped in linseed oil than dried and stretched on a frame. No artificial then must be used in drying, nor may the goods be dried in the sun. When dry the leather must be brightened. Each skin is gone over on the grain side with a 3 per cent. solution of citric acid applied with a pad. After an hour or so, another pad is used to apply milk diluted with nine times its weight of water also on the grain side. The skins are then ironed cold in the calendar and again dyed this time in the drying room. When dry they are polished with a clean dry woollen cloth and again cold-ironed if nec ar. n

As regards the dyes used the following may serve as examples but their number is very great. In fact, most dyes can be used for marbling leather. Bismarck Brown on natural ground; Naphthol green on light green; Nigrosine on yellow ground; Auramine on pale yellow ground; Cotton Blue on pale yellow.

Of course, combinations of two or even three dyes are often used.

—The experimental cultivation of flax in Behar is reported to have been very successful.

TRADE OF THE BOMBAY PRESIDENCY IN 1906-07.

ACCORDING to the Report on the Administration of the Bombay Presidency for the year 1906-07, a copy of which has just come to hand, that year was one of promise in that its industrial record seems to show that the Bombay merchant is growing alive to the fact that there are other industries than cotton worthy of exploitation. It is true, the Report tells us, that the building of cotton mills, weaving and spinning sheds, ginning factories and godowns proceeded no less actively than in former years, but the new **sugar, fibre, soap and other factories** which made their appearance, though, of course, only in the experimental stage at present, afford reasonable ground for expectation that, aided by the *Swadeshi* movement, their number will increase and induce other pioneers to break into paths of industry hitherto untrodden. One of such industries lately opened up is that of **manganese mining**, which already employs nearly 1,400 men in the Panch Mahals and promises to considerably modify conditions in that somewhat arid district. There are said to be hopes in the same direction for Ratnagiri, licenses for exploration having been applied for during the year while similar applications have been received in Dharwar, Belgaum and Bijapur. The **gold mines** of the former district were hardly so prosperous as was expected. Simultaneously with the opening out of new industries come attempts to save the old from extinction and the prophecy of failure made in the Bombay Report for last year seems likely, we are told, to be falsified, at any rate in Ratnagiri where the hand-weaving industry seems to have received an impetus from the introduction of an improved loom.

The year 1906-07 was from the commercial point of view generally prosperous, and though under various heads of imports and exports decreases are found, the figures of last year were fairly well maintained, a total increase of 2 lakhs being recorded in the private sea-borne trade of the Presidency, while in Karachi the year was the most prosperous ever known, with an increase of 22 per cent. upon the figures of the previous year and of 6 per cent. upon the last record year.

Imports and Exports.

The trade of Bombay and the trade of the Presidency are practically synonymous terms, and the condition of the trade of Bombay, though it increased in value, was hardly so satisfactory as in the preceding year. Excluding the variable factor of Treasure and discounting an almost universal rise in prices, **exports** exhibit an actual decline in quantity of 9 per cent., while **imports** increased by only 2½ per cent. Of imports by far the most important factors are comprised under "Articles manufactured and partly manufactured," which constitute 51 per cent. of the total. Under this head the competition of the Continent and the Far East with India for **twist and yarn** and **woollens** resulted in largely decreased imports, while in **cotton piece-goods** the large increase in the

import of "greys," in spite of a rise in prices and the increased production of the local mills, was counterbalanced by heavy decreases in "whites" and "coloureds." The drop, however, in the price of **sugar** at home resulted in an increase in imports of over 12 per cent., practically all contributed by Germany, while the figures under the head of liquors, though showing a decrease from the previous year, are a fully equal average of the quinquennial period. The most satisfactory feature, however, of the **import statistics** is said to be the larger development of the trade in **metals** and manufactures of metals, which is spread over all the sub-heads and testifies to the industrial progress of the Presidency. Particularly interesting are the recovery under iron, which had shown a tendency to be displaced by steel, and the large advance of 82½ lakhs under **machinery** and **mill-work**. The increase of 49 per cent. in the import of **coal** from abroad and simultaneously of 23½ per cent. in imports from Calcutta forms a further remarkable testimony to industrial progress. High prices and European competition for these products account for the fall in **raw cotton and silk**. The export trade has suffered all round, **foreign merchandise** having declined by 19½ lakhs, and **Indian produce and manufactures** by nearly 3 crores or 6½ per cent. A great proportion of the loss under the first of the two heads is due to the unrest in Persia, resulting in decreased imports into that country. Under the head of Indian produce and manufactures the bulk of the trade is absorbed by a few items; hence the heavy decline under the heads of cotton twist and yarn, grain and pulse, and opium could not be balanced by the increases in the case of the less important items. The fall in the exports of yarns is due to the glutting of the **Chinese market** which occurred in the previous year. The decline, however, in those of cloth is not considered to be wholly unsatisfactory when it is considered that production by the local mills has increased as it points to increased consumption within the country itself; the stationary position of the exports of raw cotton in spite of high prices in America points to the same conclusion. The partial failure of the monsoon in the wheat-producing districts accounted for the enormous drop of 86 per cent. in **wheat exports** and it is possible that the partial substitution of Bengal for **Malwa opium** has a great deal to do with the fall of 50 per cent. under the head of opium. The figures of distribution are interesting on account of the remarkable advance made by Germany, which is now well ahead of other European countries. The position of the British Empire shows a slight falling off, as does the percentage of British tonnage engaged in foreign trade, which fell from 70 per cent. to 69 per cent.

Land Trade.

The land trade exhibits a decline both in quantity and value from the previous year, but an advance of 11 and 12 per cent. respectively over the

average of the last quinquennial period. A fall of 53 lakhs in the local trade accounts for the decrease from the previous year as the external trade shows increases of volume in imports and of value in exports. The great fall in the price of metals caused a decrease in the value of imports in spite of the increased quantity. There were large increases under the heads of coal, oil-seeds and sugar, and a large decline under food-grains. Exports, while declining in quantity, increased by 1 per cent. in value, with large increases in kerosine, wheat and cotton piece-goods and decreases in sugar provisions, metals and gunny bags and cloth. The local trade shows a general decline all round except under the heads of metals and dyes and tans. The land trade with Afghanistan, Baluchistan and Persia expanded by over 28 lakhs or 26 per cent.

Karachi.

The advance in imports at Karachi was 10 per cent. and in exports no less than 37 per cent. Good crops in Sind and the Punjab combined with a good rainfall were the causes which brought about these satisfactory results. Under the head of imports those of sugar, oils and cotton piece-goods are the highest yet known, though strangely enough "greys" show a large decline in contradistinction to the rise exhibited in the imports to Bombay, while "whites" and "coloured", on the other hand, show record figures. The re-exports of foreign merchandise increased all round, except that of kerosine oil, especially under the head of wool with a 13 per cent. increase and cotton piece-goods with an increase of 44 per cent. in quantity and 52 per cent. in value. **Wheat**, the staple export of the Karachi trade, recovered 19 per cent. of last year's decrease, but is still 41 per cent. below the record of 1904-05. The United Kingdom absorbs practically the whole trade. There was a remarkable expansion in the **rice trade**, quadrupling the shipments of any previous year, while the favourable cotton season in Sind compensated for the partial failure in the Punjab and resulted in an increase of over 12 per cent. in the exports. Seeds, particularly cotton and rape-seed, reached record figures. The coasting trade increased by 3 per cent., the expansion being confined to the imports, exports declining by 9 per cent. The trade of the subordinate ports of Keti Bandar and Sirganda expanded by 13 per cent.

Aden.

Though there was a large increase in the foreign trade of Aden, this was almost counterbalanced by heavy decreases in the Indian and inland trade, the net result being a small total increase. The chief feature of the year is the enormous increase of trade with the United States of America, which, in spite of the proximity of Bombay, supplies Aden with the great proportion of her **cotton goods**, taking in return large quantities of coffee and hides. These goods are presumably carried in British vessels, as no ship

from the United States entered the port during the year. The trade of Bombay and Calcutta with Aden decreased by approximately 29 and 19½ lakhs, respectively. Trade with the mainland shows a further decline while the fall in the grain trade noted last year continued.

Railway Construction.

Only 63·82 miles of new railway were opened for traffic during the year, compared with 189·90 miles for the preceding year. The total length of railway has now reached 8,168·81 miles. There was considerable activity during the year in the construction of railways for Native States, work being in progress in Jaipur, Sangli, Baroda, Cutch and Gwalior. The growing importance of the manganese industry is reflected in the opening of the Mariyamanahalli (Manganese) Branch Railway on the Hospet-Kottur Railway.

The final new contract with the re-constituted B. B. & C. I. Railway Company was executed on 8th April, 1907; the contract provides for the Company working the B. B. and C. I. and R. M. Railway systems for a term of 25 years from 1st January, 1906, with the possibility of their also working the Nagda-Muttra Railway, and, if so, their liability to give up the Rajputana-Malwa Railway.

Opium Traffic.

The decline in the opium trade noted in the previous year's report has continued, the cause being the same, *viz.*, decreased export into China. The underlying cause of the decrease is considered to be the uncertainty which prevailed among dealers regarding the future action of the British and Chinese Governments on the opium question. Prices have in consequence fallen by over 12 per cent. The poppy harvest in Baroda was an excellent one, resulting in increased imports to Bombay of nearly 66 per cent.

Salt Trade.

The chief event of the year was the reduction of the salt duty from Re. 1-8-0 to Re. 1 per maund in March: it came too late, however, to have any appreciable influence upon the figures of the year under report. That the consumer will eventually get the full benefit is amply shown by the fall in prices since the reduction from Rs. 2-8-0 in 1902. In Bombay the price has actually decreased by 4 annas more than the reduction in the duty, while in 14 out of 18 districts the fall in price either practically equals or actually exceeds the amount of reduction. As the price falls the consumption increases, the average per head having increased from last year by nearly ½ lb. per head in Gujarat and ¼ lb. for the rest of the Presidency. The quality of the salt is also improving, and it is to this fact that the continually increasing exports to Madras and Mysore are attributed. The much improved figures for Baroda evince the efficiency of the new preventive arrangements, and this increase

in efficiency, combined with the decrease in the duty, is doubtless the cause of the comparatively small number of offences. The labour question affects the salt no less than other industries and the attractions of cotton picking occasioned some difficulties with the Agrias which were, however, successfully surmounted.

The position of salt in Sind is also satisfactory, consumption having gone up $\frac{1}{2}$ lb. per head and the price having decreased by Re. 0-1-8 per maund. Offences have also diminished by over one-third, though it is suggested that these figures are due rather to the reduction of the number of license-holders who were willing informers and the apathy of the preventive staff than to any diminution of offences against the Act, and that the decrease of offences actually committed has hardly been so great.

In Aden, in spite of the fact that there was no plague, the production at the Government salt works and the general consumption fell off considerably, while production at the Italian salt works also exhibits a decline of 40 per cent.

FRONTIER TRADE OF BENGAL.

Tibet, Nepal, Sikkim, and Bhutan.

The following particulars of the trade of Bengal with each of the trans-frontier countries of Nepal, Tibet, Sikkim, and Bhutan, are extracted from the official report for the year ended 31st March, 1907, issued by the Bengal Government:—

The trade of Bengal with the territories named consists principally imports of natural produce—chiefly grain from Nepal, wool from Tibet, etc.—and exports of manufactures such as cotton goods and metals. The following figures show the value of the import and export trade (exclusive of treasure) during the years ended 31st March, 1906 and 1907:—

	1905-6.		1906-7.	
	Imports into Bengal.	Exports from Bengal.	Imports into Bengal.	Exports from Bengal.
	Rs.	Rs.	Rs.	Rs.
Nepal	2,08,80,803	96,33,653	1,87,12,283	81,67,806
Tibet	11,27,488	13,52,508	11,53,226	9,47,628
Sikkim	4,07,725	4,74,691	6,78,813	5,24,798
Bhutan	11,11,241	1,54,440	11,751*	7,485*
TOTAL	2,35,27,257	1,16,15,292	2,05,56,075	96,47,717

* The trade of Bengal with Bhutan in 1906-07 is not really comparable with that of the preceding years, because out of four registering posts, three, which were in the district of Jalpaiguri, were transferred to the province of Eastern Bengal and Assam. The total value of the trade of Bengal with Nepal, Tibet and Sikkim amounted in 1906-07 to Rs. 3,01,84,554, against Rs. 3,38,76,863 in the previous year representing a decline of 10.89 per cent.

The largest item in the import trade is rice from Nepal, amounting, in the year 1906-07, to 1,252,649

maunds unhusked (value Rs. 36,85,253), and 770,882 maunds of husked (value Rs. 40,26,966). These figures exhibit a considerable falling-off from the previous year. The other principal items of import from Nepal are raw jute, tobacco, and hides, which have all three declined; animals, the imports of which in 1906-07 increased 26.5 per cent. over those of the previous year, and ghi. The most important group of exports to Nepal is that of cotton goods; in 1906-07 there was a total decrease of 23.7 per cent. in all kinds of cotton manufactures. Foreign (i.e., not Indian) piece-goods declined from Rs. 25,27,343 in 1905-06 to Rs. 19,08,495 in 1906-07; foreign twists and yarn from Rs. 8,98,921 to Rs. 7,57,406 and Indian piece-goods from Rs. 3,80,148 to Rs. 3,19,302. Among other articles which show heavy decreases are brass and copper, manufactured leather and unrefined sugar, whilst a rise has taken place in spices, refined sugar, petroleum, stationery, etc.

The trade with Tibet, which has to contend with difficulties in the matter of communications and expense of transport, shows a decrease, viz., from Rs. 24,79,995 to Rs. 21,00,854 in total value. The imports from Tibet show a slight increase, but there is a decrease in exports thereto in corals and wool, cotton twists and foreign piece-goods, glass and tobacco. The chief article of importation from Tibet is raw wool, representing 68.8 per cent. of the entire imports.

There has been a rise in both the import and export trade with Sikkim. The imports, the principal items of which are grain, fruits and raw wool, increased by 66.4 per cent., and the exports, consisting chiefly of grain, cotton piece-goods and yarn, and salt, improved slightly.

—His Majesty's Consul at Corunna reports the opening of a factory for the manufacture of sardine oil, and the making of chemical manures from fish refuse. The business, which is owned by a company composed of the trawler owners in Corunna, is under the management of a foreman who has had experience in this work at Hull. Glue is also to be a product of the new factory.

—Alloys of iron or steel with vanadium have been proposed as suitable for the working parts of machines subject to hard wear. The most serviceable alloys hitherto made are those having small quantities of tantalum and those consisting of tantalum with only a small quantity of iron. It has discovered that steel will alloy with tantalum more freely when vanadium is present. One patentee melts mild steel in a crucible at a temperature of about 2230° C., and adds 8 to 10 per cent. of previously melted vanadium, and then adds from 4 to 10 per cent. of previously melted tantalum. The alloy is an extremely hard one and can be worked at suitable temperatures.

USES OF TANTALUM.

THE suggested uses for the metal tantalum cover many branches of industry where a metal of great hardness, high-melting point and freedom from attack by the majority of chemical reagents is required. The importance with which future applications of the metal is viewed by the pioneers in its production on a commercial scale, may be judged by the fact that during the last three years over 200 patents have been secured by them. The "Tantalum lamp" is at present the application most frequently met with. It is the outcome of experiments carried out by Dr. von Bolton of Berlin, with a view to securing a metallic filament capable of replacing that of carbon used in electric incandescent lamps. The chief advantages of this lamp are stated to be (1) its high efficiency of 1.5 to 2 watts per candle power, compared with 3.0 watts required by lamps with a carbon filament, (2) the whiteness of the light produced, which approximates to that given by acetylene, and (3) that a current considerably in excess of the normal can be sent through the filament without it burning through.

The wire used for a 25-candle-power lamp measures about 0.05 mm. in diameter, is 65 cm. long, and weighs 0.022 gm., so that one kilogram of tantalum will suffice for 45,000 filaments. The filaments are not arranged in the spiral fashion usual with carbon filaments, but are wound up and down on two series of hooked glass arms. The filaments are stated to be produced by drawing the metal between diamond points.

An interesting point about these lamps is that when the filament burns through, the usefulness of the lamp is not at an end, as by gently taping the lamps so as to bring the broken strand into contact with one of its neighbours contact may be re-established and the circuit completed. There are stated to be several difficulties met with at present in the manufacture of tantalum alloys on a commercial scale, but no doubt these will be surmounted as the industry progresses. Iron alloyed with 5 to 10 per cent. of tantalum is very hard and yet ductile; the same being true of alloys with molybdenum and tungsten when the tantalum does not exceed 5 per cent.

Traces of carbon, boron, silicon, tin or titanium are said to increase the hardness of tantalum without materially decreasing its ductility, but more than 1 per cent. of carbon renders the metal so brittle that it cannot be drawn into wire. Aluminium has the same effect. The use of tantalum, containing traces of the above-mentioned metals, for the manufacture of cutting edges, tools, surfaces points, watch-springs, pens and anvils is covered by patents. The pens are stated to consist of 95 to 98 per cent. of tantalum together with from 2 to 5 per cent. of iron or tungsten. The hardening can be accomplished by heating the pens whilst embedded and in powdered charcoal.

Another suggested use for this metal is its employment as a substitute for platinum in the manufac-

ture of dishes and crucibles for chemical work. It is inferior to platinum inasmuch as it is attacked by hydrofluoric acid and fused alkali, and oxidises when heated in air, but it has the advantage of being unattacked by *aqua regia*.

NEW REFERENCE BOOKS.

THE CASE FOR THE GOAT.
With the Practical Experience of Twenty-four Experts. By "Home Counties." 7½ x 5, 162 pp. 3s. 6d. Routledge.

(Half this book contains notes, hints, and instances as to the value of goats' milk, the keeping of goats, and their peculiarities, etc., based on an article in the *Quarterly* and contributions to the *Spectator*, the *Field*, and *World's Work*; the other half contains replies from expert goat-keepers to a circular containing twenty-four questions.)

EMBROIDERY; OR, THE CRAFT OF THE NEEDLE.
By W. G. PAULSON TOWNSEND, assisted by LOUISA F. PESEL. With Preface by WALTER Crane. 7½ x 5, xx + 308 pp.

Truslove and Hanson.

(This useful, fully illustrated handbook by the Design Master at the Royal School of Art Needlework first appeared in 1889. It has now been revised, and illustrations added.)

THOM'S DIRECTORY OF THE MANUFACTURERS AND SHIPPERS OF IRELAND, 1908.
Compiled and written by J. E. LEGGATT. 8½ x 5½, xx + 692 + 98 pp.

Dublin: Thom.

GUIDE TO THE SEARCH DEPARTMENT OF THE PATENT OFFICE LIBRARY.
Third Edition. 6¼ x 4, 160 pp.

The Patent Office.

THE ROMANCE OF STEEL.
The Story of a Thousand Millionaires. By H. N. CASSON. 9½ x 6. xiii + 376 pp.

Grant Richards.

(A history of the greatest American industry from the days when "the adoption of the Bessemer process for the first time made it possible for big men to do big work." It is written "after the manner of fiction"—that is, in a highly picturesque and dramatic way, with abundance of personal facts—and in a strain of glowing eulogy for the energy and genius of "the titans of the steel industry," the rise of Mr. CARNEGIE and the development of his business being, of course, described with much detail. Some sixty of the Titans look out at us from photographic plates. The other side of the canvas is touched briefly at the end—the "slaughter house" in one steel car works and so on. "But," says Mr. CASSON, "on behalf of the corporations it should be said that many of the Italians, Slavs, and Poles show a strange indifference to death.")

MONEY AND CREDIT INSTRUMENTS IN THEIR RELATION TO GENERAL PRICES.
By EDWIN WALTER KEMMERER, Ph.D., Assistant Professor of Political Economy in Cornell University. (Cornell Studies in History and Political Science, Volume I.) 7½ x 5½, xi + 160 pp.

New York: Holt. London: Bell.

THE BEEF TRUST.
Its Operations in Great Britain. Reprinted from and published by the *Westminster Gazette*.

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in the Indian mills in January, 1908, compared with the corresponding period of 1906 and 1907 are published by the Commercial Intelligence Department:—

No. 1.—Abstract Statement of the Quantity (in pounds) of Yarn Spun.

	MONTH OF JANUARY			TEN MONTHS, APRIL TO JANUARY		
	1906	1907	1908	1905-06	1906-07	1907-08
British India.						
Bombay	40,289,923	38,644,362	38,201,109	410,740,620	402,084,052	383,381,240
Madras	2,685,154	3,090,179	3,214,106	29,648,734	30,587,796	31,126,545
Bengal	4,459,483	3,997,684	3,699,952	42,709,040	39,323,456	34,576,287
United Provinces of Agra and Oudh (also Ajmer-Merwara)	3,181,088	2,890,606	3,340,364	28,612,098	28,501,046	30,732,620
Punjab	1,371,686	1,115,704	1,175,487	12,055,765	11,702,538	10,723,054
Central Provinces and Berar	2,344,770	2,202,450	2,342,851	24,075,866	22,259,969	22,985,679
TOTAL	54,332,104	51,940,985	51,973,869	547,842,123	534,458,857	513,525,425
Foreign Territory.						
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	2,047,912	1,872,728	2,070,479	21,390,754	19,554,317	20,085,354
GRAND TOTAL	56,380,016	53,813,713	54,044,348	569,232,877	554,013,174	533,610,779

No. 2.—Abstract Statement of the Quantity of Woven Goods Produced.

[N.B.—The weight in pounds represents the weight of all woven goods; the measure in yards represents the equivalent of the weight of the grey goods alone for 1905-06, but coloured piece goods are included in the yardage for 1906-07 and 1907-08.]

		MONTH OF JANUARY			TEN MONTHS, APRIL TO JANUARY		
		1906	1907	1908	1905-06	1906-07	1907-08
British India.							
Bombay	pounds	8,791,420	9,850,803	11,073,489	113,235,448	114,583,941	131,356,933
	yards	31,664,094	41,489,791	48,677,365	395,795,272	600,093,462	573,251,949
	dozens	39,614	50,326	45,129	339,101	549,620	584,200
Madras	pounds	543,113	640,947	601,125	6,900,034	6,659,867	6,376,458
	yards	838,169	2,070,392	1,880,923	10,598,838	22,344,953	20,773,330
	dozens	...	1,429	1,958	...	10,469	12,768
Bengal	pounds	42,638	136,048	167,845	528,973	1,074,157	1,561,284
	yards	152,075	647,407	726,450	2,009,609	4,797,984	6,397,391
	dozens	676,998	614,736	864,989	6,326,588	5,957,073	7,167,639
United Provinces of Agra and Oudh (also Ajmer-Merwara).	yards	2,595,048	2,369,034	3,196,263	24,079,247	24,152,347	27,970,824
	dozens	...	2,070	4,186	...	25,884	35,800
	pounds	43,566	36,002	43,939	240,499	316,594	373,169
Panjab	yards	82,114	91,691	126,939	618,465	917,168	1,034,433
	dozens	...	40	29	...	204	1,126
	pounds	581,334	656,215	676,431	6,850,012	6,250,197	6,498,773
Central Provinces and Berar.	yards	1,960,093	2,628,803	2,797,828	20,772,171	25,293,141	26,661,281
	dozens	...	763	550	...	4,720	6,755
	pounds	10,679,069	11,934,751	13,427,818	134,081,554	134,841,829	153,334,256
TOTAL	yards	37,291,593	49,297,118	57,405,768	453,873,602	577,599,055	656,089,208
	dozens	39,614	54,628	51,852	339,101	590,897	640,649
Foreign Territory.							
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyder- abad, and Wadhwan.	pounds	659,795	592,124	703,490	6,100,161	5,779,932	6,378,428
	yards	2,632,651	2,361,318	2,740,856	23,896,548	22,360,845	24,541,238
	pounds	11,338,864	12,526,875	14,131,808	140,781,715	140,621,761	159,712,684
GRAND TOTAL	yards	39,924,244	51,658,436	60,146,624	477,770,150	599,959,900	680,830,446
	dozens	39,614	54,628	51,852	339,101	590,897	640,649

INDIAN CUSTOMS REVENUE.

The following table shows the total gross Indian Sea and Land Customs Revenue (excluding Salt Revenue) in thousands of rupees.

	IN THE ELEVENTH MONTHS, APRIL TO FEBRUARY, OF									
	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08
SEA CUSTOMS.										
IMPORTS.										
<i>Special Import Duties.</i>										
Arms, ammunition, and military stores	3,11	2,90	2,58	3,26	3,28	3,17	3,81	3,77	4,09	5,11
Liquors—										
Ale, beer, porter, cider and other fermented liquors	1,85	1,82	1,85	2,09	2,19	2,30	2,60	2,77	2,80	3,39
Spirits and liqueurs	57,91	58,91	58,32	59,16	63,20	68,21	69,24	84,35	70,66	84,16
Wines	3,46	3,24	3,28	3,19	3,60	3,46	3,37	3,61	3,49	3,60
Opium	3	3	2	3	3	3	3	3	3	4
Petroleum	42,49	39,05	42,82	49,30	49,13	39,21	42,00	33,94	33,89	41,55
Sugar (countervailing duties, 1899)	—	7,71	18,87	34,85	16,85	2,11	12	1	1	...
Sugar (countervailing duties, 1902)	—	—	—	—	3,26	19	9	1	...	...
<i>General Import Duties.</i>										
Articles of food and drink (excluding sugar)	12,95	13,25	14,98	13,96	13,26	14,21	16,53	17,62	18,09	22,65
Sugar (ordinary duties)	19,19	16,63	27,11	28,75	22,95	26,83	29,88	33,95	41,56	41,00
Chemicals, drugs, medicines and narcotics, and dyeing and tanning materials	9,80	9,03	9,88	10,97	10,84	12,55	12,49	13,11	13,81	16,85
Cotton manufactures—										
Piece goods, grey	41,71	43,94	44,16	46,67	47,36	41,02	51,14	58,60	58,91	61,53
" white	15,48	16,66	18,22	25,37	25,33	15,17	18,38	25,17	26,33	22,66
" coloured	17,59	21,38	18,28	22,02	20,34	25,10	28,74	30,15	30,31	34,57
Other goods	1,70	2,55	2,34	2,59	2,13	3,38	4,65	5,18	5,55	6,03
Metals and manufactures of—										
Silver bullion and coin	27,01	21,38	11,25	28,11	34,76	35,01	38,42	25,96	37,76	46,27
Other metals and manufactures of metals	18,05	15,04	19,92	21,25	27,29	30,37	32,21	28,15	31,45	40,39
Oils (excluding petroleum)	1,57	1,21	1,40	1,74	1,29	84	89	1,16	1,74	2,49
Manufactured articles	44,81	49,26	53,29	56,56	55,22	64,25	74,89	75,19	76,93	89,83
Raw materials and unmanufactured articles	7,93	4,96	9,22	8,64	8,11	8,47	9,21	1,090	10,41	13,19
TOTAL IMPORTS	3,26,64	3,29,00	3,57,79	4,18,51	4,00,26	3,99,29	4,45,48	4,54,79	4,64,15	5,48,78
EXCISE DUTY ON COTTON GOODS.										
EXPORT DUTIES—										
Rice and Rice-flour	84,43	73,17	70,71	74,25	1,03,47	99,84	1,07,91	97,11	83,94	81,63
LAND CUSTOMS AND MISCELLANEOUS	5,35	6,56	7,03	7,81	7,77	8,44	8,81	8,08	8,69	9,38
GRAND TOTAL	4,29,16	4,20,67	4,46,18	5,16,40	5,27,84	5,25,97	5,82,64	5,81,47	6,68,23	

—In 1899 a series of Indian mangrove barks and extracts was examined, and the results, which are recorded in "Technical Reports and Scientific Papers," published by the Imperial Institute in 1902, show that on the whole the Indian mangrove barks are poor in tanning and could best be utilised by conversion into tanning extracts. Recently a sample of extract prepared from the bark of *Rhizophora mucronata* was received at the Imperial Institute for examination. It contained 57.2 per cent. of tanning and was almost completely soluble in water. It gave a rather dark-coloured leather, and was on this account of inferior quality. There can, however, be but little doubt that with care mangrove extract of good quality can be prepared from several of the Indian mangrove barks.

—With reference to the several articles that have

appeared in the *Indian Trade Journal* on artificial silk it is of interest to note that the Union Artificial Silk Factories Company, Frankfort-on-Main, proposes paying a dividend of 15 per cent., against 20 per cent. in 1907 and 35 per cent. in 1906. The Frankfort concern, of course, works the Chardonnet or nitro-cellulose process, and it has suffered severely from the high price of commercial alcohol. Probably it is also feeling the competition of the cupro-ammonium process, which the Elberfeld Artificial Silk Company has succeeded in bringing to quite a high state of perfection. The Frankfort Company has recently taken up the manufacture of artificial leather and celluloid, and good results appear to have been obtained, though delays in the delivery of the necessary machinery prevented the full benefit from being obtained from these branches during the past year. The directors express every confidence in their proving very profitable to the Company in future

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the first half of February, 1908. (Prices are stated in annas and pies per ser=2·06 lbs.)

	Rice, common	Wheat	Barley	Jawar	Bajra	Ragi	Gram	Salt
	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.
BURMA—								
Rangoon	1 2	...	...	...	...	...	...	0 11
Toungoo	1 8	...	...	...	...	...	...	1 6
EASTERN BENGAL AND ASSAM—								
Rangpur	2 3	2 2	...	...	...	...	...	0 11
Backerganj	2 0	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 8	2 6	...	...	...	...	...	0 10
Patna	2 2	2 2	1 6	...	...	...	...	0 10
UNITED PROVINCES—								
Cawnpore	...	2 2	1 6	1 6	1 7	...	1 7	0 9
Fyzabad	...	2 2	1 9	1 9	...	...	1 9	0 11
Meerut	...	2 1	1 6	1 6	1 6	...	1 7	0 9
PANJAB—								
Delhi	...	2 1	1 5	1 7	1 9	...	1 7	0 9
Amritsar	...	1 10	1 2	1 7	1 9	...	1 5	0 7
Bawalpindi	...	1 11	1 6	1 6	1 5	...	1 6	0 7
SIND—								
Karachi	...	2 0	...	1 4	1 7	...	1 7	0 7
BOMBAY—								
Belgaum	...	2 0	...	1 2	1 3	...	...	0 10
Ahmadnagar	...	2 2	...	1 4	1 3	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 2	...	1 5	1 7	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	2 2	...	1 11	...	...	2 1	0 11
Nagpur	2 1	1 10	...	1 9	...	...	1 11	1 1
Raipur	1 9	2 0	...	...	...	...	1 11	1 1
MADRAS—								
Belary	2 6	...	...	1 2	...	1 1	...	0 11
Madras	2 4	...	...	...	...	1 4	...	0 7
Salem	2 2	...	...	1 4	1 9	1 3	...	0 10

—His Majesty's Embassy at St. Petersburg notifies that all survey work in connection with the construction of a double line on the Trans-Siberian Railway is reported to be already finished. The technical staff were to start for the railway last month. Actual construction is to commence simultaneously from both ends in April.

—Dealers in the best class of motor cars in India, remarks the *Indian Textile Journal*, have had every reason to be satisfied with the amount of their business. The regularly recurring trials for speed and reliability have kept up the public interest in the more expensive class of cars suited for long and rapid journeys. But, as in the case of the bicycle, the great demand will be for vehicles of moderate price to run like an ordinary victoria at speeds that do not exceed twelve miles an hour. Few people are aware of the great increase of cost that is involv-

ed in the making of high-speed cars. The vibration is so great that only the most costly materials can be used. A carriage carrying four persons may be drawn day after day by two horses, but, if the same persons used a touring motor car, they would want an engine of about 30 horse-power and pneumatic tyres, whilst in the horse-drawn vehicles solid rubber tyres would suffice. This has already been recognised in the United States, where a motor buggy may be had for 400 dollars, or Rs. 1,250. It is built on the exact lines of the high wheeled buggy that is not unknown in India, and is made by certain carriage builders who found their business threatened or affected by the automobile trade. The buggy is fitted with a motor and chain-driven transmission, and it is said to be in extensive demand among farmers as an economical substitute for a horse-driven buggy. As far as appearance goes, the buggy would be the more graceful vehicle, for, in spite of brass lamps, plating, upholstery and varnish, the modern motor car is a very ugly invention.

TRADE MOVEMENTS.

For the Fortnight ending 7th March, 1908.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta, lba.	946,211
Imports by sea into	Bombay	394,300
	Madras	438,175
India—	Calcutta	599,124
Exports by sea from	Bombay	5,436,370
	Madras	...

Grey Piece Goods.

Imports by sea from	Calcutta, yds.	30,540,364
Foreign ports into	Bombay	5,301,067
	Karachi	3,676,748
	Madras	3,253,979
	Rangoon	881,816

White Piece Goods.

Imports by sea from	Calcutta, yds.	9,828,359
Foreign ports into	Bombay	10,622,887
	Karachi	11,221,140
	Madras	737,227
	Rangoon	1,457,609

Other Piece Goods.

Imports by sea from	Calcutta, yds.	4,325,315
Foreign ports into	Bombay	8,167,616
	Karachi	6,895,936
	Madras	1,546,183
	Rangoon	2,304,692

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, owt.	50,738
	Bombay	9,121
	Karachi	28,961
	Madras	10,095

Cotton Raw.

Imports into Bombay	By sea cwt.	18,450
	Coastwise	61,520
	By rail	307,044
Imports into Karachi by rail		100,174
Imports into Calcutta by rail and river		26,261

• B. B. & C. I. Ry. figures only.

KEROSENE OIL, FORTNIGHT ENDING 7th MARCH, 1908.

Imports by sea into—	FROM			TOTAL.
	Russia.	America.	All other foreign countries.	
	galls.	galls.	galls.	galls.
Calcutta	...	620,580	529,838	1,150,418
Bombay	491,030	549,200	...	1,040,230
Karachi	565,123	...	...	565,123
Madras	...	...	86	86
			Bengal	764,292
			E. B. & Assam	...
			Bombay	1,791,288
			Sind	...
			Madras	...
			Indian Ports, Non-Br.	208,812
			Foreign Ports	...
Exports by sea from Burma to				...

JUTE.		
Arrivals by all routes in	Calcutta, owt.	683,047
Exports by	Calcutta { Gunny bags, No.	35,850,510
sea from	Chittagong { Jute, cloth, yds.	38,927,450
	Chittagong { Jute, owt.	601,395

COTTON SEED.		
Exports by sea from Bombay	owt.	296,499

OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river, owt.	13,149
	Bombay { By sea	1,437
	Coastwise	13,613
	By rail	...
	Karachi by rail	...
Exports by sea from	Calcutta	9,220
	Bombay	36,739
	Karachi	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river, owt.	74,269
	Bombay { By sea	1,899
	Coastwise	5,978
	By rail	107,563
	Karachi by rail	923
Exports by sea from	Calcutta	397
	Bombay	99,830
	Karachi	...

RICE.

Arrivals by all routes in	Calcutta, owt.	691,549
	Calcutta	136,767
	Chittagong	2,380
	Bombay	25,169
Exports by sea from	Karachi	10,209
	Madras	5,088
	Rangoon	2,177,751

TEA.

Arrivals by all routes in	Calcutta, lba.	314,215
Exports by sea from	Calcutta	1,220,696
	Chittagong	...

WHEAT.

Imports into	Calcutta by rail and river, owt.	47,975
	Karachi by rail	21,284
	Bombay { By sea	19,283
	Coastwise	33,879
	By rail	5,921
	Calcutta	185
Exports by sea from	Bombay	2,274
	Karachi	38,033

IMPORTS OF SUGAR, FORTNIGHT ENDING 7th MARCH, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
United Kingdom	cwt. 37	cwt. ...	cwt. 26	cwt. 56	cwt. 50	cwt. 341	cwt. 510
Germany	...	...	1,000	280	450	500	2,210
Austria-Hungary	...	...	20,745	25,822	...	...	46,567
Other European Countries	...	...	...	...	...	...	...
Java	83,728	...	10,432	79,020	...	15,349	188,529
Mauritius	20,409	...	104,968	...	...	...	125,377
Other Non-European Countries	82	...	59	100	...	140	381
					Total refined		363,574
					Total unrefined		38,273
					Grand Total, cwt.		401,847

RUBBER FROM INDIA.

Report of the Imperial Institute.

THREE samples of the rubber of *Cryptostegia grandiflora*, received from India, have been examined at the Imperial Institute, and the following summary of the results may be given :—

Sample from Madras.

This sample consisted of three flattened cakes, weighing together about 1 lb. They were dark brown externally, but much lighter and slightly porous within; the pores contained a small amount of uncoagulated latex and a quantity of dark-brown liquid having an acid reaction; a little vegetable impurity was also present. The rubber on arrival was soft but not sticky, very elastic, and possessed fair tenacity. After keeping for some time, however, it hardened a little and then exhibited a tendency to tear when stretched.

A chemical examination gave the following results :—

	Sample as received.	Calculated for dry material.
	Per cent.	Per cent.
Moisture	24.7	...
Caoutchouc	67.4	89.5
Resin	5.9	7.9
Insoluble impurity	2.0	2.6

It will be seen from these figures that the rubber is of very fair quality, the dry material containing 7.9 per cent. of resin and 89.5 per cent. of caoutchouc. The amount of moisture in the sample as received was excessive, but this could be remedied by more careful preparation.

Sample from Jalaun.

This sample was an irregular mass of rubber, almost black throughout, porous but quite dry, and contained fragments of bark distributed through it. The rubber was rather soft and slightly sticky; it exhibited very fair elasticity, but was somewhat deficient in tenacity. As in the case of the specimen

from Madras the tenacity of the rubber diminished on keeping.

An analysis gave the following results :—

	Sample as received.	Calculated for dry material.
	Per cent.	Per cent.
Moisture	5.5	...
Caoutchouc	79.9	84.5
Resin	8.5	9.0
Insoluble impurity	6.1	6.5

The sample from Jalaun therefore contained more resin and foreign matter than that from Madras, and its physical characters were not quite so satisfactory.

Sample from Bombay.

It is stated that the climbing plant *Cryptostegia grandiflora* is very common in the Bombay Presidency, and that if the rubber is of marketable quality large supplies could be obtained.

The sample weighed about 13 ounces, and consisted of a large porous lump of rubber which had been formed apparently by the aggregation of thin sheets and scrap. It was dark coloured, slightly sticky, and contained a considerable quantity of vegetable and mineral impurities. The rubber exhibited very fair elasticity and tenacity.

The rubber was found to have the following percentage composition :—

	Per cent.
Moisture	3.6
Caoutchouc	64.3
Resin	10.1
Albuminoid matter	7.9
Insoluble matter (including ash)	14.1

Ash 8.22

The percentages of resin and albuminoid matter are both high, but the chief defect of the rubber is the presence of the large amount of insoluble matter, consisting of vegetable and mineral impurities. The presence of mineral impurity points to the contamination of the rubber, possibly the scrap rubber present in the sample, by contact with the soil, and precautions should be taken to avoid this in future. The percentage of caoutchouc is rather low, but this is chiefly due to the excessive amount of the impurities contained in the present sample.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India :—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

1. Notes on Sugar in India. R1-8. (2a.)
2. Indian Cotton Seed: Its Industrial Possibilities. As. 12. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta :—

In England.

- E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.
Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

- R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

- Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambray & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoon, Bombay.
Sundur Pandurang, Bombay.
V. Kalyanaram Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.
Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	8 0
To Non-Subscribers	"	10 0

POSTAGE:—

Abroad	per copy per annum	5 0
In India	"	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	1 0
To Non-Subscribers	"	2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco * * *

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DE RESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc. * * *

It is everywhere stocked by dealers who know the selling value of goods for which the demand is established * * *

It will pay you to stock the "DeReszke."

Write for full particulars and samples to

J. MILLHOFF & CO., LTD.

(DEPT. 48), 27, COMMERCIAL STREET, E. LONDON, ENGLAND.

MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. C. I. COLUMNS

Light Railway Material of every Description.

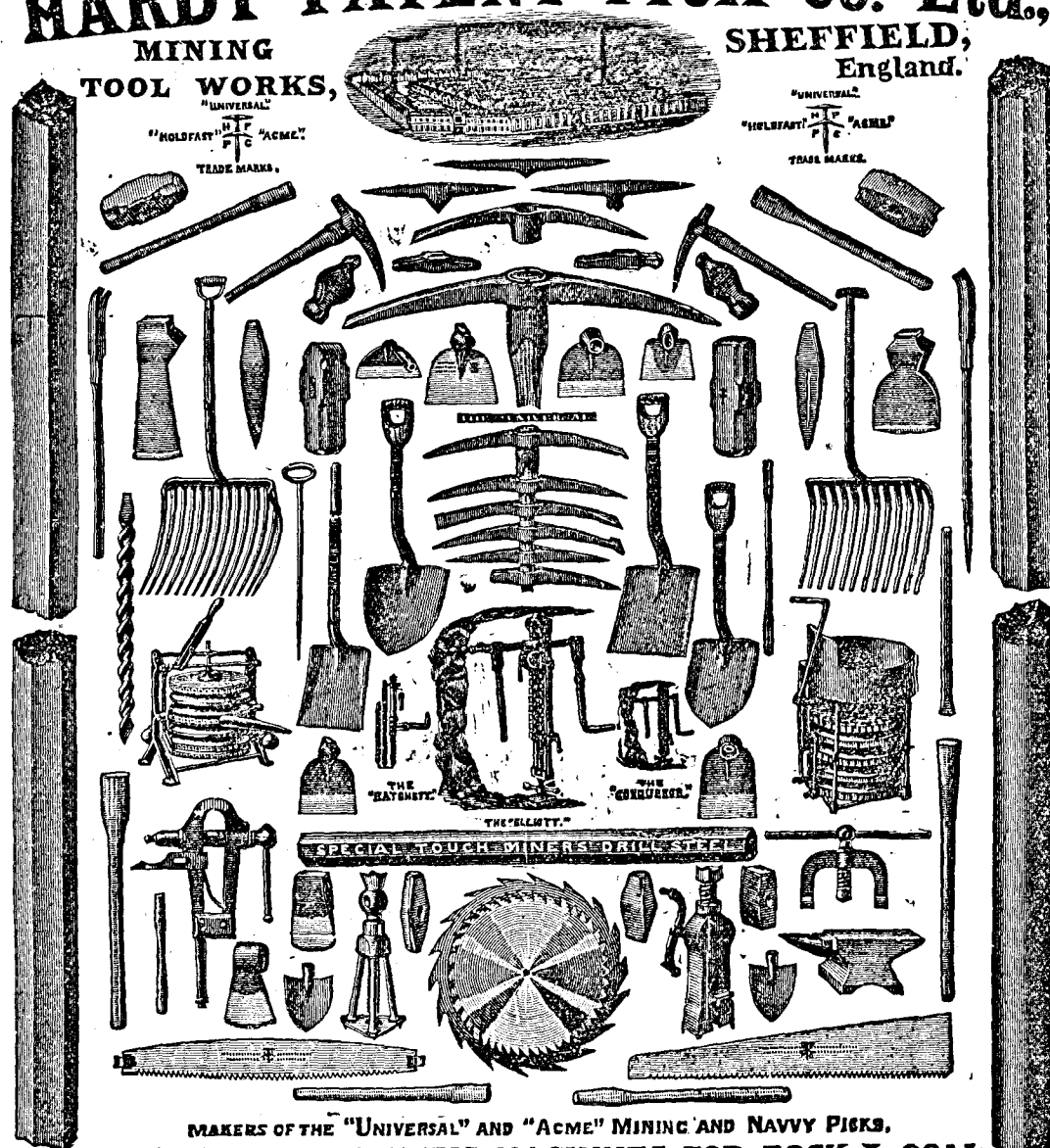
MARTIN & CO.

6 AND 7 CLIVE STREET,
CALCUTTA.

HIGH-CLASS TOOLS FOR MINERS, CONTRACTORS, QUARRYMEN, AND AGRICULTURISTS.

TELEGRAPHIC ADDRESS: HARDY PICK, SHEFFIELD. TELEPHONE, NATIONAL 157

THE HARDY PATENT PICK Co. Ltd.,
MINING TOOL WORKS, SHEFFIELD, England.



MAKERS OF THE "UNIVERSAL" AND "ACME" MINING AND NAVY PICKS.
HAND & POWER BORING MACHINES FOR ROCK & COAL.
PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS,
AND ALL MINING, QUARRY, CONTRACTORS, AND AGRICULTURAL TOOLS.

SPECIAL TOUGH DRILL STEEL, SHEAR, CAST, AND BLISTER STEEL.
SAWS, FILES, AND RASPS.
IMPORTERS OF HICKORY HANDLES.

London Office and Showrooms: 22, Queen Victoria Street, London, E.C.

DELICIOUS **COFFEE**
RED WHITE & BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.

30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,
AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine
AGENTS FOR

SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE No. 132.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH

Reference:
BANK OF SCOTLAND, EDINBURGH.

THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

MARLBOROUGH'S NEWSPAPER LIST
OF
SUBSCRIPTIONS.

Merchants and Commercial Men residing in India and the Colonies should write for the

New Price List sent Post free.

NEWS FROM THE MOTHER COUNTRY

It contains the Titles of the principal Daily & Weekly Newspapers, Periodicals, Magazines, and Reviews, etc., etc., with the subscription rates for one year.

Orders can commence from any date.

LONDON: E. MARLBOROUGH & Co., 51, OLD BAILEY, E.C.



AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.

PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
 Seeds, Plants, Manures and
 Books on Gardening and
 Agriculture.
 From
 THE INDIAN GARDENING ASSOCIATION,
 CALCUTTA.

Price List and Membership rules
 free on Application.

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment
 TO HIS MAJESTY KING EDWARD VII.
 WORLD'S HUMANE HORSE NAIL,
 KNIGHT'S PATENT 'SAFETY.'

'SAFETY' HORSE NAILS
 CONCAVE INSIDE
 CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
 Extract from Mr. SHEPHERD'S Eminent Report:—

'I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness in holding on the shoe.'

Japanese Army use exclusively.

SHOE
 SOFT NAIL
 BULGE ON
 SENSITIVE NAIL
 CLINCH SCOTT
 BY RASPING
 SAFETY CLINCHES
 SUPPORTED BY RIBS
 BEHIND, CAN'T RISE
 FRONT SECTION OF HOOF
 CUT AT HEEL NAIL
 KNIGHT'S SAFETY NAILS REQUIRE NO
 CURVING TO DRIVE OR NOTCH RASPING
 TO CLINCH & NEVER GET LOOSE
 COMPANIES SELL ALL COATS
 OF NAILS EVERY DAY THE
 SHOE IS CARRIED LONGER

London and EXPORT BRANCH,
 4 Upper St. Martin's Lane, W.C.
 Telegrams: "HORSE NAIL LONDON" Telephone: No. 5013

LITTLE'S "PHENYLE" DISINFECTANT

The best & most powerful for all purposes.

THE MOST EFFECTIVE AND SAFEST DISINFECTANT
 FOR THE BUBONIC PLAGUE.

ADOPTED BY THE INDIAN GOVERNMENT.

Cheap, economical, harmless and effective. A liberal use of this preparation prevents and arrests contagion in cases of Fever, Cholera, Scarletina, and kindred infectious diseases. Pronounced by an expert Committee (appointed by the U.S.A. Government) to be the BEST DISINFECTANT.

REFUSE IMITATIONS.

The Proprietors hereby give notice that action will immediately be taken against all intriguements of "Phenyle."

Manufacturers and Proprietors:

MORRIS, LITTLE & SON, LTD., DONCASTER, ENGLAND.

Agents for Bengal Presidency:

M. M. FRASER & CO., 59, BENTINCK STREET, CALCUTTA.

Sole Agent for Sindh, Punjab, and N.W. Provinces:

MR. MUNCHERJEE MANECKJEE, MULTAN, LAHORE, ALLAHABAD
 AND RAWALPINDI.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically
 in Gelatine.

Beechwood Brand awarded 4 Gold Medals
 and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

MARSHALL, SONS & CO., LIMITED, ENGINEERS.

Works.—GAINSBOROUGH, ENGLAND.

HEAD OFFICE IN INDIA—99, Clive Street, Calcutta.

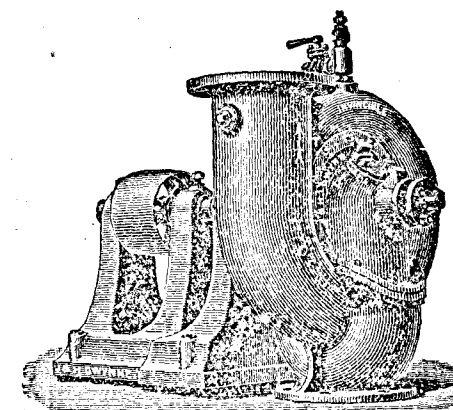
BOMBAY BRANCH—Marshall's Buildings, Ballard Road.

Ready for immediate delivery from stock in Calcutta.

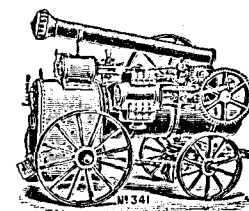
SINGLE AND DOUBLE
 CYLINDER PORTABLE ENGINES

FROM 6 TO 20 NOMINAL

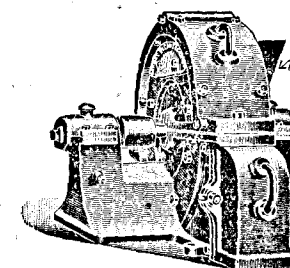
HORSE POWER.



Gwynne's Centrifugal Pumps from 3" to 12" diameter for Irrigation and
 Pumping work.



Carter's Original Disintegrators
 in three sizes for grinding kunker
 Lime, Soorkey, Cement and Broken
 Bricks.



Smedley's Overdriven Mortar Mills, with 7 ft. Pan for grinding or mixing
 very large quantities of Soorkey Lime, etc.

To let out on hire Portable Engines for driving temporary Electric Light
 Installations, pumping out tanks, Irrigation Schemes, etc.

Quotations, Catalogues and Plans promptly submitted by mentioning
 "Indian Trade Journal" to—

MARSHALL, SONS & CO., LIMITED,
 Engineers, Enquiry Department,
 POST BOX NO. 22, CALCUTTA.

“CHARLTON”

SILICATE

PAINT

Registered Patentees:

THE SILICATE PAINT Co.,

J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,

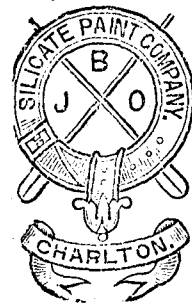
and for all

GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
OR
ARSENIC,
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.

Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., LD., Colombo.

Messrs. Oakes & Co., LD., Madras.

AND

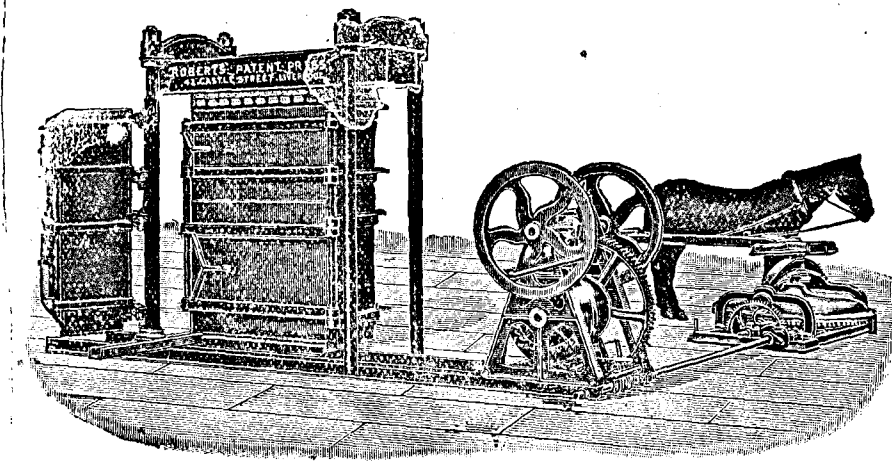
AHMUTY & Co., CALCUTTA.

ROBERTS' PATENT BALING PRESSES

WITH PATENT SWINGING BOXES.

GRAND PRIZE,

Colonial and Indian Exhibition, Crystal Palace, 1905.



ALL SIZES

OF

PRESSES

MADE FOR

Hand, Steam,

Electric, Horse,

Bullock,

OR

Water Power.

H. I. ROBERTS,

VICTORIA CHAMBERS, 42, CASTLE STREET, LIVERPOOL, ENGLAND.

Sole Agents in Calcutta: Messrs. MARTIN & Co.

Bombay Agents: KINMOND & Co.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

Bangkok.	Colombo.	BRANCHES:	Madras.	Penang.
Batavia.	Foochow.	Ipoh (Perak Feder-	Manila.	Rangoon.
Bombay.	Hamburg.	ated Malay States).	Medan (Deli	Saigon.
Calcutta.	Hankow.	Karachi.	Sumatra).	Shanghai.
Cebu.	Hong-Kong.	Kobe.	New York.	Singapore.
	Sourabaya.	Kuala Lumpur.	Tientsin.	
	Thaiping.		Yokohama.	

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
5, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
75, PHAYRE STREET.

STRUCTURAL ENGINEERS AND FOUNDERS.

Bridges, Girders, Roofs,

Tanks, Railway Wagons,

Wrought Iron Gates, Doors, and Railings.

THE EMPIRE ENGINEERING Co., LTD.

Cast Iron Columns, Brackets, Beams, etc., Designs and Estimates Free.

TRANSPORT CARTS, WATER CARTS, REFUSE CARTS. WOOD, AND IRON WHEELS,
PATENT ARTILLERY WHEELS, SEPTIC TANKS, LATRINES, AND CONSERV-
ANCY APPLIANCES A SPECIALITY. FOR ILLUSTRATED LIST APPLY TO—

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypes,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
in all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND. E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

MACBETH BROS. & CO., ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities.—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

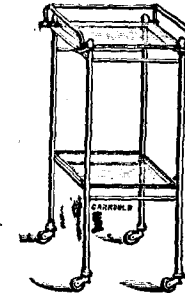
Garrould's,

To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS AND
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

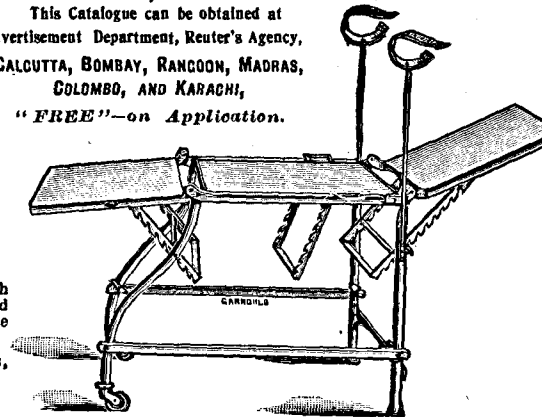
THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—
NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS,
OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLETS, CLINICAL
THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS,
CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

This Catalogue can be obtained at
Advertisement Department, Reuter's Agency,
CALCUTTA, BOMBAY, RANGOON, MADRAS,
COLOMBO, AND KARACHI,
"FREE"—on Application.



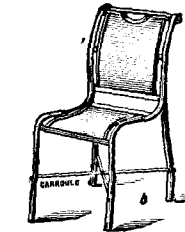
ANESTHETIC TABLE.

Size 14 in. by 14 in., with
two glass shelves, and
nickel-plated rail on three
sides.
Mounted on castors,
with rubber tyres.



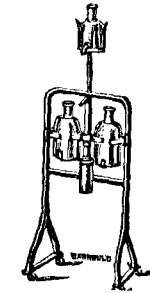
Portable Operating Table designed by Dr. J. J. BUCHANAN.

In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors,
complete with Nickel Plated Leg-rest—Will Fold up into a small space.



HOSPITAL CHAIR
(Aseptic).

Tabular frame,
enamelled white.



IRRIGATOR STAND.

Of wrought iron enam-
elled white, on rubber
castors, with 1-gallon
irrigator, adjustable to
any height. Also two
stoppered bottles for
antiseptic solution, and
cylindrical glass for
filling irrigator.

E. & R. GARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.

IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,
MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement
Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi.

 STANDS FOR —

NELSON

THIS REPRESENTS THE
WORLD'S FINEST SHOE POLISHES.

MANUFACTURED SOLELY BY **G. H. NELSON,** CLARKE ROAD, NORTHAMPTON, ENGLAND.

Agents for India and Straits Settlements, etc.
THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY
REALLY DAMP-PROOF
STONE KNOWN.

IT IS EXTENSIVELY
USED BY THE P. W. D.,
PORT COMMISSIONERS,
STATE RAILWAYS,
MUNICIPALITIES,
GOVERNMENT AND
JUTE AND COTTON MILL
COMPANIES.

AFTER 18 YEARS
IT IS STILL
WITHOUT A RIVAL.

The best floor known for Godowns, Offices, Dwelling Houses.
FOR PAVEMENTS IT CAN'T BE EQUALLED.
NO DUNNAGE NECESSARY IN GODOWNS WHERE THE INDIAN PATENT STONE IS USED.
For particulars, estimates and prices for plain & ornamental flooring laid in situ or in tiles

Apply to— **BIRD & CO.,** MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
100-1, Clive Street, CALCUTTA.

JOHN PIGGOTT, Ltd.



MOTOR CLOTHING
MANUFACTURERS.

ILLUSTRATED LIST

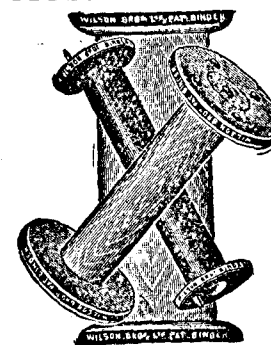
Free on application to—

Advertisement Department, Reuter's Agency,

BOMBAY, CALCUTTA, MADRAS,
KARACHI, COLOMBO or RANGOON.

[Please mention this Advertisement.]

117 & 118, CHEAPSIDE & MILK STREET,
LONDON, E.C.



WILSON BROS. BOBBIN Co., LTD.

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TODMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

RELIABLE
QUALITY
ONLY.

PADMORE BILLIARD TABLES

Over
70 Years'
Reputation.

Carry a 10 years' Warranty and hold the premier position for

STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1841

BARLOW & Co.

Import and Export Merchant.

and
Commission Agents.

Agents: **United Alkali Co., Ltd.—Fertilizers.**

Sulphur.

The Summerlee Iron Co., Ltd.
Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta

AIR COMPRESSORS,

Large Stocks held

in Calcutta.

WATER METERS,

COOLING TOWERS

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.

YOU USE THE BEST
WATERPROOF LIQUID DRAWING INKS
When Using "PELICAN" and "CHIN-CHIN" brands.

I ASK YOU TO TEST

"*Pelican*"

COLOURS for
Artists, Draughts men, etc.

RENOWNED FOR
PERFECT BLENDING WHEN MIXED.
ABSENCE OF GRANULATION.
UNEQUALLED BRILLIANCY & COLOURING.

Colour cards, etc., by request of Reuter's Agency
(Advertisement Department.)

BOMBAY

CALCUTTA

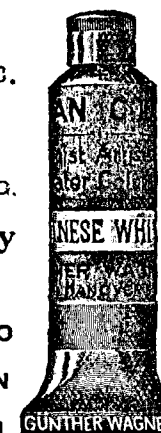
MADRAS

GUNTHER WAGNER
Sole Manufacturer
80 MILTON STREET LONDON E.C.

COLOMBO

RANGOON

KARACHI



**ST.
ERMINS
HOTEL**

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Erminites," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmis, London."

Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES,

Manufacturers of every description of

Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

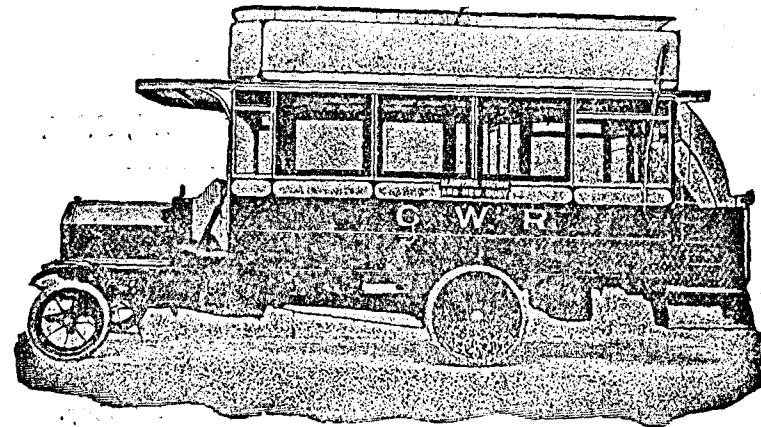
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



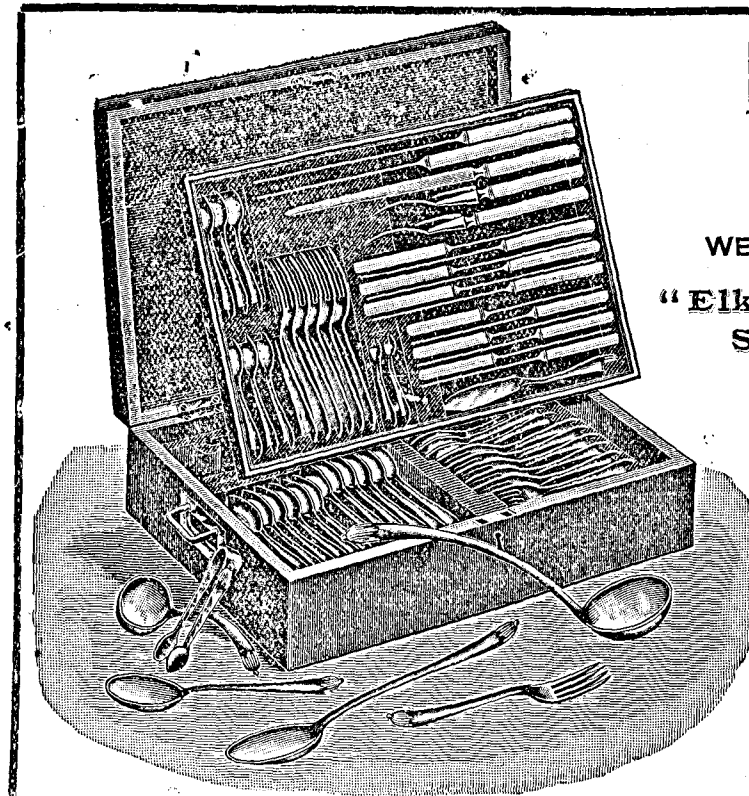
G. W. R. 1907. D. D. BUS.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

Motor Lorries,
" Vans,
" Wagons,
" Tower Wagons,
" Mail Vans,
" Omnibuses,
" Charabanc,
" Waggonettes,
" Launches, &c.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,

MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

HALLITE-DOUGLAS,

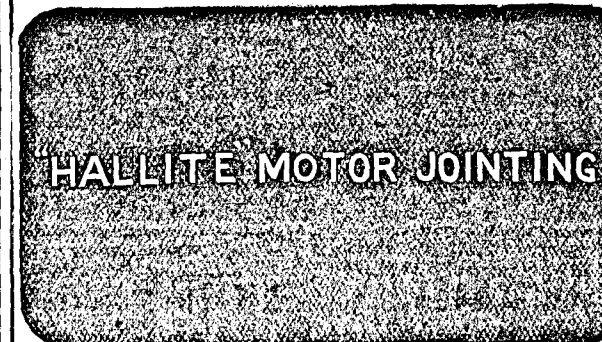
LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

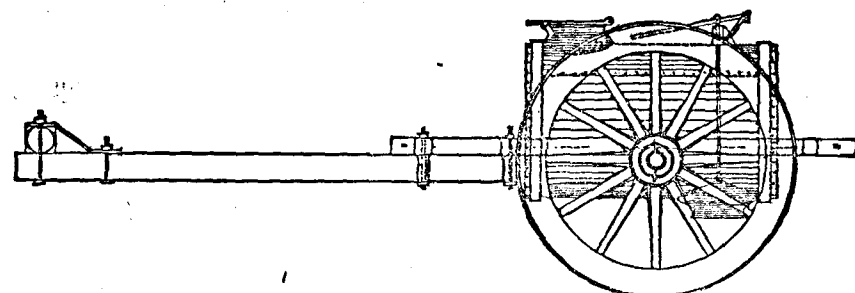
"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibr
Washers (for Water Joints).



Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Reg. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., Ltd., MADRAS,

Government Contractors.

HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE.

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

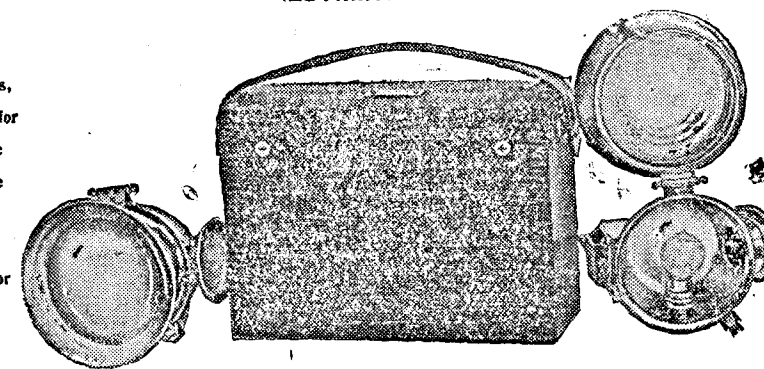
THE GRATZE

IMPROVED PLANTE AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.

(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES;

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratz Patents and Engineering Syndicate, Ltd.,

Offices and Works:

44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.

By Appointment to His Excellency the Governor of Bombay.
 Suppliers to
 HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
 THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
 THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
 OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
 THE PRINCESS OF WALES
 DURING HER STAY IN BOMBAY,
 AND BY HIS HIGHNESS
 THE AMIR OF AFGHANISTAN.

**GODREJ & BOYCE, MANUFACTURING
 SAFE & LOCK MAKERS, NEAR GAS WORKS PAREL BOMBAY**

FIRE AND BURGLAR
 RESISTING SAFES AND LOCKS.
 Highest awards at all Exhibitions.

TESTIMONIAL.
 PUBLIC WORKS OFFICE.

Bombay, 12th September 1905.

MESSRS. GODREJ & BOYCE have supplied two strong
 room doors for the Coin Vaults in the Paper Currency Building,
 Bombay. They are of good design and excellent workmanship, and
 compare very favourably with more expensive doors of English manufacture.
 The locks manufactured by this firm are all that can be desired. They are
 moderate in price, well finished and thoroughly reliable.

(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency.

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

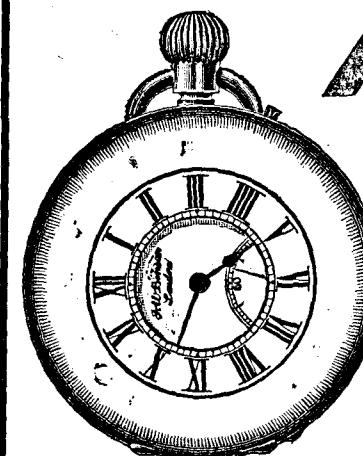
Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, etc.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

For

INDIA



Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
 special to BENSON'S WATCHES
 and strongly recommended
 for the Indian Climate. In 18-ct.
 Gold Cases, Hunting, Half Hunting or
 Crystal Glass.



Special quotations for quantities.

BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
 Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
 MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this advt.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.

THE BOASE SPINNING Co., LTD.,
DUNDEE.

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELTON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORDS BIRMINGHAM

BRANCHES: LONDON, 75, WOOD ST.; MANCHESTER, 58, THOMAS ST.; DUBLIN, 15, WICKLOW ST.; GLASGOW, 71, QUEEN ST.

DEPOTS: CAPE TOWN & JOHANNESBURG; BERLIN, KRAUSENSTRASSE, 40.

TELEGRAMS & CABLES "POUND LONDON"

A.B.C. CODE 4TH EDITION

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & Co.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.

TELEGRAMS & CABLES
"POUND LONDON"

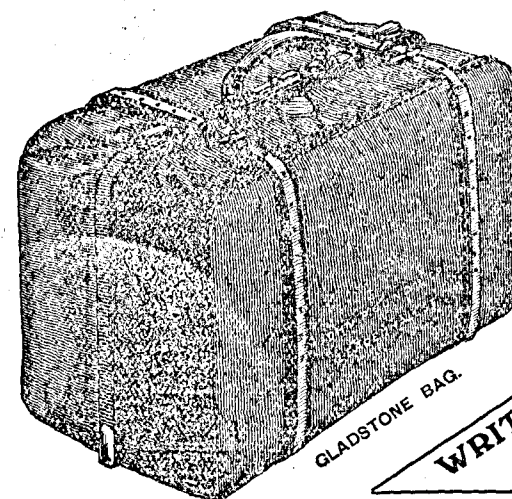
A.B.C. CODE
4TH EDITION

JOHN POUND & Co

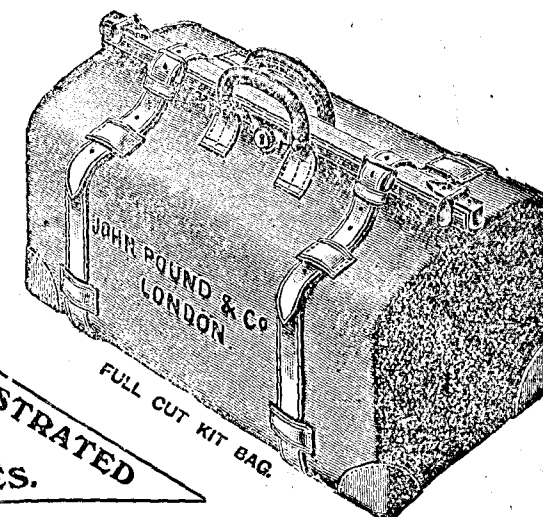
ACTUAL MAKERS

All Classes of Travelling Goods.

BAGS, TRUNKS, PORTMANTEAUS, SUIT CASES, &c.,
In Qualities to suit all Markets.



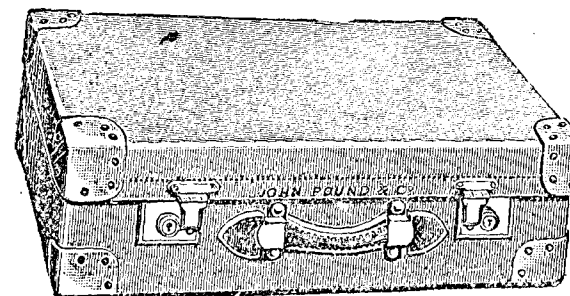
GLADSTONE BAG.



FULL CUT KIT BAG.

WRITE FOR ILLUSTRATED
CATALOGUES.

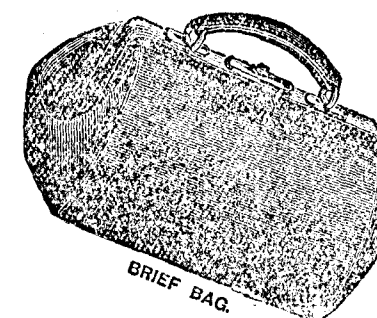
CASES { SUIT, SHIRT,
HAT, COLLAR,
BRUSH.



GENTLEMAN'S SUIT CASE.

OVERLAND,
CABIN, DRESS,
SARATOGA } TRUNKS

INDENT DIRECT OR THROUGH AGENTS.



BRIEF BAG.

Actual Makers
Of the Celebrated
"PREMIER"

Compressed CANE Trunks
(Turn-over Edge).

ENTIRE NEW METHOD OF MANUFACTURE.



KIT BAG.

Cheapest and Most Effective CANE Trunk made.

81-84, LEADENHALL ST., LONDON, ENGLAND.

WORKS:
HITECHAPEL,
ESTMINSTER & SHEFFIELD.

LISTS
May be obtained from
Messrs. REUTERS' DEPOTS.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.

14, Charles Street,
Hatton Garden, E.C. **London.**

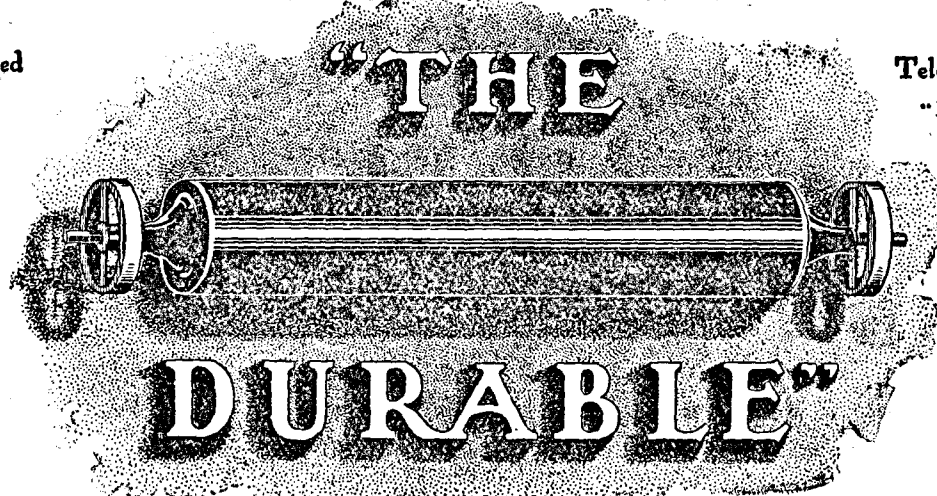
CONTRACTORS
TO THE INDIA OFFICE.

Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.



Telegrams:
"DURABLE-
ROLLERS.
LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE

"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

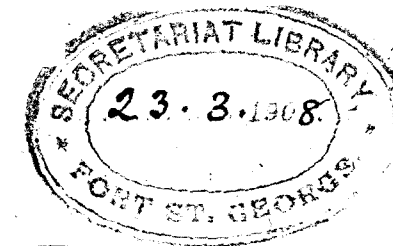
Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRINTING, INDIA,
8, HASTINGS STREET, CALCUTTA.

PUBLISHED WEEKLY.



REGISTERED



The Indian Trade Journal.

*Issued by the Commercial Intelligence Department,
India.*

VOL. VIII. No. 103.] CALCUTTA, THURSDAY, 19th MARCH, 1908.

[ANNAS 4.]

INDEX.

	PAGE.
NOTES	601
NOTICES—	
Call for Tenders	607
Enquiries	ib.
Books of Reference	ib.
LEADER—	
A Valuable Famine Food	608
CHAMBER OF COMMERCE	609
TARIFF CHANGES	610
THE FAMINE	611
INDIAN COTTON SEED	612
CHINA AND HER TRADE	ib.
THE PUNJAB AND ITS TRADE	613
WHEAT SUPPLIES AND PRICES	ib.
THE BURNING QUALITY OF TOBACCO	615
THE INDIGO INDUSTRY	616
NEW REFERENCE BOOKS	ib.
TABLE—	
Joint Stock Companies	617
WEEKLY TRADE MOVEMENTS	619
THE SHELLAC TRADE	620
DEPARTMENTAL PUBLICATIONS	621
ADVERTISEMENTS	622

NOTES.

	Wednesday Evening.
PRESIDENCY BANK RATES	
Calcutta	.8 per cent. (Mar. 5).
Bombay	.9 per cent. (Feb. 7).
Madras	.9 per cent. (Feb. 11).
EXCHANGE	
On demand	1-3 $\frac{3}{4}$
Telegraphic Transfers	1-3 $\frac{1}{2}$
3 months	1-4 $\frac{1}{2}$
6 months	1-4 $\frac{1}{4}$
GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.)—	95 $\frac{3}{4}$.

A correspondent states that, owing to the insecure state of trade routes in parts of Persia, merchants have been unable to transact business; or, in some instances, to receive their remittances from Shiraz. He fears that trade with Europe will suffer severely, as traders will not be able to meet their drafts on due date. The Persian muleteers complain of heavy losses incurred through having to pay for the forage of pack animals which have taken merchandise from various places and are subsequently held up. The local headmen, taking advantage of this plight, are charging as much as 5 annas for 6 $\frac{1}{2}$ pounds of straw, and 10 annas for 6 $\frac{1}{2}$ pounds of barley. Another correspondent states that the Director of Customs at Mohamerrah has been informed by the Persian Government that no embargo on the export of grain is to be imposed.

During the coming year 1908-09 the Government of India propose to raise a loan of three crores of rupees in India for capital expenditure on railways and irrigation works. They reserve to themselves full liberty to vary the amount now announced to any extent.

The more important provisions of the Act passed by the Transvaal Government placing restrictions on immigration into that colony, to remove therefrom prohibited immigrants and to establish and maintain an Immigration Department, are published as a supplement to the Gazette of India of the 14th instant.

At a meeting held in the Calcutta Town Hall on the 17th instant, under the presidency of the Viceroy, a Charitable Famine Fund was inaugurated. The Viceroy explained that the famine already affects nearly fifty million people; that the loss on the two great food-grain crops of maize and rice alone was estimated at fifteen crores of rupees; that gloomy accounts of the prospects of the coming harvest, especially in the Punjab, are now coming in; and that, should rain not fall within the next few days, the situation will be seriously aggravated. The King-Emperor has given his patronage to the Fund, and a Committee, with the Chief Justice of Bengal as Chairman, has been formed to administer it.

In a memorial, dated the 23rd November, 1906, from the merchants and other inhabitants of Point Calimere, the Madras Government were requested (1) to use their good offices to procure the re-opening of ports in North Ceylon to passenger traffic with India; (2) to assist in the development of the port of Point Calimere; and (3) to recommend the speedy construction of the proposed railway from Tirutturaippundi to Vedaranniyam and its extension to Point Calimere. The port of Kayts in the north of Ceylon has been re-opened to traffic with India by the Ceylon Government, and the Madras Government now consider that the present requirements of the port of Point Calimere will be sufficiently met by the appointment of an Assistant Superintendent of Customs with powers to accept and countersign manifests and grant clearances, and of a Hospital Assistant to grant bills of health. The necessary orders have been issued. With regard to the railway from Tirutturaippundi to Vedaranniyam, the memorialists are informed that a project to construct a metre-gauge line is under consideration. It is not at present proposed to extend this line to Point Calimere.

The sugar industry seems to be taking a firm hold in parts of India. We gave particulars of a new factory in our last issue, and the Pioneer now mentions others of a similar character at Amethi, Bulandshahr and Baran, in the United

Provinces. The latter is a new factory, employs 84 men, and was erected at a cost of about Rs. 9,000. All the cane comes from the fields within a radius of two miles from the factory. The crushing is done by 10 mills of the Nahan State pattern, which have three rollers and are said to give 10 per cent. more outturn than the old two-roller mills. Each of the presses turns out about six maunds (maund=82½ lbs.) of juice per day, the refuse or crushed cane being used for fuel—the only fuel used in the factory. The factory is owned by a Hindu.

An Alexandria correspondent, writing on February 16th and discussing the Egyptian cotton market says:—"On all sides contracts are being broken and the title-deed money renounced by purchasers of arable land who are unable to meet their engagements. More than one great land company could be named who are ceasing development work altogether, reducing their staffs, and preparing for three years, at least, of quiet times and non-reclamation. These signs are too genuine and widespread to be attributed to the resentment of those financiers (comprising, it is said, the large majority of the Board of the National Bank of Egypt) who were disappointed of aid from the Government Treasury towards the Crédit Foncier Egyptien, and who might be anxious to train matters in the only way that could justify their gloomy predictions of the future. The new crop remains the firmest quotation in the market."

We learn from Messrs. Noel Murray & Co.'s Report on the Shanghai piece-goods trade, dated the 20th ultimo, that the country is short of goods, and, in spite of the many disadvantages that are to be met with as regards financial arrangements, the dealers at Shanghai seem fairly confident that the consumptive demand will be brisk. The increase in the off-take by the Yangtze ports last year was decidedly encouraging, showing as it did a solid forward movement that has been lacking for years past and promises to still further develop. A good consumptive enquiry is expected, the only doubt being as to whether consumers can rise to the high prices now wanted. One good feature about the present situation is said to be the cautious way in which the Native Banks are conducting operations this year, there being an evident determination not to encourage the starting of mushroom firms amongst the Natives, as has been done so much of late years much to the detriment of the old-established Hongks. The easier feeling that was engendered by the advance in the rupee rate of exchange at the commencement of the Chinese New Year has still been in evidence, though a tendency to decline was noticeable on the 20th ultimo. Native holders of purchases made in January were forced to resell at a loss, however, which naturally had a depressing effect on the market, causing operators to hold off for possibly better terms, and though business was

slightly greater in volume it could not be called brisk. The Tientsin and Tsingtau buyers took advantage of the slight decline and bought most of the No. 10s., the higher counts being taken for the River Ports and Szechuen. The total sales reported at the date quoted amounted to 2,768 bales, the market closing steady.

The Governor General in Council is pleased to limit the operation of the Bangalore Municipal Law, 1897, in so far as it relates to the possession or transport of petroleum to the following quantities:—In the case of petroleum not being dangerous petroleum, to quantities not exceeding 500 gallons. In the case of dangerous petroleum, to quantities not exceeding 3 gallons provided such petroleum is placed in separate glass, stone-ware or metal vessels, each of which contains not more than a pint and is securely stopped.

From an official report just issued by the U. S. A. Government we learn that the total yield of crude petroleum in the U. S. A. in 1906 was 126,493,936 barrels of 42 gallons valued at Rs. 28,88,89,797. During the same year the crude petroleum produced in Russia amounted to 59,043,829 barrels of the same capacity. Prices varied enormously during the year, and the total value of the output is not quoted. In Galicia, Austro-Hungary, during the same period the total yield was 760,443 metric tons (metric ton=2,204.62 lbs.) or 71,905 barrels of crude petroleum of 42 gallons. In Roumania the output was 887,091 metric tons or 6,378,184 barrels. Germany produced 579,101 barrels valued at Rs. 37,48,500. India's share in the world's production in 1906 was 4,015,803 barrels valued at Rs. 86,13,576, or 121,295 barrels less than in 1905. The total production of the whole world in 1906 was 211,411,173 barrels, against 213,983,524 barrels in the previous year, the falling off being due to decreased production in the United States.

A sample of Para rubber (*Hevea brasiliensis*) prepared from trees in the Government plantation at Mergui, was recently forwarded to the Imperial Institute for examination and valuation. The sample weighed 49 grams, and consisted of two thin sheets of pale rubber which was clean and well prepared. The physical properties of the rubber were very satisfactory. A chemical examination furnished the following results:—

	Per cent.
Moisture	0.5
Caoutchouc	95.2
Resin	1.6
Proteid	2.4
Ash	0.3

The rubber was valued at 5s. 6d. per lb. in London, fine hard Para from South America being quoted on the same day at 5s. 2d. per lb., and Para

biscuits from Ceylon and the Federated Malay States at 5s. 6d. per lb. This rubber is of excellent quality, and compares favourably in composition and physical properties with samples of Para rubber from Ceylon and the Federated Malay States. Consignments of a similar character would, we have little doubt, find a ready sale at good prices.

According to the *Echo de Paris*, the Government has under consideration a decree more strictly regulating the sale of opium in France than has hitherto been the case. The new decree will, it says, provide that henceforth only such apothecaries and druggists as receive special authorization may keep or sell opium. Furthermore, they must ascertain the object for which the drug is purchased and keep a register of that object, as well as of the name and address of the buyer and the quantity sold.

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending 14th March, 1908—
In the Calcutta market—
Behar opium—Rs. 1,396; 1,394; 1,384; 1,389; 1,380; 1,382; 1,384.
Benares opium—Rs. 1,375; 1,375; 1,360; 1,365; 1,360; 1,360; 1,360.
The prices in the time bargains for the Behar opium of the 4th sale of 1908 were Rs. 1,406; 1,404; 1,392; 1,397; 1,388; 1,390; 1,392.
In the China market—
At Hongkong (exchange Rs. 141½ to 142 per \$100).
Behar opium—\$1,000; 1,000; 1,000; 1,000; 1,000; 1,000; 1,000.
Benares opium—No quotations received.
At Shanghai—No quotation received.
For the week ending 7th March, 1908—
In the Bombay market—
On the 1st and 4th instant (new, 1906-07) Rs. 1,190 to 1,260; Rs. 1,180 to 1,240, respectively; on the 2nd and 6th instant (new, 1905-06) Rs. 1,335 to 1,400; Rs. 1,330 to 1,380; respectively; on the 2nd and 5th instant (old, 1904-05) Rs. 1,415 to 1,435; Rs. 1,415 to 1,430, respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,321 and 1,389; (old) Rs. 1,399 and 1,446, respectively.

The *Bulletin* of the American Iron and Steel Association publishes statistics, received direct from the manufacturers of the production of pig-iron in Canada in 1907, from which it appears that the total was 581,146 tons, as compared with 541,957 tons in 1906, an increase of 39,189 tons, or over 7 per cent. Of the total quantity produced, 572,025 tons were made with coke, 8,971 tons with charcoal, and 150 tons with electricity. The production of basic pig-iron was 341,257 tons, as compared with 246,228 tons in 1906, and of Bessemer pig-iron

154,910 tons, as compared with 165,609 tons in 1906. Basic pig-iron was made in 1907 by four companies owning nine furnaces, and Bessemer pig-iron by two companies owning three furnaces. The basic and Bessemer pig-iron was all made with coke. Canada has not made spiegeleisen or ferro-manganese since 1899. On 31st December, 1907, Canada had 16 completed furnaces, of which 14 were in blast and two were idle. Of the total, 13 usually use coke for fuel and three use charcoal. In addition, three coke furnaces upon which work was suspended some time ago were partly erected on 31st December.

The price of standard copper was lower in the United Kingdom during the week ending February 22nd than at any time since the great depression in October, when £55 15s. was reached. The *Manchester Guardian* of the 25th ultimo says:—During the last two days, however, there was a rally, which enabled the market to recover, and the week closed only 12s. 6d. per ton down. The fall seemed to be caused originally by free selling on the part of the American producers, who appeared to be offering copper irrespective of price; and certainly the market is not in a condition to have metal forced upon it. The *Ironmonger* states that Europe is practically "gorged with copper" and that a general resumption of operations is in progress in the leading American mining camps. The policy of restriction, therefore, is to be abandoned, and if this be the case there can be no hope for the market until general industrial conditions throughout the world become much better.

The American Iron and Steel Association have published statistics of the production of pig-iron in the United States in 1907, from which it appears that the output in that year amounted to 25,781,361 tons (of 2,240 lbs.), or somewhat in excess of preliminary estimates. The following table shows the production in 1907, compared with the preceding year:—

	1906.	1907.
	Tons.	Tons.
Foundry and forge	5,709,350	6,397,777
Bessemer	13,840,518	13,231,620
Basic	5,018,674	5,375,219
Charcoal iron	433,007	437,397
Spiegeleisen and ferro-manganese	305,642	339,348
TOTAL	25,307,191	25,781,361

Representatives of a British company have made an application to the Russian Ministry of Finance in connexion with the projected construction of a Russo-Indian railway joining the Russian line which terminates at Kushk, on the north-western

frontier of Afghanistan, with the British Baluchistan line, which terminates at Chaman, on the south-eastern border.

From the 1st April 1907 to the 15th instant the total quantity of Indian tea exported to the United Kingdom was 160 million lbs., against 167 millions in the corresponding month a year ago.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 22nd February 1908, were as follows:—Wheat, 32s. 6d.; Barley, 26s. 5d.; and Oats, 17s. 11d.

The *Corn Trade News* gives the following summary of the world's crops as on the 25th ultimo:—**United States of America**—Favourable change in weather for winter wheat, snow having fallen over large area. **Canada**—Large acreage predicted should the spring be favourable. **Argentina**—Further rains improved forage, and perhaps maize, too, in late districts; Chicago published much smaller estimate for wheat, but crop still considered large, although damaged in parts. **India**—Crop reports favourable, but prices keep high. **Australia**—Movement now small and likely so continue. **Russia**—Milder weather in south-west revived hopes for crops, elsewhere no change and conditions fairly satisfactory. **Roumania**—Weather mild and favourable for crops. **Bulgaria**—Reports continue favourable. **Turkey**—Officials say crop outlook satisfactory, and have reimposed import duty. **Hungary**—Official bulletin, dated 15th February, says weather unseasonable, crop weak; but since then good fall of snow. **France**—Crop situation generally satisfactory, although some reseeded was necessary. **Germany**—Weather mild, no complaints so far. **Italy, Spain, United Kingdom, and North Africa**—Crops generally favourable.

The process of syndication in the Continental silk trade appears to be going on rapidly. But a month or two ago the German and French manufacturers of silk velvets concluded a convention in respect of terms, deliveries, discounts, etc. Now the extraordinary depression in the Milan silk market has led to a proposed silk trust, with a capital of £800,000. It is said that the proposal is favourably regarded by the Italian Government. Already, it is claimed, the falling of the market has been stopped on the strength of the trust proposals, although recent American buying has undoubtedly also been a factor. A new convention in the French silk industry is also announced, under which the Lyons manufacturers of piece-dyed silk goods have come to an agreement with regard to conditions of sale. The convention is to last for three years, and includes sixty-two firms.

The shipment of Bombay cotton seed to the United Kingdom last year far exceeded those of any previous season, the figures being as follows:—1907, 248,575 tons; 1906, 168,625 tons; 1905, 119,650 tons; and values, in sympathy with those of Egyptian seed, were on a higher scale than ever before. During the last three months of the year scarcely any business took place, for the following reasons: The old crop was practically exhausted early in August, and owners would not sell new seed for November-December and onwards, owing to the drought in some of the Presidencies, as it was feared that the supply of other feeding stuffs would be seriously impaired, and that cotton seed consequently would be the main staple of food for the bullocks. Judging from the paucity of business done up to the present, these expectations have been fulfilled, consequently, it is generally anticipated that this year's shipments will show a very marked falling off from those of 1907. In the new crop a very moderate business has been done at £5 17s. 7d. down to £5 12s. 6d. for December and January shipments. The demand for cotton cake throughout the year was fair, and prices were fully maintained at about £4 12s. 6d.

At the commencement of the 1907 season there was nothing to indicate that there would be so sensational a rise in value in cotton oil as afterwards took place. The price in January, 1907, of £21 15s. was a moderate one, and supplies seemed adequate. It was only after it was realised that the three weeks' wet weather, which was experienced during the American cotton harvest, had seriously damaged cotton seed, and rendered the bulk of it unfit for making edible oil, that the trade in general saw that they would be compelled to pay enhanced values. The rise was rapid, but it is doubtful whether it would have been so marked had not large, speculative interests bought during May and June all the pale cotton oil that could be obtained in Hull, and practically cornered the market, forcing the price up to £31, which was the highest for the year. This had the effect of compelling soapmakers, and other large consumers of pale cotton oil, to find other substitutes, from which to manufacture their goods, thus reducing the demand. After that determined efforts were made from time to time to keep the market up, but without avail, and prices subsequently gave way, and continued to do so up to the end of the year, closing at £20 for spot crude. Latterly the financial crisis in America has compelled the crushers there to sacrifice large quantities of new oil, and this, together with the report that there are large stocks of pale cotton oil held by speculative interests in Hull, keeps the market flat and makes the outlook somewhat gloomy. The following are the monthly quotations of crude oil in London during the year:—January, £21 15s. to £24 5s.; February, £24 to £25; March, £25 to £25 5s.; April, £25 5s. to £25; May, £25 5s. to

£30; June, £30 15s. to £31; July, £29 15s. to £30; August, £27 15s. to £28; September, £27 10s. to £26 5s.; October, £26 5s. to £24; November, £23 to £21 10s.; December, £21 10s. to £20.

During the past year the price of turpentine varied between 52s. 3d. paid in March and May for spot, and the present low quotation, a drop of fully 20s. per cwt. equal to about 60 per cent. of its present value. For the first five months of the year rates remained fairly steady, the price for spot being about 51s. per cwt. while last six was offered at from 46s. to 47s., the latter being a fairly high quotation, considering that the whole of the new crop had still to be marketed, when it was naturally supposed that, as supplies came in, and exceeded the actual consumptive demand, rates would have declined somewhat. However, at the commencement of the new crop interested operators in America endeavoured to maintain the high rate of values then ruling, by tanking spirits and withdrawing them from sale during the period when receipts were large, instead of allowing them to be placed on the market from day to day, which is the usual course. In spite of this action, prices have gradually dropped to the present low level, this having been brought about to a great extent by market manipulations, helped later on by the financial crisis in the State. At the close values are at the lowest point during the whole of the year, spot being quoted 32s.; January—April, 32s. 9d.; May—June, 33s. 6d.; and July—December, 34s. 9d. The Indian aspect of the turpentine industry was noticed at length in the *Indian Trade Journal* of December 26th, 1907.

The Punjab Government's Review of the report on the Forest Administration of that province for the year 1906-07 states that the distillation of turpentine from the resin of *Pinus longifolia*, started so successfully by Messrs. Hart and Gibson in the Kangra Division some years ago, was recently stopped and the resin was ordered to be sold in its crude state, the operations being greatly restricted. There is some reason to believe that the action taken was based on insufficient premises, and further experiments have been commenced with a view to obtaining more accurate information as to the extent to which trees can safely be tapped, and as to the effect produced on them and their timber by tapping. In America and elsewhere experiments in this direction show that the quality of the timber yielded by tapped trees is not inferior to that obtained from other trees, and there is no reason to suppose that this experience will not be confirmed in Kangra with the *Pinus longifolia*. The statistics of minor forest produce show that 61 maunds of crude resin valued at Rs. 492 were produced from protected forests, and 57 maunds valued at Rs. 454 from

unclassified State forests. Commenting on these facts the *Oil and Colour Trade Journal* says:—"It has been estimated that there are in India some 2,000 to 4,000 square miles under *Pinus longifolia* alone, which is rich in turpentine. So there is no apparent reason why India should not become an exporter. It is, however, to be hoped that the industry will be conducted with some regard for the future needs of the paint, varnish, and allied trades." We may add that the Naini Tal division gives an outturn of about 15,000 gallons of turpentine annually. Large outturns might also be obtained from the Jaunsar division, the Tehri Garhwal State, Kashmir, Burma and Assam.

It is notified that, from the 1st April, 1908, the following charges will be levied by way of **River Due** upon goods landed from, or shipped into, any sea-going vessel lying or being within the limits of the **Port of Calcutta** whether such goods shall or shall not be landed or shipped at any dock, wharf, quay, stage, jetty or pier belonging to the Commissioners, *viz*:—On all goods, including coal other than bunker coal and manganese ore, 4 annas per ton; on coal loaded into a vessel's bunkers for consumption on board the vessel, 3 annas per ton; on manganese ore, $1\frac{1}{2}$ annas per ton. Goods landed from one vessel and shipped into another vessel in the course of transshipment within the port shall be exempt from the payment of river due; also ballast, with the exception of dressed stone. On miscellaneous general cargo, landed or shipped at the jetties or the docks, for which the landing and shipping charges are not levied on the ton by weight, one-fifth of these charges will be levied as river due. On goods landed or shipped over the inland vessels wharves, or otherwise than through the docks or jetties, the due shall be levied on the actual weight where such is ascertainable, and in all other cases in accordance with the weights and measurements given in the schedule in force for the inland vessels wharves.

The year 1907, says the *Economist*, opened with **jute** in the **United Kingdom** at £27 for first marks, but that price was not very long maintained. Co-incident with a money stringency in Calcutta, prices of jute fell rapidly during January, till £12, *c. i. f.*, was touched, reacting to £24 in February and £25 10s. in March. In April prices ruled about £24, and continued to decline during May, when the price for May-June shipment was £21 10s. and by the end of June £18 10s. for July shipment. New crop (1907-08) was offered at £20 15s. for August, £19 15s. for September, and £19 5s. for October, without attracting buyers. The first forecast, on July 15th, gave an increase of acreage of 336,000 acres over season 1906-07, bringing up the total to 3,859,000 acres. With the reported favourable prospects as to outturn, a crop of fully 10,000,000 bales was generally anticipated, and some expectations of lower prices were entertained. The final forecast on September

21st fully confirmed the increase of acreage, but reduced to some extent the anticipated outturn, making the probable yield about 9,800,000 bales. The difference in the figures was not sufficient to influence price to any great extent, but the tendency was upwards. A good deal of business was done, and prices hardened to £18 for November-December shipment. The financial crisis in the United States, with the advance of the Bank of England rate to 7 per cent. in November, affected all business. First marks were offered at £16 for November-December shipment. Thereafter prices were very erratic, touching as low as £13 10s. for first marks, and reacting within a week to £16, closing for the year at £15 10s. The quality of 1907-08 season's crop, so far as arrived, has been very disappointing. In no former season have arbitrations been so numerous; some Dundee spinners report that they had to claim arbitration in every parcel received. With few exceptions, allowances were awarded, frequently large enough to give the buyer the option of invoicing back the jute to the seller. The unreliable character of so-called "first marks" is a most unsatisfactory feature of the jute trade.

The year 1907, remarks the *London Chamber of Commerce Journal*, opened with **leather and hides** both ruling at the highest prices that had been touched for very many years. The zenith of the demand, however, had passed, and there was a distinct weakness for the commoner descriptions of inner sole leather. As, however, the position was that a very large proportion of leather had been sold for forward delivery, there was very little quotable change until these contracts had run out. A slight reduction in some descriptions began to take place in February. This affected specially bellies and shoulders, which during the months of February-May gave way in price fully 10 per cent. Stocks of offal continued to increase, and a reduction of a further 5 per cent. had to be submitted to during June to September, since which time the financial crisis in America has further affected the market for leather, as well as everything else. Sole leather which had kept fairly firm, gave way about 10 per cent., and bellies and shoulders were lower again by a further 15 per cent. Throughout the year the demand for leather was more or less dragging, which condition of things was emphasised as the months ran on. At, however, the lower prices now ruling, there is more confidence on the part of buyers, and larger transactions have taken place. With regard to hides, these had reached an abnormally high price and the ratio of price of the raw material to leather was such that there was obviously nothing left for the tanner. Owing, however, to the American crisis, all buying of raw material was stopped there; in the result, hides are now offering 30 to 50 per cent lower than the prices at the commencement of the year. Tanners, therefore, are in a better position

than has been the case for many years past, as at the present rates there is obviously a fair margin of profit for manufacturers. The import of hides into the United Kingdom shows a decrease of 52,000 cwts. and that of leather a decrease of 227,500 cwts.; stocks of hides on the Continent have increased considerably, that of South America hides in Antwerp reaching 300,000 at the present time.

The *Engineering and Mining Journal*, of New York, has published its usual estimate of the **gold production of the world**, and, in presenting it, says that in place of the steady increase recorded for some years up to the end of 1906 there was in 1907 a small decrease, although the total production was exceeded only by that of 1906. The total value of the gold produced in 1904 was £69,818,000, in 1905 it was £75,682,000, and in 1906 it reached £81,844,000. In 1907 the figures, estimated as closely as possible at this early date, were £82,298,000, showing an increase of £454,000 or 0.5 per cent., as compared with 1906. Our contemporary's figures relating to the Transvaal have been corrected, as the official return for the year was not available at the time the compilation was made. After this adjustment, the figures show a small increase instead of a decrease as reported, and, converting the original dollars into pounds at the rate of five to one, the statement is:—

	1906.	1907.	Changes.
	£	£	£
United States	18,875,000	17,923,000	- 952,000
Transvaal	24,580,000	27,404,000	+ 2,824,000
Australasia	16,447,000	15,029,000	- 1,418,000
Russia	4,494,000	4,300,000	- 194,000
Mexico	3,328,000	3,450,000	+ 122,000
Canada	2,405,000	1,900,000	- 505,000
China, Japan, and Korea	2,300,000	2,300,000	...
Rhodesia	1,980,000	2,250,000	+ 270,000
India	2,206,000	2,018,000	- 188,000
W. Africa	824,000	1,124,000	+ 300,000
Other countries	4,405,000	4,600,000	+ 195,000
	81,844,000	82,298,000	+ 454,000

In 1907 there were no new producing districts of great importance found or opened, and the production was very largely from the same districts and the same mines as in 1906. In round figures the African continent furnished about £30,000,000 worth of the gold output of 1907; North America, about £24,000,000 worth; Australia, £15,000,000; Asia—including Siberia—£9,000,000; the remainder coming from South America, Europe, and the East Indian islands. The four leading producers—the Transvaal, the United States, Australasia, and Russia—report in all 78 per cent. of the world's production.

NOTICES.

CALL FOR TENDERS.

Flour and Atta.

Tenders are invited up to the 1st proximo for the supply of flour and atta required for the 5th and 6th Divisions and Aden Brigade for one and three months, respectively, supply to commence from 1st May, 1908.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Starch.

(227)—A foreign concern requires the addresses of importers of rice, wheat and Oswega starch for commercial and domestic purposes.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Clive Street, where they will be displayed in the ante-room till Wednesday, 25th March, 1908:—

Parliamentary Publications.

China—Correspondence respecting the Opium Question in China. Colonial Reports—Annual Series No. 555—St. Vincent, 1906-07. Consolidated Fund—Abstract Account, 1906-07. Greenwich Hospital and Travers' Foundation. Capital and Income Accounts, 1906-07. Mines—Minutes of Evidence taken before the Royal Commission on Mines. Vol. II. Statistical Abstract for the British Empire in each year from 1892 to 1906. Woods, Forests, and Land Revenue. Abstract Accounts, 1906-07.

Foreign and Colonial Publications.

Austria-Hungary—Monthly Accounts of Trade, December, 1907. Canada—Weekly Trade Report, dated 10th February, 1908. Mexico—Resumen de la Importacion de la Exportacion, November, 1907; Boletín de Estadística Fiscal, 1905-06. Netherlands—Monthly Account of Trade, January, 1908. Switzerland—Annual Account of Trade, 1907. United States—Monthly Consular and Trade Report, February, 1908. Forest Service Circulars—No. 126—Forest Tables—Lodgepole Pine; No. 129—The Drain upon the Forests; No. 130—Forestry in the Public Schools; No. 131—Practical Forestry on a Spruce Tract in Maine; No. 132—The Seasoning and Preservative Treatment of Hemlock and Tamarack Cross-Ties; No. 133—Production of Veneer in 1906; and No. 136—The Seasoning and Preservative Treatment of Arborvitæ Poles.

Diplomatic and Consular Reports

Germany—Finances of the German Empire for the year 1907, with Estimates for 1908. Italy—Trade of South Italy for the year 1907.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted. A full index is published as a quarterly supplement, and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, MARCH 19, 1908.

A VALUABLE FAMINE FOOD.

In a country so liable to the visitations of famine as India undoubtedly is, the question of suitable famine foods on which very large numbers of people might in comparative comfort tide over a lean year is a matter of some importance. It is true that practically all the edible products of this country have been examined in a more or less general way from time to time with an eye to their food value; but, in the light of the more accurate information regarding agricultural matters which has been gleaned in recent years several of those products appear to be deserving of special attention. One of these is *Indigofera glandulosa*, which is known under a variety of vernacular names, such as Zinjroo, Befri, and many others. In plain language, it is nothing more important than a wild indigo plant, and it flourishes in more or less profusion as an annual in many parts of India, often as a weed on very poor land.

Besides being cheap, the seeds are very nutritious, and, in some parts of India, particularly among the Bhils, are used for food; but, being too rich to eat alone, are usually mixed with other grains. The seeds are dark green, small, roughly spherical, mottled with black, and have the appearance of miniature plovers' eggs. They are very hard, have a bright yellow kernel, and a characteristic hottish taste. The plant is harvested in the same way as maize—cut, stacked, dried, threshed and winnowed. The seeds are then ground into flour, mixed with other ingredients, and made into bread, which is somewhat bitter, but could, no doubt, with the exercise of a little ingenuity, be made palatable, or even appetising. In Berar, and probably in other parts of India, the seed is eaten raw, and is there known as *barbati*, or *jungli-methi*.

As we have already said, *Indigofera glandulosa* is a highly nutritious food. In *Agricultural Ledger* No. 84, which deals with famine foods, Dr. D. Noël-Paton and Dr. J. C. Dunlop, by whom it was compiled, state that the seed contains no less than 36 per cent. of proteid, or three times more than is found in average cereals. They give the following analysis by Professor Church, which, they explain, corresponds closely with theirs, except that they find the proteid value somewhat higher and the carbohydrate value correspondingly less:—

Water	8.2
Albuminoids	31.9
Carbohydrates	46.7
Oil	2.2
Fibre	7.8
Ash	3.2
	100.0

What is also of importance is that they find that the proteids are as fully digested as those of wheat. In the analysis just given it will be noticed that the percentage of albuminoids is 31.9; in Indian wheat the percentage is only 13.5. With oatmeal the seeds of *Indigofera glandulosa* also compare very favourably, being 32 per cent. more nutritious. In another table dealing with the relative digestibility of wheat and *I. Glandulosa* Dr. Noël-Paton furnishes the following particulars:—

	PROTEIDS.		CARBOHYDRATES.	
	Per cent. in food.	Per cent. digested.	Per cent. in food.	Per cent. digested.
Wheat	10.18	84	71.0	45
<i>I. Glandulosa</i>	36.12	83	38.75	28

CHAMBER OF COMMERCE.

BENGAL.

We take the following items from the Abstract of the Proceedings of the Bengal Chamber of Commerce for the month of February, 1908:—

It was mentioned in the last Abstract that the Government of India had invited the opinion of the Committee upon a proposal for the reduction of the maximum limit of weight of Indian parcels from twenty-five seers to ten seers. In view of the facilities which are now available to the public for the transmission of heavy parcels by railway, it was thought that it would no longer be necessary to despatch, by post, parcels exceeding twenty lbs. in weight.

This proposal was taken exception to by the Calcutta Trades Association, on the ground that it would be productive of much inconvenience to persons living at a distance from railway stations. The Committee of the Chamber were also inclined to this view; and on the 27th February they replied to Government accordingly. They recognised of course that facilities for the conveyance of heavy parcels by railway are now available to the public. But to persons living at places out of touch with railway communication, these facilities are of but little service. They suggested, therefore, that the existing limit might be retained, although they admitted that to residents in large centres the reduction would be no hardship.

In January the Government of Bengal asked for the views of the Committee upon a question in regard to the scheme of **State Technical Scholarships** which was instituted some time back by the Government of India. The Scholarships were founded to enable Natives of India, including Statutory Natives, to pursue a course of study in Great Britain, on the Continent of Europe, or in America. Hitherto the award of the Scholarships has been made on an experimental basis. But the Government of India have recently suggested that the procedure to be observed in selecting scholars in future should be systematised. They consider it to be essential that the industries to be encouraged should be chosen in consultation with the mercantile and industrial public, applications from candidates being invited only after the industry has been determined. The Government of Bengal accordingly asked for the views of the Chamber as to the industry which should be selected for encouragement during the current year in respect of the province of Bengal. The industry should, it was thought, be one in which the scholar would be able to find scope for his skill and ability after his return to this country; and should be, therefore, either already developed or in process of development. Industries in which native capital and enterprise are engaged, or are likely to be engaged, would be, the Local Government considered, particularly appropriate for selection.

The Committee replied to Government on the 20th February. They were altogether in sympathy

From this analysis it was deduced by a further experiment that the available proteids and carbohydrates in 100 parts of the products named would be:—

	Proteids.	Carbohydrates.
Wheat	8.5	31.9
<i>I. Glandulosa</i>	29.9	10.9

The relative available energy of the two products are calculated from the above table as follows:—

Wheat	166
<i>I. Glandulosa</i>	167

So that in the matter of energy both wheat and *I. Glandulosa* may be regarded as equal, a fact that forcibly illustrates the food value of the latter.

Now, it has been ascertained that the excessive use of a single cereal seems to lower its digestibility. For instance, Dr. Dunlop found, when investigating the feeding of prisoners in Scottish prisons, that when oatmeal was used in moderate amount it was readily digested; but, when moderation was exceeded, digestibility was greatly reduced. This seems to apply with special force to *I. Glandulosa*. It is singular among Indian foods in being too rich to be eaten alone, and this factor is probably sufficient to account for the allegations that it causes discomfort. But it supplies precisely that element which is in most defect in the diet of most Indian peoples, and it would be invaluable if mixed with poor grains such as rice, in which carbohydrates so greatly preponderate. A specific case of its value as a mixed diet is furnished in para. 118 of the Report on the Administration of the Baroda State for the year 1901, wherein it is stated that, acting on the suggestion of the Chief Medical Officer, the Famine Commissioner gave it a trial in the Singad Poor-house, with the result that the four adults and four children who were fed on it soon began to put on flesh.

These facts would seem to establish beyond doubt its value in times of scarcity and as such it deserves a wide distribution throughout what may be called the "Famine Zone", more particularly if, like some better known species of *Indigofera*, the plant can be profitably used as a green manure in a good season. Strange as it may appear, there does not seem to have ever been any systematic cultivation, even on a small scale, of this interesting product. Perhaps the perusal of this article may induce some Director of Agriculture to remove this reproach, so that it may be definitely ascertained how far the plant responds to intensive cultivation, and what are the best conditions of growth and the normal yield of seed per acre. Without such data it would be idle to speculate whether *Indigofera glandulosa* deserves to be regarded as something more than a famine food.

with the objects of the scheme, and they anticipated useful results from it. At the same time they found some difficulty in expressing an opinion as to the particular industry which should be selected for encouragement. They had considered the silk, cotton, jute, tea, glass-making, and other industries, but there appeared to be a possibility of difficulties in connection with all of them. In fact, the only industry which appeared to comply with the conditions laid down—and of which conditions the Committee entirely approved—seemed to be coal mining. Indian capital was being increasingly employed in developing the Bengal mines, and the demand for coal was growing. It might be therefore reasonably expected that when the scholar had completed his studies in Europe or in America, he would be able to find employment without difficulty. The Committee were of course aware that the scholarships hitherto awarded on the recommendation of the Government of Bengal had been in connection with coal mining. And they could not help thinking that for the present at any rate the best policy would be to continue to encourage this industry. For it seemed to them to be likely to provide by far the best and most lucrative openings for young Indian students.

The question of the **Stamp duty** on share transfers has been before the Committee for the past three years, and they have made several suggestions in regard to it. In 1905 it was pointed out by the Collector of Stamp Revenue, that the law did not provide for the use of adhesive stamps on separate share transfer deeds. In reply to this, the Committee suggested that engraved or embossed share transfers were unsuited to the requirements of the Calcutta market. And they urged that the existing practice of using adhesive stamps should be legalised. They also recommended:—(a) that blank transfers should be given a recognised standing as legal tender for six months from the date of sale; and (b) that the rate of stamp duty on share transfers should be reduced from $\frac{1}{4}$ per cent. to $\frac{1}{8}$ per cent.

Immediate action was not taken by Government, and quite recently the question of reducing the rate of stamp duty was again raised by members of the Chamber. The Committee thereupon enquired from the Board of Revenue as to what the position was. In reply, they were informed, on the 3rd February, that the question of legalising the practice of using adhesive stamps on separate transfers would be considered by Government when the Stamp Act next came up for revision. In the meantime, pending further orders, the existing practice might continue. In these circumstances the Committee considered that the question of reducing the duty might also remain over for the present.

The question of the Stamp duty on receipts for passage-money and freight paid to inland steamers was also raised during the month. When the amount of passage-money or freight exceeds Rs. 20 a one anna stamp has to be affixed to all receipts granted by inland steamers. The Railways are,

however, exempted from stamping receipts granted by them; and it was urged that inland steamers should be placed on the same footing as Railways. The Committee of the Chamber hesitated to approach the Government in the matter, as it seemed to them to be unlikely that concessions in particular cases would be granted. Section 2 (23) of the Act provides for a one anna stamp on all receipts for sums in excess of Rs. 20; and clearly applications for remission would become general if one exemption were permitted.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 27th February, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

AUSTRALIAN COMMONWEALTH.—Certificate of Origin: Witness to Signature required.

FEDERATED MALAY STATES—SELANGOR.—Import and Export Tariffs; Consolidation and Amendment.

ZANZIBAR.—Unexecuted Contracts: Increased Duty Chargeable.

GERMANY-MONTENEGRO.—Convention of Commerce and Navigation between the above Countries.

DUTCH EAST INDIES.—Valuation Tariff for the first quarter of 1908.

FRANCE.—Imports of Coffee and Bananas from French Guinea.

FRANCE-UNITED STATES OF AMERICA.—Additional Reciprocity Agreement between the above Countries.

FRANCE-ALGERIA.—Municipal Octroi de Mer Tariff, 1908-1912.

SWITZERLAND.—Measures against the Introduction of Cholera and Plague.

PHILIPPINE ISLANDS.—Tariff Classification of Knitted Cotton Undershirts as Trimmed or Untrimmed.

COSTA RICA.—Provisions regarding Consular Invoices.

HONDURAS.—Increase of Import Duties on Spirits and Wines. (Former Duty per Half-Kilogramme on Spirits in bottle, 35 cents (silver), present, 52½; and in cask, former duty 50 cents, present, 75; and on Wines, in bottle, former duty, 5 cents, present, 7½; and in cask, former 10 cents, and present, 15.) Export Duties on Bullion.

COLOMBIA.—Partial Withdrawal of Scheme for Bounties on Cotton, etc.

BOLIVIA.—Exportation of English Gold Coin Prohibited.

JAPAN.—Establishment of a Customs Inspection Office at Port Arthur.

—The exports of wax from Portugal during 1906, according to a return just issued, amounted to 19,298 metric tons, valued at £25,875. The figures are above those for 1905, but below those for 1904.

THE FAMINE.

Viceroy's Report.

The following is a copy of a telegram, dated 16th instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Rain fell during the week in Northern India and Burma. For the most part it was slight and in the Punjab more rain is wanted badly. In the United Provinces, however, rain was fairly general and in some districts considerably heavy. More rain is needed still in most districts for late sown crops, and some damage from westerly winds is reported.

The harvesting of early spring crops has begun in the United Provinces, but has not yet affected numbers on relief which are still rising. There are now nearly a million persons on works and 345,000 in receipt of gratuitous relief. In addition 25,929 persons are being relieved in the Balrampur Estates. There are some signs of deterioration in the general condition of the people, and crime is increasing.

In the Punjab the numbers on test works have fallen to 1,219.

In Central India distress has extended to the Bhopawar Agency, and the total numbers on relief are now: works, 134,500; gratuitous relief, 20,500. Gratuitous relief is being given in Indore. The general condition of the people is reported to be satisfactory, and the prospects of the mowha and mango crops are good.

In Bengal the numbers on relief have fallen and are now: works, 3,668; gratuitous relief, 15,721.

In the Central Provinces the harvest operations have caused a fall in the numbers on relief works, which are now 3,172. Special relief is being given to 2,185 weavers and gratuitous relief to 10,581 persons, including dependants of immigrants from Central India. Relief measures are adequate and employment on ordinary works is generally sufficient.

In Bombay 1,900 persons are employed on test and forest works in the Panch Mahals and West Khandesh.

Relief measures are being started in parts of the Ganjam district in Madras, bordering on Orissa.

The total number of persons in receipt of State relief in the whole of India now exceeds a million and a half.

Prices are slightly easier again, and there has been a marked fall in parts of the Central Provinces.

The area sown with wheat is now estimated to be 29 per cent. less than last year. The condition of the crops is generally fair, but rain is urgently needed, especially in the Punjab and Bengal. There is also a considerable deficiency in the area sown with oil seeds. Owing to the lateness of the winter rains, the season has been unfavourable for this crop, and the outturn will be considerably below normal.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, March 17th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 16th instant:—

There was slight rainfall in Mymensingh and in the Assam Valley districts and the Rajshahi Division, except Kamrup, Nowgong and Jalpaiguri.

The prospects of the standing crops are generally fair, but the crops are suffering badly in Dacca for want of rain.

The preparation of land for early rice and jute and the pressing of sugarcane are in progress.

The pruning, hoeing and manuring of tea have finished in places and the gathering of mustard has nearly finished.

The sowing of potatoes is going on in the Kashi and Jantia Hills.

Cattle disease is reported from six districts.

The prices of common rice have risen in five and fallen in six districts.

No scarcity is apprehended at present.

—An important feature of the trade "boom" of the past few years, and especially of last year, says the *Manchester Guardian*, was the extension of producing plant all over the world. This was particularly noticeable in the exports of British textile machinery. The exports of textile machinery during January last show a further increase as compared with previous years. The total declared value for the month is given as £773,611, as against £628,252 for January, 1907, and £532,593 for January, 1906. The following table shows the details of the distribution:—

	1906	1907	1908
	£	£	£
Russia	28,094	27,812	40,533
Germany	83,204	63,762	76,430
Netherlands	11,924	13,404	24,329
France	36,970	77,207	87,993
Other countries in Europe	128,954	114,360	194,358
China, including Hong-kong	4,794	4,703	3,312
Japan	21,549	23,021	58,600
United States of America	34,154	68,343	96,389
Countries in South America	18,778	33,180	43,737
British South Africa	1,435	...	67
British India	147,020	170,666	185,816
Straits Settlements	119	87	47
Ceylon	592	...	290
Australia	2,485	5,200	4,807
Other countries	12,521	26,847	16,903

The further expansion in the shipments to Russia is remarkable and also the continued increase in the shipments to the rest of Europe generally, noticeably the unenumerated countries. Japan also shows a brisk demand, but a significant falling off in the American demand is recorded. The demand for South America and for India is more than maintained in both cases.

INDIAN COTTON SEED.

Percentage of Lint.

In the course of an article on Indian cotton seed which appeared in our issue of October 10th, 1907 (page 71), since reprinted in pamphlet form together with others of the series, under the title of *Indian Cotton Seed: Its Industrial Possibilities* (Government of India Press, Calcutta, price 12 annas), we stated that Mr. Hooper, of the Indian Museum, had been good enough to ascertain for us the percentage of lint adherent to Indian ginned cotton seed, which was believed to vary from 8 to 12 per cent. of the total weight of the ginned seed. These percentages were approximate; but to have the point decided with a fair amount of accuracy, the Director-General of Commercial Intelligence obtained from the Bombay Chamber of Commerce ten sets of samples of the kinds of cotton seed usually exported from that port, and on the 6th instant these samples were sent to Mr. Hooper, who very kindly tested them. The samples are enumerated below, and by the side of each is placed the amount of loss due to the removal of the lint.

1. Cawnpore	6.4
2. Delhi	8.3
3. Indore	8.4
4. Dhulia	5.0
5. Shegaon	7.4
6. Akola	5.7
7. Ahmednagar	6.3
8. Amraoti	6.0
9. Warangal	7.0
10. Nagpur	5.9

It is thus seen that the average amount of lint on these typical samples of seed is between 6 and 7 per cent.

Mr. Hooper adds:—"The test was performed by immersing a weighed quantity of the cotton seed in sulphuric acid, washing with water, and drying in the air. This, I consider, is a much more accurate estimation than the former, which consisted in burning off the cotton in a gas flame and calculating the loss (which would contain some natural moisture) as adherent lint."

—The number of bales of cotton imported into the United Kingdom during the week ended the 20th February, 1908, was 159,803 (including 39 bales British West Indian and 8 bales British West African), and the number imported during the eight weeks ended the 20th February was 1,218,571 (including 1,590 bales British West Indian and 921 bales British West African). As regards exports, the figures are, for the week ended the 20th February, 20,363 bales, and for the eight weeks, 92,157 bales.

CHINA AND HER TRADE.

India's Share.

In his Report on the Trade of China for 1906, a copy of which has just come to hand, Mr. J. B. Sutor, Commissioner for New South Wales in the East, gives some particulars which do not seem to have been published before and which may be of interest to Indian traders. For instance, he gives the following figures of imports (British trade) from which we notice that India's share increased slightly:—

	1905.	1906.
	£	£
Hongkong	22,519,161	23,854,207
England	13,151,002	12,959,010
India	5,292,262	5,319,124
Singapore (British Straits Settlements)	617,623	602,774
Canada	363,123	734,162
Australia	234,017	153,754
South Africa	2,056	832
Total British Trade	42,179,243	43,623,863
		42,179,246
Increased Imports		1,444,617

Exports.

In the matter of exports from China (British trade) India does not figure so well. Here are the details:—

	1905.	1906.
	£	£
Hongkong	12,337,539	13,617,695
England	2,747,274	3,138,631
India	413,743	238,024
Singapore (British Straits Settlements)	578,446	614,905
Canada	61,805	120,374
Australia	10,939	13,209
South Africa	8,402	8,735
Total British Trade	16,208,203	16,851,623

Coal.

Another instructive set of figures are those dealing with the coal trade. The importations for the three years ending 1906 were as follows:—

	Tons.	£
1904	1,250,619	1,067,976
1905	1,209,868	1,052,875
1906	1,558,190	1,420,587

It will be seen that there is a considerable increase for 1906. The following is a list of the countries enjoying the trade:—

	Tons.	£	Average per ton.
			£ s. d.
Hongkong	164,975	208,447	1 5 3
Macao	3,675	3,024	0 16 5½
French Indo-China	79,620	90,734	1 2 1
Singapore	2	2	1 6 4
India	6,638	8,742	1 6 4
England	11,446	18,273	1 12 0
Germany	1	1	1 9 8
Russia (Pacific Ports)	1,978	2,914	1 9 5½
Korea	138	113	0 16 5½
Japan	1,363,473	1,144,945	0 16 2½
Australia	44,283	65,229	1 9 5½
Re-exports	1,676,229	1,541,824	
	118,039	121,240	
Net Total	1,558,190	1,420,584	

THE PUNJAB AND ITS TRADE.

We take the following particulars from the Punjab Administration Report for 1907:—

The year has been chiefly spent in the general organization of the Agricultural Department formed last year. An agricultural chemist and an expert in botany have been appointed. The subordinate staff is not yet up to full strength, and several stipendiary candidates are receiving education in Cawnpore. The conditions of the year were unfavourable to experiments, but there was a considerable advance in the amount of selected grain distributed. The chief problem at present exercising the Director is the selection of a suitable thresher and winnower and a good reaping machine. These are urgently required on account of the terrible scarcity of labour due to the ravages of plague. A light reaping machine, which is extremely popular, has been introduced, and it is intended to import a large number for private purchasers next year. A satisfactory thresher and winnower has yet to be discovered.

There was an increase in the outturn of coal, the greater part coming from the Dandot Colliery, which is worked by the North-Western Railway. The province is unable to supply more than a small fraction of the coal required, and has to depend on the Bengal fields.

Although the number of cotton-ginning factories increased slightly, no less than forty-eight remained closed, the reason being the scarcity of raw material due to the failure of the crop in two successive years. The health of the operatives was good and the sanitary conditions satisfactory.

The trade figures reflect the agricultural condition of the year, the excellent crops of 1906 being followed by record exports, the greater portions of which were as usual grain and pulse. There is an increase of 29 lakhs in the value of the imports, and this in spite of the slackening of the abnormal imports of sugar, which fell by 75 lakhs as compared with the previous year. Distributed as it is over piece-goods, apparel, gunnybags and kerosene oil, this great increase is a clear proof of improved purchasing power and is a most healthy sign of the general prosperity of the people. There is a general increase of 10 per cent. in the volume of transfrontier trade as compared with three years ago. The registration system is being overhauled, and until it is in a more satisfactory condition an examination of the detailed heads does not supply any very satisfactory information. Trade with Kashmir is growing steadily.

During the first half of the year great activity was shown in the promotion of companies. It is to be hoped that this development is not premature, and that the speculative nature of some of these concerns, the system of financing one company or more with the funds of another, and the maintenance of inadequate reserves, will not lead to disaster and to the checking of the movement while still in its infancy.

Two hundred and eight miles of railway were opened during the year. Of these one-half were on the North-Western Railway proper, and the remainder were on small lines which are worked by the same administration on the contract system.

Irrigation work was in progress on the new projects to be known as the Upper Jhelum and the Upper Chenab Canals, and sixty-five lakhs were expended. The heavy rainfall at the end of August retarded the work, and the continuous rain during the cold weather and the severe outbreak of plague demoralised the labour supply generally. The construction of these great works is now a very different matter to what it was ten or even six years ago, when the existing canals which take off these same rivers were being built. Labour, which in those days was plentiful and cheap, is now not only infinitely more costly, but at times almost unprocurable. The working of the canals in operation was materially assisted by good rainfall, and the net profit was nearly 10 per cent. Owing to ample floods the inundation canals worked splendidly.

WHEAT SUPPLIES AND PRICES.

A Retrospect.

In its Financial and Commercial Supplement of the 28th ultimo, the *Times* says:—

During 1907 there were two periods of pronounced upward movements in the prices of wheat. The first culminated at the end of May with a rise from the beginning of the year of 6s. to 7s. per quarter. The second, after an interval of receding values, started in the late summer and reached its climax about the middle of October, when prices were from 5s. to 6s. over the best of May, or from 11s. to 13s. per quarter above the year's opening values. In both cases the market advanced in face of a statistical position showing no scarcity of current supplies. The early rise was caused by bad crop reports from nearly all countries, the European advices, owing to a spell of unusually severe weather in the late spring, being strongly adverse. The second definite upward movement was the outcome of the views taken by the majority of the trade as to the relationships of prospective supplies and requirements for the crop year of 1907-1908.

Supplies Greater than Anticipated.

There appeared to be no serious disagreement of opinion as to the world's wheat crops being short compared with the previous year or with the average yield of the preceding five years, the shortage as against 1906-07 being variously estimated at from 35,000,000 qr. to 45,000,000 qr. On this basis it was assumed that, with normal consumption, there would be before the end of the crop year a deficit in supply of from 9,000,000 qr. to 12,000,000 qr., and it was also freely predicted that the closing month of last

year and the early months of this year would disclose an embarrassing scarcity. These assumptions and predictions obscured current conditions and were responsible for the excited markets and extraordinary advances of last September and October. Then came the American financial crisis and its far-reaching effects to accentuate a hesitation which had already shown itself in the wheat markets. During the pause, it gradually became evident that an overabundance of supplies was likely to come upon the markets during the months when scarcity had been counted upon, and through November and December prices gradually gave way. Since the first day of the present year the decline has been pronounced. The following table shows the fall from the top prices of October to those ruling during the week ending the 29th ultimo:—

	October.	Week ending Feb. 29th, 1908.	Decline.
CARGOES.			
Pacific Coast	42/6 to 43/6	35/- to 35/9	7/6 to 7/9
South Australian	43/6 „ 44/-	35/6 „ 36/9	8/- „ 7/3
Argentine (62lbs.)	41/3 „ 41/6	33/- „ 33/6	8/3 „ 8/-
PARCELS.			
No. 1 Northern Manitoba	46/0 „ 46/3	39/3 „ 39/6	6/9 „
Choice White Karachi	42/0 „ 43/6	36/6 „ 37/0	5/6 „ 6/6
Argentine (62lbs.)	40/9 „ 41/0	31/0 „ 31/6	9/9 „ 9/6
SPOT.			
English, Red	40/0 „ 42/0	31/6 „ 34/0	8/6 „ 8/0
„ White	41/0 „ 43/0	32/0 „ 35/0	9/0 „ 8/0
Australian	44/6 „ 45/0	37/0 „ 37/6	7/6 „
Argentine	46/0 „	36/0 „	10/0 „
Choice White Karachi	42/0 „	36/0 „ 36/6	5/6 „ 6/0
No. 1 Northern Manitoba	47/0 „	42/0 „	5/0 „

In an article published in the *Times* Financial and Commercial Supplement of November 15th, 1907, on the then situation, it was remarked:—“There are, however, certain factors to be taken into consideration besides the yield, and the chief of these is the effect likely to be exercised by that high price level, first, upon consumption, and secondly, in drawing out reserves from the ‘invisible supply’.” Both of these, previously ignored by the trade at large, have operated to bring down prices again to their present level. In Europe the consumption, as gauged by weekly deliveries to consumers for the three months November–January, averaged 180,000 qr. per week less than in the corresponding three months of 1906-07, and 300,000 qr. per week less than in the corresponding period of 1905-06, a comparison not likely to be materially affected by the deliveries this month. It is thus evident that early estimates of consumption, so far as data is forthcoming, were too liberal, and that, for the past three to four months, it has fallen short of the normal, as measured by immediately preceding seasons. With reserve stocks possibly heavily drawn upon and heavily reduced, the rate of consumption may expand during the remaining five months of the crop year, but it cannot be denied

that the contraction quite vitiates early estimates of the year's requirements.

The greatest mistake made by the trade has, however, been in underestimating supplies up to the present time. The months December to February were expected to be periods of short supply. As a matter of fact, the trade have had to contend against a plethora of wheat in comparison with the demand, both in England and on the Continent. Mistaken ideas of consumption are, as shown, partly responsible for this, but the great terror has been the miscalculation of what was likely to be forthcoming from America and the volume of early shipments from Argentina.

Large Shipments.

The exports from America for the first eight weeks of 1908 have reached 4,750,000 qr., against 2,570,000 qr. in the corresponding eight weeks of last year, and for the season 1907-08 (August 1st to February 20th) 16,360,000 qr., against 11,978,000 qr. for the corresponding period of 1906-07, and 8,728,000 qr. for 1905-06. The total American wheat yield for this crop year was variously estimated at 12,500,000 qr. to 20,000,000 qr. less than in the previous year, and in estimating a *maximum* surplus for export of 15,000,000 qr. it was considered by most authorities that a liberal figure was allowed. This *maximum* has already been considerably exceeded, and up to the present time there is no sign of such a drop as would indicate the near approach of exhaustion. The early movement of the Argentine crop has been on an unprecedented scale, the shipments this season since January 1st reaching 3,858,000 qr. against 2,231,000 qr. last season. The shipments from other countries have not so greatly varied from estimates, but have on the whole been somewhat in excess. As a result, the quantities on passage to Europe (counting flour as wheat at 70 per cent.) were, at the close of the week ending 22nd ultimo, as follows:—

	Week ending February 22nd, 1908.	Corresponding figures last year.
To United Kingdom, qr. .	1,995,000	1,655,000
For orders „ .	2,570,000	1,705,000
To Continent „ .	2,300,000	1,770,000
TOTAL .	6,865,000	5,130,000

The total imports into the United Kingdom since September 1st, 1907, amount, according to the Government returns, to 14,049,000 qr., against 13,069,000 qr. for the corresponding period of 1906-07.

During the week ending February 22nd there has been a firmer tone in the market, with a slight recovery in prices, and there is again evident a tendency to work the “short supply” arguments, but on modified lines compared with those used for the

paign of last autumn. It is evident, however, that events have so thoroughly discredited the predictions that these later “scarcity” theories should be received with caution. The requirements of importing countries for the balance of the year, if taken as normal, should call for about 600 qr., with the possibility of still comparatively high prices cutting them down. Towards the end of the year, in all probability, contribute 3,000,000 qr., leaving the balance to be made up by America, Russia, the Danube, India, Australia, etc. Both America and Russia are in quantities, and both have a habit of disconcerting factors to the rash estimators, not rash to count upon the combined totals of foregoing countries making quite good, if somewhat ahead of, the actual requirements.

If this view is correct, there are no solid reasons to apprehend any marked advance in prices, provided ordinary conditions prevail during seeding, sowing, and harvesting times this year. These conditions have been more favourable than they were a year ago, and during the next four months there will be no more unfavourable conditions in all countries last year. There is, however, no time yet for the “crop killers” to get busy, and as they have so far had little to do, extra industry on their part may be for later on. In fact, the situation could be summed up better than in the words of Mr. Thorpe, who has been persistently “bullish” in his contributions to the trade literature. “Holders of wheat should be in despair of the future if only the usual crop scares come along.”

THE BURNING QUALITY OF TOBACCO.

One of the principal difficulties which besets the grower in attempting the cultivation of tobacco in this country is that of securing a product which will burn well. A good tobacco should, when once lit, continue to glow without producing any smoke and should leave a white or at most a grey-ash. Further, it should not carbonise and what is technically known as a “black lip” should not advance of the ash. Though chemists have been engaged in investigating the causes which influence the good or bad “burn” in tobacco, the problem is so complex that the whole of the factors influencing it are not yet known. It is, however, tolerably certain now that the burning quality of tobacco is most influenced by the nature of the soil and the matter contained in the leaf. The present condition of this problem is discussed in Bulletin No. 105 issued recently by the Bureau of Plant Industry of the United States Department of Agriculture, in which Mr. W. W. Garner recounts the results of a number of experiments he has made with a view to the solution of this question. From these results the following conclusions are drawn:—(1) The fire-holding capacity of tobacco is

dependent primarily on the amount of potassium, in combination with organic acids, present; (2) lime in general does not greatly affect the fire-holding capacity, but is an essential factor in the production of a good ash; (3) large amounts of magnesia tend to injure the capacity for holding fire; (4) chlorine injures the burning quality, and so also do sulphates, but the latter have less effect in this direction than chlorine; (5) so far as is known, none of the organic constituents of tobacco, with the possible exception of the so-called tarry acids and the albuminoids, exerts a very important influence on the burning quality.

It has long been known that tobaccos yielding ash rich in potash are usually of satisfactory burning quality, and hence the recommendation of potassium sulphate or decaying leaves (usually fairly rich in potash) as manure in localities known to produce tobacco of poor-burning quality; but in view of Mr. Garner's results it seems desirable that potash should be applied in some other form than the sulphate, and of the potash salts available Mr. Garner suggests the silicate as that most likely to give good results. The chloride (kainit) and nitrate are of course inadmissible, the former because it introduces the undesirable constituent chlorine, and the latter because it induces a coarse, rank growth.

The use of manures containing magnesia is obviously also inadvisable. In so far as the organic constituents, tarry acids and albuminoids, which alone appear to affect the burning quality, are concerned, it should be remembered that the amount of the latter present is usually proportioned to the luxuriance and vigour of the plants, so that tobacco of rank growth is liable to contain excess of these constituents. Since the percentage of albuminoids diminishes rapidly during the ripening process after the leaf is fully grown, it is important that the leaves should not be collected until they are well-ripened.

The amount of albuminoid matter is also greatly affected by the processes of “curing” and fermentation, so that the burning quality is still further improved when these processes are properly conducted.

—On the 21st ultimo the German Reichstag passed the second reading of the Bill for the regulation of wireless telegraphy, in accordance with the decisions of the international congress in Berlin in 1906, and conferring a monopoly of wireless telegraphy upon the Government. The German Government desires to maintain an attitude of neutrality towards all systems of wireless telegraphy, and in particular to secure intercommunication on the part of ships and land stations without regard to the system employed. Germany has accordingly declined to bind herself to any one system, upon the ground that the efficiency of the system adopted is of far greater importance than its technical character.

THE INDIGO INDUSTRY.

Indian Exports.

Messrs. H. W. JEWESBURY and Company, London, sum up the indigo market in 1907 in the following terms:—

During the past year the East India market has been uneventful. Prices have been steady, and at the close of the year quotations are practically par with the opening. There has been a considerable increase in imports, and exports have been maintained, but home consumption shows a further falling off. The new crop now arriving in Calcutta will probably be about equal to last year's figures, and if the same proportion reaches this market, our supplies will be ample for all requirements. The Calcutta sales are in progress, and about 1,000 chests have been disposed of at prices about par with last season's rates.

Shipments from Madras during November were 655 chests to Suez, 39 chests to the Continent, and 72 chests to London.

Movements in London during 1907.

	1905.	1906.					
	Total.	Bengal, Oude, etc.	Kuraph.	Madras.	Manila.	Hoody, Fig, Java, and Sundries.	Total.
	Chests	Chests	Chests	Chests	Chests	Chests	Chests
Stock, January 1st	5,310	2,553	276	94	3	29	2,055
* Imports	2,231	1,043	101	216	...	119	2,079
	7,560	4,196	377	310	3	148	5,034
* Deliveries	4,595	2,795	131	253	...	77	3,256
Stock, December 31st	2,955	1,401	246	57	3	71	1,778
* Home Trade	3,106	1,383	92	64	...	66	1,605
* Export	1,490	1,412	39	189	...	11	1,651

	1907.					
	Bengal, Oude, etc.	Kuraph.	Madras.	Manila.	Hoody, Fig, Java, and Sundries.	Total.
	Chests	Chests	Chests	Chests	Chests	Chests
Stock, January 1st	1,401	246	57	3	71	1,778
* Imports	2,001	933	324	...	37	3,295
	3,402	1,779	381	3	108	5,073
* Deliveries	2,164	585	228	2	63	3,042
Stock, December 31st	1,238	594	153	1	45	2,031
* Home trade	1,052	271	15	...	50	1,388
* Export	1,112	314	213	2	13	1,654

* Exclusive of the quantity taken overside.

The year's imports of Central American Indigo total 466 serons, against 800 serons last year, 562 serons in 1905, 1,452 serons in 1904, and 2,055 serons

in 1903; deliveries being 600 serons, against 804 serons last year, 833 serons in 1905, 1,960 serons in 1904, and 1,761 serons in 1903. There has been a good demand for this indigo throughout the year, and all consignments to this market have been readily absorbed at full rates. The volume of business, however, has been restricted through shortness of supplies, only 466 serons having come to hand during the year. The stock in London is now reduced to 191 serons—the lowest on record—and as many dyers are now using this indigo in preference to East India kinds, larger consignments this season should be encouraged.

NEW REFERENCE BOOKS.

THE MERCANTILE YEAR-BOOK AND DIRECTORY OF EXPORTERS, 1908.

Edited by W. L. JONES, F.R.G.S. Twenty-Second year. 7½ x 5, 565 pp. 10s.

Lindley Jones.

THE INSURANCE BLUE-BOOK AND GUIDE FOR 1907-08.

Thirty-fifth year. 8½ x 5½, 444 pp. 2s.

Dawbarn and Ward.

SOME BUSINESS ASPECTS OF TARIFF REFORM.

A Discussion opened by H. HIRST at the Com-patriots' Club, January 27th, 1908. 6d.

P. S. King!

NOTES ON THE PATENTS AND DESIGNS ACT, 1907. 1s.

Lloyd Wise, 46, Lincoln's-inn-fields, W. C.

—The foreign trade of Canada for the year 1907 amounted to £127,200,000, an increase of £9,200,000 over the previous 12 months. The imports increased by £8,400,000, and the exports by £800,000.

—A Bangkok correspondent informs the *Manchester Guardian* that some time during July or August next the Siamese Government will call for tenders for three large steel bridges, over 100 miles of rails, and a quantity of rolling stock to be used on the railway to the north. Some locomotives will also be required. The line on that side of the Menam is standard gauge. He mentions that the old British-made engines sent out when the line was first constructed, in 1894 or thereabouts, are still in use and have outlasted quite a number of Belgian and German locomotives. From the same source we learn that the local Government of Bangkok is going to erect several incinerators, or refuse destructors, and estimates for these will probably appear in the new Budget, which will be issued on April 1st, which is the beginning of the Siamese financial year. So far as can be learned from semi-official sources, some six of them will be required, and the refuse to be consumed by them will be miscellaneous town refuse—animal, vegetable, and mineral.

JOINT STOCK COMPANIES.

Number and particulars of Joint Stock Companies registered in each Province in British India in the month of January, 1908.

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL.	
				Nominal.	Paid-up.
				Rs.	Rs.
I.—BANKING, LOAN AND INSURANCE.					
(a) <i>Banking and Loan.</i>					
1	Fyzabad Bank	Sahebganj, U. P.	Banking	1,00,000	...
2	Coimbatore Sri Ranganathar Karuna Vilasa Nidhi.	Coimbatore, Madras	Money lending (mutual)	1,00,000	4,660
3	Nanjangud Sri Nanjandeswara Bank	Nanjangud, Mysore	Banking and Trading	50,000	...
	Total, Banking, Loan and Insurance	.....	.....	2,50,000	4,660
II.—TRADING.					
(a) <i>Co-operative Associations.</i>					
4	Srirangam Hindu Union Stores	Trichinopoly, Madras	Co-operative Stores	20,000	...
5	Hindupur Co-operative Society	Anantapur "	" "	20,000	...
	Total, Co-operative Associations	.....	.....	40,000	...
(b) <i>Printing, Publishing and Stationery.</i>					
6	Indian Paper Marbling Co.	Tanjore Madras	Paper manufacturing and Stationery.	20,000	...
(c) <i>Others.</i>					
7	Rangoon Docking and Engineering Co., 1908.	Rangoon, Burma	Business of shipbuilders, dockers, founders, manufacturers and importers of Engineering stores and hardware.	4,50,000	...
8	Utanka Agency Co.	Bengal	Trading in tobacco, tea, coffee, oilman's stores, etc.	1,00,000	...
9	Commercial and Manufacturing Co.	Gorakhpur, U. P.	General trade	80,000	...
10	Indian Nitrate and Alkali Co.	Cawnpore, U. P.	Dealing in saltpetre, salt, soda, etc.	50,000	...
11	Rajput Co.	Amritsar, Punjab	General trade and agency	1,00,000	...
12	John E. Minnitt	Bombay	Dealing in machinery and metals.	1,50,000	...
13	Shellac Manufacturing Co.	"	Dealing in lac, etc.	1,00,000	...
14	Norbarys (Bombay)	"	" " motors, etc.	1,50,000	...
15	British India Manufacturing Co.	"	Manufacturing combs, buttons, etc.	1,50,000	...
16	Indian Weaving Co.	Madras	Trading in cotton, woollen and silk piece goods.	20,000	...
	Total, Others	.....	.....	13,50,000	...
	Total, Trading	.....	.....	14,10,000	...
III.—MILLS AND PRESSES.					
(a) <i>Cotton Mills.</i>					
17	Petit Nagpore Swadeshi Spinning, Weaving and Manufacturing Co.	Bombay	Spinning and weaving cotton, etc.	30,00,000	...
(b) <i>Jute Mills.</i>					
18	Northbrook Jute Co.	Bengal	Spinning, weaving and manufacturing jute, hemp, etc.	23,00,000	...
(c) <i>Cotton and Jute Screws and Presses.</i>					
19	Ondh Ginning and Pressing Mills Co.	Hardoi, U. P.	Ginning and pressing cotton	2,50,000	...
(d) <i>Others.</i>					
20	Indian Industries	South Arcot, Madras	Establishing an oil mill	20,000	...
	Total, Mills and Presses	.....	.....	55,70,000	...

JOINT STOCK COMPANIES—contd.

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL.	
				Nominal.	Paid-up.
				Rs.	Rs.
IV.—PLANTING.					
(a) Tea.					
21	Killing Valley Tea Co.	Bengal	Cultivation and manufac- ture of tea.	1,00,000	...
22	Ghazipore Tea Co.	"	" " "	1,50,000	...
	Total, Tea . . . . .	.....	.....	2,50,000	...
(b) Others.					
23	Indian Agricultural Association	Vizagapatam, Madras	Planting lands for growing foodstuffs and trading.	20,000	...
	Total, Planting . . . . .	.....	.....	2,70,000	...
V.—MINING AND QUARRYING.					
(a) Coal.					
24	Bilbera Coal Co.	Bengal	Coal business	7,00,000	...
25	Parasea Collieries	"	" " "	8,00,000	...
26	Angarpatra Coal Co.	"	" " "	3,00,000	...
27	Union Coal Co.	"	" " "	3,50,000	...
28	Central Coal Co.	"	" " "	2,00,000	...
29	Bengal Giridih Coal Co.	"	" " "	4,50,000	...
30	Auckland Coal Co.	"	" " "	4,00,000	...
31	Thandabari Coal Syndicate	"	" " "	90,000	...
32	Koolustore Coal Co.	"	" " "	7,00,000	...
	Total, Coal . . . . .	.....	.....	39,90,000	...
(b) Gold.					
33	Bobbili Mining Co.	Madras	Gold mining	10,00,000	...
	Total, Mining and Quarrying . . . . .	.....	.....	49,90,000	...
VI.—SUGAR MANUFACTURE.					
34	Swadeshi Sugar Manufacturing Co.	Tanjore, Madras	Manufacturing sugar	20,000	...
	GRAND TOTAL . . . . .	.....	.....	1,25,10,000	4,660

ABSTRACT TABLE OF COMPANIES REGISTERED IN THE MONTH OF JANUARY, 1908

	CAPITAL.	
	Nominal. Rs.	Paid-up. Rs.
3 Banking and Loan Companies	2,50,000	4,660
2 Co-operative Associations	40,000	...
1 Stationery Company	20,000	...
10 Trading Companies (other than those specified)	13,50,000	...
1 Cotton Mill	30,00,000	...
1 Jute Mill	23,00,000	...
1 Cotton Press	2,50,000	...
1 Oil Mill	20,000	...
2 Tea Planting Companies	2,50,000	...
1 Planting Company (other than Tea)	20,000	...
9 Coal Mining Company	39,90,000	...
1 Gold Mining Company	10,00,000	...
1 Sugar Manufacturing Company	20,000	...
TOTAL	1,25,10,000	4,660

TRADE MOVEMENTS.
For the week ending 14th March, 1908.

COTTON GOODS.	
Twist and Yarn.	
Foreign—	Calcutta, lbs. 383,584
Imports by sea into	Bombay " 135,349
	Madras " 281,378
Indian—	Calcutta " 245,465
Exports by sea from	Bombay " 5,508,058
	Madras "
Grey Piece Goods.	
Imports by sea from	Calcutta, yds. 20,576,364
Foreign ports into	Bombay " 2,370,429
	Karachi " 1,335,140
	Madras " 3,985,841
	Rangoon " 180,094
White Piece Goods.	
Imports by sea from	Calcutta, yds. 6,988,873
Foreign ports into	Bombay " 5,471,088
	Karachi " 6,093,980
	Madras " 476,813
	Rangoon " 717,133
Other Piece Goods.	
Imports by sea from	Calcutta, yds. 2,653,297
Foreign ports into	Bombay " 3,390,919
	Karachi " 3,384,776
	Madras " 1,016,788
	Rangoon " 1,033,463
Piece Goods.	
(Indian and Foreign.)	
Despatches by rail from	Calcutta, owt. 18,701
	Bombay " 5,141
	Karachi " 15,196
	Madras " 5,710
Cotton, Raw.	
Imports into Bombay	By sea owt. 8,688
	Coastwise " 23,628
	By rail " 170,172
Imports into Karachi by rail	" 29,893
" " Calcutta by rail and river	" 17,722

JUTE.	
Arrivals by all routes in	Calcutta, owt. 286,463
Exports by	Calcutta { Gunny bags, No. 12,935,690
sea from	" { " cloth, yds. 24,653,600
	Chittagong—Jute " 410,362
COTTON SEED.	
Exports by sea from Bombay	owt. 96,859
OILSEEDS.	
Linseed.	
Imports into	Calcutta by rail and river, owt. 4,360
	Bombay { By sea " 156
	" { Coastwise " 312
	" { By rail " 7,271
	Karachi by rail " 4,025
Exports by sea from	Calcutta " 31,642
	Bombay "
	Karachi "
Rape and Mustard Seed.	
Imports into	Calcutta by rail and river, owt. 22,522
	Bombay { By sea " 4
	" { Coastwise " 5,876
	" { By rail " 88,026
	Karachi by rail " 7
Exports by sea from	Calcutta " 3
	Bombay " 38,142
	Karachi "
RICE.	
Arrivals by all routes in	Calcutta, owt. 503,470
Exports by sea from	Calcutta " 173,485
	Chittagong " 794
	Bombay " 21,827
	Karachi " 18,410
	Madras " 369
	Rangoon " 978,637
TEA.	
Arrivals by all routes in	Calcutta, lbs. 182,757
Exports by sea from	Calcutta " 400,053
	Chittagong "
WHEAT.	
Imports into	Calcutta by rail and river, owt. 21,226
	Karachi by rail " 2,709
	Bombay { By sea " 10,094
	" { Coastwise " 19,250
	" { By rail " 2,794
Exports by sea from	Calcutta " 3,084
	Bombay " 945
	Karachi " 26,772

KEROSENE OIL, WEEK ENDING 14th MARCH, 1908.

Imports by sea into—	FROM			
	Russia.	America.	All other foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	82,180	83,403	170,583
Bombay	...	428,415	...	428,415
Karachi	...	...	...	...
Madras	...	...	...	767,700
Exports by sea from Burma to				
	Bengal	E. B. & Assam "	Bombay "	807,692
	Sind "	Madras "	Indian Ports, Non-Br. "	572,400
	Foreign Ports "	...	...	147,591

IMPORTS OF SUGAR, WEEK ENDING 14th MARCH, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	2	...	18	...	1	25	46
Germany	...	...	...	2	...	...	2
Austria-Hungary	...	...	3,005	30,200	...	...	33,205
Other European Countries	...	...	...	...	...	...	...
Java	1,997	...	...	35,482	...	...	37,479
Mauritius	2,652	...	129,916	9,007	...	...	141,575
Other Non-European Countries	...	...	1,111	...	...	3,571	4,682
				Total refined			216,989
				Total unrefined			...
				Grand Total, cwt.			216,989

THE SHELLAC TRADE.

Progress in 1907.

IN the course of their review of the shellac trade in 1907, Messrs. Reynolds and Sellers, London, make the following comments:—

Until the turn of the half-year this market exhibited a firm tone, with a good demand at 212s. to 216s. for second orange quality, and, with a small stock, these prices seemed likely to rule throughout. Early in the year, however, a letter received from Calcutta stated:—“Shellac still continues at the old prices; there is little on offer, and there will be little doing until the Bysackee Sticklac crop comes on the market in quantity—then a slump in values would do the market a lot of good, and would no doubt lead, to some extent, to a restriction of the resin adulteration.” We regret being unable to endorse these ideas, as the large crop most certainly had the effect of giving the market a thorough good slump and certainly not much good, neither has it so far prevented the adulteration of resin, which is proved by the shipments of that article to Calcutta and the quality of the shellac received here, which, however, is not so greatly adulterated as that shipped to the States, and has caused an agitation there to endeavour to restrict the proportion in manufacturing. Whilst the quality shipped to London is limited to the resin clause, America has been receiving nearly one-fourth of adulteration, which has naturally caused some dissatisfaction on the part of consumers. Until the end of June there was no alteration within a shilling or two in the prices ruling on the spot, and the quotation for TN quality remained almost unchanged at 212s. to 214s.; garnet AC diamond, in the neighbourhood of 200s.; but the finer qualities of orange declined on importations. In April reports received from various quarters stated that the Bysackee crop was a very good one, estimated at 500,000 maunds, equal to 150,000 cases. However, it was not generally credited. Although the shipments from Calcutta were large, they were not wholly responsible for the depression which existed during October, November, and early December. The financial position in America was largely accountable for the greater part, and lately the

strike in the hat-manufacturing districts in England somewhat contributed towards it. Just recently an improved feeling has prevailed, and a better outlook is predicted for the New Year. The States have not contracted largely for some time. The consumers are bare of stock, and the dispute in the hat trade settled. Our stock, which had been increasing month by month since February, was reduced last month by nearly 300 cases.

Fine and Fine Second Orange have participated, in sympathy with the inferior qualities, buyers showing extreme caution in their purchases; only when necessity compelled have they entertained business, and then in the smallest quantity procurable. Opening at 250s. to 255s., quite 100s. less bought decent quality in the slump. Some of the fine seconds have arrived very resinous, but have gone of, attracted by their appearance.

One or two public auctions have been held during the year, but attracted little attention, meeting with only unlikely offers, the idea being more to advertise the goods than to accept reduced prices. Early in September 200 cases second orange were printed to be sold “without reserve,” but were withdrawn without being offered.

	Stock at end of		Landings.		Deliveries.		Price at Dec. 31.	
	1906.	1907.	1906.	1907.	1906.	1907.	1906.	1907.
	Cases.	Cases.	Cases.	Cases.	Cases.	Cases.	₹.	₹.
Orange, good, 2nd.	7,659	18,614	25,790	41,907	32,889	31,011	215	127-6
Garnet, A. C. blocky	1,035	1,620	4,069	4,505	3,639	4,001	202-6	167-6
Button, Fair 3rds.	3,703	4,744	9,793	10,623	12,020	9,587	175	100
TOTAL	12,440	24,917	39,655	57,127	49,547	44,650	...	...

—The Annual Report of the Punjab Chamber of Commerce has been issued. It contains a readable summary of the various matters dealt with by the Chamber during the past year, most of which have been noted from time to time in these columns:

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. Rs. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. Rs. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. Rs. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. Rs. 12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. Rs. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. Rs. 8. (3a.)
9. Prices and Wages in India. Rs. 8. (9a.)
10. Financial and Commercial Statistics of British India. Rs. (12a.)
11. Judicial and Administrative Statistics of British India. Rs. (10a.)
12. Agricultural Statistics of India. Rs. 8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1906. Rs. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

1. Notes on Sugar in India. Rs. 8. (2a.)
2. Indian Cotton Seed: Its Industrial Possibilities. As. 12. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W.
Constable & Co., 10, Orange Street, Leicester Square, W.C.
Bernard Quaritch, 11, Grafton Street, New Bond Street, W.
Deighton, Bell & Co., Cambridge.
H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London.
P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W.

Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho, London, W.

Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.
Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C.
Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C.

On the Continent.

R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W.
Otto Harrassowitz, Leipzig.
Mr. Rudolf Haupt, Halli-A-S., Germany.

Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
Martinus Nijhoff, The Hague.

In India.

Thacker, Spink & Co., Calcutta and Simla.
Newman & Co., Calcutta.
R. Cambray & Co., Calcutta.
S. K. Lahiri & Co., Calcutta.
Thacker & Co., Ltd., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoon, Bombay.
Sundur Pandurang, Bombay.
V. Kalyanarama Iyer & Co., Madras.
G. A. Natesan & Co., Madras.
Higginbotham & Co., Madras.
N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad.

Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore.
Superintendent, American Baptist Mission Press, Rangoon.
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
Messrs. A. R. Pillai & Co., Trivandrum.
Messrs. Gopal Narayan & Co., Bombay.
Messrs. A. M. and J. Ferguson, Ceylon.
Messrs. A. Chand & Co., Lahore, Punjab.

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 8 0
To Non-Subscribers	" 10 0

POSTAGE:—

Abroad	per copy per annum 5 0
In India	" " 2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy 1 0
To Non-Subscribers	" 2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0
For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.	

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,

Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

FROM THE PUNJAB DOWN TO PEGU

there are smokers of refinement and taste who can distinguish the finest shades of quality in tobacco

These men, who know a good cigarette and will have it, write to us constantly for the names of dealers in India supplying the

"DERESZKE" CIGARETTES

"THE CRITERION OF CONNOISSEURS."

This high-grade Cigarette is supplied to the House of Commons, Windsor Castle, etc., etc. It is everywhere stocked by dealers who know the selling value of goods for which the demand is established

It will pay you to stock the "DeReszke."

Write for full particulars and samples to
J. MILLHOFF & CO., LTD.
(DEPT. 48), 27, COMMERCIAL STREET, E.
LONDON, ENGLAND.

MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT. As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO.'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. C. I. COLUMNS

Light Railway Material of every Description.

MARTIN & CO.

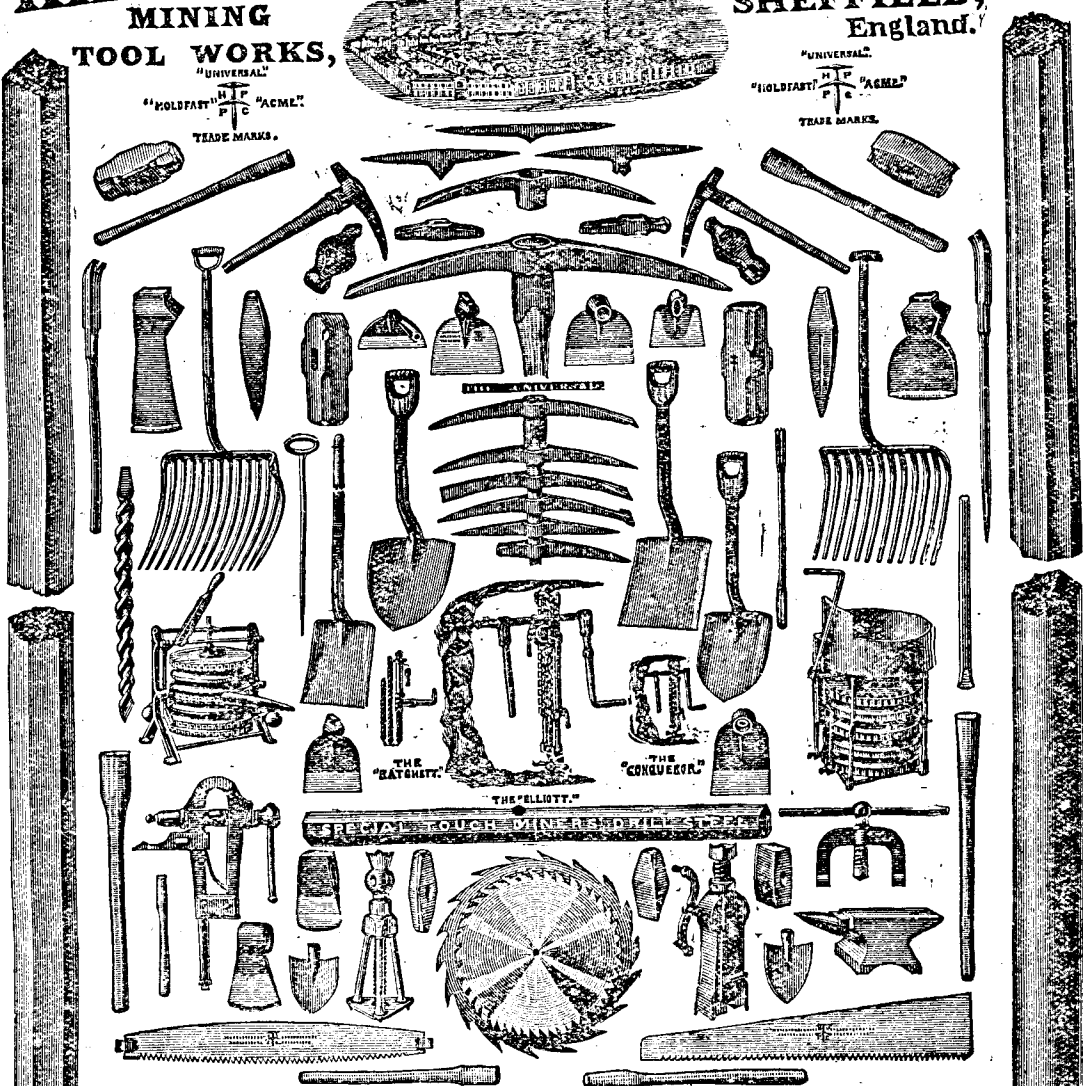
6 AND 7 CLIVE STREET,
CALCUTTA.

HIGH-CLASS TOOLS FOR MINERS, CONTRACTORS, QUARRYMEN, AND AGRICULTURISTS.

TELEGRAPHIC ADDRESS: HARDY PICK, SHEFFIELD. TELEPHONE NATIONAL 167

THE HARDY PATENT PICK Co. Ltd.,
SHEFFIELD, England.

MINING TOOL WORKS.



MAKERS OF THE "UNIVERSAL" AND "ACME" MINING AND NAVY PICKS.
HAND & POWER BORING MACHINES FOR ROCK & COAL.
PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS,
AND ALL MINING, QUARRY, CONTRACTORS, AND AGRICULTURAL TOOLS.

SPECIAL TOUGH DRILL STEEL, SHEAR, CAST, AND BLISTER STEEL:
SAWS, FILES, AND RASPS.
IMPORTERS OF HICKORY HANDLES.

London Office and Showrooms: 22, Queen Victoria Street, London, E. C.

DELICIOUS **COFFEE**
RED WHITE & BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary COFFEE.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.

30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,

AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine

AGENTS FOR
SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.
Rope Works at Ghusari.

TELEPHONE NO. 132.



MACBETH BROS. & CO.,
ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities,—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

THURSTON'S

The Parent House of the Trade. **BILLIARD TABLES** By Appointment to His Majesty King Edward VII.
Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.

Branches at Cape Town, Johannesburg and Durban.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH

AHMUTY & CO.
CALCUTTA.

Engineers, Hardware Merchants,
Railway Storekeepers, Mill Furnishers.
PROPRIETORS OF
SHALIMAR STEAM ROPE WORKS,
HOWRAH.

Ask for your
 Seeds, Plants, Manures and
 Books on Gardening and
 Agriculture.
 From
THE INDIAN GARDENING ASSOCIATION,
 CALCUTTA.

Price List and Membership rules
 free on Application.

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment

TO HIS MAJESTY KING EDWARD VII.

WORLD'S HUMANE HORSE NAIL,
 KNIGHT'S PATENT 'SAFETY.'

'SAFETY' HORSE NAILS
 CONCAVE INSIDE
 CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.
 Extract from Mr. SHERRATT'S Eminent Report:-

'I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness to holding on the shoe.'

Japanese Army use exclusively.

SOLE AGENTS
 THE GRUEL TO MAKE THE HORSE STAND
 ON SLIPPERY ROADS WITH
 NAIL PRESSURES
 FRONT SECTION OF HOOF
 CUT AT HEEL NAIL
 (KNIGHT'S SAFETY NAILS REQUIRE NO CURVING TO DRIVE, NOTCH ASPIRING TO CLINCH & NEVER GET LOOSE)
 COMPANIES SAVE ALL COST
 OF NAILS EVERY DAY THE
 SHOE IS CARRIED LONGER

London and EXPORT BRANCH,
 4 Upper St. Martin's Lane, W.C.

Telegrams: 'HORSE NAIL LONDON' No. 5018 G.W. & L.

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,
 DONCASTER, ENGLAND.

Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically in Gelatine.

Beechwood Brand awarded 4 Gold Medals and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

MARSHALL, SONS & CO., LIMITED, ENGINEERS.

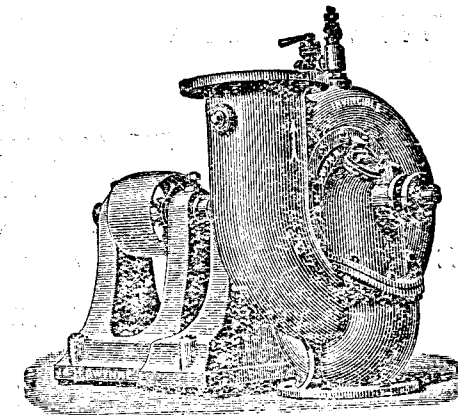
Works.—GAINSBOROUGH, ENGLAND.

HEAD OFFICE IN INDIA—99, Clive Street, Calcutta.

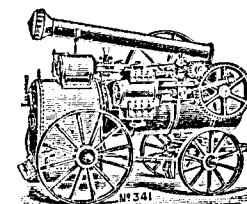
BOMBAY BRANCH—Marshall's Buildings, Ballard Road.

Ready for immediate delivery from stock in Calcutta.

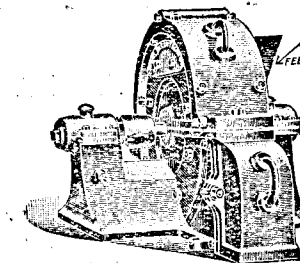
SINGLE AND DOUBLE
 CYLINDER PORTABLE ENGINES
 FROM 6 TO 20 NOMINAL
 HORSE POWER.



Gwynne's Centrifugal Pumps from 3" to 12" diameter for Irrigation and Pumping work.



Carter's Original Disintegrators in three sizes for grinding kunker Lime, Soorkey, Cement and Broken Bricks.



Smedley's Overdriven Mortar Mills, with 7 ft. Pan for grinding or mixing very large quantities of Soorkey Lime, etc.

To let out on hire Portable Engines for driving temporary Electric Light Installations, pumping out tanks, Irrigation Schemes, etc.

Quotations, Catalogues and Plans promptly submitted by mentioning "Indian Trade Journal" to—

MARSHALL, SONS & CO., LIMITED,
 Engineers, Enquiry Department,
 POST BOX NO. 22, CALCUTTA.

"CHARLTON"**SILICATE****PAINT**

Registered Patentees:

THE SILICATE PAINT Co.,**J. B. ORR & CO., LD., CHARLTON, LONDON.**

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

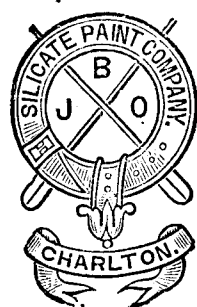
Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,
and for all
GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.
Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo.
Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

—A SAFE AND EFFICIENT—
Antiseptic, Deodoriser and Germicide
IS THE WORLD-RENOWNED

CREPHOL
Disinfectant.

Destroys effectually all Noxious Microbes existing in AIR, SOIL, and WATER.
Renders innocuous the Gases which produce Disease.

*Extracts from Reports by***Dr. A. B. GRIFFITHS, Ph.D., F.R.S.E.,***The Eminent Bacteriologist—*

"In conclusion, I am justified in stating that Crephol Powder is a most powerful germicide or disinfectant, and that it readily destroys disease-producing and other microbes. It will be found invaluable for drains, stables, streets, and for general household purposes."

R. MARLOTH, Ph.D., M.A.,*Professor of Chemistry, CAPE TOWN, SOUTH AFRICA—*

"This means that Crephol possesses, generally speaking, the same disinfecting power as PURE Carbolic Acid."

A. SELWYN BROWN,*Analyst and Assayer, SYDNEY, N. S. W.—*

"The Fluid Disinfectant is in every way an excellent preparation, and I can recommend it with the greatest confidence as a safe, powerful, and cleanly disinfectant and germicide."

Sole Agent for India: **H. I. ROBERTS, 42, Castle Street, Liverpool.**

Calcutta Agents: Messrs. KINMOND & Co.

Sole Agents in Karachi: Messrs. B. R. HERMAN & Co.

Sole Agents in Madras: Messrs. McDOWELL & Co., Ltd.

Bombay Agents:—KINMOND & Co.

SHANNON SYSTEMS FOR ALL OFFICES
SAVE TIME & LABOUR.

SHANNON

MANUFACTURERS OF COMPLETE OFFICE INSTALLATIONS ON MODERN LINES.

Illustrated catalogues may
also be obtained at REUTER'S
(Advertisement Department)
BOMBAY, CALCUTTA,
MADRAS, COLOMBO,
CAWNPORE, RANGOON and
KARACHI.

AGENTS WANTED.

THE SHANNON LIMITED**ROPEMAKER STREET,****LONDON, E.C.****F. W. SCHAFER,***Managing Director.*

THE LARGEST SAW MILLS AND CARPENTER'S SHOP IN UPPER INDIA.

Door Frames, Doors, and
Windows, Ornamental

Woodwork and Camp Furniture.
Wheelwright's work a speciality.

THE EMPIRE ENGINEERING Co., LTD.

Apply for Prices and Catalogue.
Boxes, Pegs, Handles, and all kinds of Woodwork.

GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY
ARTIFICIAL STONE
WITH AN
ESTABLISHED REPUTATION
OF 25 YEARS.

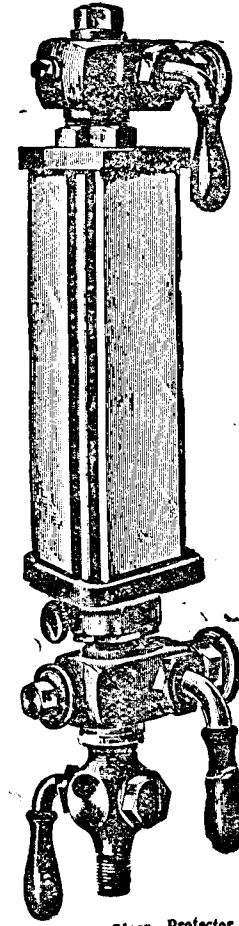
EXCLUSIVELY USED BY
THE P. W. D.,
PORT COMMISSIONERS,
MUNICIPALITIES,
RAILWAYS,
JUTE AND COTTON MILL
COMPANIES.

FOR DURABILITY AND
FOR BEING
SANITARY, DAMP, VERMIN
AND
FIRE PROOF.

The Floor PAR EXCELLENCE for Dwelling Houses, Footpaths, Godowns,
Coach Houses, Stables, Mills and Factories.
*For illustrated sheet, particulars, estimates and prices for plain and ornamental flooring laid IN
SITU or in tiles and for copies of testimonials, analysis and tests,*

Apply to— **BIRD & Co.,** MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
101-1, Clive Street, CALCUTTA.

Showing Protector in Position.



Gauge Glass Protector.

This Protector has been designed to meet a long-felt want, as the fittings of no two Boilers are of the same length. This patent overcomes the difficulty, as it will fit any and all kinds of Gauge Glass fittings from 8 in. up to 20 in. long.

It is therefore apparent that it possesses a distinct advantage over every other pattern, being telescopically adjustable to any length of Gauge Glass, and may be at once adapted to the existing fittings of any Boiler.

"EUREKA"

GAUGE GLASSES

ESTABLISHED 1853.

MAKERS OF THE NEW GAUGE GLASSES

"S.H.P."

FOR SPECIAL HIGH-PRESSURE BOILERS.

SEND FOR CIRCULARS AND TESTIMONIALS.

JOSEPH TOMEY & SONS, LD

GLASS TUBE WORKS,
Catherine Street, Aston, BIRMINGHAM.

LONDON WAREHOUSE AND SHOWROOMS—88, HATTON GARDEN E.C.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

BRANCHES:
Bangkok. Colombo. Ipoh (Perak Feder- Madras. Penang.
Batavia. Fochow. ated Malay States). Manila. Rangoon.
Bombay. Hamburg. Karachi. Medan. Deli. Saigon.
Calcutta. Hankow. Kobe. Sumatra). Shanghai.
Cebu. Hong-Kong. Kwa Lumpur. New York. Singapore.
Sourabaya. Taiping. Tientsin. Yokohama.

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
5, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.



STANDS FOR

NELSON

THIS REPRESENTS THE

WORLD'S FINEST SHOE POLISHES.

MANUFACTURED
SOLELY BY**G. H. NELSON,**CLARKE ROAD,
NORTHAMPTON,
ENGLAND.

Agents for India and Straits Settlements, etc.

THE BRITISH INDIAN AGENCY,

BOMBAY, CALCUTTA, ETC.

EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX
MAKING AND ALLIED TRADES.

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

"WOODITE"

FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments.

THE WOODITE COMPANY,

MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo & Karachi,

JOHN PIGGOTT, LTD.

The "COMPANION" Cycle.

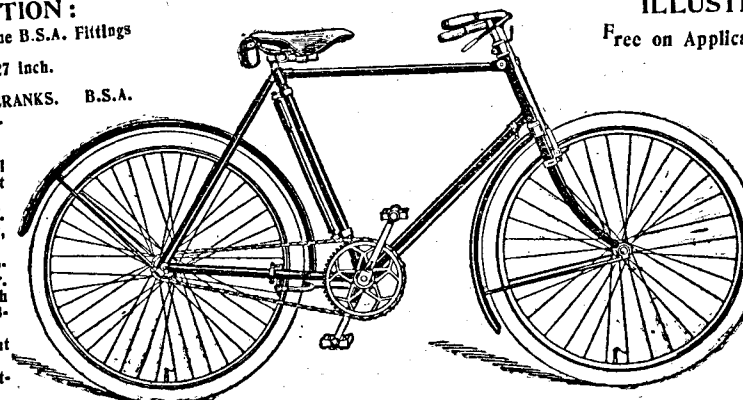
MAKERS.

SOLE

GENUINE B.S.A. FITTINGS.

SPECIFICATION:

FRAME. Built of genuine B.S.A. fittings
throughout.
SIZES. 21, 23, 25, and 27 inch.
HUBS. B.S.A.
CHAIN WHEEL AND CRANKS. B.S.A.
BRAKES. Latest Pattern.
Roller Levers.
HANDLE BAR. Raised.
FINISH Best Black Enamel
neatly lined throughout
in Gold.
TYRES. Dunlop, 28" x 1 1/4".
FREE WHEEL. Perry,
Ball Bearing.
CHAIN. Perry or Brampton
4 inch pitch Roller.
SADDLE. Light, with
Enamelled Springs, 3-
coil.
MUDGUARDS. Light
Detachable Steel.
PEDALS. B.S.A. Rat-
Trap.
ACCESSORIES. Inflator,
Clips, Wallet, Tools
and Oil.

ILLUSTRATED LIST
Free on Application to—

Advertisement

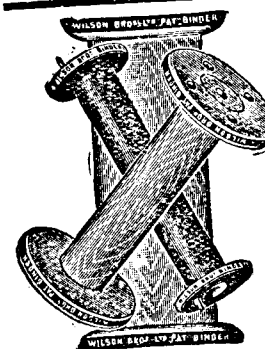
Department,

Reuter's

Agency.

[Please mention this Advertisement.]

CALCUTTA, BOMBAY, MADRAS, KARACHI, COLOMBO or RANGOON,
117 & 118, CHEAPSIDE AND MILK STREET, LONDON, E.C.

**WILSON BROS. BOBBIN Co., LTD.**

LARGEST MAKERS IN THE WORLD OF

BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS: GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORDEN. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: **N. WADIA & SONS,**
BELLA VISTA OFFICE,
CUMBALLA HILL, BOMBAY.

RELIABLE
QUALITY
ONLY.**PADMORE
BILLIARD TABLES**Over
70 Years'
Reputation.

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941

BARLOW & Co.

Import and Export Merchant

and

Commission Agents

Agents:

United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd.

Scotch Pig Iron. Special Brand. Stocks.

37, STRAND ROAD, CALCUTTA.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL GLASSES AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS,

in Calcutta.

AIR COMPRESSORS.

Large Stocks held

in Calcutta.

WATER METERS,

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



*"Pelican" and
"Chin-Chin"*



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

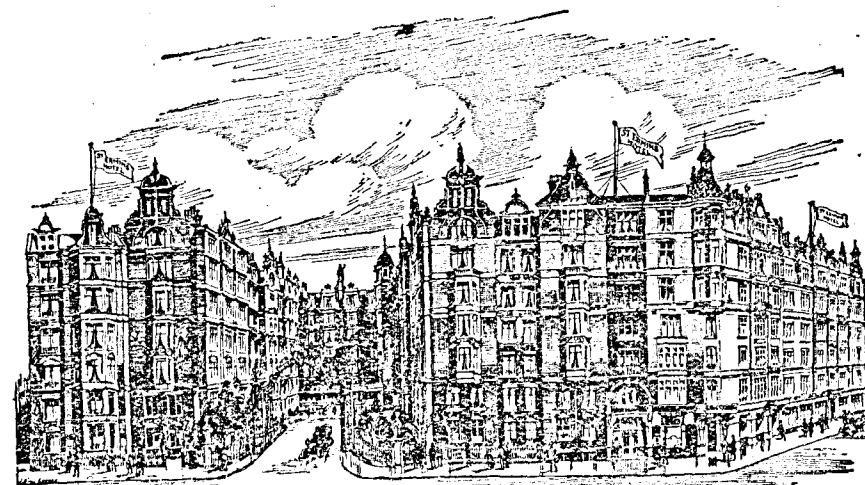
SUPERIOR QUALITY and 50 per cent.
LARGER BOTTLES than is usual in these goods.

Illustrated Price Lists and Colour Cards may be obtained from Reuter's Agency
(Advertising Department), Bombay, Calcutta, Madras, Colombo, Rangoon and Karachi.

or direct from

GUNTHER WAGNER
Sole Manufacturer
80 MILTON STREET LONDON E.C.

A LIST OF INDIAN
DEALERS WILL BE
INSERTED NEXT WEEK.



**ST.
ERMINS
HOTEL**

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—
Westminster, 1907.

TELEGRAMS:—
"Ermitages," London.

W. EHRENTAUT,
Manager.

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—"Firmen, London."

Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES,

Manufacturers of every description of
**Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery**

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

for

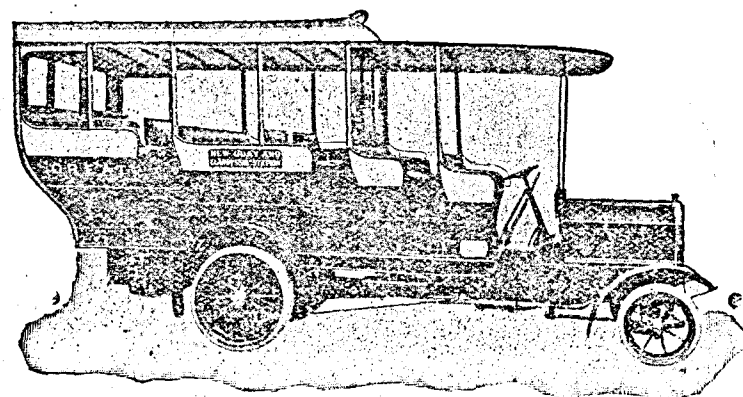
Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



GREAT WESTERN CHARABANC.

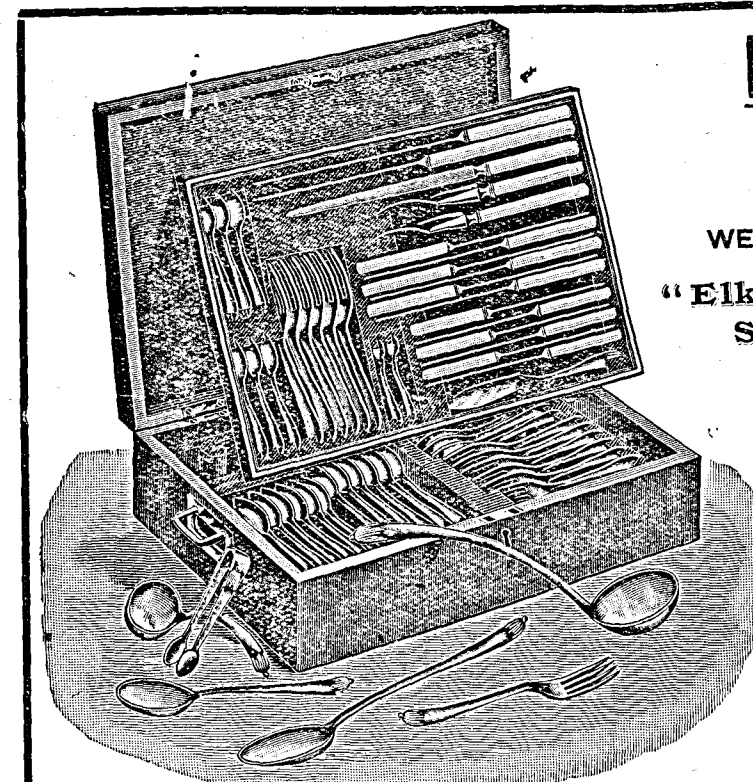
600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

Motor Lorries,

- " Vans,
- " Wagons,
- " Tower Wagons,
- " Mail Vans,
- " Omnibuses,
- " Charabanc,
- " Waggonettes,
- " Launches, &c.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,

MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS,

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Ironband

B B H Best Best

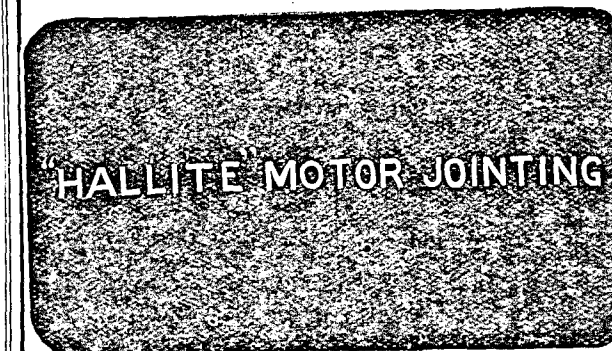
HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

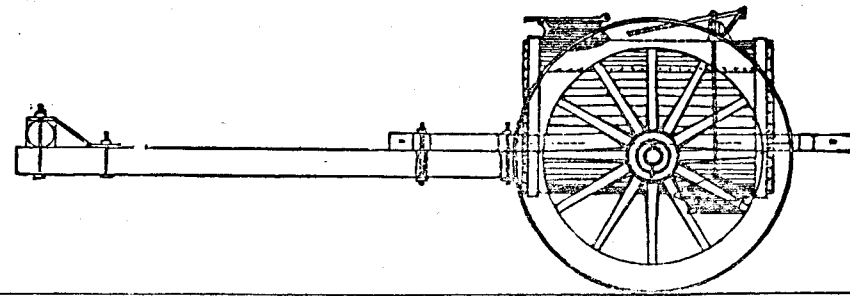
"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



Catalogues can be obtained from
Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM CO., LD., MADRAS,

Government Contractors.

HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE.

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

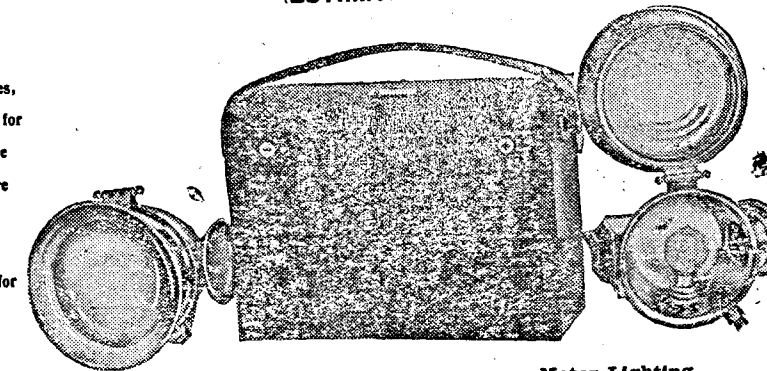
For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

THE GRATZE

IMPROVED PLANTE AND PASTE ACCUMULATORS:—

BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.
(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratz Patents and Engineering Syndicate, Ltd.,

Offices and Works:
44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.



By Appointment to His Excellency the Governor of Bombay.

Suppliers to—
HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY,
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

**GODREJ & BOYCE, MANUFACTURING
SAFE & LOCK MAKERS, NEAR GAS WORKS, PAREL, BOMBAY.**

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE.
Bombay, 12th September 1905.
MESSRS. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.
(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency.

Telegraphic Address: "ORIENTNESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION.

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, et

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

CAVALRY POUCHES
BELT ORNAMENTS
HELMET FITTINGS
PUGRI BADGES
CAP BADGES
COLLAR BADGES
SHOULDER TITLES
BADGES OF RANK
REGULATION
WHISTLES
SHOULDER CHAINS
DRUM MAJORS'
STAVES
BAND MASTERS'
BATONS
PROGRAMME DESKS
BRIDLE & BOSSES
BRIDLE BUCKLES
VEST STUDS
HOOKS AND EYES

JENNENS & CO.,

ARMY AND NAVY CONTRACTORS.

Manufacturers of

MILITARY, NAVAL, DIPLOMATIC, POLICE AND CLUB

BUTTONS.

METAL HELMETS AND ORNAMENTS.

56, CONDUIT STREET, LONDON, W.

WORKS: DERITEND, BIRMINGHAM.

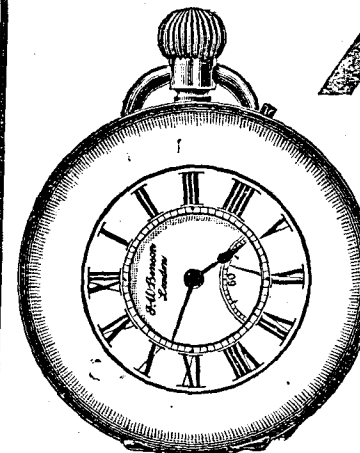
WARRANT HOLDERS BY APPOINTMENT

TO

H. M. THE KING & H. R. H. THE PRINCE OF WALES.

Full Particulars can
be obtained fromMESSRS. REUTER'S
BRANCHES
(ADVERTISEMENT DEPT.)CALCUTTA,
BOMBAY,
MADRAS,
RANGOON,
KARACHI,
AND
COLOMBO.

For

INDIA

Benson's

RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.



Special quotations for quantities.

BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adut.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.**THE BOASE SPINNING Co., LTD.,****DUNDEE.**

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORDS BIRMINGHAM

BRANCHES: LONDON 70, WOOD ST. MANCHESTER 38, THOMAS ST. DUBLIN 12, NICHOLSON ST. GLASGOW 71, QUEEN ST.

DEPOTS: CAPE TOWN & JOHANNESBURG. BERLIN, KRAUSENSTRASSE, 40.

TELEPHONE NO. 402-3

PIONEERS OF SHOPFITTING

DRAPERS

FIGURES, COSTUME STANDS ETC.

TELEGRAMS FITTINGS

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN."

Other qualities which distinguish

"SWAN" FOUNTAIN PENS

From inferior or imitations are:

They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes

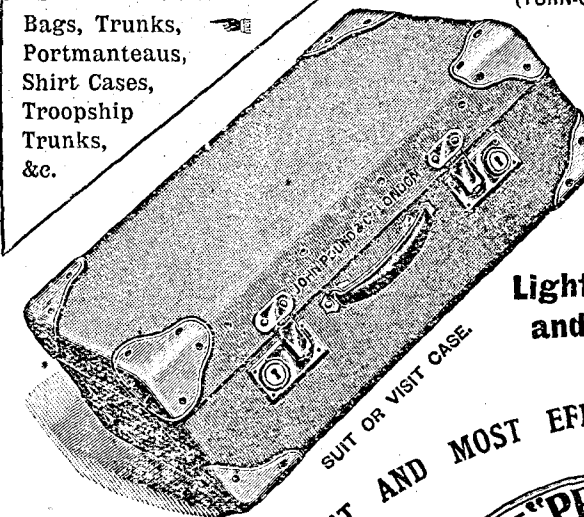
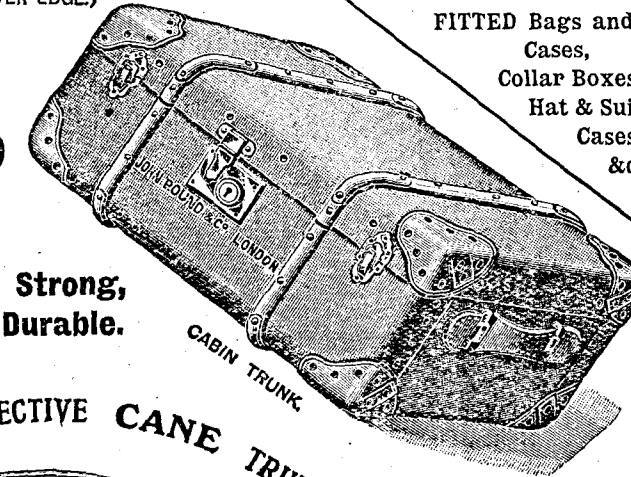
EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AND AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.

TELEGRAMS & CABLES
"POUND LONDON"A.B.C. CODE
4TH EDITION**JOHN POUND & CO**
ACTUAL MAKERS

The "PREMIER" Compressed CANE Trunks.

Bags, Trunks,
Portmanteaus,
Shirt Cases,
Troopship
Trunks,
&c.FITTED Bags and
Cases,
Collar Boxes,
Hat & Suit
Cases,
&c.Light, Strong,
and Durable.

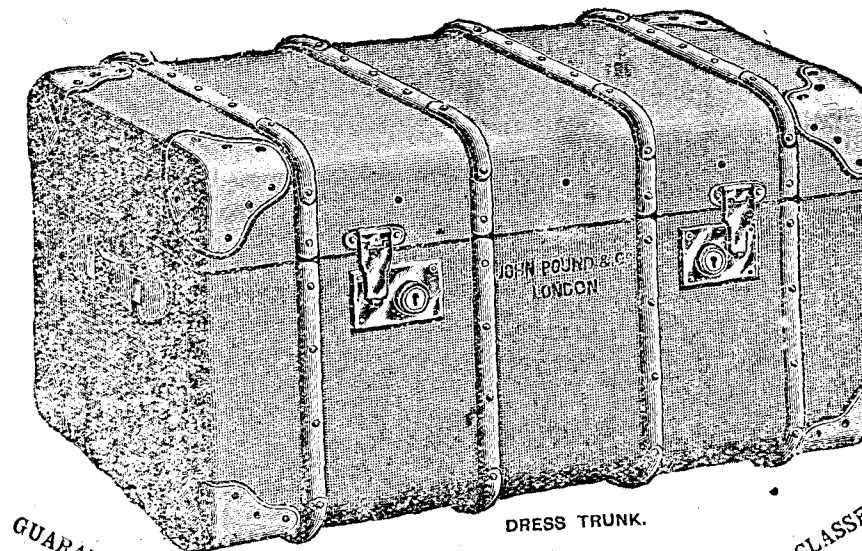
CHEAPEST AND MOST EFFECTIVE CANE TRUNK MADE.

THE "PREMIER" BRAND
TURNED EDGES
GUARANTEED COMPRESSED CANE

MARKED.

In all shapes.

Overlands.

Suit & Visit
Cases.Cabin Trunks,
&c., &c.

Bonnet Cases.

Dress Trunks.

Hat & Blouse
Cases.Or other shapes
as required.Write for
ILLUSTRATED
LISTS
(Post Free).INDENT
DIRECT
OR THROUGH
AGENTS.

GUARANTEED Best Compressed CANE, LOW PRICED TO SUIT ALL CLASSES.

81-84, LEADENHALL ST LONDON, ENGLAND.

WORKS: WHITECHAPEL, LONDON & SHEFFIELD.

LISTS
May be obtained from
Messrs. REUTERS' DEPOTS.

E. T. MARLER



TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS TO THE INDIA OFFICE.

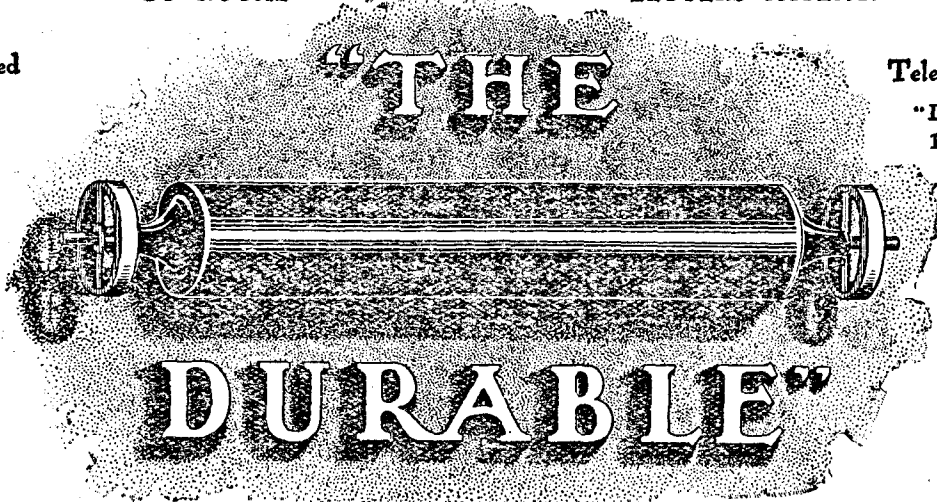
Manufacturer of Flexible Glue for Printers, Publishers and Bookbinders. 14, Charles Street, Hatton Garden, E.C. London.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established 1868.



Telegrams: "DURABLE. ROLLERS. LONDON."

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

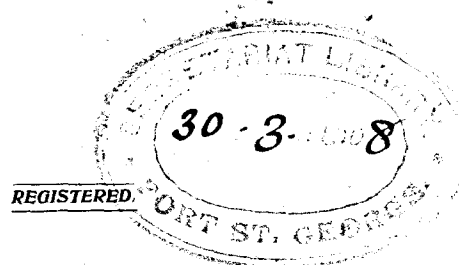
WE ARE CONTRACTORS TO HIS MAJESTY'S PRINTING OFFICES THE INDIA OFFICE THE HONORABLE BOARD OF INLAND REVENUE, &c., &c.

COMPOSITION MADE TO SUIT ALL CLIMATES AND CONDITIONS OF WORKING. SHIPPED READY FOR USE "THE DURABLE" PRINTERS' ROLLER Co., Ltd., Charles St., E.C. LONDON, Eng. E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT. GOVERNMENT PRESS, INDIA 8, HASTINGS STREET

PUBLISHED WEEKLY.



The Indian Trade Journal.

Issued by the Commercial Intelligence Department, India.

VOL. VIII. No. 104.] CALCUTTA, THURSDAY, 26th MARCH, 1908.

[ANNAS 4.

INDEX.

	PAGE.
NOTES	645
NOTICES -	
Enquiries	651
Books of Reference	ib.
LEADER—	
Bauxite in the Central Provinces	652
CHAMBERS OF COMMERCE	654
TARIFF CHANGES	656
THE FAMINE	ib.
THE CHINA YARN TRADE	657
OIL AND SHELLAC MARKETS	658
THE PORT OF MARMAGOA	659
THE INDIAN BUDGET	660
PRICES OF COMMODITIES	662
THE POSITION OF THE RUBBER MARKET	ib.
JUTE SUBSTITUTES	664
PINE DISTILLATION	665
TABLES—	
Sugar Imports	666
Imports of Cotton Yarns	ib.
Weekly Trade Movements	667
Food Grains and Salt	668
DEPARTMENTAL PUBLICATIONS	669
ADVERTISEMENTS	670

NOTES.

	Wednesday Evening.
PRESIDENCY BANK RATES	Calcutta . 8 per cent. (Mar. 5).
	Bombay . 8 per cent. (Mar. 19).
	Madras . 9 per cent. (Feb. 11).
EXCHANGE	On demand . 1-3 $\frac{1}{2}$
	Telegraphic Transfers . 1-3 $\frac{1}{2}$
	3 months . 1-4 $\frac{1}{16}$
	6 months . 1-4 $\frac{5}{16}$
GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.)—96 $\frac{1}{2}$.	

The Government of the United Provinces is prepared to receive applications for a technical scholarship of £150 a year, tenable for two years, enabling the holder to proceed to England in order to obtain instruction in the processes of cloth dyeing and printing. The possession of a University degree is not required, but candidates must possess a thorough knowledge of English and must be qualified either by a scientific education or practical experience to profit by the course of study which has been indicated. It is desirable further that they should already have some connection with the industry or should be in a position to turn their training to practical use on their return to this country. Applications giving full details of qualifications and antecedents should reach the

Secretary to Government, Industries Department, Lucknow, not later than the 5th proximo.

We notice that the Government of Bengal have made a provision of Rs. 1,00,000, in their Budget for the ensuing official year for the continuance of the special enquiries into Bengal fisheries.

A statement published in the *Gazette of India* of the 21st instant shows that the total amount standing to the credit of the Gold Reserve Fund on the 31st December, 1907, was £18,257,130.

The Association of Chambers of Commerce of the United Kingdom, having submitted to the Chancellor of the Exchequer a memorandum explaining in greater detail the objects of the resolution as to the Bank Charter Act adopted at Liverpool last September, have received a reply from Mr. Asquith. In this he states that the various problems connected with gold reserves have for some time been engaging his most careful attention. While he does not fail to appreciate the important bearing which the organization of the Bank of England has upon the question, he does not think that this aspect of the matter is one which he could with advantage discuss with a deputation—at any rate, at the present time. The representations of the Association on the subject shall, however, have his careful consideration.

The following figures represent the quantity of gold and silver imported from, and exported to, foreign countries into and from British India during the month of February, 1908:—The total imports of gold were 305,130 oz. valued at Rs. 1,87,61,720, of these 138,673 oz. valued at Rs. 89,20,402 represented bullion and 161,744 oz. valued at Rs. 95,67,514 represented sovereigns and other British gold coin and 4,713 oz. valued at Rs. 2,73,804 represented other coined gold. The total exports of gold were 46,461 oz. valued at Rs. 26,39,391, of these 46,063 oz. valued at Rs. 26,15,295 represented bullion and 1 oz. valued at Rs. 47 represented sovereigns and other British gold coin and 397 oz. valued at Rs. 24,049 represented other coined gold. The total imports of silver were 7,093,772 oz. valued at Rs. 1,34,18,730, of these 6,401,368 oz. valued at Rs. 1,15,72,838 represented bar and 228 oz. valued at Rs. 456 represented other kinds of uncoined silver and 691,818 oz. valued at Rs. 18,44,853 represented Government of India rupees and 358 oz. valued at Rs. 583 represented other coin. The total exports of silver were 509,455 oz. valued at Rs. 8,93,923, of these 1,317 oz. valued at Rs. 6,960 represented bullion and 39,375 oz. valued at Rs. 1,05,000 represented Government of India rupees and 329,130 oz. valued at Rs. 5,64,967 represented British dollars and

139,636 oz. valued at Rs. 2,16,996 represented other coin. In this month the net imports of gold amounted to 161.2 lakhs of rupees and of silver to 125.2 lakhs. The figures marked with an asterisk* are defective, the weight of certain postal parcels not being declared by Post Office.

The Railway Board have sanctioned a survey being made by the agency of the Bengal and North-Western Railway Company for a metre-gauge line of railway from Thawe station on the Savan-Thawe Extension, Bengal and North-Western Railway, to Tiwaripatti, a distance of about 24 miles. The survey will be known as the Thawe-Tiwaripatti Railway survey.

The Governor-General in Council is pleased to limit the operation of the Burma Municipal Act, 1898 (Burma Act III of 1898), in so far as it relates to the possession or transport of petroleum to the following quantities, viz.:—In the case of petroleum not being dangerous petroleum, to quantities not exceeding 500 gallons. In the case of dangerous petroleum, to quantities not exceeding three gallons, provided such petroleum is placed in separate glass, stoneware or metal vessels, each of which contains not more than a pint and is securely stopped.

Large naphtha fountains are said to have been discovered on the island of Sakhalin, and an entire naphtha lake has opened up in the same district. It is reported that the Russian mining department will place foreigners on the same footing as Russians in the development of these fountains and lake, which are situated on the north-east coast, near Nabil Bay, in the Russian section of the island. The spot is said to be easily accessible to steamers, and it is reported that a line of ships will soon connect with both Vladivostok and Japan.

The number of bales of cotton imported into the United Kingdom during the week ended the 27th February, 1908, was 104,380 (including 426 bales British West Indian), and the number imported during the nine weeks ended the 27th February was 1,322,951 (including 2,016 bales British West Indian and 921 bales British West African). As regards exports, the figures are, for the week ended the 27th February, 6,564 bales, and for the nine weeks, 98,721 bales.

In their report on the Shanghai piece-goods market dated February 27th, a copy of which has just reached us, Messrs. Noel Murray & Co. say:—“A more general enquiry has been met with this week, no doubt owing to the more settled appearance of exchange on a lower basis. Buyers for Tientsin, Tsingtau and the River Ports have been most active in their enquiries for No. 10s., and now that the market is freed from weaker holders amongst the

natives, importers have been able to get better terms. The higher counts are bought entirely for the River Ports and Szechuen. The market closes firm at about a tael advance, the total business reported amounting in the aggregate to 5,505 bales.”

We learn that fumigating chambers have been erected at Bombay and Karachi for the fumigation of cotton seed imported from America and the West Indies. The fumigating agent selected, viz., bi-sulphate of carbon, is reported to be effective in destroying weevil eggs and at the same time innocuous to the germinating power of the seed treated. Similar precautions have been taken at Goa.

The latest statements about the cultivation of cotton in German East Africa show that some progress has been made since 1900, when the quantity imported to Germany was only 24 lbs., valued at 5d. per lb. In 1903 the quantity produced was 20,450 lbs., which was valued at £370. The production in 1906 realised £9,050 for 415,930 lbs., and these figures in each case were slightly less than those of 1905. We are assured that a much larger quantity was exported from the colony during the past year, and specimens of cotton from the Kilwa, Saadani and Mwanza have been valued at 11d. per lb. The cultivation is now entirely restricted to Egyptian cotton. In 1906 six steam ginneries were in operation, and since then large farms have been established which are provided with steam ploughs. Small undertakings are being gradually replaced by larger ones with modern methods of cultivation.

Writing from New York on February 18th, Messrs. Hubbard Bros. & Co. say that the recent decline in American cotton led to buying by American spinners, who were encouraged by a better demand from China and by the gradual reopening of industrial establishments in America, the effect of which has been felt in a moderately increased demand for cotton goods. The movement of the crop, Messrs. Hubbard say, has been impeded by the bad weather, and the light receipts are not due to exhaustion, though the ginner's report would indicate comparatively little cotton in reserve. The bad weather has, they say, also greatly interfered with the preparations for the new crop, which are far behind last season's; lands have not been ploughed, and the sales of fertilisers are much less than a year ago. The absence of speculative buying, in spite of all these conditions apparently favourable to it, is presumably due to the financial situation. It is said that the American spinner, who would ordinarily have from four to six months' stock on hand, now holds scarcely sufficient for four to six weeks.

In the House of Commons, on the 3rd instant, Mr. Rees asked the Secretary of State for Foreign

Affairs if there had been an increase in the imports of Indian tea into Russia by the Siberian Railway. Mr. J. A. Pease replied: The imports of tea via the Black Sea have decreased and the imports via Siberia have increased owing, it is stated, to the more favourable tariff on the land frontier. But the Russian statistics do not make any distinction between Indian and other teas, so that it is not possible to give the specific information desired.

A Persian correspondent states that the authorities in the Ramuz district have ordered the total prohibition of the consumption of tea and sugar by Bakhtiari subjects. No injunction has been made against the sale of those articles by European firms, but the prohibition of consumption means prohibition of sale. The reason for this order is not quite clear, but it is alleged that the people spend annually about 200,000 toman (toman = Rs. 2-12) on tea and sugar, and it is considered that some of this might be usefully diverted into the pockets of the Khans.

In reporting that there is a good opening for a perfume factory in India if equipped with up-to-date machinery, the United States Consul at Bombay remarks that scent-distilling is carried on profitably in India, chiefly in the North-West, where roses, for instance, are largely grown to supply the distiller with what he wants. The chief perfumes used, he says, are rose water, lemon-grass oil, sandalwood oil, henna (*Lawsonia alba*), champa (*Michelia champaca*), maalsiri (*Mimusops elengi*), cajeput oil, harsingar (*Nyctanthes arbor-tristis*), keora or khetki (*Pandanus odoratissimus*), khas khas (*Vetiveria zizanioides* and *Andropogon squarrosus*), motia or bela (*Jasminum sambac*) and chamili or juhi jasmine. Men with a capital of Rs. 300, or even less, he goes on to say, distil these scents and sell them generally to others who conduct the retail trade. There thus come out of the article two profits, that of the actual distillers and the retailers. In addition, the growers of the flowers, and sometimes agents who collect them, have also to make a profit out of the business. All of these men live in a very primitive way. The Indian perfumer, we are told, has not yet arrived at the stage of assimilating Western methods. “When he does, the perfume industry of India will become one of the most important in the world. India possesses hundreds of perfume-yielding plants, and the manufacture of perfumes, of which the native is very fond, dates back for many centuries. The local tastes, however, are not those of the Western world, and Indian scents do not always commend themselves to Europeans, for the reason that they are heavy in the sense that they are not volatile. One reason for this heaviness is found in the vehicle employed, which is sandalwood oil. This oil is not, strictly speaking, sandalwood oil, but the common sweet or ginjelly oil employed as a vehicle for extracting the

perfume from sandalwood, and it is this oil that forms the basis of all Indian perfumes, and which accounts for the heaviness referred to."

The prices of opium per chest for the periods mentioned below were as follows:—

For the week ending the 21st March, 1908—

In the Calcutta market—

Behar opium—Rs. 1,406; 1,432; 1,448; 1,437; 1,438; 1,436; 1,426.

Benares opium—Rs. 1,380; 1,410; 1,420; 1,415; 1,415; 1,410; 1,400.

The prices in the time bargains for the Behar opium of the 4th sale of 1908 were Rs. 1,412; 1,438; 1,454; 1,443; 1,444; 1,442; 1,432.

In the China market—

At Hongkong (exchange Rs. 141½ to 142 per \$100).

Behar opium—\$1,000; 1,010 and 1,005; 1,012½ and 1,010; 1,025 and 1,020; 1,025; 1,025; 1,025.

Benares opium—on the 16th, 17th and 18th instant respectively \$985; 985 and 995.

At Shanghai (exchange Rs. 189 per 100 taels).

Behar opium—on the 17th, 19th and 20th instant respectively 765; 768 and 766 taels.

Benares opium—on the 17th, 19th and 20th instant respectively 750; 750 and 750 taels.

For the week ending the 14th March, 1908—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,180 to 1,240; (new, 1905-06) Rs. 1,330 to 1,350; (old, 1904-05) Rs. 1,415 to 1,430; the latest prices at Hongkong and Shanghai respectively were (new) Rs. 1,321 and 1,408; (old) Rs. 1,399 and 1,484.

The Bombay Port Trust have favoured us with a Memorandum on their budget estimates for 1908-09. We notice that in framing these estimates the Commissioners have been careful to take into account the disappointing prospects of the current season, owing to the indifferent monsoon of 1907 and the failure of the rains in wide areas in Central and Northern India, which, it is considered, will affect the exports of produce and also tend to restrict some of the items of the import trade. Allowing for this and the continuance of the rebate of 20 per cent. on wharfage, dock, port and water supply dues, and 10 per cent. on pilotage, amounting in all to about Rs. 7,54,700, the revenue for the coming official year, which commences on the 1st proximo, is estimated at Rs. 68,15,700 and the expenditure at Rs. 66,91,486, leaving an estimated surplus of Rs. 1,24,214. The surplus in 1906-07 amounted to Rs. 10,41,870; and it is estimated that the surplus for the current official year, ending on the 31st instant, will be Rs. 4,50,000. Notwithstanding the falling off in the surplus, the affairs of the Port Trust are considered to be in a highly prosperous condition, and it is proposed to spend on capital account

during the year the sum of Rs. 99,38,000. Of this expenditure, Rs. 50,29,000 is on account of the new dock works, while Rs. 36,66,900 is debited to the Mazagon-Sewri reclamation project.

The Governor-General in Council is pleased to make the following amendment in the rules regulating the manufacture, possession and sale of explosives in British India:—In sub-clause (VIII) of clause (3) of rule 11, after the words "railway fog-signals" the words "and flare-lights" shall be inserted.

We learn from Persia that postal robberies in that country are now very common; and that, as the roads in most parts are unsafe, several important towns, such as Shiraz and Karman, have been without their mails for lengthened periods. Under such conditions it may well be imagined that trade is languishing, the chief factors of depression being the absence of ready money, lack of confidence, and a general feeling of insecurity. The insecurity seems to be real enough, for we hear from another quarter that a band of 150 robbers have settled themselves for the winter in the caravanserai of Shams on the Yezd road. They are supplying their wants from neighbouring villages, and have already driven off over 2,000 sheep. Owing to the difficulty of obtaining remittances, some of the dealers at Bushire, and probably at other ports, are in a peculiar fix: fresh consignments of goods are lying at their risk at the Custom House and they have not the money to clear them.

As in all tropical countries where there are few industries, says the *Journal* of the London Chamber of Commerce, Ceylon, with its mixed population, offers an excellent opening for Earthenware and China, particularly for cheap goods. During recent years, however, this trade has very much diminished owing to the universal use of articles of enamelled iron and has fallen off by about 50 per cent. The total value of the importations may be taken as about Rs. 4,00,000 annually. The Customs returns divide the articles in question into two classes, Chinaware and earthenware. In 1906 the total imports of Chinaware amounted to Rs. 3,01,095, of which Rs. 1,88,326 worth came from the United Kingdom, and during the first four months of 1907 to Rs. 92,389, of which Rs. 58,100 worth was from the United Kingdom. The imports of earthenware are provided chiefly by British India. Roofing tiles are furnished by Great Britain, and pots and "chatties" by India. The latter are indispensable in native dwellings, but their value is so small that the cost of freight from abroad is far greater than the value of the articles themselves. The import of earthenware during 1906 were valued at Rs. 64,919, of which Rs. 35,508 worth came from India, and Rs. 14,646 from the United Kingdom

During the first four months of 1907 the total imports were Rs. 42,043, of which Rs. 10,358 came from India, and Rs. 26,448 from the United Kingdom.

The trial cultivation of jute at Ganeshkhind, near Poona, has, we believe, proved partially successful. One plot yielded at the rate of 608 lbs. per acre.

The Sweated Industries Bill has been read a second time, and is not unlikely to become law before Parliament rises. It is seldom, observes the *Journal* of the Society of Arts, that a measure of equal importance, introduced by a private member, has met with such little opposition. It is supported irrespective of party, and almost unanimously, for all admit the extent and seriousness of the evil it is intended to combat, and the Bill concerns itself with that section of the community least able to protect itself. Nevertheless, it sets up a principle new to our law. It proposes a Wages Board and a minimum wage. Under it any trades union council of six employers of workmen would be able to petition the Home Secretary for an inquiry into a given trade; and, after this inquiry the Home Secretary might direct that a Wages Board be established. This Board would have the power to fix a minimum wage for different classes of work, and for different districts, according to local conditions; and when once its wages were fixed, it would become a penal offence for an employer to pay less. The Home Secretary (and, therefore, the Government) supported the Bill with the very important reservation that he would not pledge himself to the minimum wage proposal. He approves the proposed inquiries and the Board for a select number of the scheduled trades, but wants more information as to what the minimum wage ought to be. The evils of sweating are not deniable. The sweater's profits are an economic injury to the whole community. The miserable drudge who works for him comes sooner or later to the rates, and adds to the hereditary pauperism that is such a disturbing feature of the country's position. The Wages Boards established in Victoria are said to be doing useful work. The Home Secretary says the case justifies experiments in legislation and that is the justification for the Bill. It is urged by opponents of the Bill that if the employer is compelled to pay the minimum wage he will cease to employ at all, and necessitous people who earn little now will then earn nothing at all, or else there will be evasions which will reduce the law to a dead letter.

In the Annual Report of the Department of Agriculture, Bombay, for the year 1906-07 special attention is drawn to the fact that in December, 1906, the Chamber of Commerce, Bombay, recommended to the local Government that precautionary measures should be taken in respect of the importation of

plants from foreign countries in the same way as the measures recently adopted in connection with the cotton seed imported from America. The question was informally discussed at Cawnpore with the Inspector-General of Agriculture and the Imperial Entomologist. It is agreed that there is undoubtedly considerable danger of foreign pests being introduced into this country through the medium of plants imported from a foreign country and the appearance of the potato moth (*Phthorimaca operculella*) may be taken as a case in point. In some countries (e.g., Australia, West Indies and Natal) legislation has already been undertaken to avert the danger. The question is, however, one which deserves the most careful deliberation and it is at present under the consideration of Government. The precise form which the notifications should assume and detailed information as regards the bulk and nature of consignments of plants and vegetable products are the chief factors of difficulty in the settlement of this important problem.

The attempt of the German manufacturers, says the *Manchester Guardian*, to establish some sort of central control in the spelter trade does not seem to have met with any conspicuous success. The low price of spelter is said to be the reason why steps ought to be taken to reduce output and control sales, but it may perhaps be questioned whether spelter is unreasonably low at the present time, when the prices of other metals and the general state of trade are taken into consideration. In 1904, when copper, lead, and tin were much as they now are, spelter was quoted at £21 10s., and the high prices which obtained in 1905, 1906, and 1907 were associated with similarly high prices in the other metals. Is it possible that spelter makers think that they ought to be exempt from laws which affect the rest of the commercial community, and that spelter ought to remain steady at £30 per ton while copper, tin, and lead come down by about 50 per cent.? The following comparison does not show the spelter trade has anything special to grumble about:—

	March 1, 1904.	March 1, 1906.	March 1, 1908.
Copper	£ 57	£ 79	£ 58
Tin	124	164	130
Lead	124	164	144
Spelter	22	25	21½

Writing on the 3rd instant, the *Manchester Guardian* says:—The market for copper has remained fairly steady during the past week, and the closing price on Friday (February 28th) was precisely the same as on the previous Friday. The fluctuations were very unimportant, but the month price is now 12s. 6d. higher than cash instead of only 5s. During the week there seems to have been an attempt on the part of leading houses to knock the market down, or at any rate to keep it from rising. The reports from America of very large sales by the

Amalgamated Copper Company, whether true or false, would otherwise probably have sent the market up a pound or two. The *Ironmonger* discredits these reports, both as to quantity (60,000,000 lbs.) and price (13c.), and declares that 12c. is nearer the mark. Of course 12c. for electrolytic or refined copper of any sort is low enough to induce buying. One does not expect to see standard copper on a par with this price, even though there should be some fall yet to come. According to the New York Metal Exchange, 39,019 tons of copper were exported in January, or nearly twice as much as the normal quantity. Of course much if not the greater part of this metal is going into warehouse on this side, and will supply the wants of consumers in Europe later on.

A comparison of the recent returns of the production of pig-iron in America and Germany reveals a position which is unique in the industry. During the first ten months of last year the American output was, roughly, twice that of Germany. After October, however, the American production began to drop rapidly, and in January only amounted to 1,062,253 tons, which compares with 2,374,000 tons in October. The German output, on the other hand, has varied within comparatively narrow limits: it has been about one million tons per month, the January output being 1,060,752 tons. Thus Germany produced in January practically as much pig-iron as America. The policies adopted by these two countries at present are in striking contrast, and it will be interesting to observe future developments and note the effect on the world's iron markets. Of course the German Steel Syndicate has consistently refused to admit that any serious depression exists, and apparently considers that no reduction in output is called for. The invasion of the English market by American producers during the 1900-01 reaction and the dumping of American steel here were considered by them at the time to be a sounder commercial policy than reducing the output, and the plan of drastic reduction now being adopted would almost lead one to imagine that the financial result of their selling campaign then still remains as a chastening memory.

The *Corn Trade News* gives the following summary of the world's crop as on the 3rd instant:—**United States of America**—Winter crops making favourable progress, with abundance of moisture. **Canada**—Nothing fresh. **Argentina**—Maize reports moderately better, otherwise no change for crops; fair reduction wheat shipment expected after this week. **India**—Crop news continues favourable, prices getting more into line. **Australia**—No change. **Russia**—Outlook south-west rather better; elsewhere satisfactory. **Roumania**—Weather and crop news favourable; Spring seeding commenced. **Bulgaria**—Crops wintered well. **Austria-Hungary**—No complaints of crops, but markets firmer. **France**—Some re-seeding again mentioned, but crops generally favourable.

Italy and North Africa—Crops favourable except few droughty districts. **United Kingdom and Spain**—Weather fairly seasonable; crops generally satisfactory. **Germany**—Weather still generally wet and mild, but more seasonable temperatures reported from some districts; condition of crops considered satisfactory.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 29th February, 1908, were as follows:—Wheat, 30s. 11d.; Barley, 26s. 3d.; and Oats, 17s. 8d.

It is many years, says the *Journal of the Society of Arts*, since the shipping trade was in such an unfavourable condition as it is to-day. Last year was a bad year for shipowners, 1908 is likely to be much worse. Last year they were helped by the abnormal demand for coal from all quarters, by the carriage of material for the rebuilding of San Francisco and Valparaiso, the coaling of the American fleet in the Pacific, and the carriage of exceptional quantities of wheat from the Pacific ports of North America to Europe. Not only will shipowners be without these exceptional demands this year, they will have to compete with more and more foreign tonnages for the ocean trade, whilst the coasting trade of China, which used to employ so many British steamers, has been captured by the Japanese, and the coasting trade of Japan is now almost entirely in native hands. On the other hand, if this year shipowners may have cheaper money and coal, the relief in respect of the latter charge—nearly one-half of the working expenses of an ordinary cargo steamer—is not likely to be great, and they have to reckon with the new burden due to the Workmen's Compensation Act. It is too soon to say how that will affect a ship's earnings, but in the opinion of many experts the item will be serious one. Freights are so low and expenses so high that it may be thought that shipowners would act prudently in laying up their steamers until better times but this would mean wholly unproductive capital and heavy loss in the depreciation of machinery and boilers. The truth is there are too many ships in the water for the work required of them. There must be a reduction of the shipbuilding output for a time, but this is a serious matter for the shipbuilding and the iron and steel industries. It is very serious too from the national point of view. It looks as if the owners of the merchant tonnage of the country will get little return this year upon their capital, and, when it is remembered that the cargo carriers represent roughly a capital of £200,000,000, the seriousness of this state of affairs will be apparent.

It is reported that the model of a newly invented freezing and refrigerating apparatus has recent

been privately exhibited in Hanover, and promises to effect a considerable economic result in the future physical comfort and health of man. The device is an extremely simple and inexpensive affair costing perhaps not more than 4s. to 5s. to manufacture. It consists of a double-wall tin vessel with a capacity of 5 gallons or more. There is a hollow space between the two walls, or inner and outer vessels. This space completely surrounds the inner compartment and is about an inch in width. By the graduated admission of carbonic acid to this surrounding chamber at the bottom of this vessel, and from this surrounding chamber into the vessel proper at the top through a cross-arm tube, the contents of the vessel are frozen quickly and completely. Water is changed into ice in the space of sixty seconds. Meats, fruits, bottled beverages, etc., may be chilled or frozen in a few seconds. This effect is produced by the sudden great reduction of temperature caused by the rapid expansion of the carbonic acid, which is admitted from an ordinary carbonic acid reservoir. The invention is at present designed for hotels, restaurants, hospitals (particularly field hospitals), and the ordinary household.

On the whole, says the *Board of Trade report on the labour market*, employment in January showed but little change as compared with December. As compared with a year ago there was an improvement in the worsted, jute, and boot and shoe trades, while coal and cotton-spinning were about the same. There was some decline in most of the other industries. In the 272 trade unions, with a net membership of 649,789, making returns, 40,580 (or 6.2 per cent.) were reported as unemployed at the end of January, 1908, as compared with 6.1 per cent. at the end of December and 4.2 per cent. at the end of January, 1907.

NOTICES.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, 5, Olive Street, Calcutta.)

Castor Oil.

(228)—An Indian oil mill requires the addresses of British and Continental importers of castor oil.

Crude Carbonate of Soda.

(229)—A Government officer requires the addresses of large dealers, or brokers, who could supply crude Indian carbonate of soda, known in the vernacular as *sajji mati*.

General Produce.

(230)—A firm in Madras dealing in general produce (pepper, coriander, chillies, turmeric, tamarinds, cocoanut, gingelly and castor oil, seeds, etc.) desires to be placed in communication with dealers, both Indian and foreign.

Thymol.

(231)—A firm of chemical importers and manufacturers in New York desires to be placed in touch with exporters of the seeds of *Ajowan* or *Ajwain*, (*Oarum copticum*, Benth) for the manufacture of thymol.

Burma Timber.

(232)—A firm of London timber brokers desires to be placed in communication with owners of saw-mills in Burma with a view to finding a market for Burma wood in England.

Shellac.

(233)—A firm in Milan (Italy) desires to represent exporters of shellac.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any one desirous of studying them at the office of the Director-General of Commercial Intelligence, 5, Civil Street, where they will be displayed in the ante-room till Wednesday, 1st April, 1908:—

Parliamentary Publications.

Colonial Reports—Miscellaneous Series—No. 49—East Africa Protectorate—Annual Report of the Veterinary Department, 1906-07. East India—Loans raised in England—Return for the half-year ended 30th September, 1907. France—Report by the Hon'ble Reginald Lister, His Majesty's Minister at Paris upon the French Colonies. Naval Works Acts, 1895, etc.—Account for 1906-1907.

Foreign and Colonial Publications.

Australia—Trade, Shipping, Oversea Migration and Finance of the Commonwealth of Australia, December, 1907. Canada—Weekly Trade Report dated 17th February, 1908; Monthly Trade Report for November, 1907. France—Annuaire Statistique, 1906; Statistique Annuelle des Institutions d'Assistance, Année 1905. Germany—Monthly Account of Trade, January, 1908. Italy—Monthly Account of Trade, November, 1907. Spain—Monthly Account of Trade, January, 1908.

Diplomatic and Consular Reports.

Switzerland—Trade of Switzerland for 1906. Spain—Trade of Spain for 1906.

Indian Publication.

Annual Report of the Department of Agriculture, Bombay Presidency, for the year 1906-1907.

BUSINESS NOTICE.

All correspondence and remittances relating to the supply of the "INDIAN TRADE JOURNAL" should be forwarded to the Superintendent, Government Printing, India, Calcutta, to whom all bills are payable.

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd.; but all advertisements, blocks, etc., must be approved by the Director-General of Commercial Intelligence before insertion.

Retail trade advertisements cannot be accepted.

A full index is published as a quarterly supplement and should be filed for reference.

The annual rates of subscription to the "INDIAN TRADE JOURNAL," including quarterly index, are, Indian, without postage, Rs. 12; with postage, Rs. 13; Foreign, Rs. 18. Single copies, 4 annas.

Subscribers and advertisers in the United Kingdom may remit either through a bank or through the Post Office. Postal orders for Indian currency may be procured in all Post Offices of the first class in the United Kingdom.

Back numbers, when available, may be had at a cost of Re. 1, for any number more than a week old.

The Indian agents of the "INDIAN TRADE JOURNAL" are:—Messrs. Thacker, Spink & Co., and Newman & Co., Calcutta; D. B. Taraporevala Sons & Co., Bombay; Higginbotham & Co., G. A. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, MARCH 26, 1908.

BAUXITE IN THE CENTRAL PROVINCES.

CONSIDERABLE attention was aroused two or three years ago by the bauxite deposits of the Central Provinces, and several firms were considering the possibility of floating companies to exploit them; but, for various reasons, principally the financial depression in Europe, the matter has dropped out of sight to some extent recently, though there is every hope that, with the improvement of the London money market, this will be one of the earliest schemes to excite the interest of those who wish to find an Indian market for their investments. The deposits are found both in the Jubbulpore and Balaghat districts of the Central Provinces. In the latter district they are exceedingly extensive and of very high quality; and analyses have been made by the Geological Survey Department, with, it is believed, the result

of disclosing the presence of unusually large percentages of alumina. An article that appeared in *Technics* of March, 1904, gave a general idea of the methods and profit of the manufacture of aluminium from bauxite by electrolysis:—

"Aluminium, in its original form, is found in the shape of a mineral called bauxite, which contains aluminium, silicon, and iron in the state of hydrates. Pure alumina is prepared from bauxite by a chemical process depending upon the solution of the aluminium oxide in sodium hydrate, this process requiring a special refining plant. For obtaining pure aluminium from the alumina several processes are now in vogue, the best known of which is that of Hall by which a fused electrolyte composed of cryolite, fluor-spar, and alumina is electrolysed. Cryolite is a mineral containing aluminium fluoride and sodium fluoride, while fluor-spar is a crystalline variety of calcium fluoride. When these three compounds are melted together, the alumina dissolves in the mixture of fluorides and, when an electric current is passed through the mixture, using carbon as electrode material, aluminium is separated in the molten state at the negative pole. The alumina is alone decomposed by the current, the fluorides of aluminium, calcium, and sodium remaining unaltered in the bath and serving merely as a solvent for the oxide of the metal. Aluminium in the molten state is heavier than the molten mixture forming the electrolyte and falls to the bottom of the decomposing bath. The oxygen liberated at the anode combines with the carbon and forms carbonic acid gas (CO_2); and, since a very pure form of carbon is essential for the production of pure aluminium, the cost of anodes forms an important item in the total cost of production.

"The purity of the metal obtained by the electrolytic process has steadily improved and the product now placed on the market contains on an average 99.6 per cent. aluminium. This improvement has been due to the recognition of the fact that the impurities of the raw materials used in the process collect in the reduced metal and that the purity of the latter, therefore, depends upon the purity of the alumina and of the carbon which are consumed in the bath. The preparation of the carbon electrodes for use in the baths demands much care, and subsidiary plants for making these electrodes are employed by aluminium extraction companies. The cost of producing aluminium by the electrolytic process is estimated to be about 12d. per lb. The

various items of this total being made up as follows:—

Electrical energy	1-8d.
Alumina	4-5d.
Carbon electrodes	1-5d.
Labour & management charges	1-5d.
Stores, etc.	7-5d.
Interest, repairs and maintenance charges	1-75d.

11-8d. per lb.

It thus appears that raw materials (alumina and carbon electrodes) account for half of the cost of production."

In addition to the information given above, it may be remarked that it is necessary to treat the bauxite in the first place by calcining it, a process that demands about ten times its weight of coal; next by fusing it with caustic soda, which can, if necessary, be prepared electrolytically from common salt, before the alumina is in a state fit for electrolytic action. There is good reason to believe that aluminium could be prepared electrolytically a good deal cheaper than at the rate of 11-8 pence per pound stated in the above-quoted article. Hall, for example has recently patented an electro-thermal process for treating crude bauxite; and, if this is practical, it will reduce the cost of aluminium production by 20 per cent.

Whether the Balaghat district possesses adequate facilities for a hydro-electric installation depends upon whether such a scheme can be worked at a profit if water has to be stored. The Deo river, with a catchment area of about a hundred square miles near the principal fall, drops 700 or 800 feet in about four miles. Much of this fall occurs in a very short space of some 1,000 or 2,000 yards, where the river runs round a rocky hill, descending in three falls of a considerable aggregate height. There are numerous excellent storage sites at various points above the falls, where the construction of earth embankments would enable a very large proportion of the run-off to be stored at a relatively low cost. The storage capacity at these sites is good, and waste weirs would present no difficulty in construction. The rainfall, as at the sites mentioned below, is about 65 inches per annum. There are two other sites on the Uskal, which, in the case of the first, has a catchment area of about 35 square miles, and, in that of the other, perhaps 60 or 70. The first would necessitate a lead of about two or three miles and the construction of a tunnel about 400 feet long; this site offers a drop of about six or seven hundred feet sheer. The next gives a drop

of some 150 feet in half a mile, which could be easily utilised. The experience of the Irrigation Department in the immediate neighbourhood should provide adequate data as to cost of storage and percentage of run-off. Expenditure on account of land submerged or otherwise taken up would be exceedingly low in all cases. Coal is available from the Pench coalfield, between one and two hundred miles distant.

The world's production of aluminium in 1906 (the latest figures available) was 18,325 tons, and its price has been as high as one shilling and nine pence a pound. It is this high price that chiefly operates against its more extended use; aluminium produced at as cheap a rate as brass would certainly meet with an immense demand for hollow-ware in India, so that there is no fear of an increase in production making prices fall below that of the corresponding volume of brass, which is more than three times as heavy as aluminium. Finally, Scandinavia, which is the country offering the finest facilities of any in Europe for hydro-electric schemes, has by recent legislation thrown certain difficulties in the way of the employment of foreign capital in such undertakings.

—The production of Argentine rice last year amounted to about 13,000 tons, nearly all in the husk. In the province of Jujuy the rice is shelled, but by such primitive methods that the result is a broken and deteriorated product.

—The importance of mercury to the gold industry of South Africa, as well as India, is shown by the fact that the Transvaal imported, during 1906, 146,412 pounds of mercury valued at £12,346. The occurrence of deposits of cinnabar in the Colony is therefore a matter of considerable interest, and possibly of commercial importance, when it is remembered that the world's production of this metal shows a tendency to diminish, and in 1905 amounted only to 3,300 tons. The present price of the metal is £7 per flask of 75 pounds. Cinnabar (mercuric sulphide) has for some time been known to occur in the Eastern Transvaal, in the Marico and Rustenburg districts and near Pietpotgietersrust. One of the most promising occurrences is that on the Buffels Spruit, a tributary of the Lomati river, about twelve miles south of the Malelane station on the Delagoa Bay line. The cinnabar occurs as a vein which has been traced over a considerable distance, and is associated with a quartzose gangue in a sericite schist. We may add that the total imports of mercury into India last year were 265,269 lbs., valued at £407,192.

CHAMBERS OF COMMERCE.

BOMBAY.

We take the following extracts from the Proceedings of the Committee of the Bombay Chamber of Commerce for the month of February, 1908:—

Read letter, dated 10th February, 1908, from the Director-General of Commercial Intelligence, in reply to the Chamber's representation regarding the tariff value fixed for the article aniline dye (dry).

The Director-General explained that the valuations in the Tariff Schedule were based upon returns of prices received monthly from the various Customs Houses and on recommendations made by the Collectors of Customs, all of which were discussed and analysed as far as possible at a preliminary meeting in Calcutta and also locally. That the case of dry aniline was one of peculiar difficulty, and that evidence of a decline of prices as compared with past years would not necessarily show that the present valuation was wrong, since it might perfectly well happen that the earlier valuations had been incorrect. The aim must be to get the present valuation as right as possible with regard to the level of prices recorded for this purpose, and the Director-General agreed with the Committee in thinking that the case of dry aniline called for special investigation the result of which would be communicated to the Chamber as soon as possible.

Resolution.—Await further communication.

Read letter, dated 30th January, 1908, from the Upper India Chamber of Commerce forwarding a copy of the rules in connection with the register opened in that Chamber for the registration of trade marks and designs, and asking the Committee to give publicity to the fact for the benefit of such manufacturers as might desire to avail themselves of the opportunity.

Resolution.—To be informed that the Committee regret they are unable to agree with the Upper India Chamber in this matter, as they consider any such system of registration would be objectionable and likely to cause confusion hereafter, the law in this country being prior right.

Read letter, dated 21st February, 1908, from the Bombay Government, stating, with reference to the Chamber's representation of 22nd March, 1907, that His Excellency the Governor in Council has taken into consideration the question of the protection of fisheries in the Bombay Presidency; that the Governments of Madras and Bengal had instituted inquiries into the question of fisheries so far as those Presidencies were concerned, and that the Government of Bombay was in correspondence with the other Governments named above on the subject of their investigations.

Resolution.—Copy to be forwarded to the Bombay Natural History Society for information.

Read letter, dated 13th January, 1908, from the Government of Bombay, forwarding copy of a communication from the Government of India regarding

the proposed application of a system for the payment of **Cash on Delivery** to parcels and packets exchanged between the United Kingdom and British possessions abroad, and asking for the opinion of the Chamber on the subject.

Resolution.—Government to be informed that the Committee have considered the matter very carefully and have noted especially that the Government of India have long held the view that such a system would be of great advantage to the Indian public. That this may be so to some extent is quite possible, but whether in the long run the facility of direct dealings would be of equal advantage to all Indian consumers of imported supplies generally, appeared somewhat doubtful. Direct transactions between consumers here with traders and shopkeepers—the latter principally—in London and elsewhere, would probably increase with some rapidity under a **Cash on Delivery** system, for great encouragement would be given to large establishments at home to push their wares in this country under the conditions offered by Government which would protect them from losses in the shape of non-payment by customers to which at the present time they are liable. Although the maximum charge to be collected with each delivery was limited to £20, the facility offered by a weekly mail must increase direct dealings with distributors in the United Kingdom, the fees on which would be retained by the Post Office at home. It seemed to the Committee very doubtful whether much increased trade would result from India to the United Kingdom and British possessions abroad under this system, and if not retailers in England and elsewhere would earn increased profits from which, so far as its revenues were concerned by the payment of income tax, the Government of India would not benefit.

Whilst admitting that some advantage might accrue to individuals by the adoption of this system, the Committee doubted very much whether the Government of India were justified in placing the enormous resources of the Post Office at the disposal of traders and shopkeepers in London and elsewhere, as direct dealings with distributors at home must affect, perhaps seriously, the trade of many large establishments in this country, whose business compelled the holding of large stocks of goods of all descriptions, for which at present, owing to the non-intervention on a large scale of Home distributors there was a steady demand. Deprived of this custom many establishments might have to retrench or ask larger profits on other articles, and it seemed somewhat doubtful therefore whether in the long run this new system would be really beneficial to all consumers alike, many of whom must always be dependent to a large extent on the local shopkeepers.

The Committee therefore expressed the hope that before dealing with this question Government would very carefully consider the interests of those whose trade might be seriously affected by competition assisted by Government through the agency of the Post Office.

PUNJAB.

At a meeting of the Committee of the Punjab Chamber of Commerce on the 29th ultimo the following matters came up for consideration:—

Read (a) letter No. 4369, dated 23rd December, 1907, from the Secretary, Municipal Committee, Lahore, and enclosure regarding the proposed establishment of a **bonded warehouse in Lahore**. The Chamber is invited to express an opinion as to whether a bonded warehouse is wanted in Lahore, and whether, if erected, it would be taken advantage of.

(b) Letter from the Honorary Secretary, Lahore Local Branch, dated 15th February, 1908, expressing the views of the members of his Branch in the matter.

Resolution.—The Secretary, Lahore Municipal Committee, to be informed that the members of the Chamber at Lahore are of opinion, from such information as is available, that a Bonded Warehouse would be useful and beneficial generally to the trade of Lahore and that such warehouse, if built, would be availed of by the traders in Lahore.

Read letter No. 252 from the Secretary, Amritsar Municipality, dated 14th February, 1907, in which it is stated that the Municipal Committee cannot see their way to abolish **octroi on woollen and silk piece goods**.

Resolution.—To be recorded.

Read letter from the Secretary, Burma Chamber of Commerce, dated 7th February, 1907, in which it is stated that his Committee are quite in agreement with the position taken up by this Chamber in the matter of the **Merchandise Marks Act**. They consider that the simplification of the provisions of the Act wherever possible is desirable and are willing to support a representation to Government on the subject.

Resolution.—Letter to be addressed to the Secretary, Burma Chamber of Commerce, on the lines of that addressed to the Bengal, Bombay, Karachi, Upper India, and Madras Chambers on 27th January, 1908.

Read letter No. 51 C. & I. Punjab Government, dated 21st January, 1908, forwarding copy of a letter No. 10569-10583-176, dated 6th December, 1907, from the Government of India, Department of Commerce and Industry, and enclosures regarding the desirability of undertaking legislation in India on the lines of the **English Life Assurance Companies Act, 1870**. The Chamber is requested to express an opinion on the proposal.

Resolution.—The Punjab Government to be informed that in the opinion of the Committee, it is most desirable that Legislation should be introduced on the lines indicated.

Read letter No. 203, dated 15th instant, from the Agent, Southern Punjab Railway, enclosing copy of a letter, dated 24th January, 1908, received by him, from the Secretary of his Company in London on the alleged **corruption and extortion** among members of the subordinate railway staff throughout India.

In dealing with the question of bribery in connection with the allotment of wagons the letter says:— "The Railway Administrations have a powerful minimiser of this scandal in the Priority Register. The merchants should see the entries made and claim their priority, the Administration taking effective measures, by frequent and rigorous inspection of the book, to ensure its being promptly and daily entered up."

Resolution.—Papers to be circulated and filed.

KARACHI.

At a meeting of the Committee of the Karachi Chamber of Commerce on the 16th instant, the following item was disposed of:—

Read letter, dated 11th March, 1908, from the Secretary, Bengal Chamber of Commerce, requesting to be informed what is the percentage of dust usually allowed in Karachi wheat, and to be furnished with a copy of the Karachi Wheat and Seed Contract containing conditions under which business is done.

Resolution.—The Secretary, Bengal Chamber of Commerce, to be informed that wheat shipped hence usually contains less than 2½ per cent. dust that there is no uniform form of contract for wheat or seeds in use in Karachi, but that wheat in Karachi is usually brought and sold on the basis of—

White Wheat—30 per cent. Red Wheat.

5 " Barley.

8 " Dust.

Red Wheat—5 per cent. Barley.

3 " Dust.

Cash on delivery less 3½ per cent.

BOMBAY MILLOWNERS' ASSOCIATION.

The following extracts are taken from the Proceedings of the Committee of the Bombay Millowners' Association during the month of February, 1908:—

Read letter from the Secretaries, Bombay Fire Insurance Association, with regard to the **stacking of cotton waste** in the compounds of mills. It was pointed out that waste was sometimes stacked near the windows of a mill and there was in consequence danger of a fire in the waste spreading to the mill. Further it was stated that in the event of a serious fire in a mill, the presence of heaps of waste in the compound would render the spread of a fire to godowns or other buildings (in some cases even from one mill to another) much more easy than it would otherwise be, and thus involve the companies in a much heavier loss than might reasonably have been expected.

In view of the above facts the Fire Insurance Association were disposed to prohibit the storage of waste within, say, 600 feet of mill buildings unless an enhanced rate was paid, but it had been pointed out to them that this would be a hardship to mills having small compounds, and on this explanation they were quite willing to allow storage in places (such as near blank walls with no overhanging eaves) where waste could be stored without any

danger. Before taking any action, however, the Fire Insurance Association wished to obtain from members of this Association an expression of opinion as to the possibility of restricting the stacking of waste in compounds and the distance from buildings which they could adopt without very serious inconvenience.

Resolution.—Copies of the letter to be distributed among members with a request for an expression of opinion on the points brought forward by the Fire Insurance Association.

Read letter from the Bombay Government asking whether this Association intended to depute a representative to give evidence before the **Decentralization Commission**. Also letter from the Secretary to the Commission forwarding copies of the heads of enquiry framed for the guidance of witnesses.

Resolution.—Government and the Secretary to the Commission to be informed that the Association does not propose to depute a representative to give evidence.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 5th March, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

DOMINION OF CANADA.—Customs Decision: Blankets. Customs Decisions.

AUSTRALIAN COMMONWEALTH.—Importation of "Nucua." Excise Duty on Gin. Excise Duty on Brandi made from Raisins.

DOMINION OF NEW ZEALAND.—Declaration for *ad valorem* Goods.

SOUTH AFRICA.—Customs Decisions.

CEYLON.—Free Importation of Electric Motors.

MALAY FEDERATED STATES-PERAK AND NEGRY SEMBILAN.—Import and Export Tariffs: Consolidation and Amendment.

NEGRY SEMBILAN.—Tariff Valuations: Rubber.

COOK, & C., ISLANDS.—Prohibition of the Importation of Perfumery and Perfumed Spirits, except under certain Conditions.

GERMANY.—Customs Decisions. Roughly wrought Parts of Firearms.

GERMAN EAST AFRICA.—Export Duty on Sisal Plants.

FRANCE.—Decree regulating the Importation of Figs.

FRENCH WEST AFRICAN COLONIES.—Duties on Imported Alcohol.

PORTUGUESE AFRICAN COLONIES.—Modified Import and Consumption Duties on Alcohol and Spirits.

SPAIN—SPANISH POSSESSIONS IN THE GULF OF GUINEA.—Special Duties on Imports levied by the Local Councils.

ITALY-FRANCE, GERMANY, AND SWITZERLAND.—Agreement as to Importation of Drugs and Medical Preparations.

GREECE.—New law regulating the Sale of Quinine.

TURKEY.—Importation and Exportation of Grain and Flour.

PHILIPPINE ISLANDS.—Storage Charges at Philippine Ports. Acceptance of Non-negotiable Bills of Lading.

MEXICO.—Magdalena Bay created a Maritime Customs House.

NICARAGUA.—Opening of Pearl Lagoon to Commerce.

THE FAMINE.

Viceroy's Report.

THE following is a copy of a telegram, dated 23rd instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Except for some scattered rain in Burma, North-Eastern India, Orissa and Madras, the week was practically rainless. Rain is urgently wanted throughout Northern India, especially for late sown spring crops. Though the January rain came at a good time, the total cold weather rainfall is seriously in defect in the greater part of the United Provinces and the Punjab.

Harvest operations have caused a slight decrease in the numbers on relief in the east of the United Provinces, but in the province as a whole there has been an increase of 50,000. There are now over a million persons on works and 371,000 in receipt of gratuitous relief. In addition 29,000 persons are being relieved in the **Balrampur Estates**. The numbers in poorhouses have declined, and there is still no general wandering.

In the Punjab there are now 1,235 persons on test works.

In Central India, owing to harvest operations, there has been a considerable fall in the numbers on works, which are now 103,500, but the numbers on gratuitous relief have risen to 32,000, mainly owing to an increase of distress among the poorer classes in **Indore**. Private charity is being organised and agricultural loans and suspensions and remissions of land revenue have been granted on a liberal scale.

In Bengal, 4,045 persons are employed on test works and 15,918 are in receipt of gratuitous relief, mainly in **Orissa**. Distress is anticipated in certain areas of the Presidency Division, where there has been a serious failure of the spring crops.

In the Central Provinces, owing to harvest operations, there is at present ample employment for labour, and labourers on ordinary public works have decreased considerably, while the numbers on relief have again fallen slightly. There are now 3,038 persons on works; special relief is being given to 2,176 weavers and gratuitous relief to 10,148 persons. According to the latest estimates, the area sown with spring crops is nearly 30 per cent. below that of last year, but it is expected that the outturn will be sufficient to prevent distress from spreading to areas in which the spring harvest is important.

In Bombay 3,026 persons are now employed on test and forest works and 578 are in receipt of gratuitous relief.

Test works and poor-houses are being opened in the Ganjam district of Madras.

The total number of persons in receipt of State relief in the whole of India is now 1,558,439.

Prices show a tendency to fall slightly still.

EASTERN BENGAL AND ASSAM.

Crop Prospects.

(By Telegram.)

Shillong, March 24th.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 23rd instant:—

There has been slight rainfall in the Surma Valley hill districts, in Upper Assam and in parts of Eastern Bengal. More rain is wanted in some districts.

The prospects of the standing crops are generally fair.

The preparation of land for early rice and jute, the harvesting of the rabi crops, and the pressing of sugarcane are in progress.

The pruning, hoeing and manuring of tea have finished in places.

The sowing of potatoes is going on in the Khasi and Jaintia Hills.

Cattle disease is reported from five districts.

Prices of common rice have risen in five and fallen in three districts.

No scarcity is apprehended at present.

—Mr. H. G. Hester, Secretary of the New Orleans Cotton Exchange, sends the *Manchester Guardian* the following account of the number and average weight of the American cotton bales handled at the ports and overland from September 1st to January 31st inclusive:—

	1908.	1907.
	Number of bales.	Average weights.
Texas . . .	1,934,577	526.35
Louisiana . .	1,397,293	519.76
Alabama, etc. .	392,928	521.69
Georgia . . .	1,443,067	501.69
South Carolina .	181,124	492
North Carolina .	432,061	488
Virginia . . .	415,329	485
Tennessee, etc. .	428,430	509.90
Five months . .	6,624,609	512.18
Sept.—Dec. . .	5,313,688	511.65

It will be seen that this season's bales continue to run lighter than those of the preceding season, but during January the average difference for the season was reduced from 11lb. to 9½lb. per bale.

THE CHINA YARN TRADE.

Important Japanese Scheme.

Mr. E. T. Crowe, His Britannic Majesty's Commercial Attaché, Yokohama, sends us the following article, which will be read with interest by those concerned in the export of Indian cotton yarns to China:—

The Japanese cotton spinning mills have fallen on evil times. Owing largely to the depreciation of silver, the demand for Japanese yarn from China has decreased considerably of late and stocks are piling up in Osaka and Kobe. The reduction in working hours, reported in my memorandum of the 13th January, has not had the expected effect and the Cotton Spinners' Association have had to think of other devices.

At a meeting held in Osaka on the 18th February, it was decided to adopt the prize coupon system. The extraordinary fascination which any kind of lottery exercises over the Chinaman is a theme often discussed in Japan (witness the Formosan Government lottery scheme) and it was thought that prize coupons would largely increase the sale of Japanese yarn in China. The system came in force from the 1st March, but will also be extended to unsold Japanese yarn which is now in godowns at Shanghai, Hongkong, Chefoo, etc.

The Prizes Offered.

According to the vernacular press the mills interested will subscribe at the rate of 50 Sen (Sen=3 pies) apiece for each bale produced of coarse counts (20's and below) and 75 Sen for each bale exported. But this does not apply to mills who have reduced their production by more than 30 per cent. Drawings will take place every two months, the total amount to be distributed being 50,000 dollars (dollar=Re 1-8) in 2,243 prizes, as under:—

First prize . . .	10,000 dollars.
2 second prizes at 3,000 . .	6,000 "
10 third " " 500 . .	5,000 "
30 fourth " " 100 . .	3,000 "
100 fifth " " 50 . .	5,000 "
2,100 sixth " " 10 . .	21,000 "
2,243 . . .	50,000

It was further decided to establish a branch office of the Japan Cotton Spinners' Association at Shanghai, and to approach the Nippon Yusen Kaisha with a view to obtaining a reduction in the rates of freight on yarn. One of the leading Japanese commercial papers expresses the fear that the Indian mills, Japan's keenest competitors, will also adopt this coupon system. Even the Japanese public, however, do not seem particularly impressed with the idea, for spinning shares continue to fall.

It is also stated that a similar prize coupon system will be adopted with regard to the export of cotton piece-goods to Manchuria.

OIL AND SHELLAC MARKETS.

Prices and Supplies.

The *Ironmonger* of the 7th instant has an article on the course of the oil and shellac markets, from which we extract the following particulars:—

The general feature of the oil markets during February has been steadiness. On the whole there is no striking gain in strength, but prices have been kept up remarkably well, and a fair average trade has been transacted, without any disturbing speculation. The markets, in fact, have been favourable to genuine business, but have offered less opportunity than usual to the speculator.

Linseed Oil.

In the linseed-oil market the opening price of the month is repeated as we write, and the whole fluctuations in February are confined within 12s. 6d. per ton. The only point of interest has been a slight tendency to a greater backwardation on March-April and May-August deliveries. Whether this indicates any serious doubt as to the future of the market is perhaps uncertain. The time of year is favourable for better business, but the uncertainty as to the rate of supply of seed is not yet over. The January arrivals were very moderate, as the following five-year comparison will show:—

1904	1905	1906	1907	1908
174,879	108,603	93,153	111,131	97,306 qrs.

It will be seen that only once during the past five years have the imports been smaller for the first month of the year. The peculiarity of the figures is that only 1,582 qrs. arrived from the Argentine against just sixty times as much in January, 1904. This does not look as though the market were threatened this year with Argentine supplies on the 1904 scale. Nevertheless it is yet a little too early to be quite sure of what may happen in this respect. Other supplies are about normal except that the United States are beginning to send us more seed. The position of the market in the United States may be an adverse factor this year, but the prospects for the present do not seem bad. It has, of course, to be remembered that prices are not particularly low just now, and correspond rather with moderately good trade than with a depression.

Cotton Oil.

The movements in the cotton-oil market during February have been almost identical with those of linseed oil. The margin of fluctuation has been only 12s. 6d. per ton, and the opening price of the month is the same as the quotation as we write. Speculation has been absent, but a very good volume of genuine trade has been put through. The market is showing itself capable of bearing supplies of seed which would have brought it down with a run two or three years ago, and the extension of the outlets for cotton oil must have been very rapid of late. We give below the January imports for five years,

with prices taken at beginning of February below them:—

1904.	1905.	1906.	1907.	1908.
49,047	57,796	58,781	82,783	95,573 tons.
£15 2s. 6d.	£12 2s. 6d.	£21 7s. 6d.	£20 10s.	£21.

The steadiness of the article latterly compared with the very wide fluctuations which used to afflict it will be noticed. The reason probably is that the uses to which it is put are much more numerous than they were, and the market is therefore wider. It is to be remarked with regard to the supplies that Egypt bids fair to send to this market larger quantities of seed than ever before. Whether the Indian imports will keep up or not is uncertain.

Rape Oil.

The stringency in the rape-oil market continues, and prices are again higher. The total gain in value up to the time of writing is 30s. per ton, and the market looks strong even at this advanced figure. With normal supplies of seed during the next few months it is difficult to see why this figure should be expected to last, since it must interfere seriously with many of the uses of the oil, besides leading to considerable mixing with cheaper oils, either openly and avowedly or surreptitiously. The January import figures, with corresponding prices at the beginning of February, for five years are as under:—

1904.	1905.	1906.	1907.	1908.
30,006	13,715	15,190	12,132	19,429 qrs.
£23 10s.	£21	£26	£31	£35

It will be noticed that although normal receipts of rapeseed have not yet been reached, yet the imports are larger than they have been for some years, and there seems to be a reasonable hope that the times of absolute famine are over.

Turpentine.

The demand for American spirit has not been very keen during February, and after a rise at the beginning of the month the value has been slowly going down. Prices, however, are higher than at the beginning of January, and the market is fairly steady, although there is but little speculative activity apparent. The following are the import figures for January and the price at the beginning of February:—

1904.	1905.	1906.	1907.	1908.
49,717	31,290	36,602	44,511	48,810 cwt.
£48 5s.	£37 17s. 6d.	£47 10s.	£51 15s.	£37

It is rather curious to note how that turpentine, after having been for years the most interesting and active article in the whole range of the oil and paint trade, has now become one of the dullest. The mid-monthly returns of stocks of turpentine in London and afloat show that there is an increase in the visible supply of about 8,000 barrels compared with both last year and the year before last. The total figures are:—

1906.	1907.	1908.
20,713	29,150	28,627 barrels.

THE PORT OF MARMAGOA.

Future Prospects.

In the issue of the *Times Engineering Supplement* of the 19th February, a correspondent discusses the Port of Marmagoa in the following strain:—

Although at the time that Marmagoa was selected as a port of entry for the South of India the choice of Portuguese territory was deemed an unhappy one, and while the British-owned railway which ran from the port to the frontier of British India proved for many years a financial failure, the receipts being for many years insufficient to meet working expenses, recent times have brought about a complete change in the condition of affairs and Marmagoa, with its railway connexion, which now extends throughout the whole of Southern India, is likely to be heard of a great deal more in the future. The port of Goa is formed by the high headland point of Aguadas to the north, and by Marmagoa Point to the south.

While Marmagoa offers a certain amount of opposition to Bombay, a great deal of traffic now going through this port which formerly went to its northern competitor, it is Madras which has experienced, and is destined to experience, the most severe effects of rivalry. To send goods to Southern India through Madras has meant hitherto a thousand miles of extra steaming, unloading, and heavy carriage charges to the railway; while at Marmagoa owing to the very moderate railway rates which prevail and the working of the railway and harbour as one concern, not only are greater facilities for handling cargo afforded, but quicker despatch is assured. The actual rates of freight are on a par with those ruling to Bombay. It is, however, in connexion with Southern India only that Marmagoa can be regarded as having a great future, for I do not anticipate that any interference with Bombay, or any portion of Northern India, can be successfully undertaken. If, however, only Southern India be considered, the field of enterprise is enormous enough, inasmuch as all the supply of stores for the civil and military stations at Bellary and Belgaum can be received through the port of Marmagoa, as well as for the Kolar Gold Fields and the Mysore coffee estates. Of late years also, some development has taken place in connexion with the manganese mines at Shimoga and Ramandroog, where additionally some 500 plantations, among other industries, are located.

Railway Facilities.

The South of India has developed remarkably of late years, and it is mainly in connexion with British steamships, as may be gauged from the fact that out of the 245 steamers, both ocean-going and coasting, which entered the port of Marmagoa for 1907, only seven were non-British—namely, six German and one Swedish.

The increase is to be found as regards about one-half in the arrivals, and as regards the other half in the quantity afloat. There is, however, a slight decrease in the stock compared with the figures for December 31st, 1907.

Tallow.

A dull and uninteresting time has been passed in the tallow market during February. Very little alteration is noticeable in values, but sales have been made with considerable difficulty, and only a small proportion of the offerings has been taken up. Whether this state of affairs indicates a coming reduction of prices all round is uncertain. It has to be remembered, of course, that prices have already seen a serious fall from the top quotations of 1907, and that the proportionate values of tallow and other soap-making materials are now fairly reasonable. The greatly increased demand for margarine, consequent upon the butter famine, may also have a favourable influence upon the higher qualities of tallow. We give below the import figures for January:—

1904	1905	1906	1907	1908
92,147	118,342	136,265	118,010	175,768 cwt.

It will be noted that the final figures is rather large. The quantities coming from the United States and the Argentine have been considerably above the normal.

Shellac.

The spot price for shellac has receded during February, but the forward quotations are, if anything, rather more favourable. There was a difference between spot and May of 20s. per cwt., which has now been reduced to 5s. There has been no special feature of interest during the month, and the demand has kept fairly steady. The following are the January import figures:—

1904	1905	1906	1907	1908
13,988	9,568	7,821	10,039	9,513 cwt.

—His Majesty's Commercial Attaché at Yokohama (Mr. E. F. Crowe) reports the announcement in the Osaka press that a Trust will shortly be formed by the following leading cotton-spinning companies: Kanegafuchi, Osaka, Settsu, Godo, Fukushima, Mize, Amagasaki, with a view of encouraging the export of cotton yarn. Particulars of the agreement have so far not been divulged.

—The Shantung provincial bureau for industries has started a soap factory at Tsauchoufu. A Chinaman educated in Japan is employed as manager and instructor. The product of the new factory is meeting with such general satisfaction among the natives that the supply is not equal to the demand, and it is stated that a number of other similar factories in the same district are already being planned.

The Strick Line of steamers, working in conjunction with the West of India Portuguese Guaranteed and the Southern Mahratta Railways, now convey goods to all parts of the systems, issuing through bills of lading to the principal inland centres, while the railway companies collect import duties from the consignees at the time of delivery, relieving both consignees and shippers of a considerable amount of trouble.

It will be perceived that whereas the percentage of working expenses and gross receipts of the railway were no less than 96 per cent. in 1902, they had been brought down to 52 per cent. in 1907; the percentage of working expenses on gross receipts of the harbour were, for the same period, reduced from 50 per cent. to 44 per cent., and for the railway and harbour the combined percentage of working expenses for the same period ranked 49 per cent. of the gross receipts, while the net earnings increased from Rs. 45 lakhs in 1902 to Rs. 2,86 lakhs in 1907.

It is only right to point out that no such increases as these can be expected in the future, or at least until such time as the improvements and extensions to which I have referred have been carried out. The facilities existing at the harbour of Marmagao for the accommodation of ocean-going vessels are now strained almost to their limit, and while a number of vessels can discharge their cargo for Southern India by means of lighters (although no fleet at present exists) the accommodation at the quay-wall is fully engaged.

Marmagao Described.

Marmagao is located 250 miles south of Bombay. The steaming distance is almost 1,000 miles shorter than to Madras, and whereas at this latter port cargo has to be discharged into surfboats, at Marmagao goods are delivered direct to and from the ship's sides into railway trucks. The breakwater is 200 feet long; and it is hoped that the Portuguese Government will, before long, be able to find the necessary money to construct a further 700 feet of breakwater, the foundations for which already exist. Inside the breakwater is a quay-wall 1,200 feet long, and two steamers (of about 9,000 tons) can be accommodated, length to length alongside it at any season of the year and at any state of the tide, the depth at low-water being 24 feet. The lines of the West of India Portuguese Railway extend to the end of the wharf, cargo being discharged or loaded by means of seven travelling steam cranes, these having one and a half tons lifting capacity, and one 25 tons capacity.

Improved Condition.

The improved condition of affairs in this part of India is due mainly to the Southern Mahratta Railway having taken over, in September, 1902, the working of the West of India Portuguese Guaranteed Railway, which, as already indicated, had fallen upon evil times, its working expenses,

even as late as the year 1902, having amounted to 94.18 per cent. of its gross receipts, whereas to-day they have been brought down to a little over 60 per cent. of gross receipts, below which point, however, I do not expect they can fall, at least for some years to come.

Whereas shareholders in the West of India Portuguese Guaranteed Railway have been secured by convention of the Portuguese Government, which undertook to pay interest half-yearly on the capital stock at the rate of 5 per cent. per annum, at the same time agreeing that the company should retain one-half of the surplus profits, it is satisfactory to know that the Portuguese Government which has so loyally adhered to its guarantee, even under the most trying circumstances, are now being relieved of much of their liability owing to the gradually improved condition of affairs.

With regard to the proposed extensions and improvements at the Port of Marmagao, these will from first to last, if carried out on the present plans, entail an outlay of some £750,000, but very much might be accomplished with considerably less. It would, for instance, take but £200,000 to add another 700 feet to the breakwater.

THE INDIAN BUDGET.

Effects of the Famine.

In presenting the Financial Statement for 1908-09, at the meeting of the Viceregal Legislative Council on the 20th instant, the Hon. Mr. E. N. Baker said: "The dominating feature of the present budget is the famine which unhappily is widespread over a large part of Northern India, and some other tracts elsewhere. The course of the monsoon during the autumn of 1907 bore some resemblance to those of 1896 and 1899, but on the whole the failure of the rains was less extensive, and the resultant distress is both more restricted in area and with some local exceptions less severe in intensity than on those occasions. Nevertheless the calamity which has befallen the country is of no small magnitude. It extends, roughly speaking, to the greater part of the United Provinces, to the eastern districts of the Punjab, the northern half of the Central Provinces, some parts of Bengal and Bombay, and many of the Native States in Central India, besides isolated tracts in other Provinces. The area in which famine has been declared to exist is approximately 118,000 square miles in British India and about 15,000 square miles in the States of Central India and has a population of about 49 millions. In these tracts the outturn of the *kharif* (Autumn) crops over the whole of the United Provinces and the greater part of the distressed areas in other provinces is a good deal less than half of an average crop, and in the worst tracts very much less. The distress would have been much more severe but for the fall of useful rain in September and October in Bombay and but for the winter rains which, though late,

were of enormous benefit in Northern India. Even as it is, the export of wheat has been almost wholly stopped in consequence of the prevalent high prices in India, and a great part of the Burma rice crop which was fortunately abundant has been diverted to India to take the place of that which had been lost.

A Comparison.

"The general situation is thus less serious than in 1897-1898 or 1900-1901, and the financial position is also stronger than in those years. In the former year Sir J. Westland was forced to budget for a deficit of £1,643,000, of which a great part, though doubtless not the whole, was due to famine. In the latter Mr. Clinton Dawkins, with the aid of improved exchange, was able to secure practical equilibrium with a small surplus of £160,300. On the present occasion, although the surplus of £774,600 for which we had budgeted last March is likely to be reduced to £235,400, we nevertheless hope, if the ensuing monsoon is normal, to secure much more favourable results in 1908-1909, and I am able to estimate for a surplus of £571,500 at the close of the ensuing year, notwithstanding the very liberal provision for suspension and remission of revenue which is referred to below. In part these results are due to the smaller extent and severity of the present famine. That, however, is not the only reason. The lessons of the two famines of the past decade have not been lost on us. In the first place our machinery for combating distress has been brought by the teaching of experience to a higher pitch of efficiency than before. Secondly, it is now a primary canon with us to issue *takavi* advances (cash advances to agriculturists) on the most liberal scale and by the promptest possible methods the moment that the situation has clearly declared itself. Thus in the present year over two crores of rupees have already been distributed or sanctioned for distribution in this way, and two crores are being provided for issue next year, making upwards of 4 crores in all, as compared with 2.3 crores in 1896-1898, and 2.9 crores in 1899-1901. Moreover, in every province, the arrangements for the suspension of revenue at the first sign of distress are far more highly developed than before. In the current year, nearly 222 lakhs of revenue have already been suspended, and about 135 lakhs more will, it is estimated, be suspended in 1908-1909, making 357 lakhs in the two years. Of this sum a large proportion will necessarily be remitted, but it is too soon to frame any definite estimate of the amount. Not only have the suspensions of revenue been on a very liberal scale; but, what is at least equally important, they were made with great promptitude when it was certain that the crops must fail.

Relief Measures.

"Partly owing to these measures and partly, we may reasonably conclude, owing to the greater resisting powers of the people the numbers of those to whom it has been necessary to give direct relief have been much less than in previous famines. In

the province most severely affected—the United Provinces—the numbers at first rose very slowly; the liberal grants of *takavi* encouraged cultivation and the construction of wells, and maintained the demand for agricultural labour. In January the demand slackened and there was a rapid increase in the number of applicants for relief, but even at the end of February the total number in receipt of relief from the State in British districts, which in the two previous famines at that date exceeded or approached three millions, amounted to less than a million and a quarter. Some further increase in numbers may no doubt be expected after the *rabi* (spring crops) is harvested, but according to the best forecasts which the local authorities can now supply the total direct expenditure on famine relief in the two years will not be greatly in excess of two crores of rupees, as compared with 930 lakhs in 1899-1901 and 740 lakhs in 1896-1898.

"The distress caused by high prices has undoubtedly affected all classes, and has pressed with great severity on the urban populations and on all who are dependent on small fixed incomes. But the more painful conditions which we associate with widespread famine in India—the emaciation, the aimless wandering, the disruption of socialities, and the increase of crime—are as yet so rare and exceptional as to be scarcely noticeable. The energy and determination with which the people have themselves faced the calamity have been observed on all hands, and we may reasonably hope that if the coming season is favourable the progress of the country will resume its normal course, without any such check as a famine on a similar scale would have caused in bygone times.

Loss of Revenue.

"The total loss of revenue and increase of expenditure attributable to the famine in the two years has been estimated at about 461 lakhs and 524 lakhs, respectively. Some of the items comprised in these totals however are conjectural, and while they may be taken for what they are worth, I would not be understood to imply that but for the famine our surplus would have been larger by these sums, or even by the Imperial portion of them, which amounts to 302½ and 323½ lakhs, respectively.

"In view of the foregoing facts, it will be manifest that we are in no position to undertake any measures for the remission of taxation, or to embark on any schemes of administrative improvement involving considerable expenditure. On the contrary the occasion is one for rigid economy and retrenchment wherever it can be effected."

For the next official year the revenue is estimated at £73,438,900, the expenditure chargeable against revenue at £72,867,400, and the surplus at £571,500. The total actual expenditure is estimated at £73,392,500, but of this amount £525,100 will be met from provincial balances. These estimates are based on the assumption that the monsoon of the coming year will be normal in character.

PRICES OF COMMODITIES.

THE following are the index numbers of the prices of forty-five commodities, worked out to the month of January last by Mr. A. Sauerbeck, the average of the eleven years 1867—1877 being 100:—

	Average.	Monthly Numbers.
1878-1887	79	February, 1895 = 60.0
1888-1897	67	July, 1896 = 59.2
1890-1899	66	July, 1900 = 76.2
1898-1907	71	December, 1901 = 68.4
	—	December, 1906 = 79.7
1883	82	May, 1907 = 82.4
1896	61	June, 1907 = 82.0
1900	75	July, 1907 = 81.1
1901	70	August, 1907 = 79.4
1902	69	September, 1907 = 79.1
1903	69	October, 1907 = 78.8
1904	70	November, 1907 = 76.7
1905	72	December, 1907 = 76.2
1906	77	January, 1908 = 76.0
1907	80	

The index-number for January shows but little variation, as the further reduction in the prices of materials was nearly balanced by a corresponding rise for articles of food. Butter, mutton and potatoes ruled higher, while the other articles of food showed little variation. Iron and copper were slightly lower, but tin was well maintained, and lead a little higher. Flax, jute, coarse wool and silk declined, and tallow and palm-oil were somewhat lower.

The prices and index-numbers of silver compare thus (60.84d. per oz. being the parity of 1 gold to 15½ silver = 100):—

	Price.	Index-Number.
Average, 1888-1897	37d.	60.8
Average, 1893-1907	27½d.	45.0
Average, 1893	35½d.	58.6
Average, 1902	24½d.	39.6
Lowest, November, 1902	21½d.	35.6
End December, 1904	28½d.	46.6
End March, 1905	25½d.	42.4
End December, 1906	32½d.	53.1
End December, 1907	24½d.	40.9
End January, 1908	25½d.	41.9

—A solution of **alum** has been found of great service in protecting textile fabrics from the depredations of moths.

—With the approval of His Majesty's Ambassador at Madrid it is proposed, if sufficient support is given to the project in Spain and England, to form a **British Chamber of Commerce for Spain** as likely to be of advantage both to British residents in that country and to firms in Great Britain doing business with Spain.

—The demand for space necessitates holding the **Rubber Exhibition** at Olympia instead of at the Horticultural Hall. The Exhibition will be opened on September the 14th. All rubber-producing countries, except the Straits, have secured spaces.

THE POSITION OF THE RUBBER MARKET.

A correspondent writes as follows to the *Economist* on this subject:—

The impression seems to exist amongst people who do not know the facts of the case that the recent sharp fall in the price of rubber has been caused by over-production, due to the extension of the rubber-planting industry in Ceylon, the Malay States, and elsewhere. This is quite a mistaken idea. During last year the entire output of plantation rubber only amounted to some 1,250 tons, out of the world's total of about 70,000 tons, so that from a market point of view it was practically a negligible quantity. The price of rubber is entirely controlled by the market conditions for *wild* rubber (more particularly "fine hard Para," from the Amazon), and this will continue to be the case for several years to come, as, in spite of the great activity in planting, the output on the plantation product cannot amount to more than about 25 per cent. of the world's total until after 1912.

The fall in price (fine hard Para is now 2s. 11½d. per lb., as against 4s. 7d. six months ago) is almost entirely due to the recent financial collapse in the United States. The position has been affected in two ways. It is stated that some 80 rubber factories in the States have had to shut down for the time being, which, of course, means a temporary slackening in demand for the raw material. This has been one cause of the fall, but there is a still more important reason. For years past the Amazon rubber trade has been carried on by an elaborate system of revolving credits, conducted for the most part in New York. Rubber coming down the river to Manaus and Para has been shipped by firms in those cities to Europe and elsewhere, and bills drawn against the shipments have, under ordinary conditions, been readily melted in New York. From New York, too, have come the funds necessary to equip and despatch the expeditions sent up the Amazon to collect the rubber-expectations which mean six or seven weeks' journey by steam-launch up the giant river and its tributaries to the collecting grounds. Before these expeditions can start, stores, tools, equipment, and a certain amount of cash have to be found by the persons despatching them, and it can readily be understood that when the financial crisis in the United States occurred, and all the usual banking facilities and accommodation were suddenly withdrawn, the whole industry in Brazil was thrown into a condition little short of chaotic. Shippers found themselves unable to discount bills against the rubber they had to despatch, and were compelled to sell for cash at whatever price they could get, their embarrassments being further intensified by the lack of the necessary funds (or credit) for the despatch of the usual expeditions up the river. The industrial disturbance in the States and the consequent cessation of purchases of the raw material, further

contributed to the downfall in the price of rubber, and the natural result of all these circumstances has been that unusually heavy stocks have accumulated in the principal markets of the world, while rubbers of a somewhat inferior description (such as West African) have for the time being become practically unsaleable at any price.

Manufacturers, who for some years past have felt the pinch of the very high price at which the raw material had been standing, have, of course, been only too pleased to see the declining quotation; and there is little doubt that they have deliberately held back from making purchases, and are still carrying on their business with "hand-to-mouth" supplies, in the hope of getting at still lower figures the rubber which they require. Whenever the turn takes place it may be expected that this policy will result in more or less of a "scramble" amongst buyers who have been holding back, and it may, therefore, be anticipated that the upward movement in rubber, when it comes, will be a decidedly sharp one. The point which it is very difficult to forecast is precisely when this reaction may be expected, and, of course, under the existing conditions, it is quite possible that there may be a further decline in the price before the market recovers itself.

To some extent the crisis may be expected to bring about its own cure, as the very large reduction in the number of expeditions sent up the Amazon, as a consequence of the sudden shutting down of credit and facilities, will, of course, result in a considerable shortage of supply compared with previous years. This shortage will hardly become apparent until next autumn, but the knowledge of its approach will doubtless affect the market in advance; and, provided business conditions in the United States return to anything like a normal state within a reasonable time, there is every reason to anticipate a substantial recovery in the price of rubber.

Cost of Manufacture.

For the Eastern planter the present crisis, and even the fall in the price of rubber, is likely to prove a blessing in disguise. Plantation rubber always sells at about 5d. or 6d. per lb. above the wild product (the present quotation of "Plantation Para" is about 3s. 4½d.), while on a well-managed estate the cost of production does not exceed 1s. to 1s. 3d. per lb. Even at the ruling price, therefore, planters can secure the very comfortable gross profit of 150 to 200 per cent., while people who know the Brazilian trade best are almost unanimous in their opinion that, as regards the bulk of the rubber that comes from the Amazon, it will, at anything like 2s. 6d. per lb. no longer pay to make shipments. As soon as sufficient time has elapsed for the new conditions to make themselves felt, therefore, a heavy reduction in the output from Brazil may be expected from this cause alone. This should make the market for plantation rubber a much more reliable one for a long time to come. Another beneficial effect which may be expected to result from the present depression in price is greater economy in estate

management. There has undoubtedly been a tendency, while the price of rubber was standing at such abnormally high figures, for expenditure upon plantations to become careless and extravagant, and drastic reforms in this respect are already being made as the result of the present crisis. Another satisfactory feature is that the formation of new planting companies—many of them of an inferior description—which recently seemed to proceed at far too great a pace, has met with a most salutary check. It is pretty safe to say that, under present conditions, only those concerns which are capitalised on a very low basis, and which offer the most solid and attractive features in the way of good management and matured estates, have any chance of success with investors. The ordinary investor in rubber-planting shares, of course, knows little of the general conditions affecting the industry, and it is not to be wondered at that the heavy fall in the price of the raw material has had the effect of frightening many holders out of their shares. Just as in September last shares of this description were undoubtedly put to too high a level, quotations have now been forced down in many instances to a figure quite below the merits of the companies concerned. Many of the leading shares could be bought at present to yield very substantial returns, and while it is quite possible that in distributing final dividends directors will follow a conservative policy, in view of the present state of things, there is very little doubt that some of the leading concerns will pay at least 50 per cent. for the current year's working. Even supposing that the price of rubber shows no recovery in the next twelve months, the rapid development of estates in the East will enable the better-class concerns to maintain, and ultimately to increase, the profits derived from their properties, while any upward reaction in the market for the raw material is pretty sure to be followed by a pronounced recovery in share values.

—It is reported that a firm in Munich has succeeded in artificially rendering asbestos waterproof, and has put upon the market this new kind of asbestos under the title of **asbestos slates**. These, it is claimed, are as hard and as strong as the natural slates, and can therefore be laid on wall or roof constructions without any wooden laths being necessary. They are very easily worked, and can be bored, nailed, and cut just like wood, without any danger of splitting. They form a fireproof covering for inside and outside wooden walls; are valuable for insulation work of all kinds, even for electrical purposes; are of great use in building railway carriages as insulating material under the seats; for use in postal telegraphic work for insulating the switches; for covering iron and wooden constructions; for use as fireproof doors for closing off single rooms in stores, warehouses, etc.; for lining wooden doors, and for covering walls and ceilings of all kinds so as to protect them from fire, heat, cold, dampness, disease, germs, and vermin.

JUTE SUBSTITUTES.

Specimens from Nyasaland.

In a previous report on "Denje" (*Sida rhombifolia* and "Nzonogwe" (*Triumfetta rhomboides*) fibres from British Central Africa (Imperial Institute Bulletin 1905, 3-23), it was suggested that a ton or two of each of these fibres should be sent to the Imperial Institute for examination with special reference to their behaviour in spinning and other manufacturing processes.

In accordance with this suggestion a bale of "Denje" fibre, and two bales of "Denje" and "Nzonogwe" fibres mixed, were consigned to the Crown Agents for the Colonies by the British Central Africa Government, together with a bale of "Lichopwa" fibre. Small samples were also forwarded direct to the Imperial Institute by parcel post.

"Lichopwa" Fibre.

The sample forwarded to the Imperial Institute consisted of brown ribbons of fibrous material, which contained much gummy matter. The fibre when freed from the gummy substances was soft but weak.

The following are the results of its chemical examination:—

	Per cent.
Moisture	11.8
Ash	9.8
α-Hydrolysis (loss)	43.4
β-Hydrolysis (loss)	51.0
Nitration (gain)	8.9
Cellulose	38.5

Length of ultimate fibre . . . { 3.7-15.2 mm.
or
0.15-0.6 in.
(mean 8.6 mm. or 0.35 in.)

The fibre was not lignified. The figures given above show that the sample contained a very large percentage of matter other than true fibre; the percentage of ash is high, and the losses on hydrolysis, which would be quite abnormal in a cleaned fibre, can only be accounted for by the presence of a large amount of pectous or gummy matter. Commercial experts to whom this sample was submitted reported that fibre of such quality would only be saleable at a nominal price.

The material in the bale (No. 2) was in an unprepared state and was of no commercial value.

"Denje" and "Nzonogwe" Fibres.

The sample of "Denje" fibre received consisted of ribbons averaging 4 feet in length, and varying between 3 feet 3 inches and 5 feet. The ribbons were somewhat lustrous, and varied in colour from pale grey to buff. The fibre was of fair strength and fairly well cleaned.

The results of the chemical examination of this sample compare unfavourably with those obtained for the sample previously received. The figures relating to a sample of "extra fine" Indian jute

examined at the Imperial Institute are added for comparison:—

	Present sample.	Previous sample.	Extra fine Indian jute.
	Per cent.	Per cent.	Per cent.
Moisture	9.0	10.3	9.6
Ash	1.1	1.0	0.7
α-Hydrolysis (loss)	12.0	8.5	9.1
β-Hydrolysis (loss)	20.0	13.5	13.1
Acid purification (loss)	8.8	1.8	2.0
Cellulose	73.3	77.4	77.7

The unfavourable results are accounted for by the imperfect cleaning and preparation of the present sample as compared with the previous one. If well prepared this fibre would be of more value as a substitute for jute.

None of the samples taken from the bales was so well cleaned and prepared as this preliminary sample.

The three bales of "Denje" and "Nzonogwe" fibres were sent for trial to a firm of jute spinners in Dundee, who reported that it was impossible to differentiate between them. The fibre was insufficiently retted, and six weeks' treatment in the "batch" was necessary before spinning could be attempted.

The yarn which was obtained was a good level thread but harsh. Very little moisture was retained, although a large quantity was used in the preparatory stages. There was also an absence of the floss which is present on jute yarns. In strength the yarn was weaker than jute yarn of corresponding size. This, however, was probably due to the long time during which the fibre was soaking in the "batch."

The spinners stated that it was exceedingly difficult to give a valuation for the fibre, but they classed it as about equal to the bottom number of an ordinary Bengal jute mark. In the state in which it was received the material was valued at £16 per ton, but it would no doubt be worth much more if properly retted.

The spinners were of opinion that with more experience in retting, which is the most important process in the preparation of fibres of this class, the producers would be able to obtain a much improved fibre. They were also under the impression, though not certain on the point, that the plants had been allowed to get too old before the fibre was collected, and that consequently the gum had become very hard.

Extravagant Claims.

An article on "Fibres of the Jute Class," appeared as a supplement to the *British Central Africa Gazette* of May 31st, 1907. Reference is only made to this article in order to correct the following exaggerated statements. "The fibre of 'Denje' when properly prepared is superior to that of jute on all points." "When carefully prepared not only does it ('Denje' fibre) excel jute in its chemical analysis, but it is also a fibre of much finer quality, and might eventually be used for higher class fabrics for which

even the best jute is quite unsuited." "A few years' perseverance with the latter ('Denje') ... will in all probability be rewarded by a fibre as superior to jute from a producer's and manufacturer's point of view as it is already undoubtedly superior in chemical composition." These conclusions are not supported by the reports of the Imperial Institute, and certain figures on which the writer has based his statements are taken from another source and do not refer to the fibres of Nyasaland. Although the fibre is useful and could be employed as a substitute for jute of medium quality, there is no likelihood that cultivation of the plant, and care in preparing the fibre, would ever yield a product superior or even equal to the finest grades of jute.

PINE DISTILLATION.

Process Employed.

In an article in the *Indian Trade Journal* of the 26th December, 1907, we discussed the various aspects of wood distillation as applicable to India, more particularly in reference to turpentine and rosin. In that connection the following particulars, which we extract from Forest Circular No. 121, published by the U. S. A. Government, may prove of interest to dealers in India who may be giving attention to this subject:—

While in hardwood distillation the chief products are wood alcohol, charcoal, and acetate of lime, in pine distillation they are turpentine, tar, and charcoal. though the last is comparatively unimportant. Operations at present are confined almost wholly to southern pines. The States of North Carolina, South Carolina, Georgia, Florida, and Alabama furnish practically all of the turpentine obtained in this manner.

It must be borne in mind that the figures given for the products of pine distillation are the results of a combination of products, obtained by two distinct processes of distillation, destructive distillation and steam distillation. The former process is somewhat similar to the destructive distillation of hardwood, in that the wood is carbonized completely and the oils are driven off in this way. The chief products obtained are turpentine, tar, charcoal, and oils. The other process is known as steam distillation. Briefly, it consists of reducing the wood to chips by mechanical means and cooking it with live steam. The products contained in the wood are distilled with the steam and come off readily. The wood, however, is not carbonized as in the other process. The chief products of distillation by this process are turpentine and heavy oils. Turpentine produced in this manner is about equal to gum turpentine and superior in some respects to turpentine obtained by destructive distillation of pine.

The table below shows the quantity and value of soft wood distilled in 1906, as reported by 33 plants. The total amount used was 50,234 cords, valued at \$129,358, or an average value of \$2.58 per cord. The highest average price per cord \$3.03, was in North Carolina; the lowest average, \$1.73, was in Florida.

Wood used for pine distillation in 1906, by States.

State.	Quantity.	Average value per cord.	Total Value.
	Cords.	\$	\$
Alabama	3,236	2.81	9,098
Florida	10,100	1.73	17,515
Georgia	14,986	2.51	37,661
North Carolina	16,332	3.03	49,564
South Carolina	2,972	2.64	7,837
All others*	2,608	2.95	7,683
TOTAL	50,234	2.58	129,358

* Louisiana, Michigan, Minnesota, and Washington.

The next table shows the quantity and value of the products of pine distillation in 1906:—

Product.	Quantity.	Total value.	Average value.
		\$	\$
Turpentine . . gallons.	503,427	238,612	0.47
Tar . . . do.	648,120	64,368	.10
Charcoal . . bushels.	791,887	44,381	.06
Oil of tar . . gallons.	125,008	17,429	.14
Pyroligneous acid . do.	305,000	15,380	.05
TOTAL	...	380,170	...

Florida leads in the production of tar and North Carolina in the production of turpentine. The extremely varying amounts shown in the average quantity of products obtained in the different States show clearly that distillation methods are not yet perfected and that considerable quantities of some of these products are not saved. The charcoal product is strikingly variable, because in destructive distillation charcoal is a product of importance, while the extraction of turpentine and other oils from pine wood by steam distillation does not carbonize the wood, so no charcoal is obtained.

Exports of Wood Alcohol.

The statement below shows the quantity and value of wood alcohol exported from 1902 to 1906. The quantity exported nearly doubled from 1902 to 1904, while the average value decreased from 54 cents per gallon in 1902 to 49 cents per gallon in 1904. In 1905 there was an unimportant reduction in the amount exported, while the price increased from 49 cents to 55 cents. In 1906 the quantity exported shows a reduction of about one-third from 1905, and the price increased to approximately 60 cents per gallon.

Year.	Quantity.	Value.	Average value per gallon.
	Gallons.	\$	\$
1902	626,925	338,619	0.54
1903	833,629	452,892	.54
1904	1,194,466	585,359	.49
1905	1,097,451	603,385	.55
1906	780,222	466,467	.598

SUGAR IMPORTS.

Imports of Foreign Sugar (excluding confectionery and molasses) into British India in the month of February, 1908, and in the eleven months ending February, 1908, compared with the corresponding periods of the previous year. The statement shows, so far as possible, the original sources of all such sugar imported:—

Countries of production of total imports.	Share of each country in the total imports in Feb., 1907.	Share of each country in the total imports in Feb., 1908.	Share in the eleven months ending Feb., 1907.	Share in the eleven months ending Feb., 1908.	Countries of production of total imports.	Share of each country in the total imports in Feb., 1907.	Share of each country in the total imports in Feb., 1908.	Share in the eleven months ending Feb., 1907.	Share in the eleven months ending Feb., 1908.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Austria-Hungary	97,152	66,181	1,935,888	625,276	West Indies	12	42	5,093	5,220
Belgium	167	53	104,030	1,262	South America	1,750	1	22,983	8,368
Denmark	...	...	...	11	China	312	87	5,070	7,151
France	69	18	23,826	9,767	India	...	...	...	66
Germany	3,512	1,968	1,655,280	51,570	Japan	...	...	4	...
Holland	29	149	938	467	Java	101,373	272,508	3,315,389	6,179,036
Italy	...	...	4	4	Philippines	...	...	390	400
Spain	...	...	3	200	Straits Settlements	253	...	3,781	11,674
Egypt	...	...	69	...	Australia	...	...	9	...
Mauritius	177,604	244,956	2,057,688	2,332,212	From non-producing countries, Origin unknown	...	7	801	211
Reunion	...	12,210	109,471	23,587					
					TOTAL	382,233	598,570	9,240,327	9,256,482

Quantity of Beet and Cane Sugar imported by sea from foreign countries into each province of British India for the month of February, 1908, compared with the corresponding period of the year 1907:—

PROVINCES.	Beet Sugar.		Cane Sugar.		TOTAL.	
	1907.	1908.	1907.	1908.	1907.	1908.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	15,742	112	115,368	219,739	131,110	219,851
Eastern Bengal and Assam	...	...	...	...	...	...
Bombay	49,683	45,522	132,154	191,575	181,837	237,097
Sind	32,472	19,336	23,082	82,254	55,554	101,590
Madras	1,945	2,292	95	154	2,040	2,446
Burma	1,037	1,110	10,605	36,476	11,692	37,586
TOTAL	100,929	68,372	281,304	530,198	382,233	598,570

IMPORTS OF COTTON YARN.

Quantity of Cotton Yarn No. 31 and higher counts imported by sea from other countries into each province of British India in the month of February, 1908:—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.	lb.
Mule and Water, Nos. 31 to 40	365,000	...	230,116	22,245	391,950	6,400	1,015,711
" " 41 to 50	76,580	...	27,953	...	43,200	...	147,733
" " above No. 50	191,365	...	104,194	...	121,660	...	417,219
Orange, red and other colours, Nos. 31 to 40.	402,379	...	128,707	136,168	275,095	28,800	971,149
Orange, red and other colours, Nos. 41 to 50.	...	...	42,600	...	11,400	15,000	69,000
Orange, red and other colours, above No. 50.	4,920	...	34,985	...	136,749	3,200	179,854
TOTAL	1,040,244	...	568,555	158,413	980,054	53,400	2,800,666

WEEKLY TRADE MOVEMENTS.
For the week ending 21st March, 1908.COTTON GOODS.
Twist and Yarn.

Foreign—	Calcutta, lbs.	545,134
Imports by sea into	Bombay	179,557
	Madras	413,219
Indian—	Calcutta	292,040
Exports by sea from	Bombay	3,862,927
	Madras	80

Grey Piece Goods.

Imports by sea from	Calcutta, yds.	11,809,396
Foreign ports into	Bombay	2,198,485
	Karachi	1,202,033
	Madras	1,045,071
	Rangoon	289,540

White Piece Goods.

Imports by sea from	Calcutta, yds.	4,542,687
Foreign ports into	Bombay	4,952,498
	Karachi	4,360,282
	Madras	204,378
	Rangoon	1,015,493

Other Piece Goods.

Imports by sea from	Calcutta, yds.	3,156,893
Foreign ports into	Bombay	3,968,518
	Karachi	2,194,966
	Madras	419,916
	Rangoon	1,155,667

Piece Goods.

(Indian and Foreign.)	Calcutta, owt.	15,531
Despatches by rail from	Bombay	4,761
	Karachi	12,493
	Madras	5,356

Cotton, Raw.

Imports into Bombay	By sea owt.	6,482
	Coastwise	20,796
	By rail	157,805
Imports into Karachi by rail		37,366
Imports into Calcutta by rail and river		9,287

JUTE.

Arrivals by all routes in	Calcutta, owt.	322,056
Exports by sea from	Calcutta { Gunny bags, No.	20,049,060
	Calcutta { cloth, yds.	18,392,050
	Chittagong—Jute owt.	252,408
	Chittagong—Jute	24,165

COTTON SEED.

Exports by sea from Bombay	owt.	32,815
----------------------------	------	--------

OILSEEDS.

Linseed.

Imports into	Calcutta by rail and river, owt.	11,114
	By sea	17
	Coastwise	890
	By rail	12,506
Exports by sea from	Karachi by rail	403
	Calcutta	18,576
	Bombay	...
	Karachi	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river, owt.	58,401
	By sea	1,257
	Coastwise	13,314
	By rail	148,814
Exports by sea from	Karachi by rail	7,460
	Calcutta	5,000
	Bombay	18,901
	Karachi	...

RICE.

Arrivals by all routes in	Calcutta, owt.	398,213
Exports by sea from	Calcutta	46,229
	Chittagong	...
	Bombay	6,163
	Karachi	8,180
	Madras	163
	Rangoon	618,481

TEA.

Arrivals by all routes in	Calcutta, lbs.	7,975
Exports by sea from	Calcutta	173,495
	Chittagong	...

WHEAT.

Imports into	Calcutta by rail and river, owt.	32,812
	Karachi by rail	150
	By sea	21,750
	Coastwise	49,469
	By rail	4,934
Exports by sea from	Calcutta	1,239
	Bombay	930
	Karachi	18,873

* B. B. and C. I. Ry. Figures only.

KEROSENE OIL, WEEK ENDING 21st MARCH, 1908.

Imports by sea into—	FROM			
	Russia.	America.	All other foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	49,889	912,557	961,946
Bombay	...	6,922	...	6,922
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
			Bengal	galls.
			E. B. & Assam	"
			Bombay	"
			Sind	"
			Madras	"
			Indian Ports, Non-Br.	"
			Foreign Ports	"

IMPORTS OF SUGAR, WEEK ENDING 21st MARCH, 1908.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
United Kingdom	cwt. 18	cwt. ...	cwt. 13	cwt. ...	cwt. 6	cwt. 66	cwt. 103
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	2,004	...	2,700	...	4,704
Other European Countries	...	...	...	...	...	...	...
Java	2,822	...	12,537	...	...	33,659	49,018
Mauritius	1,883	...	51,843	4,513	...	...	58,239
Other Non-European Countries	127	...	...	...	...	1	128
					Total refined		112,192
					Total unrefined		...
					Grand Total, cwt.		112,192

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the Second half of February, 1908. (Prices are stated in annas and pies per ser=2.06 lbs.)

	Rice, common	Wheat	Barley	Jawar	Bajra	Ragi	Gram	Salt
	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.	a. p.
BURMA—								
Rangoon	1 2	...	...	...	...	...	...	0 11
Toungoo	1 9	...	...	...	...	...	...	1 5
EASTERN BENGAL AND ASSAM—								
Rangpur	2 3	2 2	...	...	...	...	...	0 11
Backerganj	1 10	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 6	2 5	...	...	...	...	...	0 10
Patna	2 1	2 3	1 6	...	...	...	...	0 10
UNITED PROVINCES—								
Cawnpore	...	2 1	1 5	1 6	1 6	...	1 6	0 9
Fyzabad	...	2 1	1 9	1 8	...	...	1 8	0 11
Meerut	...	1 11	1 5	1 4	1 5	...	1 5	0 9
PANJAB—								
Delhi	...	2 1	1 5	1 7	1 9	...	1 6	0 9
Amritsar	...	2 0	1 2	1 7	1 8	...	1 5	0 7
Rawalpindi	...	1 10	1 4	1 6	1 6	...	1 6	0 7
SIND—								
Karachi	...	2 0	...	1 3	1 7	...	1 7	0 7
BOMBAY—								
Belgaum	...	2 0	...	1 2	1 3	...	...	0 10
Ahmadnagar	...	2 0	...	1 3	1 3	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 0	...	1 5	1 8	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	1 11	...	1 8	...	...	1 11	0 11
Nagpur	2 1	1 9	...	1 8	...	...	1 11	1 1
Raipur	1 9	1 11	...	...	...	...	1 10	1 1
MADRAS—								
Bellary	2 6	...	...	1 2	...	1 1	...	0 11
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 2	...	...	1 6	1 9	1 4	...	0 10

—The Board of Trade have informed the Associated Chambers of Commerce that, with reference to the resolution passed at the last autumnal meeting, they are in communication with the Foreign Office with a view to procuring from abroad information on the question of the enforcement in foreign countries of awards given in commercial arbitrations in the United Kingdom.

COMMERCIAL INTELLIGENCE DEPARTMENT.

INDIA.

DEPARTMENTAL PUBLICATIONS.

[Statistical Publications obtainable from the Superintendent, Government Printing, India, Calcutta. Remittances should be made by postal or money order and should include forwarding charges, as indicated in brackets opposite each publication.]

ANNUAL.

1. Review of the Trade of India. As. 8. (2a.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8. (2a.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
Vol. I.—Abstract and detailed Tables of Imports and Exports. R3. (R1.)
Vol. II.—Abstract and detailed Tables of Trade and Shipping with each Country and at each Port; and the Tables relating to the Trade of the French and Portuguese possessions in India. R3. (10a.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (8a.)
5. Accounts of the Trade of Aden. As. 10. (2a.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6a.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7a.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3a.)
9. Prices and Wages in India. R1-8. (9a.)
10. Financial and Commercial Statistics of British India. R4. (12a.)
11. Judicial and Administrative Statistics of British India. R2. (10a.)
12. Agricultural Statistics of India. R3-8. (13a.)
Vol. I.—British India.
Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2a.)
14. Production of Tea in India. As. 8. (2a.)
15. Note on the production of Coal in India. As. 12. (3a.)
16. Note on the production of Coffee in India. As. 4. (1a.)
17. List of Joint Stock Companies in British India for 1903. R2. (2a.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (2a.)

MONTHLY.

19. Accounts of the Trade and Navigation of British India. As. 8. (2a.)
20. Accounts relating to the Trade by Land of British India with foreign countries. As. 8. (2a.)
21. Statistics of Cotton Spinning and Weaving in Indian Cotton Mills. As. 2. (1a.)

MISCELLANEOUS.

1. Notes on Sugar in India. R1-8. (2a.)
2. Indian Cotton Seed: Its Industrial Possibilities. As. 12. (2a.)

AGENTS.

The following have been appointed agents for the sale of books published by the Superintendent of Government Printing, India, Calcutta:—

In England.

- | | |
|--|--|
| E. A. Arnold, 41 and 43, Maddox Street, Bond Street, London, W. | Kegan Paul, Trench, Trübner & Co., 43, Gerrard Street, Soho London, W. |
| Constable & Co., 10, Orange Street, Leicester Square, W.C. | Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford. |
| Bernard Quaritch, 11, Grafton Street, New Bond Street, W. | Messrs. Grindlay & Co., 54, Parliament Street, London, S.W. |
| Deighton, Bell & Co., Cambridge. | Mr. T. Fisher Unwin, 1, Adelphi Terrace, London, W.C. |
| H. S. King & Co., 65, Cornhill, and 9, Pall Mall, London. | Messrs. W. Thacker & Co., 2 Creed Lane, London, E.C. |
| P. S. King & Son, 2 and 4, Great Smith Street, Westminster, S.W. | |

On the Continent.

- | | |
|--|--|
| R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N.W. | Karl W. Hiersemann, Leipzig. |
| Otto Harrassowitz, Leipzig. | Ernest Leroux, 28, Rue Bonaparte, Paris. |
| Mr. Rudolf Haupt, Halli-A-S., Germany. | Martinius Nijhoff, The Hague. |

In India.

- | | |
|---|---|
| Thacker, Spink & Co., Calcutta and Simla. | Rai Sahib M. Gulab Singh & Sons, Mufid-i-Am Press, Lahore |
| Newman & Co., Calcutta. | Superintendent, American Baptist Mission Press, Rangoon. |
| R. Cambray & Co., Calcutta. | Messrs. S. Murthy & Co., Madras. |
| S. K. Lahiri & Co., Calcutta. | Messrs. Thompson & Co., Madras. |
| Thacker & Co., Ltd., Bombay. | Messrs. Temple & Co., Madras. |
| A. J. Combridge & Co., Bombay. | Messrs. Combridge & Co., Madras. |
| D. B. Taraporevala, Sons & Co., Bombay. | P. R. Rama Iyer & Co., Madras. |
| Radhabai Atmaram Sagoo, Bombay. | Messrs. A. R. Pillai & Co., Trivandrum. |
| Sundur Pandurang, Bombay. | Messrs. Gopal Narayan & Co., Bombay. |
| V. Kalyanarama Iyer & Co., Madras. | Messrs. A. M. and J. Ferguson, Ceylon. |
| G. A. Natesan & Co., Madras. | Messrs. A. Chand & Co., Lahore, Punjab. |
| Higginbotham & Co., Madras. | |
| N. B. Mathur, Superintendent, Nazair Kanun Hind Press, Allahabad. | |

NOTICE.

The undermentioned publications can be purchased from the Statistical Department of the Custom House.

COMMERCIAL GUIDE (MONTHLY).

	RATE.
	Rs. A.
Per annum	100 0
Per half-year	54 0
Per quarter	28 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	8 0
To Non-Subscribers	"	10 0

POSTAGE:—

Abroad	per copy per annum	5 0
In India	"	2 8

WEEKLY MANIFEST.

First copy per annum	100 0
" " " half-year	54 0
" " " quarter	28 0
Additional copy per annum	20 0
" " " half-year	12 0
" " " quarter	8 0

FOR LESS THAN 3 MONTHS:—

To Subscribers	per copy	1 0
To Non-Subscribers	"	2 0

POSTAGE:—

The same as for the Commercial Guide.

DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65 0
" " " " half-year	35 0
" " " " quarter	20 0

For less than 3 months whether to Subscribers or non-Subscribers, annas 5 per copy.

POSTAGE:—

Abroad—One copy per annum despatched once a week	5 0
In India—One copy per annum despatched daily	20 0
In India—One copy per annum despatched in batches once a week	5 0
The above charges apply also to back numbers.	

MISCELLANEOUS.

Review on the Maritime Trade of Bengal (per copy)	1 0
Annual Statement of the Sea-borne Trade and Navigation of the Bengal Presidency (per copy)	6 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., with appendices (per copy)	4 0
Rules under the Sea Customs Act (VIII of 1878) published by the Board of Revenue, L. P., without appendices (per copy)	3 0
Schedule IV of the Indian Tariff Act, 1894 (VIII of 1894 with subsequent amendments) (per copy)	0 6

N.B.—All communications regarding the above Publications should be addressed to the Collector of Customs, Calcutta, by designation only, and not by name.

L. F. MORSHEAD,
Collector of Customs, Calcutta.

The 1st May, 1906.

STANDARD LIFE ASSURANCE CO.

ESTABLISHED 1825.

Head Office—EDINBURGH.

Policies of Assurance, Annuities, Children's Endowments, Simple and Double Endowments and Schemes to suit all contingencies provided for at lowest rates consistent with security.

For particulars apply to—

W. E. HILL, Secretary,
STANDARD BUILDINGS,
Dalhousie Square,
CALCUTTA.

MARLBOROUGH'S SELF-TAUGHT SERIES

OF FOREIGN LANGUAGES

Containing Travel-Talk for Railway, Steamboat, Customs, Hotel, Post Office, Shopping, Amusements, Etc. Tables of Money, Weights and Measures. Classified Vocabularies and Conversations with English PHONETIC PRONUNCIATION arranged for learning at a glance; also Elementary Grammar.

FRENCH } Self-Taught. ITALIAN } Self-Taught.
GERMAN } SPANISH }

Sold by all BOOKSELLERS AND BOOKSTALLS.

For Complete list write for (A) Catalogue.

London: E. MARLBOROUGH & Co., 51, Old Bailey, E.C.



MARTIN & CO.

Engineers and Contractors

Architects and Builders,

CAN GIVE PROMPT DELIVERY OF

ENGLISH ROLLED STEEL JOISTS,
TEES ANGLES BARS AND PLATES.

PORTLAND CEMENT, As used for the Foundations of
VICTORIA MEMORIAL HALL, CALCUTTA.

GALVANIZED CORRUGATED IRON.

EVERY DESCRIPTION OF CONSTRUCTIONAL IRON WORK.

RUSTON PROCTOR & CO'S
BOILERS AND ENGINES.

ENGINE PACKINGS, HAIR & LEATHER BELTING.

PUMPS—HAND, STEAM OR CENTRIFUGAL.

C. I. PIPES OF ALL SIZES. C. I. COLUMNS

Light Railway Material of every Description.

MARTIN & CO.

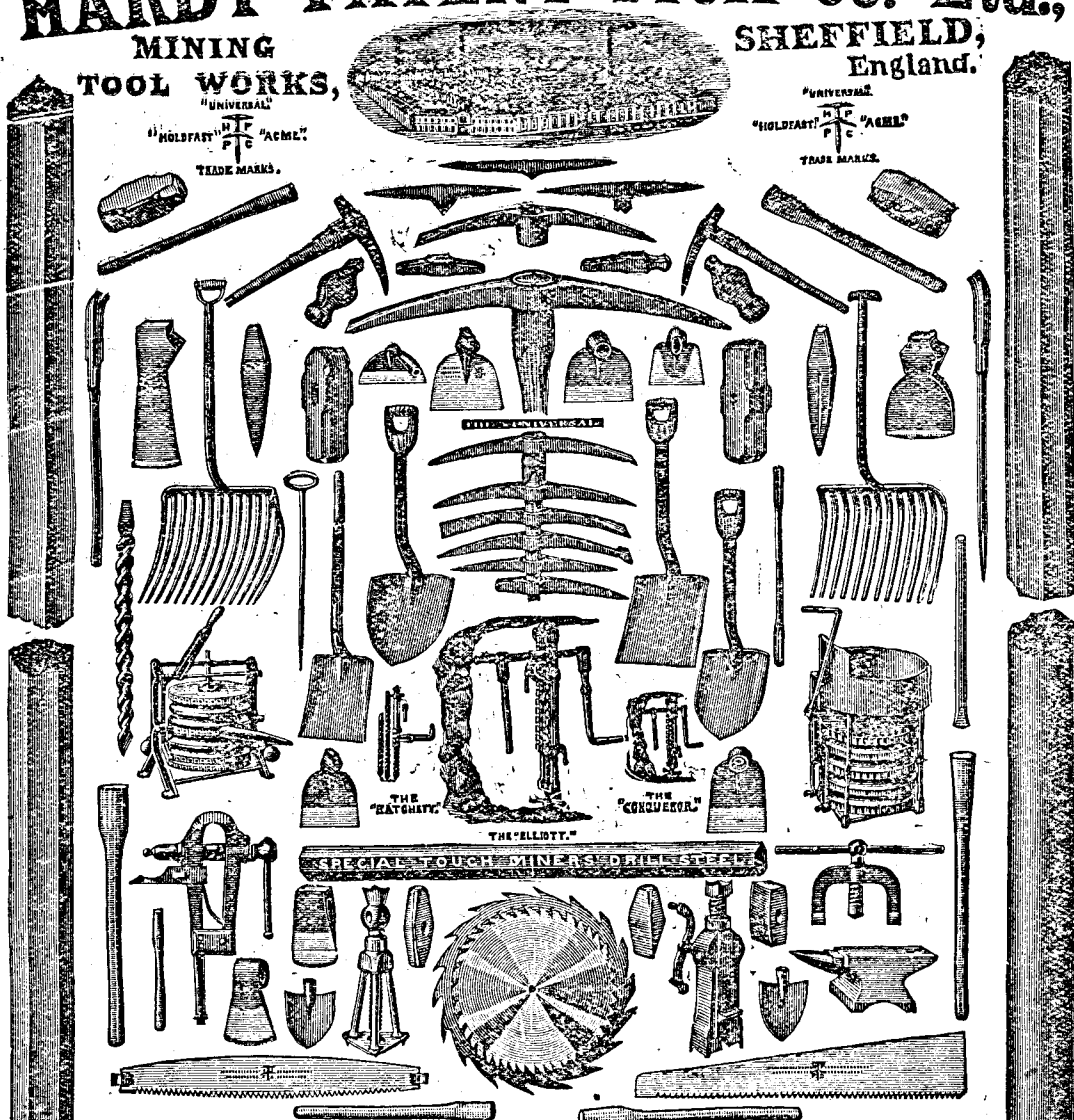
6 AND 7 CLIVE STREET,
CALCUTTA.

HIGH-CLASS TOOLS FOR MINERS, CONTRACTORS, QUARRYMEN, AND AGRICULTURISTS.

TELEGRAPHIC ADDRESS:—
HARDYPICK, SHEFFIELD.

THE
HARDY PATENT PICK Co. Ltd.,
MINING
TOOL WORKS,
SHEFFIELD,
England.

TELEPHONE, NATIONAL 167



MAKERS OF THE "UNIVERSAL" AND "ACME" MINING AND NAVY PICKS.
HAND & POWER BORING MACHINES FOR ROCK & COAL.
PICKS, SHOVELS, SPADES, FORKS, HOES, AXES, HAMMERS, WEDGES, CROWBARS,
AND ALL MINING, QUARRY, CONTRACTORS, AND AGRICULTURAL TOOLS.

SPECIAL TOUGH DRILL STEEL, SHEAR, CAST, AND BLISTER STEEL.
SAWS, FILES, AND RASPS.

IMPORTERS OF HICKORY HANDLES.

London Office and Showrooms: 22, Queen Victoria Street, London, E. C.

DELICIOUS **COFFEE**
RED
WHITE
& **BLUE**

For Breakfast & after Dinner.
In making, use less quantity, it being so much
stronger than ordinary **COFFEE**.
Wholesale only—HANSON'S London, England.

W. H. HARTON & Co.

30, STRAND ROAD, CALCUTTA.

Established A. D. 1780.

ROPE AND PAULIN MANUFACTURERS
MAKERS OF SAILS,
AWNINGS AND WAGON SHEETS.

Contractors to Arsenals, Government, and Royal Indian Marine

AGENTS FOR
SUTER HARTMANN'S RAHTJEN'S
COMPOSITION AND ANTICORROSIVE PAINTS
COIR MATS AND MATTING
SUPPLIED ON ORDER.

Rope Works at Ghusari.

TELEPHONE NO. 132.

RELIABLE
QUALITY
ONLY.

PADMORE

Over
70 Years'
Reputation.

BILLIARD TABLES

Carry a 10 years' Warranty and hold the premier position for
STYLE & QUALITY.

Order through your merchant or write for Catalogues to

Thos. PADMORE & SONS, Birmingham

CONTRACTORS TO HIS MAJESTY'S WAR OFFICE.

Telegrams: Billiards, Birmingham.

Tele: 1941

THURSTON'S

The Parent
House of
the
Trade.

**BILLIARD
TABLES**

By Appoint-
ment to
His Majesty
King
Edward VII.

Thurston's 'Perfect' Low Cushions
FAST, TRUE & RELIABLE.
SUITABLE FOR ALL CLIMATES.

LEICESTER SQUARE, LONDON, W.C.
Branches at Cape Town, Johannesburg and Durban.

J. & J. CUNNINGHAM, LD., LEITH

MANUFACTURERS & EXPORTERS OF

Chemical Fertilisers,

Also Buyers of . . .

Bone Meal, and of Cottonseed,
Linseed and other Oilseed Cakes
and of Cottonseed.

Telegraphic Address:
CUNNINGHAM, LEITH.

Reference:
BANK OF SCOTLAND, EDINBURGH

AHMUTY & CO.
CALCUTTA.

Engineers. Hardware Merchants,
Railway Storekeepers, Mill Furnishers.

PROPRIETORS OF

SHALIMAR STEAM ROPE WORKS,
HOWRAH.

BARLOW & Co.

Import and Export Merchant

and

Commission Agents . . .

Agents:—
United Alkali Co., Ltd.—Fertilizers.

Sulphur.

The Summerlee Iron Co., Ltd. . .

Scotch Pig Iron. Special Brand. Stocks.

37 STRAND ROAD, CALCUTTA.

Ask for your
Seeds, Plants, Manures and
Books on Gardening and
Agriculture.
 As supplied to
 The Government
 Experimental
 Farms.
 From
THE INDIAN GARDENING ASSOCIATION,
CALCUTTA.

*Price List and Membership rules
 free on Application.*

ALFRED W. KNIGHT,

HORSE NAIL MANUFACTURER By Appointment
 TO HIS MAJESTY KING EDWARD VII.
WORLD'S HUMANE HORSE NAIL,
KNIGHT'S PATENT 'SAFETY.'

'SAFETY' HORSE NAILS
 CONCAVE INSIDE
 CONVEX OUTSIDE

Arch section, saves 'challenging,' wrong-way-driving, notching, nail-pressure & breaking.

Extract from Mr. SMITH'S Eminent Report:-

'I have nothing to say but unqualified praise. I think the nail is much stiffer to drive, less likely to buckle in any injurious direction, and gives increased firmness to holding on the shoe.'

Japanese Army use exclusively.

SHOE
SOLE
FRONT SECTION OF HOOF CUT AT HEEL NAIL
KNIGHT'S SAFETY NAILS REQUIRE NO CHIPPING TO DRIVE OR NOTCHING TO CLINCH & NEVER GET LOOSE
COMPANIES SAVE ALL COST OF NAILS EVERY DAY THE SHOE IS CARRIED LONGER
TO GRUEL TO MAKE THE HORSE STAND ON SLIPPERY ROADS WITH NAIL PRESSURES

London and EXPORT BRANCH,
 4 Upper St. Martin's Lane, W.C.

Telegrams: HORSEMAIL LONDON Telephone: No. 5018

NOTICE.

PHENYLE: CAUTION.

TO ALL WHOM IT MAY CONCERN.

Be it known that the word PHENYLE as applied to Disinfectants is our exclusive property, our world-wide trade in Disinfectants having been built up by the use of that word to designate the compound Disinfectant which we manufacture and sell and have manufactured and sold as PHENYLE in India for twenty-five years; and further, that in the event of any party infringing our right in this matter by selling or offering for sale ANY DISINFECTANT as PHENYLE which is not of our manufacture, we shall take such proceedings as we may be advised by our legal advisers.

MORRIS, LITTLE & SON, LTD.,
DONCASTER, ENGLAND.

Calcutta, 15th Nov. 1906.

BEECHWOOD BRAND

OF MILD CURED

HAMS & BACON,

Packed for Export in Cold Storage.

Also Beechwood Cooked Hams, packed hermetically in Gelatine.

Beechwood Brand awarded 4 Gold Medals and Grand Prix, Cape Town, 1905.

ALSO BY SAME FIRM

DEVONSHIRE PRESSED BEEF

In tins or in card-board boxes for Cold Store.

ALL PREPARED BY

BROWN, WILLS & NICHOLSON,

PLYMOUTH, DEVONSHIRE, ENGLAND.

MARSHALL, SONS & CO., LIMITED,

ENGINEERS.

Works.—GAINSBOROUGH, ENGLAND.

HEAD OFFICE IN INDIA—99, Clive Street, Calcutta.

BOMBAY BRANCH—Marshall's Buildings, Ballard Road.

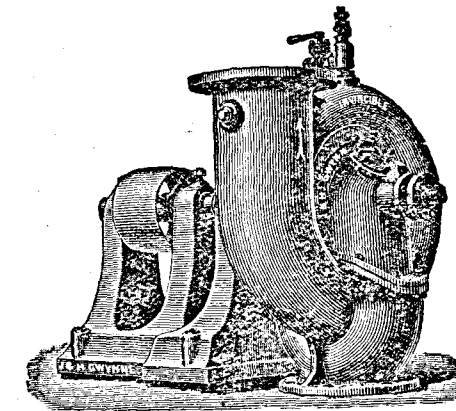
Ready for immediate delivery from stock in Calcutta.

SINGLE AND DOUBLE

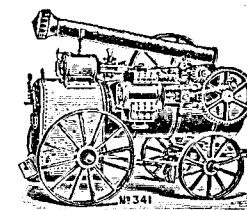
CYLINDER PORTABLE ENGINES

FROM 6 TO 20 NOMINAL

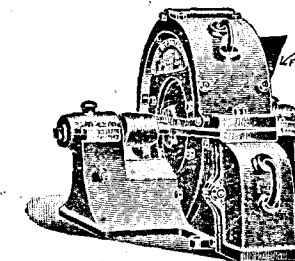
HORSE POWER.



Gwynne's Centrifugal Pumps from 3" to 12" diameter for Irrigation and Pumping work.



Carter's Original Disintegrators
 in three sizes for grinding kunker Lime, Soorkey, Cement and Broken Bricks.



Smedley's Overdriven Mortar Mills, with 7 ft. Pan for grinding or mixing very large quantities of Soorkey Lime, etc.

To let out on hire Portable Engines for driving temporary Electric Light Installations, pumping out tanks, Irrigation Schemes, etc.

Quotations, Catalogues and Plans promptly submitted by mentioning "Indian Trade Journal" to—

MARSHALL, SONS & CO., LIMITED,

Engineers, Enquiry Department,
POST BOX NO. 22, CALCUTTA.

"CHARLTON"

SILICATE

PAINT

Registered Patentees:

THE SILICATE PAINT Co.,
J. B. ORR & CO., LD., CHARLTON, LONDON.

THE ORIGINAL AND ONLY MANUFACTURERS.

Invented in 1873. In use over 30 years in India.

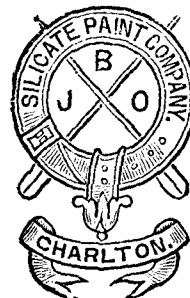
Silicate Paint is unexcelled for:

BRIDGES, GIRDERS, GASOMETERS, PIERS, HARBOUR WORKS,
RAILWAY ROLLING STOCK, PUBLIC BUILDINGS,
and for all
GENERAL PURPOSES.

BEWARE OF SPURIOUS IMITATIONS.

ALL PACKAGES BEAR THE COMPANY'S BLUE LABEL
AND
TRADE MARK.

NON-POISONOUS PAINT.
FREE FROM LEAD,
ARSENIC,
OR
COPPER COLOURS.



MAXIMUM
DURABILITY
AND
COVERING POWER.

Agents in India:

Messrs. T. Cosser & Co., Karachi.
Messrs. John Fleming & Co., Bombay.

Messrs. Walker Sons & Co., Ltd., Colombo.
Messrs. Oakes & Co., Ltd., Madras.

AND

AHMUTY & Co., CALCUTTA.

PATENT

"BITUMASTIC" SOLUTION AND

"BITUMASTIC" ENAMEL

WAILES, DOVES

The Best Paint for protecting iron and steel structures. Avoid spurious imitations containing coal tar and other impurities.

All large Liners are coated with **"BITUMASTIC."**
British & Foreign Navies are coated with **"BITUMASTIC."**
TO PROTECT GOOD WORK AND VALUABLE STRUCTURES,
SPECIFY **"BITUMASTIC."**

USE THE BEST

that is

"BITUMASTIC"

Export Agent: H. I. ROBERTS, 42, Castle Street, Liverpool.
Calcutta Agents: Kinmond & Co. | Karachi Agents: B. R. Herman & Co.
Bombay Agents: Kinmond & Co. | Madras Agents: Arbuthnots' Industrials, Ltd.

SHANNON SYSTEMS FOR ALL OFFICES
SAVE TIME & LABOUR.

SHANNON

MANUFACTURERS OF COMPLETE OFFICE INSTALLATIONS ON MODERN LINES.

Illustrated catalogues may also be obtained at

REUTER'S (Advertisement
Department)
BOMBAY, CALCUTTA, MADRAS,
COLOMBO, CAWNPORE,
RANGOON and KARACHI.

AGENTS WANTED.

THE SHANNON LIMITED,

ROPEMAKER STREET,

LONDON, E.C.

F. W. SCHAFER,
Managing Director.

SANITARY ENGINEERS

Water works and Sewage systems. Engines, Tanks, and Fittings. Septic Tank systems a speciality. Light Railways for refuse removal.

THE EMPIRE ENGINEERING CO., LTD.

New patent Receptacles and Lorries, Improved carts, Latrines, and Conservancy Appliances of all kinds.

Apply for Illustrated Catalogue to
GAVIN JONES & SON,
MANAGING AGENTS,
CAWNPORE.

INDIAN PATENT STONE.

Awarded a Gold Medal at the Indian Industrial and Agricultural Exhibition, Calcutta, 1906-1907, for Excellence and Strength.

THE ONLY
REALLY DAMP-PROOF
STONE KNOWN.

IT IS EXTENSIVELY
USED BY THE P. W. D.,
PORT COMMISSIONERS,
STATE RAILWAYS,
MUNICIPALITIES,
GOVERNMENT AND
JUTE AND COTTON MILL
COMPANIES.

AFTER 18 YEARS
IT IS STILL
WITHOUT A RIVAL.

The best floor known for Godowns, Offices, Dwelling Houses.
FOR PAVEMENTS IT CAN'T BE EQUALLED.
NO DUNNAGE NECESSARY IN GODOWNS WHERE THE INDIAN PATENT STONE IS USED.
For particulars, estimates and prices for plain & ornamental flooring laid in situ or in tiles

Apply to—

BIRD & CO., MANAGING AGENTS,
INDIAN PATENT STONE CO., LD.,
100-1, Clive Street, CALCUTTA.

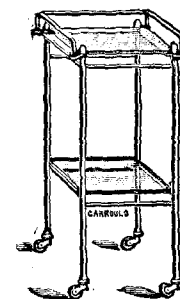
Garrould's

To H.M.
War Office,
H.M.
Colonial
Office,
GUY'S HOSPITAL
LONDON.

EVERY REQUISITE AND APPLIANCE FOR
HOSPITALS, INFIRMARIES, ASYLUMS AND
CONVALESCENT HOMES, &C.
MAKERS OF EVERY DESCRIPTION OF
ASEPTIC HOSPITAL FURNITURE.

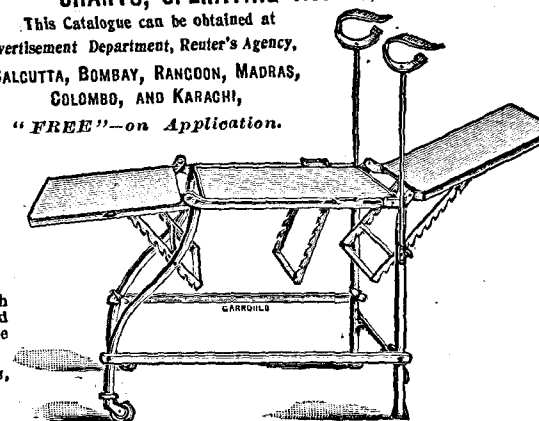
THE RED CROSS CATALOGUE, WITH 400 ILLUSTRATIONS, CONTAINING PRICES OF—
NURSES' UNIFORMS, CLOAKS, APRONS, CAPS, DRESS MATERIALS, BOOTS,
OBSTETRIC CORSETS, ELASTIC STOCKINGS, ANTISEPTIC DRESSINGS, WALLETTS, CLINICAL
THERMOMETERS, DRESSING SCISSORS, SURGICAL INSTRUMENTS,
CHARTS, OPERATING TABLES, MEDICAL BOOKS, &C., &C.

This Catalogue can be obtained at
Advertisement Department, Reuter's Agency,
CALCUTTA, BOMBAY, RANGOON, MADRAS,
COLOMBO, AND KARACHI,
"FREE"—on Application.



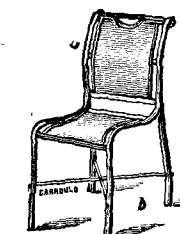
ANÆSTHETIC TABLE.

Size 14 in. by 14 in., with
two glass shelves, and
nickel-plated rail on three
sides.
Mounted on castors,
with rubber tyres.



Portable Operating Table designed by Dr. J. J. BUCHANAN.

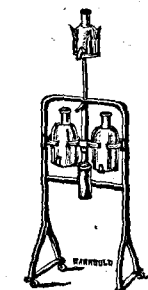
In white Enamelled Iron—This Table may be adjusted for the Horizontal Lithotomy or Trendelenburg positions—Fitted with Rubber Tyred Castors,
complete with Nickel Plated Leg-rest—Will Fold up into a small space.



HOSPITAL CHAIR

(Aseptic).

Tabular frame,
enamelled white.



IRRIGATOR STAND.

Of wrought iron enam-
elled white, on rubber
castors, with 1-gallon
irrigator, adjustable to
any height. Also two
stoppered bottles for
antiseptic solution, and
cylindrical glass for
filling irrigator.

E. & R. CARROULD, 150 TO 160, EDGWARE ROAD, LONDON, W.

CHARTERED BANK OF INDIA, AUSTRALIA AND CHINA.

INCORPORATED BY ROYAL CHARTER.

Capital - - - £1,200,000 | Reserve Fund - - - £1,475,000
Reserve Liability of Proprietors £1,200,000

Head Office—HATTON COURT, THREADNEEDLE STREET, LONDON.

Bangkok.	Colombo.	BRANCHES:	Madras.	Penang.
Batavia.	Foochow.	Ipoh (Perak Feder-	Manila.	Rangoon.
Bombay.	Hamburg.	ated Malay States).	Medan (Deli	Saigon.
Calcutta.	Hankow.	Karachi.	Sumatra).	Shanghai.
Cebu.	Hong-Kong.	Kobe.	New York.	Singapore.
	Thaiping.	Kuala Lumpur.	Yokohama.	
		Tientsin.		
	Sourabaya.			

Current Deposit Accounts opened, and Fixed Deposit received for 12 months or shorter periods on terms which may be ascertained on application.

Calcutta Agency,
6, COUNCIL HOUSE STREET.

Bombay Agency,
ESPLANADE.

Rangoon Agency,
76, PHAYRE STREET.



STANDS FOR
NELSON

THIS REPRESENTS THE
WORLD'S FINEST SHOE POLISHES.

MANUFACTURED
SOLELY BY

G. H. NELSON,

CLARKE ROAD,
NORTHAMPTON,
ENGLAND.

Agents for India and Straits Settlements, etc.

**THE BRITISH INDIAN AGENCY,
BOMBAY, CALCUTTA, ETC.**

**EVERY SPECIALITY SUPPLIED FOR THE PRINTING, BOX
MAKING AND ALLIED TRADES.**

ROLLER WASHING MACHINERY
P.D. Litho and Letter Press
Roller Washers
with or without independent motor
LANGSTON SPECIAL MACHINERY
For Box Makers,
Corrugated Board Making, etc.
Paper Slitting and Cross Cutting.
SPIRAL TUBE MACHINES
For rapid manufacture of
Mailing Tubes, Round Paper Boxes
and Lids
Drawn Paper Covers, etc., etc.

NEW ERA MULTICOLOUR PRESS FOR
Labels, Tram & Theatre Tickets,
Numerical Printing,
Multicolour Billheads,
Counter Check Book Work, and
Pictorial Post Cards.
ECLIPSE FOLDERS (JOB & NEWS)
For Folding, Insetting,
Pasting and Trimming.
MURRAY'S MACHINERY & TOOLS
For Electrotypers,
Stereotypers, and Photo Engravers.

GALLY UNIVERSAL PRESSES
For Half-Tone Colour Work,
Embossing and
Cutting and Creasing.
GEM PAPER PUNCHES
In all sizes, and to suit
all requirements.
BREHMER STITCHING MACHINES
KARL KRAUSER SPECIALITIES
MESSRS. WAITE & SAVILLE'S
SPECIALITIES.

CANADIAN-AMERICAN MACHINERY CO.,

8, BOUVERIE STREET, LONDON, ENGLAND, E.C.

Head Office: 70-72, YORK STREET, TORONTO, CANADA.

"WOODITE"

**FOR VALVES, JOINT RINGS, PUMP CUPS, RAM RINGS, PACKING RINGS, AND
PATENT WOODITE CONICAL GAUGE GLASS RINGS.
IN ALL SIZES AND SECTIONS.**

The best material for all High Pressure, Steam, or Electrical Installations.

Contractors to H. M.'s Government, Admiralty, War Office, Post Office, India Office, and the Colonial and Foreign Governments

THE WOODITE COMPANY,

MITCHAM COMMON, SURREY, ENGLAND.

AGENTS WANTED throughout INDIA, the FAR EAST and the COLONIES.

Full Illustrated Catalogues with Prices can be obtained—FREE from Advertisement
Department, Reuter's Agency, Calcutta, Bombay, Madras, Rangoon, Colombo, & Karachi.

JOHN PIGGOTT, LTD.,
TENT-MANUFACTURERS.

EXPLORERS' TENTS,

BELL-TENTS,

FOLDING BEDSTEADS,

SLEEPING BAGS,

ETC., ETC.



TENTS

FOR ALL
PURPOSES.

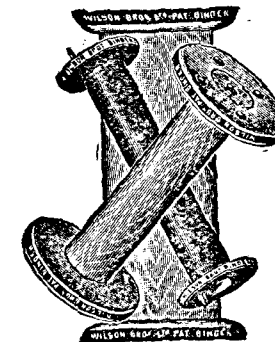
ESTIMATES
FREE.

ILLUSTRATED PRICE LIST

Free on application to Advertisement Department,
Reuter's Agency,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO or RANGOON.

117 & 118, CHEAPSIDE & MILK STREET, LONDON, E.C.



WILSON BROS. BOBBIN Co., LTD.

LARGEST MAKERS IN THE WORLD OF

'BOBBINS & SHUTTLES.

ESTABLISHED 1823. 53 GOLD MEDALS & DIPLOMAS.

HEAD OFFICE & WORKS:—GARSTON, LIVERPOOL.
BRANCH WORKS: TUDMORTON. OFFICE & SHOWROOM: 14, MARKET PLACE, MANCHESTER.

Agents: N. WADIA & SONS.

BELLA VISTA OFFICE,

CUMBALLA HILL, BOMBAY.

MACBETH BROS. & CO.,

ENGINEERS, CONTRACTORS & MACHINERY IMPORTERS.

Specialities—GRINNELL SPRINKLERS, FIRE APPLIANCES, WATER PURIFICATION,
CAST IRON TANKS, LANCASHIRE BOILERS, ENGINES AND PUMPS OF ALL KINDS.

Before placing your orders please write us for quotations.
12, MISSION ROW, CALCUTTA.

JAMES SIMPSON & CO., LD.

WORKS: LONDON & NEWARK.

Manufacturers of HIGH CLASS Pumping Machinery

For Sewage, Water-Works and Irrigation.

FITTINGS, METERS, PIPING OF ALL CLASSES
AND DESCRIPTIONS

DIESEL OIL ENGINES,

JEWELL WATER FILTERS,

VENTURI METERS.

Schemes and Estimates prepared for complete Water Supplies.

10, CLIVE STREET, CALCUTTA.

WORTHINGTON PUMP Co., LD.

153, QUEEN VICTORIA STREET, LONDON.

PUMPS OF EVERY DESCRIPTION.

SURFACE CONDENSERS,

Large Stocks held

INDEPENDENT CONDENSERS.

in Calcutta.

AIR COMPRESSORS.

Large Stocks held

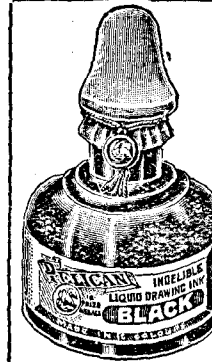
WATER METERS,

in Calcutta.

COOLING TOWERS.

HEAD OFFICE IN INDIA:

10, CLIVE STREET, CALCUTTA.



"Pelican" and
"Chin-Chin"



WATERPROOF LIQUID DRAWING INKS.

(As again supplied to the Indian Government.)

Can be obtained from:—

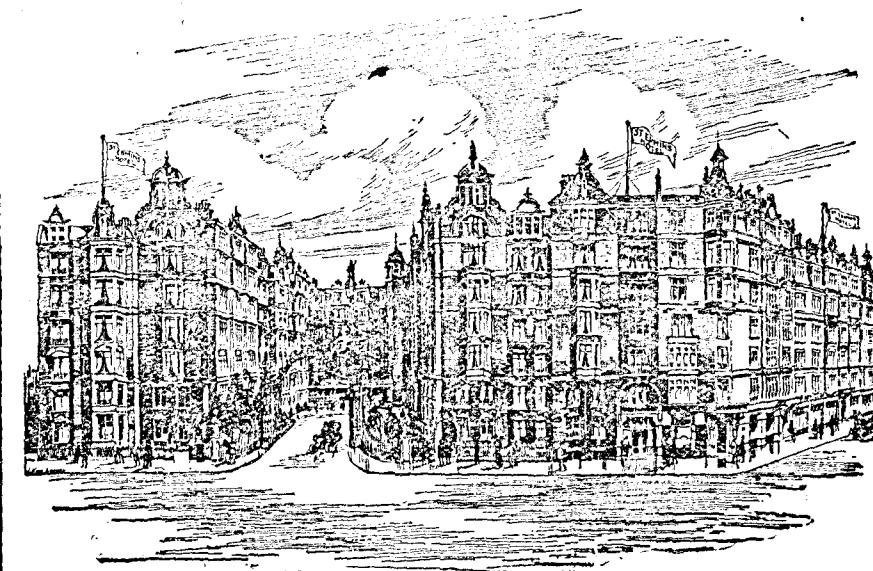
W. Thacker & Co., Bombay.
Thacker, Spink & Co., Calcutta & Simla.
W. Newman & Co., Calcutta.
Addison & Co., Madras.

Bombay Stationery Mart, Bombay.
Higginbotham & Co., Madras.
American Baptist Mission Press, Rangoon.
Ganga Pershad & Udho Pershad, Koorkee.
C. A. Rebeiro & Co., Singapore.

Illustrated Price Lists and Colour Cards may be obtained from Reuter's Agency
Advertising Department), Bombay, Calcutta, Madras, Colombo, Rangoon and Karachi.



GUNTHER WAGNER
Sole Manufacturers
80 MILTON STREET LONDON E.C.



**ST.
ERMINS
HOTEL**

ST JAMES' PARK
LONDON, S.W.

600 Rooms.

Many Single and Double
Bedrooms with Private Bath-
room attached. Self-con-
tained Suites.

TELEPHONE:—

• Westminster, 1907.

TELEGRAMS:—

"Erminites," London.

W. EHRENTAUT,
Manager

Situated between Charing Cross and Victoria Stations. Close to Government Offices.

Tariffs can be obtained at:—

ADVERTISEMENT DEPARTMENT, REUTER'S AGENCY,
BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON, KARACHI.

Telegrams:—Firmen, London.

Works:—Birmingham, Halesowen, London.

SPECIAL APPOINTMENT TO



Established over 200 years.

HIS MAJESTY THE KING.

FIRMIN & SONS, LTD.,

Contractors to the Admiralty, War Office, India Office, Post Office,
also the Crown Agents for the Colonies,
Foreign Governments, etc.

FOR
PARTICULARS
APPLY TO
ADVERTISEMENT
DEPARTMENT,
REUTER'S AGENCY,
AT THEIR
SEVERAL
BRANCHES.

Manufacturers of every description of

Buttons, Ornaments,
Accoutrements, Gold and Silver
Lace, and Embroidery

for

Army, Navy, Volunteers, Mercantile Marine, Police, Railways, Fire Brigades, etc.

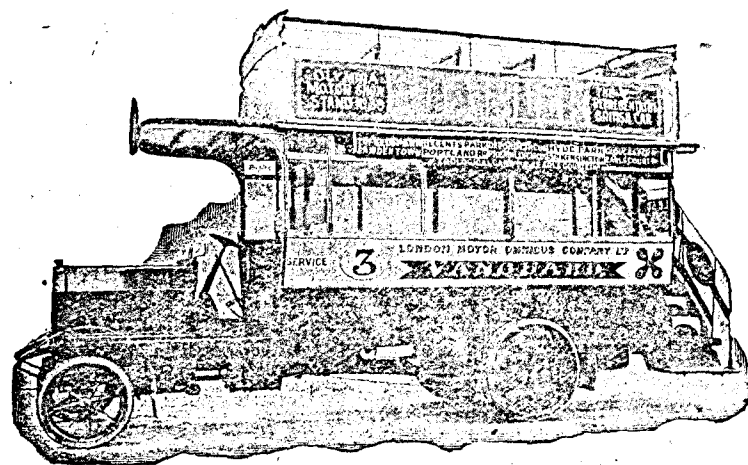
Woollen & Trimming Warehousemen.

108 & 109, St. Martin's Lane, Charing Cross, LONDON, W.C.

CALCUTTA,
BOMBAY,
MADRAS,
COLOMBO,
RANGOON,
KARACHI.

MILNES-DAIMLER, LD.,

221, Tottenham Court Road, London, W.C.



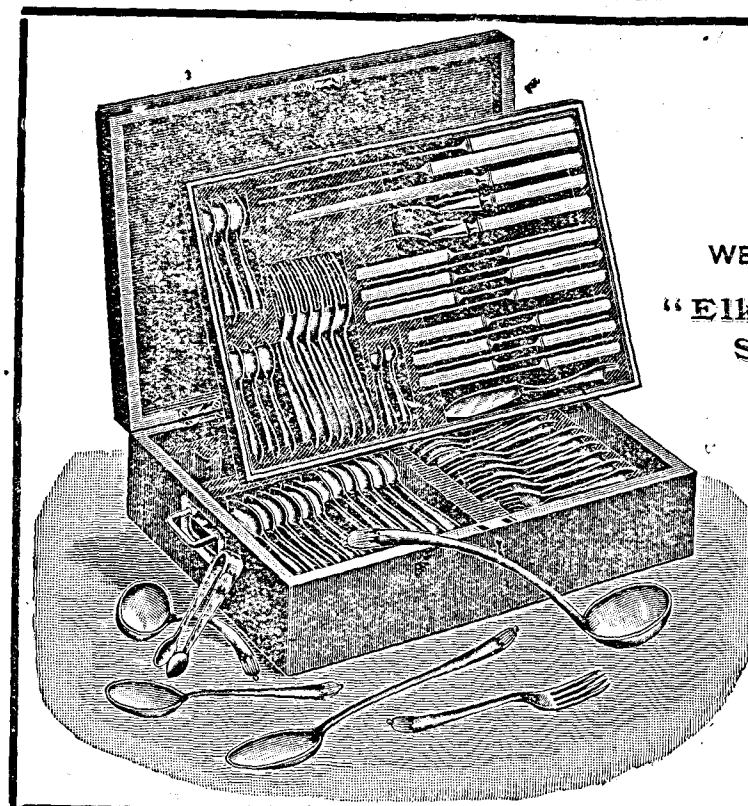
GREAT WESTERN CHARABANC.

600 Motor Omnibuses and 300 Lorries and Vans have been supplied. Used by all the principal Omnibus Companies as follows:—Vanguard, London General, Associated, Star, Thos. Tilling, Ltd., Atlas.

Railway Companies:—Great Western, London and North Western, Great Eastern, Great North of Scotland, Midland, Glasgow and South Western, numerous Corporations and others. Particulars on application.

Immediate delivery of all types.

Motor Lorries,
" Vans,
" Wagons,
" Tower Wagons,
" Mail Vans,
" Omnibuses,
" Charabanc,
" Waggonettes,
" Launches, &c.



ELKINGTON PLATE

WEARS FOR FIFTY YEARS.

"Elkington" Quality!
STILL THE BEST!

CATALOGUES FREE.

ELKINGTON & CO., LD.,

22, REGENT STREET, LONDON, S.W.

73, CHEAPSIDE, LONDON, E.C.

MANUFACTORY AND SHOWROOMS—
NEWHALL STREET, BIRMINGHAM.

LIVERPOOL—27-29, LORD ST.

MANCHESTER—ST. ANN'S SQUARE.

GLASGOW—84, ST. VINCENT ST.

NEWCASTLE—32-34, NORTHUMBERLAND ST.

CANADIAN AGENTS—A. T. WILEY & Co.,
MONTREAL.

CALCUTTA—ESPLANADE.



ALSO TRADING AS

WILLIAM BARROWS & SONS

BLOOMFIELD IRON WORKS, TIPTON.

TRADE MARKS

B B H

B B H Best Best Chain

Specially for Cable Iron and

B B H Best Best

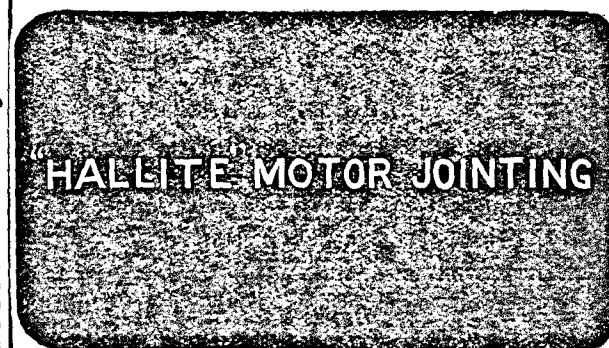
HALLITE-DOUGLAS, LIMITED

106, LEADENHALL STREET, LONDON, E.C.

Contractors to His Majesty's Government,
War Office, etc.

Manufacturers of the well-known

"Hallite" Motor Jointings, Cord Packings,
and Motor Washers, "Hallite" Flexible Fibre
Washers (for Water Joints).



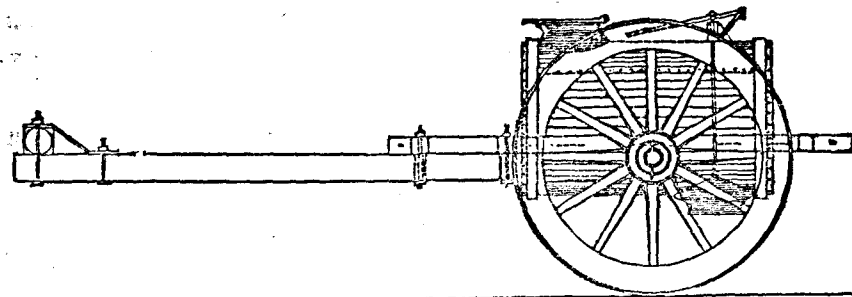
HALLITE MOTOR JOINTING

Catalogues can be obtained from

Advertisement Department, Reuter's Agency,
BOMBAY, CALCUTTA, MADRAS, KARACHI,
COLOMBO OR RANGOON.

CONSERVANCY CARTS.

GALVANIZED IRON. APPROVED MILITARY CANTONMENT PATTERN.
ECONOMICAL, CLEAN, DURABLE, FREE FROM SMELL.



Regr. No. 109.—The tank is made of thick galvanized iron to hold 100 gallons and is fitted with cast iron valves for filling and emptying. If taken care of will last from 8 to 10 years. The wheels are very strongly made and are fitted with cast iron turned axle boxes. The frame and pole are of teak.

Cart, complete, Rs. 190. Tank, Rs. 90. Frame & Axle, Rs. 56. Wheels, Rs. 44.

THE INDIAN ALUMINIUM Co., LD., MADRAS,

Government Contractors.

**HOUSE OR OFFICE FURNITURE,
ARTISTIC, DURABLE & INEXPENSIVE.**

WARING & GILLOW, Ltd.

Decorative Artists to H. M. the King

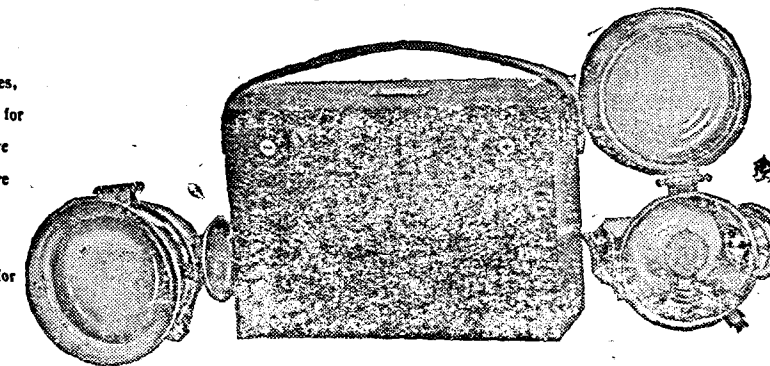
HAVE THE LARGEST AND MOST UNIQUE STOCK IN THE WORLD OF EVERYTHING
NECESSARY FOR THE EQUIPMENT OF THE HOUSE, BUNGALOW OR OFFICE.

They make a speciality of furniture suited to the EASTERN CLIMATE.

For Illustrated Departmental Catalogues apply to—Advertisement Department, Reuter's Agency, at any of the following branches: BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON & KARACHI or to WARING & GILLOW direct, 164-180, Oxford Street, London.

THE GRATZE
IMPROVED PLANTE AND PASTE ACCUMULATORS:—
BRITISH MANUFACTURE THROUGHOUT.
FOR LIGHTING, TRACTION, IGNITION, LABORATORY AND ALL PURPOSES.
(ESTIMATES FREE.)

Suitable for—
Commercial Vehicles,
Motor Cars, and for
any purpose where
portable Lamps are
required.
Specially adapted for
hot climates.



These sets are
very strongly made
and neatly finished
in every detail.

The Accumulators
may be supplied
separately and for
any capacity or
voltage.

Accumulator and Lamps for Carriage or Motor Lighting.

**WE SUPPLY CELLS MOUNTED IN GLASS, EBONITE, CELLULOID OR
LEAD LINED TEAK CASES.**

Electrical Appliances and Machinery of all description.

AGENTS WANTED.

We cordially invite enquiries, and shall be pleased to give
estimates for accumulators of any capacity.

ELECTRICAL PLANT AND ACCESSORIES.

Prices on Application.

Illustrated Price Lists of all our standard specialities may be obtained from Advertisement
Department, Reuter's Agency, at the following branches:—

BOMBAY, CALCUTTA, MADRAS, COLOMBO, RANGOON AND KARACHI,
OR FROM THE MANUFACTURERS DIRECT.

The Gratze Patents and Engineering Syndicate, Ltd.,

Offices and Works:
44 TO 46, WHITFIELD STREET, LONDON, W.

Automobile, Electrical,
Mechanical,
Civil and Experimental
Engineers.



By Appointment to His Excellency the Governor of Bombay.
Suppliers to
HIS MAJESTY'S MINT, GOVERNMENT AND OTHER BANKS,
THE CURRENCY OFFICE, THE GENERAL POST OFFICE,
THE HIGH COURT, THE SECRETARIAT PUBLIC WORKS
OFFICE, THE RAILWAYS, &c., &c., &c.

PATRONISED BY HER ROYAL HIGHNESS
THE PRINCESS OF WALES
DURING HER STAY IN BOMBAY.
AND BY HIS HIGHNESS
THE AMIR OF AFGHANISTAN.

**GODREJ & BOYCE, MANUFACTURING
SAFE & LOCK MAKERS, NEAR GAS WORKS, PAREL, BOMBAY.**

FIRE AND BURGLAR
RESISTING SAFES AND LOCKS.
Highest awards at all Exhibitions.

TESTIMONIAL.
PUBLIC WORKS OFFICE,
Bombay, 12th September 1905.

Messrs. GODREJ & BOYCE have supplied two strong
room doors for the Coin Vaults in the Paper Currency Building,
Bombay. They are of good design and excellent workmanship, and
compare very favourably with more expensive doors of English manufacture.
The locks manufactured by this firm are all that can be desired. They are
moderate in price, well finished and thoroughly reliable.
(Sd.) R. J. KENT, C.E., Executive Engineer, Presidency

Telegraphic Address: "ORIENTINESS, LONDON."

Codes used: A.B.C., 4th & 5th. Al. Lieber's. Stevens Engineering Code.

BRONNER, MUSSETT & Co.,

116, FENCHURCH STREET, LONDON, E.C.,

GENERAL EXPORT AND IMPORT MERCHANTS.

COMMISSION ORDERS EXECUTED ON BEST TERMS.

PRICE LIST SENT MONTHLY ON APPLICATION

HARVEY ENGINEERING Co., Ltd.

(Late McONIE, HARVEY & Co., Ltd.)

Scotland Street Engine Works, GLASGOW,

Manufacturers of SUGAR-MAKING MACHINERY, CANE MILLS, et.

HARVEY'S Patent Evaporators, Vacuum Pans, Steam Boilers and all Accessories.

Speciality: COMPLETE SUGAR FACTORIES AND REFINERIES.

CAVALRY POUCHES
BELT ORNAMENTS
HELMET FITTINGS
PUGRI BADGES
CAP BADGES
COLLAR BADGES
SHOULDER TITLES
BADGES OF RANK
REGULATION
WHISTLES
SHOULDER CHAINS
DRUM MAJORS'
STAVES
BAND MASTERS'
BATONS
PROGRAMME DESKS
BRIDLE & BOSSES
BRIDLE BUCKLES
VEST STUDS
HOOKS AND EYES

JENNENS & CO.,

ARMY AND NAVY CONTRACTORS.

Manufacturers of

MILITARY, NAVAL, DIPLOMATIC, POLICE AND CLUB
BUTTONS.

METAL HELMETS AND ORNAMENTS.

56, CONDUIT STREET, LONDON, W.

WORKS: DERITEND, BIRMINGHAM.

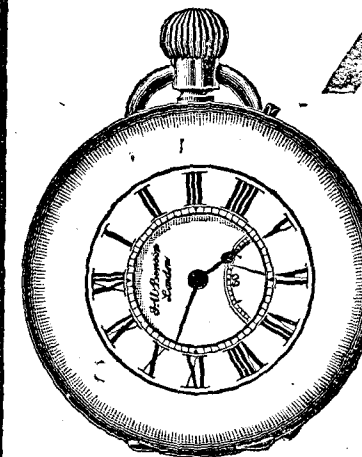
WARRANT HOLDERS BY APPOINTMENT

TO

H. M. THE KING & H. R. H. THE PRINCE OF WALES.

Full Particulars can
be obtained fromMESSRS. REUTER'S
BRANCHES
(ADVERTISEMENT DEPT.)CALCUTTA,
BOMBAY,
MADRAS,
RANGOON,
KARACHI,
AND
COLOMBO.

For

INDIA

Benson's
RENOWNED 'FIELD' WATCH.

BEST LONDON MAKE.

Half Chronometer with Improvements
special to BENSON'S WATCHES
and strongly recommended
for the Indian Climate. In 18-ct.
Gold Cases, Hunting, Half Hunting or
Crystal Glass.

Special quotations for quantities.



BENSON'S Watch, &c., Catalogue free on application to

Advertisement Department, REUTER'S AGENCY,

BOMBAY, CALCUTTA, MADRAS, KARACHI, COLOMBO, OR RANGOON.

Illustrated BOOKS { No. 1—Of Watches, Chains and Jewellery Rings (with size card).
Post Free. { No. 2—Clocks, Bags, Plate, and Silver articles for presents.

J. W. BENSON, LTD., ELECTRIC POWER FACTORY, 62 & 64, LUDGATE HILL,
MAKERS TO H. M.'S INDIA OFFICE, ETC. [Please quote this adv.] LONDON, ENGLAND.

CANVAS, SAIL-CLOTH, DUCKS.**THE BOASE SPINNING Co., LTD.,****DUNDEE.**

Agents in India

BOMBAY	KILLICK, NIXON & Co.
CALCUTTA	SIMPSON & Co.
KARACHI	JEHANGIER H. KOTHARI.
MADRAS	WILSON & Co.
RANGOON	FINLAY FLEMING & Co.

TWINES, PROOFED CANVAS, PAULINS, ETC.

HARRIS & SHELDON LTD

WE ARE MAKERS OF WOOD AND METAL SHOP FRONTS BRASS FITTINGS & EVERYTHING CONNECTED WITH SHOPS & SHOPFITTING. CATALOGUES SENT POST FREE.

STAFFORDS BIRMINGHAM

BRANCHES: LONDON, 74, WOOD ST.; MANCHESTER, 28, THOMAS ST.; DUBLIN, 15, WICKLOW ST.; GLASGOW, 71, QUEEN ST.

DEPOTS: CAPE TOWN, 5, JOHANNESBURG; BERLIN, KRAUSENSTRASSE, 40.

TELEGRAMS: "PIONEERS OF SHOPFITTING"

TELEPHONE: 462-3

SIMPLE AND SURE

THAT'S THE SYSTEM OF THE "SWAN," Other qualities which distinguish.

"SWAN" FOUNTAIN PENS

From inferior or imitations are:
They are always clean and ready for use,
They neither scratch, blot, nor wear out,
The regular flow of ink and
The smoothness of the nib makes
EVERY PEN A PLEASURE.

Sold by all Stationers and Jewellers.
Send for illustrated catalogue.

MABIE TODD & CO.,
WHOLESALE & EXPORT MANUFACTURERS,
79 & 80 HIGH HOLBORN, LONDON, W.C.
AID AT MANCHESTER, PARIS, BRUSSELS,
NEW YORK, CHICAGO & SYDNEY.

TELEGRAMS & CABLES
"POUND LONDON"

A.B.C. CODE
4TH EDITION

JOHN POUND & Co

ACTUAL MAKERS

Fitted Dressing Bags and Cases

OF EVERY DESCRIPTION.



Actual Makers
OF
TRAVELLING
GOODS
OF
Every Quality
and Description.

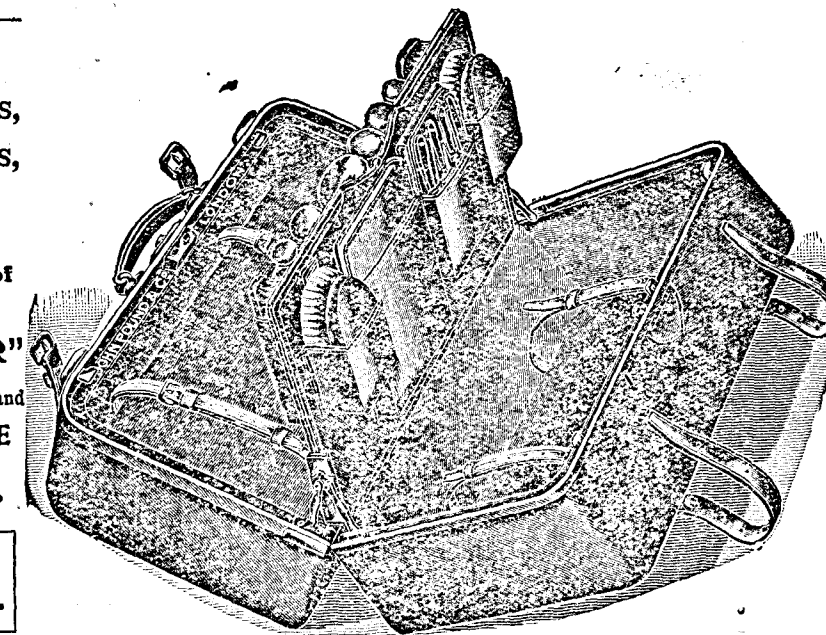
WRITE FOR
ILLUSTRATED LISTS

— POST FREE. —

LADIES' —
Hat Boxes,
Dress Trunks,
Visiting Cases,
&c.

Actual Makers of
THE
"PREMIER"
Compressed CANE and
Compressed FIBRE
TRUNKS.

Write for Special
CATALOGUES.



GENTLEMEN'S —
Suit Cases,
Collar Boxes,
Hat & Shirt Cases.

Actual Makers of
Bags, Trunks,
and Portmanteaus
IN ALL MATERIALS.

Japanned TIN Boxes
In DEAL CHESTS,
&c., &c.

INDENT DIRECT OR THROUGH AGENTS.

81-84, LEADENHALL ST., LONDON, ENGLAND.

WORKS:
HITECHAPEL,
ESTMINSTER & SHEFFIELD.

LISTS
May be obtained from
Messrs. REUTERS' DEPOTS.

E. T. MARLER



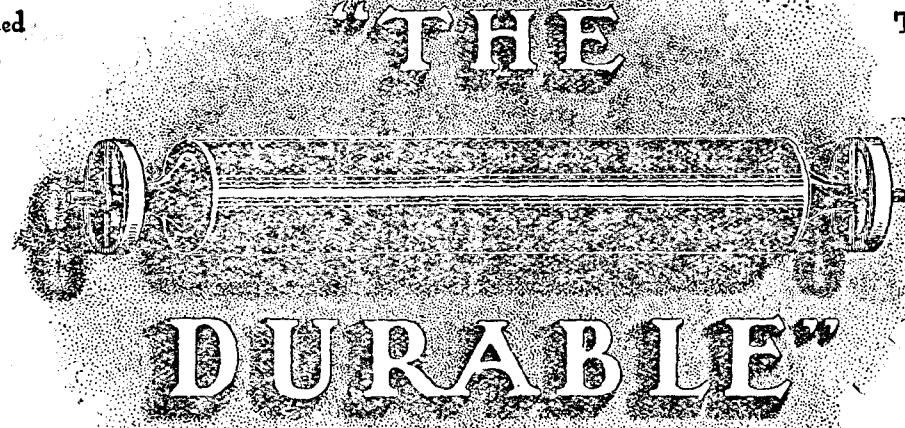
TRADE MARK

LION BRAND PRINTING INKS

CONTRACTORS
TO THE INDIA OFFICE.Manufacturer of Flexible Glue for Printers,
Publishers and Bookbinders.14, Charles Street,
Hatton Garden, E.C. **London.**Particulars can be obtained from Messrs. Reuter's
branches (Advt. Dept.) Calcutta, Bombay,
Rangoon, Colombo, Madras, and Karachi.

BY ROYAL

LETTERS PATENT.

Established
1868.Telegrams:
"DURABLE-
ROLLERS."
LONDON.

PRINTERS' ROLLER COMPOSITION

IS THE VERY BEST THAT CAN BE MADE.

WE ARE CONTRACTORS TO
HIS MAJESTY'S PRINTING OFFICES
THE INDIA OFFICE
THE HONORABLE BOARD OF INLAND REVENUE,
&c., &c.COMPOSITION MADE TO SUIT ALL CLIMATES AND
CONDITIONS OF WORKING. SHIPPED READY FOR USE
"THE DURABLE" PRINTERS' ROLLER CO., Ltd., Charles St., E.C. LONDON, Eng.
E. T. MARLER, Managing Director.

Particulars can be obtained from Messrs. Reuter's branches (Advt. Dept.) Calcutta, Bombay, Rangoon, Colombo, Madras and Karachi.

PRINTED AND PUBLISHED BY SUPERINTENDENT, GOVERNMENT PRESSING, INDIA,
8, HASTINGS STREET, CALCUTTA.

INDEX

TO

THE INDIAN TRADE JOURNAL.

VOL. VIII.

JANUARY TO MARCH, 1908.

SUPPLEMENT TO THE ISSUE OF 26TH MARCH, 1908.



	Page		Page
ACTS—		ALCOHOL—	
(See also Bills.)		France. Steps for its use as fuel	288
English Companies. Similar legislation in	403	Rendering unfit for human consumption and	
India. Bengal Chamber on	ib.	claiming lower duty	497
Limitation. Amendment. Bengal Chamber on	341	United States. Wood. Exports, 1906, and pre-	665
Calcutta Trades Association on	4	vious years	357
Massachusetts. One day's rest in seven	348	ALL-INDIA WEAVING COMPETITION	
Merchandise Marks. Revision, Indian Cham-	62		
bers on 65, 125, 237,	408	ALMONDS—	
Tea Cess. Enforcement of sections 2 to 7	348	Ispahan. Report, 1906	70
United Kingdom. New Patent Act and indigo	408	ALUMINIUM—	
AFRICA, BRITISH EAST—		Installation for production at Balaghat. Faci-	653
Arrowroot. Imperial Institute on	348	lities	653
—SOUTH—		Production. Electrolytic process and cost	62
British Company. Meeting	339	Relation to bauxite	287
Shipping Rings. Evidence	228	—CARBIDE—	
—WEST COAST—			
Trade Depression	392	ANILINE—	
AGATE LEATHER	567	Germany. Trust	311
AGAVE FIBRE—		ANTIMONY—	
Decorticator	241	Japan. Output	311
Exporters. Enquiry regarding	63	Prices, 1907	287
AGRICULTURAL STATIONS—		United States. Output, 1906	307
Eastern Bengal and Assam. Experimental	409	APATITE—	
AGRICULTURE—		Purchasers. Enquiry regarding	233
Eastern Bengal and Assam. Programme, 1908-09	409	APPARATUS—	
Egypt vs. Sind	241	Grain moisture testing	391
Punjab. Fifty reaping machines for Govern-	497	ARBITRATIONS—	
ment	347	Commercial. Awards, enforcement in foreign	668
Siam. Developments	508	countries	
United States. Facilities for learning	289	ARGENTINE—	
AIR—		Cereals. Exports	283
Compressed, for factories	651	ARHAR DAL—	
ARROW—		Lac culture from	408
Exporters. Enquiry regarding	233	ARRIVALS OF PRODUCE—	
ALBUMEN—		Calcutta. Bengal Chamber on, their publica-	236
Meat. Export trade	ib.	tion	
Preparation		ARROWROOT—	
		Africa, British East. Imperial Institution	348
		ARTICLES—	
		Demand in Soudan	522

	Page		Page
CHAMBERS OF COMMERCE—contd.		COAL—	
Bengal Proceedings, monthly	236, 403, 609	Bengal. Agency in Karachi. Enquiry regarding	501
Bombay. Proceedings, monthly	237, 452, 654	Central Provinces. Mining, 1906-07	503
Burma. Proceedings, periodical	562	Colonial supplies	306
Cape Town. Proceedings, monthly	401	India. Analysis	466
Karachi. Proceedings, periodical, 125, 237, 453, 504, 655		Prices. Sauerbeck's figures, 1907	460
Madras. Proceedings, periodical	453	Wales. Smokeless	306
Merchants' Chamber and Bureau in Bombay. Address about Bengal and Bombay Chambers' representation in Imperial Council	58	MARKETS—	<i>ib.</i>
Punjab. Proceedings, periodical, 65, 404, 454, 561, 655		MINES—	
—Report, 1907	620	Capital, outturn and profits	305
Upper India. Report, 1906	232	Labour	466
United Kingdom. Association of. Programme for annual meeting	342	Report by Mr. H. H. MacLeod	<i>ib.</i>
CHANNELS IN THE OCEAN TRADE	306	World's workers and yield per head	31
CHARTS—		PRODUCTION—	
Wheat movements, monthly. Feb. 6 (supply.)		Figures, 1906	299
CHEMICALS—		Output, annual	467
Match making. Suppliers. Enquiry regarding United Kingdom. Market report	393 12	TRADE—	
CHINA—		China. Report, 1906	612
Financial crisis	348	Consumption, 1906	299
CHINA—		COCOA—	
Camphor oil distillation at Foochow	7	Ecuador. Report	239
Industrial Development	309	Jamaica. Interplantation with rubber	20
Opium trade. Report, 1906	194	COCOANUT OIL—	
Shanghai piece-goods market, weekly report. 1, 60, 115, 282, 442, 498, 554, 602, 646		Exporters. Enquiries regarding	63, 259
Silk. Report	196	COFFEE—	
Tariffa. Russian exports by land	66	Brazil. Crops and valorization	243
Tea Trade. Report, 1906	115	Grading methods	461
Textile industry. Report, 1906	349	Surplus stock	241
Trade. Developments	309	Exporters. Enquiries regarding	63, 119
—Report, 1906	612	Manufacture as free from caffeine	340
—Textile imports, 1906	136	Valorization	242
Yarn Trade	657	COINS—	
CIGARETTES—		Persia-Bushire. Counterfeit	225
Tibet. Trade openings	345	COLOPHANY—	
CIGAR-BOXES—		Barcelona. Outturn, 1906	9
Woods for	71	COMMERCIAL ARBITRATIONS—	
—AND CIGARETTES—		Awards. Enforcement in foreign countries	668
Importers' difficulties	7	COMPANIES—	
Prices in India and in United States	<i>ib.</i>	Artificial silk, of Brussels. Report	4
CINCHONA—		—, of Cologne. Report	<i>ib.</i>
Exporters of bark. Enquiry regarding	177	British South Africa. Meeting	339
Java. Bank exports and prices, 1907	288	India. Registration, monthly	62, 310, 617
—Crop report, 1907	569	Karachi Spinning and Weaving Co. Prospectus	498
Report, 1907	342	Sind Light Railways, Ltd. Prospectus	<i>ib.</i>
CINNABAR—		South Behar Railway. Position	287
Transvaal	653	COMPANY MEETINGS—	
CITRONELLA OIL—		Assam-Bengal Railway. Dividend	114
Ceylon & Java	288	Bengal Nagpur Railway. Dividend	83
West Indies. Prospects	<i>ib.</i>	Bombay, Baroda and Central India Railway. Dividend	<i>ib.</i>
CLAIMS—		Burma Railway. Borrowing power	114
State Railways, on. Punjab Chamber on	66	Champion Reef Gold Mining. Profits, 1907	<i>ib.</i>
CLEAN JUTE—		Great Indian Peninsula Railway. Dividend	83
Definition	170	Indian Midland Railway. Dividend	<i>ib.</i>
CLEANING HOUSE—		Madras Railway. Stock-holder's interest	114
New York. Trust Companies' membership	286	CONFERENCE—	
		Railway Association. Meeting in Calcutta	286
		CONGRESS—	
		Free Trade. French representation	252
		CONSOLS—	
		Prices. Sauerbeck's figures, 1907	460
		CONSTANTINOPLE—	
		Financial situation	68

	Page		Page
CONSULAR REPORTS—		COTTON CULTIVATION—contd.	
Index	549	Forecast, final	396
CONTRACTS—		Mr. Gammie's paper	356
Time. Manchester Chamber's views	388	Rhodesia	554
—Karachi Chamber on	504	Rotation with rice	388
COBBER—		Sind. Egyptian variety, 1903, 1906, and 1907	461
Orange culture. Report, 1906-07	62	—Improvement	241
COPAL—		Soils	357
Explanation	87	Sudan. Report	514
COPPER—		United States. Egyptian variety in	393
Prices, 1907	287	—Improvement. Methods	<i>ib.</i>
—, Sauerbeck's figures, 1907	460	DISPUTE—	
United States. Prices, 1907	242	Negotiations	115
—Output, 1907	<i>ib.</i>	DRILL—	
INDUSTRY—		United Kingdom. Market report	173
America	<i>ib.</i>	FACTORIES—	
Chile. Effect on local finance	348	Ahmedabad. Coal supply	186
MARKET 11, 61, 116, 171, 229, 283, 286, 339, 390, 444, 498, 553, 604, 649		—Report	<i>ib.</i>
OXIDE—		GINs—	
United States. Production, 1906	353	Central Provinces. Increase, 1906-07	508
PRODUCTION—		United Provinces. Total, 1906-07	509
United States. Figures, 1907	339	GOODS—	
SULPHATE—		Importers. Enquiry regarding	177
United States. Production, 1906	353	TRADE—	
TRADE—		(See Textile Trade.)	
United States	285	MARKET	
COPRA—		Rates, 1907	350
Exporters. Enquiry regarding	63	United States. Reports, weekly, 62, 115, 173, 338, 498, 554, 647	
CORKS—		MILLS—	
Agency in India. Enquiry regarding	233	Ahmedabad. Himabhai Manufacturing Co.	441
CORRUPTION—		Austria. Profits, 1907	360
(See Bribery.)		Bagreuth. Profits, 1907	<i>ib.</i>
COST OF LIVING—		China. Reports, 1906	349
Sambalpur. Report	192	Germany. Profits, 1907	446, 468, 498
COTTON—		Japan. Profits, half-year, 1907	412
American. Consumption, 1907-08	61	—Spinners' trust	659
Cape Colony. Quality	554	Karachi. Spinning and Weaving Co. Prospectus	498
Consumption outside factories	172	United Provinces. Increase, 1906-07	509
Egyptian, in United States. Cultivation	388	—States. Increase, 1907	498
Exporters. Enquiry regarding	63	—New ones, 1907	193
Ispahan. Report, 1906	78	OIL—	
Khorasan. Market in Russia	502	Borax for easy extraction	287
Mercirised. Test	24	Nagpur. Manufacturing centre	339
Mirpurkhas. Valuation, Karachi Chamber on	504	Profits	181
Prices of American at Liverpool for last ten years	172	Soap from. Recipe	357
—, Sauerbeck's figures, 1907	460	United Kingdom. Market, 1907	605
Sind-Egyptian. Prices	461	—Monthly	386, 658
CAKE—		PRESSES—	
Heating. Letters from Secretary, Cotton Seed Oil Co.	358	Central Provinces. Increase 1906-07	308
CONSUMPTION	172	United Provinces. Total 1906-07	509
CONTRACTS—		PRODUCTION—	
Alexandria. Clearing-house	442	United States. Estimate, 1907-08. 2, 61, 173, 338, 442	
CULTIVATION—		—Figures, 1907	190
Africa, German East. Report	647	—for last ten years	172
Argentina. Italian Capital	353	—Reports, how drawn	191
Asian Khanates, Central. Condition	282	—Sea Island variety. Estimate, 1907-08	288
Asia, Russia Central. Condition	230	—Share in world's production and imports of textiles	7
Central Provinces. Measures	117	SEED—	
Cuddapah. Caravonica cultivation. Report	610	American, etc. Fumigation at Bombay, Karachi and Goa	647

	Page		Page
COTTON SEED—		CURRENCY NOTES—	
Bombay. Exports, 1907, and previous years.	605	Cawnpore as place for issue	171
Comparison	605	— OFFICE—	
Decorticating appliance. Non-existence in Eng-		Delhi opening. Punjab Chamber on	561
land. Letters from Secretary, Cotton Seed		CUSTOMS DUTY—	
Oil Co.	358	(See Tariffs.)	
Exporters. Enquiry regarding	177	— HOUSE—	
Lint, in Indian	612	Calcutta. Licenses of sircars and their inspection	286
United Kingdom. Imports, 1907	389	Rules, new, for cash payment	441
— OIL—		— REVENUE—	
(See Cotton Oil.)		(See Revenue.)	
— SPINNING—		CUTLERY—	
United Kingdom. Profits, 1907	231	Dealers. Enquiry regarding	177
— TRADE—			
Alexandria. Clearing-house for contracts	442		
Egypt. Market	602		
Germany. Figures, 1907	389		
Importers to Japan. Enquiry regarding	177		
Consumption outside factories	172		
India-Japan. "Rengokai" Monopoly	281		
Italy. Imports, annual	353		
Sea Island figures, September-December, 1907	338		
Sind-Egyptian. Quantity sold, 1905, 1906,	461		
1907	461		
United Kingdom. Exports, imports, weekly	646		
62, 115, 172, 242, 288, 442, 498, 612,	190		
States, Figures, 1907	190		
Handling report, January, 1908	657		
September-October	2		
Prices, decline in	ib.		
Report, weekly 62, 115, 178,	647		
338, 498, 554,	172		
World's consumption	172		
— WASTE—			
Importers. Enquiry regarding	177		
Stacking in mill compounds and danger of fire.	655		
Millowners' Association	655		
COUNCILS—			
Bengal and Bombay Chambers, representation	58		
in the Imperial	58		
Enlargement and non-official European re-	237		
presentation. Bombay Chamber on	237		
CROP FORECASTS—			
Cotton	396		
Groundnut	182		
Linseed	560		
Mustard seed	559		
Rice	399		
Rice acreage, Burma	118		
Sesamum	55		
Sugarcane	409		
Sunn Hemp. Central Provinces report, 1907	171		
Wheat	550		
Utility	128		
— PROSPECTS—			
Eastern Bengal and Assam, weekly 68, 127,	657		
185, 240, 298, 457, 506, 563, 611,	505		
India. Reports, weekly 10, 67, 126, 1845, 239,	650		
296, 345, 405, 456,	650		
World's. Report, weekly 3, 59, 116, 175, 227,			
283, 338, 391, 499, 553, 604,			
CURIOS—			
Kashmir. Exporters, enquiry regarding	289		
CURRENCY—			
India. Ten-rupee notes. Encashment at par	58		
Persia, Bushire. Counterfeit coins	225		
Straits Settlements. Reports, 1906	14		

	Page		Page
EARTH—		ENQUIRIES—contd.	
Persian. Edible. Composition	50	Belgian goods. Calcutta agency	63
EARTHENWARE—		Bengal Coal. Agency in Karachi	501
Ceylon. Trade opening	648	Bins. Cost	177
EARTHNUITS—		Brassware, Penares. Manufacturers	343
(See Groundnuts.)		Butter substitute. Machinery makers	119
EARTHQUAKE CLAUSES—		Buttons. Dealers	177
Insurance	114	Cable facilities. Firms needing	177
ECUADOR—		Carbonate of soda. Dealers or brokers	651
Cocoa. Report	239	Carpets, Mirzapur. Manufacturers	843
EAGS—		Cashin machinery, makers	119
Australia. Importation in liquid form	456	Castor-oil. British and continental importers	651
Mosul. Export trade	233	Cinchona bark. Exporters	177
EGYPT—		Cocoonut-oil. Exporters	63, 289
Agriculture. Comparison with Sind	24	Coffee. Exporters	63
Bankruptcies at Alexandria	142	Indian and Ceylon exporters	199
Cotton contracts. Clearing-house at Alexandria	441	Columbite. Purchasers	233
Ready-made clothing trade. Report	80	Copra. Exporters	63
Trade figures, 1907	544	Corks. Agency in India	233
ELECTRICITY—		Cotton. Exporters	63
Jubbulpore. Terms of license	550	Cotton. Importers to Japan	177
Mysore. Waterpower, from. New scheme	390	goods. Importers	ib.
Textile mills. Advantages and objections	134	seed. Exporters	ib.
Transmission plants. Customs duty, Bengal	236	Cutlery. Dealers	ib.
Chamber on	133	Dyeing materials. British and Continental	343
Use in Textile mills	133	manufacturers	343
ELEVATORS—		Embroidery. Manufacturers	ib.
Advantages	292	Enamelled ware. Dealers	177
Books on	290	Engineering patents. Engineers capable of	ib.
Grading rules	295	protecting	ib.
— COMPANIES—		Felt cap factory. Cost of erection and machi-	63
— SYSTEM AND RAILWAY TRAFFIC—		nery. Makers of	63
EMBARGO—		Figures. Agents or purchasers in Leipzig and	343
Persia. No imposition on grain export	601	Nijni-Novogorod	119
EMBROIDERY—		Galalith. Machinery makers	233
Manufacturers. Enquiry regarding	343	Grain Bags. Quotations c. i. f. Natal	177
EMIGRATION—		Grain Elevators. Cost	393
(See also Immigration.)		Gypsum. Purchasers	177
Bengal, Inland. Report, annual	55	Hessians. Exporters	119
Madras Government's notice	1	Hosiery. Calcutta importers	501
ENAMELLED WARE—		Human hair manufactures. Importers	63
Dealers. Enquiry regarding	177	Indian articles. Agency in Copenhagen	555
ENGINES—		Produce. Agency in Alexandria	63
25,000-horse power	452	Indigo Exporters	63, 289
Oil v. Steam	313	Jute. Exporters	63
ENGINEERING—		Kapoc. Exporters	177
United Kingdom. Review, 1907	319	Shippers	651
— PATENTS—		Kashmir curios. Exporters	177
Engineers capable of protecting. Enquiry	177	Lac. Exporters' agency in Milan	177
regarding	177	Leather goods. Importers	233
ENQUIRIES—		Linseed cake. Dealers	ib.
Agave fibre. Exporters	63	oil. Dealers	ib.
Ajowan for thymol manufacture. Exporters of	651	Linter carpets and yarn machinery, American	119
the former	233	makers	393
Apatite. Purchasers	233	Macaroni. Agents	119
Arrangements to watch regularly. Suggest-	176	Machinery. Manufacturers	393
tions for	233, 393	Match-making chemicals. Suppliers	ib.
Bauxite. Purchasers	233, 393	machinery, handpower. Makers	177

	Page		Page
ENQUIRIES—concl'd.		EXHIBITIONS—	
Rapeseed cake. Manufacturers and dealers of.		Franco-British. Letter from Indian sub-com-	
Calcutta	501	mittee. Millowners' Association on	455
Red oxide of iron. Purchasers	393	London. Rubber, Prospectus	385, 552
Rice. Exporters	63	Nagpur. Prospectus	339, 456
Sajjimat. Dealers or brokers	651	Tokio. 1912, Particulars	302
Sewing machines. Dealers	177	EXPLOSIVES—	
Skins, fox, cat, etc. Agents or purchasers in		Manufacture, possession and sale. Rules	648
Leipzig and Nijni Novogorod	343	EXPORTS—	
Silks. Exporters	83	(See Trade.)	
Silverware. Exporters	ib.		
Soap. Importers	177		
Soy beans. Exporters	119		
Starch of rice, wheat and Oswega starch. Im-			
porters	807		
Sugar bags. Importers	177		
Sunn hemp. Bengal exporters	63		
Tea. Exporters	ib.		
Indian and Ceylon exporters	119		
Threshing machines. Agents	447		
Timber, Burma and saw mill owners	651		
Turbans. Makers and exporters	555		
Waste Products. Importers	177		
Wood-work, carved. Manufacturers	343		
Woolen goods. Importers	177		
Wool yarn machinery. Cost and makers of	63		
Yarns, Indian. Exporters	177		
Yellow ochre. Purchasers	393		
Zinc sheet. Importers	119		
ENTOMOLOGY—			
Insects. Remedies	241		
ENVELOPES—			
One-anna embossed. Millowners' Association			
on their introduction	125		
Punjab Chamber on	65		
EUCALYPTUS TREES—			
Punjab. Condition, 1906-07	173		
Economic uses	189		
EUROPE—			
Yarns, short-ruled. Agitation against con-			
tracts	2		
EXCHANGES—			
India, rates 57, 113, 169, 225, 281, 337, 385,			
441, 497, 549, 601,	645		
Persia. Fluctuation and India's difficulty	503		
Straits Settlements. Report, 1906	15		
EXCISE—			
Burma. Administration, Local Chamber on	662		
Calcutta or suburbs. Duty on country liquor	57		
China. Opium duty	194		
Germany. Sugar duty. Reduction	500		
EXCISE—			
Punjab. Duty on spirits	176		
Stamp duty on share transfers. Bengal			
Chamber on	610		
EXHIBITIONS—			
Berlin. Automobile. 100-h. p. motors and			
more	232		
Bombay. Automobile Show and Motor Gym-			
khana	387		
Brussels. Universal and International	114		
Franco-British. Indian exhibits, particulars			
about	59		
Indian section, area, plan and			
other particulars	5		

	Page		Page
LOVE MARKET—		GEOLOGICAL INSTITUTE—	
Review, 1907	227	Meeting, annual	305
ODDER—		GERMANY—	
Bean, Spanish, for horses	15	Cereals. Estimate, 1907	226
Cactus. Its proportion to other foods	21	Economic condition	245
OOD—		Glass manufacture. Cartel and Owen's patent	5
Famine	608	Shipbuilding. Report, 1907	192
Quantity, daily. Men, women and children	449	Trade figures, 1907	392
Sources, different	120	Trade. Openings in Persia	128
GRAINS—		Zinc syndicate	500
Consumption	224	GIN—	
Production	ib.	Punjab. Duty Spirit	176
Production and consumption	120	GINNING—	
VALUE OF INDIAN GRAINS	448	United States, figures up to January 1, 1908	338
RESTS—		GLASS MANUFACTURE—	
Eastern Bengal and Assam. Report, 1906-07	228	Germany. Cartel and Owen's patent	5
Mysore. License rules	59	Owen's patent for flask making, particulars	588
Punjab. Report, 1906-07	173, 605	GLASS TRADE—	
Report, 1905-06	553	Prices. No reduction	554
United Provinces. Report, 1906-07	174	GOLD COINS—	
United States. Timber exhaustion	342	India. Transmission by post prohibited	60
ANCE—		Exports—(See Bullion movements.)	
Letter-telegrams	6	Imports—(See Bullion movements)	
Motor exports, imports	183	MINING—	
Representation in London Free Trade Congress	253	Champion Reef Co. Profits, 1907	114
Ribbon industry. Report, 1906	197	Johannesburg. Report 1907	520
Silk clearances at Lyons, weekly 3, 117, 339, 392,	444	PRODUCTION—	
Silk industry at Lyons. Report, 1906	4	Figures 1906	300
Telephone. Improvement	253	Figures, monthly	60, 284, 553
RE TRADE CONGRESS—		World's figures, 1907	607
London. French representation	253	RESERVES—	
RIGHTS—		Amount on 31st December, 1907	ib.
Africa, South-London	228	Mr. Asquith on	646
Africa, South. Railway	ib.	STOCK—	
Coal, coastwise	306	World's figures	61
Kapas cotton to Amritsar. Punjab Chamber on		GOODS—	
Khorasan. India and other countries from	561	Damage at Karachi. Punjab Chamber on	582
OG SKINS—		Insurance and freight paid for Mandalay. Sale	
Japan. Samples and other particulars	550	to defray wharfage. Burma Chamber on	ib.
ONTIE TRADE—		GOVERNMENT PAPER—	
Bengal. Report, 1906-07	570	Rate, weekly	549, 601, 645
ITS—		GRADING RULES	292
Punjab. Culture of English fruits	173	GRAINS—	
IGATION—		(See also Cereals.)	
Cotton-seed, American, etc. At Bombay,		Acreage in different provinces under various	
Karachi and Goa	647	food grains	450
IS—		Consumption	234
Agents or purchasers in Leipzig and Nijni-		Damage by coolies' hooks. Karachi Chamber on	
Novogorod, enquiry regarding	343	Export and consumption	451
World's Trade	190	Food, value	448
		Prices	451
		Proteid, value	ib.
		Yield in lbs. in the different provinces	ib.
		Yield of different kinds of cereals	ib.
		Argentine. Exports	283
		Germany. Estimate, 1907	226
		Moisture testing apparatus	391
		Persia. Price, high, at Karnn	50
		Production	234
		Russia. Yield, 1907	283
		BAGS—	
		Quotation c. i. f. Natal. Enquiry regarding	233

INDEX TO THE INDIAN TRADE JOURNAL.

	Page		Page
GRAIN ELEVATORS— (See also Wheat elevators.)		I	
Advantages	178	ICE MACHINE—	
Cost. Enquiry regarding	117	New pattern	650
Railway Traffic, for for India	178		
	290	IMMIGRATION— (See also Emigration.)	
MARKET—		Canada. Madras Government notice	1
Review, 1907	227	Terms	128
GRAM—		Transvaal. Rules	602
Prices, fortnightly, at selected stations 139, 253, 359, 469, 574,	668	IMPORTS— (See also Trade.)	
GROUNDNUTS—		INDEX—	
Burma. Particulars	6	Consular Reports	549
Forecast	182	NUMBERS—	
GUM TRAGACANTH—		Sauerbeck's. Monthly	186, 459, 662
Ispahan. Report, 1906	79	INDIAN COTTON SEED—	
Yezd. Report, 1906	73	Its industrial possibilities. Review of pamphlet	180
GYPNUM—		PRODUCE—	
Purchasers, enquiry regarding	393	Agency in Alexandria. Enquiry regarding	555
		YARNS IN EUROPE	61
H		INDIGENOUS ART OF THE UNITED PROVINCES	497
HAIR—		INDIGO—	
Human. Japan's, trade figures, 1907	473	Artificial. New Patent Act and manufacture in United Kingdom	408
Manufacture, importers, enquiry regarding	501	Position in Ispahan	78
Importers. Enquiry regarding	177	Yezd, introduction	72
HANDLOOM INDUSTRY—		Exporters. Enquiry regarding	63
Conference after All-India Weaving Com- petition	387	London sales	389
HARBOURS—		Market, 1907	616
Mauritius. Schedule of dues	22	Natural. Export duty. (Punjab Chamber on	65
HARVESTING MACHINES—		<i>Indigofera glandulosa—</i> Famine food	60
Motors. Demonstration	230	INDUSTRIES—	
HEATING APPARATUS—		Australia. Protection	5
Coal saving	27	United Kingdom. Sweated, Bill	649
HEMP—		INDUSTRIAL CONFERENCE—	
Prices. Sauerbeck's figures, 1907	406	Report	19
MESSIANS—		DEVELOPMENT—	
Exporters. Enquiry regarding	177	China	306
HIDES AND SKINS—		Siam. Report	347
India. Disinfection before export to United States. Karachi and Punjab Chambers on 454, 561 Japan. Frog skins. Samples and other parti- culars	550	INSECT PESTS—	
United Kingdom. Market, 1907	606	Remedies	241
Hoihow— (See Kiungchow.)		INSTRUMENT— (See also Apparatus.)	
HOOKS—		Location of underground water, for	6
Damage to grains by. Karachi Chamber on	125	INSURANCE—	
HORSES—		Earthquake clauses	118
Bean, Spanish, as fodder	14	Life. Legislation on English lines. Indian Chambers on	403, 452, 453, 655
HOSIERY—		India. Life. Legislation on English lines. Millowners' Association on	455
Calcutta importers. Enquiry regarding	119	United Kingdom. Reports, 1907	501
HUMAN HAIR—		INTOXICATING DRUGS—	
Japan. Trade figures, 1907	47	Novocaine	445
Manufactures, importers. Enquiry regarding	501	IODINE—	
HYDRAULIC RAMS—		Sources, new	348
Troubles in working and remedy	200	IRON—	
HYDRO-ELECTRIC SCHEMES—		Alloys with vanadium. Uses	750
Scandinavia. Difficulties against employing foreign capital	653	Prices. Sauerbeck's figures, 1907	460
		Lust, preventive	22

JANUARY TO MARCH 1908.

xi

	Page		Page
IRON ARTICLES—		JUTE TRADE—	
List, in India, to purchase locally for public service	126	Complaints from Dundee, 1907	133
INDUSTRY—		Cuttings per ton and buyer's option to cancel contract	170
Canada. Pig, output, 1907	603	Dundee view, 1907	133
Germany. Pig, output, 1907	392, 650	Price fall and short work in mills	340
Russia. Trust	307	Position, 1907	228
United States. Pig, production. Restriction	281	United Kingdom. Prices, 1907	606
Pig, output, 1907	604, 650	Watering, Dundee complaint	133
ORES—		K	
Coal supply for smelting	307	KAROC—	
Figures, 1906	300	Exporters. Enquiry regarding	63, 177
IRRIGATION—		KASHMIR CURIOS—	
Bengal. Figures, periodical	281	Exporters. Enquiry regarding	289
Bombay Presidency. Figures, 1906-07	60	KEDAH—	
Mesopotamia. Improvements	181	Administration Report, since 1905	352
North-West Frontier Province. Figures, periodical	281	KERBALLA-NAJAF ROAD	129
Punjab. Figures, periodical	17	KEROSINE— (See also PETROLEUM.)	
Sind. Operations, 1906-07	32	Exports, imports, weekly 30, 85, 140, 199, 254, 312, 416, 472, 575, 619,	667
ISPAHAN—		Imports, 1906	301
Caravans. Pillage	28	Locust-killer	134
Local industries	7	Yezd. Russian oil	72
Trade. Report, 1906	73	KHORASAN—	
ITALY—		Exports and imports, Russian	503
Textile Industry. Report	35	Routes and freights from India and other countries	502
J		Trade. Report, 1906-07	ib.
JADEITE—		KIUNGCHOW—	
Output, 1906	300	Trade. Report, 1906	23
JAMAICA—		KNITTING MILLS—	
Rubber. Interplantation with cocoa and bananas	20	United States. Increase, 1907	193
Seeds or plants importation	282	KOBE—	
JAPAN—		Customs. Evasion by forgery and preventive steps	231
Cotton from India	231	KRANS—	
Customs duty. Evasion by forgery. Preven- tive steps by Kobe authorities	231	Bushire. Counterfeit and trade difficulties	225
Exhibition, 1912, in Tokio. Particulars	303	KUMLA CANAL PROJECT	191
Human hair. Trade and industry	473		
Trade-marks, British. Condition	500	L	
JAWAB—		LABOUR—	
India. Prices, fortnightly, at selected stations 139, 253, 359, 469, 574,	668	Ahmedabad. Textile Factory Commission	187
JINJILI— (See Sesamum.)		Bengal. Emigration, inland. Report, annual	58
JOINT-STOCK COMPANIES— (See Companies.)		Canada. Immigration	128
JUTE—		Coal Mining	466
Bengal Farms. Experiments and results, 1907	507	Italy. Textile. Wages and duration	353
Exporters. Enquiry regarding	63	Massachusetts. Textile. One day's rest in seven "Overtime Bills" for textile workers	4
from Bengal. Enquiry regarding	289	Odessa. Effects	336
Root in fibre, etc. Complaints	133, 170	United Kingdom. Report for January, 1908	651
CULTIVATION—		World's cotton operatives	172
Burdwan. Experiments as to varieties, outturn, manure, etc.	507	LAC—	
Central Provinces. Experiments, 1906	117	Adulteration with resin. Report, 1907	174
Ganeshkhind. Experiments	649	Arhar dal, from. Particulars	408
Rotation with rice	467	Book of Mr. Stebbing	ib.
MILLS—		Experiments for clean article	174
India. Fall in prices and short work	340	Exporters agency. Enquiry regarding	651
JUTE SEED—			
Bengal Farms, 1907	507		
SUBSTITUTES	664		

	Page		Page
INC—contd.		LOANS—	
London. Imports, deliveries and stocks.		Government. Three crores	602
Monthly figures, 1907	446	LOCUSTS—	
Market. February, 1908	659	Kerosine as killer	134
Origin and history	462	Zinc sheet. Use as killer	ib.
Prices	174	LOOMS—	
Prices and supplies. February, 1908	658	New Churashill	226
Trade. Report, 1907	174	Sayaji Poor Man's	ib.
Trade report, 1907	620	LYONS—	
CULTIVATION—		Silk clearances, weekly	3, 117, 339, 392, 444
India. Particulars	556	Silk industry. Reports, 1906	4
LACE FACTORIES—			
United Kingdom. Labourer's health	517		
LAMPS—			
Filament	445		
LAND TRADE—			
Figures, periodical	250, 470		
LEAD—			
Australia. Exports, 1906	462		
Prices, 1907	287		
— Sauerbeck's figures, 1907	460		
World's production, 1906	353		
LEATHER—			
Agate	567		
— States. Exports, 1906	31		
United Kingdom. Market, 1907	606		
— GOODS—			
Importers. Enquiry regarding	177		
United States. Exports, 1903	31		
LETTERS—			
Loss. Abolition of minor circles in Sind and Baluchistan. Karachi Chamber on	45		
LETTER-TELEGRAMS—			
France. Particulars	6		
LICENSES—			
Central Provinces. Minerals. Annual number	59		
Mysore. Timber and other forest produce. Rules	19		
LICHOPWA FIBRE	664		
LIMESTONE—			
United Provinces. Royalty	174		
"LIN PERINI"—			
Qualities	230		
LINSEED—			
Buenos Ayres. Trade, weekly report	338		
Crop Forecast	560		
United Kingdom. Import, 1904-1907	390		
— CAKE—			
Dealers. Enquiry regarding	233		
— OIL—			
Dealers. Enquiry regarding	233		
Market. February, 1907	658		
United Kingdom. Market, 1904-07	390		
LINT—			
Percentage in Indian cotton seed	612		
LINTER CARPETS AND YARN MACHINERY—			
American makers. Enquiry regarding	119		
LIQUORS—			
Calcutta or Suburbs. Duty	57		
Duty on imported or manufactured article	58		

M

MACHINERY—	
Handloom weaving. Appliances, essential	286
Ice-making, new	650
Reapers. Punjab Government's order	497
Textile. (See Textile Machinery.)	
United Kingdom. Review of trade, 1907	231
Wool yarn making. Enquiry regarding	63
MACARONI—	
Agents. Enquiry regarding	393
MADDER ROOT—	
Yezd. Report, 1906	73
MAGNESITE—	
California. Particulars	458
Output, 1906	300
MAILS—	
Contract, new. Bengal Chamber on	236
India-United Kingdom. Time saving and its application	4
MAIZE—	
Durban. Trade figures, July-December, 1907	338
MALAY STATES—	
Kedah. Administration Report, since 1905	352
MANGANESE—	
Best customers for the Indian mineral	417
Central Provinces. Mining, 1906-07	505
Exports to Baltimore and Philadelphia	386
Mysore. Condition of industry	ib.
— Prices	ib.
New South Wales. Fresh discovery and quality	230
Output, 1906	301
Proprietors of mines	386
Review of the industry	417
Smelting plants. Government's help	ib.
Varieties	386
MANGO—	
Sun-dried slices	118
MANGROVE BARKS—	
Tannin in	573
MANURES—	
Calcium Cyanide and nitrate. Properties	62
Chemical. Factory at Coruna	570
Experiments and results in Central Provinces	117
Norwegian. Manufacture	242
Potash. German industry	232
Sambalpur. Availability	193
Sugarcane cultivation. Necessity	386
MARCONI SYSTEM—	
Speed	31

	Page		Page
MARGARINE—		MOISTURE—	
Netherlands. Prices	468	Testing apparatus in grain	391
MARKET REPORTS—		MONEY MARKET—	
Firms needing telegrams. Enquiry regarding	177	Constantinople	68
MARMAGOA—		— ORDERS—	
Present and future	659	Denmark-India. Amount, maximum	387
MATCHES—		Foreign. Amount, maximum	443
Chemica for suppliers. Enquiry regarding	393	Telegraphic. Redirection, free by post	340
Importers. Enquiry regarding	177	MONO-RAIL—	
Machinery, handpower. Makers, enquiry regarding	393	Use and benefits	68
Wood. United Provinces, availability	174	MOTORS—	
Yezd. Trade report	72	All kinds. Enquiry Office	176
MATCH-BOXES—		Bombay. Show and Gymkhana	387
Wood. United Provinces	174	Carburettor, paraffin. Advantage	341
— INDUSTRY—		Feeders to Indian Railways	303
Ellichpur. Report	181	France. Exports, imports, 1907	183
Kota. Report	174, 181	100-h.p. and more. Specification	232
Sholapur. Report	132	Paraffine v. petrol	341
MEASURES—		Trade in India	574
(See Weights.)		Trade. Enquiry Office	176
MEHRAN COAST—		— HARVESTERS—	
Tariff duties. Baluch Mirs' action	225	Demonstration	230
"Memdelism"	74	MUNICIPALITIES—	
MERCHANTISE MARKS ACT—		Bangalore. Possession or transport of petroleum. Law	603
Revision. Indian Chambers on	65, 125, 237, 348	Burma. Possession or transport of petroleum. Law	646
MERCERISED COTTON—		Calcutta. Oil engine for pumping station	313
Test	24	MUSICAL INSTRUMENTS—	
MERCURY—		Dealers. Enquiry regarding	177
Use in gold industry	653	MUSTARD SEED—	
MESOPOTAMIA—		Crop Forecast	559
Irrigation measures	281		
METALS—			
United States. Production, all kinds, 1907	356		
METAL MARKETS—			
United States. Production, all kinds, 1907	350		
METALLIC—			
Filament Lamps	445		
MHOWRA FLOWERS—			
Portuguese India. Importation	114		
MICA—			
Output, 1906	301		
MILITARY ORNAMENTS—			
Dealers. Enquiry regarding	177		
MILLS—			
Boilers, Lancashire model. Report	17		
MILLOWNERS' ASSOCIATION—			
Bombay. Proceedings, monthly 125, 295, 455,	655		
MINERALS—			
Central Provinces. Licenses, annual	59		
Cumberland. Wolfram and scheelite	200		
Output, 1906	299		
United States. Production, all kinds, 1907	356		
MINERAL OILS—			
Exports, 1906	302		
MINING AND GEOLOGICAL INSTITUTE—			
Central Provinces. Report, 1906-07	508		
Meeting, annual	305		
Siam. Development	347		
MINTS—			
India. Review of work	337		

N

NAPHTHA—	
Sakhalin. Discovery	646
NICOTINE—	
Explanation	75
Insecticides. Composition	135
Tobacco, percentage	75
United Kingdom. Report of the industry	135
NITRATES—	
Manufacture from air. Factory	135
Norway. Artificial. Water power for	ib.
NITRATE INDUSTRY—	
Chile. Condition, 1907	232
NORWAY—	
Fertilizer, new. Manufacture	242
NOTES—	
See also Currency.	
Encashment of ten-rupees, at par	58
Stock. Payment dates	441
NOVOCANE—	
Intoxicating drug	445
NUSKHI-SHISTAN—	
Trade figures, monthly	113, 226, 550
NZONOGWE FIBRE	664

	Page		Page
O		PAPER—	
OATS—		Java. Manufacture from distillation residue of citronella oil	288
Canada. Outturn, total and per acre	2	Wood-pulp. United Provinces, availability	174
United Kingdom. Rates, weekly 59, 116, 188, 235, 284, 338, 396, 443, 499, 553, 604,	650	PARAFFINE—	
OCEAN TRADE—		Shippers. Enquiry regarding	177
Channels, new	306	Use in motors v. petrol	34
OCTROI—		PARAFFINE WAX—	
Amritsar. Regulations. Punjab Chamber on	66	Exports, 1906	302
Woollen and silk goods. Punjab Chamber on	655	PARCELS—	
ODESSA—		Ceylon-India. Perfumery	236
Labour condition and effects	337	Precious stones	ib.
OILS—		Gold coins, remission by post, prohibited	60
(See also specific heads.)		Mesher-Europe. Advantages	503
Prices and supplies, Feb. 1908	658	Turkey. Rates and conditions	170
OIL CAKES—		United Kingdom-India. Value-payable system. Review	445
(See specific heads)		Chambers on	654
MILL MACHINERY—		Value-payable system.	455
American makers. Enquiry regarding	119	Millowners' Association on	229
REFINERS AND PURIFIERS—		Value-payable. Rules	171
German makers. Enquiry regarding	ib.	Venezuela. Rates	609
OLIVE OIL—		Weight, maximum. Indian Chambers on 452, 453, 455,	609
Spain. Exports and price. First nine months, 1907	507	PARTNERSHIP REGISTRATION—	
OPENINGS FOR INDIAN TRADE	129	Bills. Indian Chambers on	238
OPIMUM—		PATENTS—	
China. Edict	194	United Kingdom. New Act and indigo, artificial	408
Indigenous. Duty	ib.	PEA-NUTS (See Groundnuts).	
Native, report	ib.	PEARLS—	
Trade report, 1906	ib.	Trade history	12
France. Sale regulation	603	PEAT BRICKLETS—	
Ispahan. Report, 1906	78	Canada. Manufacturing machinery	393
Prices, India and China, in weekly 59, 117, 171, 226, 285, 340, 387, 443, 500, 551, 603	648	PERFUMERS—	
Sales, date	171	Ceylon-India. Parcels Customs declaration	236
Yezd. Report, 1906-07	72, 73	PERFUMES—	
ORANGE CULTURE—		Openings for manufacture	647
Coorg. Report, 1906-07	62	PERSIA—	
OUT-AGENCIES—		Coins, counterfeit. Trade difficulty	225
Bengal Nagpur Railway.	304	Grain prices. Rise at Karun and effect	59
Bombay, Baroda and Central India Railway	303	Khorasan. Trade, 1906-07	502
Great Indian Peninsula Railway	304	Posts, robberies	648
Rohilkhand and Kumaon Railway	ib.	Roads. Guards' extortion	550
Southern Mahratta Railway	303	Teheran-Kerman post robbery, December, 1907	340
OWEN'S GLASS PATENTS—		PETROL—	
Particulars	86	Use in motors v. paraffine	341
P		PETROLEUM—	
PACKING CASES—		(See also Kerosine).	
Woods	69	Argentina. Discovery	341
PADDY—		Bangalore. Possession or transport. Municipal Law	603
Burdwan. Experiments	241	Burma. Transport, Municipal law	646
PALM TREES—		California. Production and price, 1906	604
Tapping for toddy and sugar	342	German Company. Output from Roumanian wells	339
PAPAIN—		Germany. Report of the industry	473
Ceylon. Report	84	Korea. Charter for exploitation and extent	417
		Output, 1906	301
		Queensland. Discovery	446
		Roumania. Wells. Output and management	339
		World's production, 1906	603

	Page		Page
PIECE GOODS —		POTASH INDUSTRY—	
Shanghai. Market reports, weekly 1, 60, 115, 173, 282, 442, 498, 554, 602,	646	Germany. Condition, 1907	232
Survey. Punjab Chamber on	404	POTTERY—	
Karachi Chamber on	125	Ceylon. Trade openings	648
TRADE (See also Textile trade).		PRECIOUS STONES PARCELS—	
United States. Market report, weekly 60,	173	Ceylon-India. Customs declaration	286
Yezd. Report, 1906	72	PRICES OF COMMODITIES	186, 459, 662
PINE DISTILLATION	665	Antimony, 1907	350
TREES—		Bars and plates in Germany	445
Acreage	606	Cigar and Cigarettes	7
PLAGUE—		Coal, 1907	350
Bombay. Precautions, Governor's reference. Millowner's Association	125	Cocoon oil, 1907	350
Delhi. Precautions, Municipal Engineer's reference. Punjab Chamber on	404	Copper, 1907	350
PLANTS—		Sauerbeck's figure	186, 459, 662
Importation and danger of foreign peats	649	Copra, 1907	350
Jamaica. Importation	282	Cotton, Sind-Egyptian	481
HEREDITY	74	oil, 1907	605
PLATES—		Flax, 1907	350
Germany. Prices	445	Fortnightly. Bajra, Barley, Gram, Jawar, Ragi, Rice, Salt, Wheat, 139, 253, 359, 469, 574,	668
PLATINUM—		Germany. Zinc sheets	446
United States. Outturn, 1906	115	Hemp, 1907	350
PLOUGHS—		Iron. Manufactures, 1907	350
Kans grass. Eradication	117	— pig, 1907	350
POINT CALIMERE —		Sauerbeck's figures	186, 459, 662
People's memorial to Madras Government for opening up the port	602	Ispahan. Tobacco, 1906	79
POLICE —		Jute, 1907	350
Sind. Inadequacy. Karachi Chamber on	453	Lac	174
POPULATION—		Lead, 1907	350
Argentina. Classification as to nationality	465	Sauerbeck's figures	186, 459, 662
PORTS —		London. Tea rates, 1907	62
Bombay. Budget, 1908-1909	648	Oil. February, 1908	658
Calcutta. Extension proposals	552	Opium. India and China, in weekly, 59, 117, 171, 226, 285, 340, 387, 443, 500, 551, 603,	648
River dues, notification	606	Persia. Grain, rise at Karun	59
Europe. Report	338	Platinum, 1907	350
Madras. Report, 1906-1907	58	Sauerbeck's figures, monthly	186, 459, 662
Marmagoa. Future prospects	659	Schedule, 1907	351
Point Calimere. Opening	602	Silver, 1907	308, 350
Persia. Makran coast. Baluch Mir's action on levy of duties	225	Sauerbeck's figures	186, 459, 662
TRUSTS—		Spelter, 1907	350
Burma. Establishment at Moulmein, Akyab and Bassein. Local Chamber on	562	Tin, 1907	350
POSTS—		Sauerbeck's figures	186, 459, 664
Ceylon-India. Perfumery parcels	286	Turpentine, 1907	605
Precious stores parcels	ib.	PRICES—	
Gold coins transmission, prohibited	60	United Kingdom. Barley, Oats and Wheat, 59, 116, 188, 235, 284, 338, 396, 443, 499, 553, 604	650
Italy. Pneumatic service in certain cities	459	United Kingdom. Hides, 1907	606
Persia. Robberies	648	Jute, 1907	ib.
Review of work, official half-year	171	Leather, 1907	ib.
Savings Banks. Rules for guidance	286, 443	Tobacco, 1907	465
Teheran-Kerman. Robbery in December, 1907	340	States. Copper, 1907	242
Turkey. Articles not allowed	170	Decline in cotton	2
Rates	ib.	Wheat, 1907	351
Value-payable. New rules	60, 229	—, 1907	613
Venezuela. Parcel rates	171	—, London	291
POSTAGE STAMPS—		Wool, 1907	350
Use for telegraph stamps	386	World's commodities. Rates, 1907	350
POSTAL ORDERS—		PRICKLY PEAR—	
British. Amount, maximum	443	(See Cactus.)	
		PRINTING—	
		Fast colours on Cotton	521
		PRODUCE—	
		Calcutta. Daily arrivals. Bengal Chamber on	236
		Production and consumption of food grains	234

	Page		Page
PROPELLERS—		RAILWAYS—contd.	
Bronze v. cast steel	289	Rohilkhand and Kumaon. Out-agencies	304
PROTECTION—		Rolling stock shortage at Keamari. Karachi Chamber on	238
Australia, industrial. Terms	5	Russo-Indian. Application for construction	604
PROVISIONS—		Siam. Calls for tenders for materials and loco-motives	616
Preserved. Agency in Aden, Bombay, Calcutta. Karachi and Madras. Enquiry regarding	177	— Extensions, projected	86
PUMICE—		— Traffic report, 1906-07	ib.
United States. Output, 1906	246	Siberia. Expenditure for improvements	11
PUNJAB—		Sind Light Railways, Ltd. Prospectus	498
Administration report, 1906-07	613	Sleepers' prices and Australian competition	174
		South Behar Co. Position	287
		Southern Mahratta. Out-agencies	303
		Staff's corruption. Indian Chambers on, 66, 125, 452, 562,	655
QUICKSILVER—		State claims on. Punjab Chamber on	66
United States. Output, 1906	307	Talup-Saikhwa Ghat. Extension of the Dibru-Sadiya line	181
QUININE—		Thawe-Savan-Tiwariipatti. Survey	646
Report, 1907	342	Traffic and grain elevators	178
Java. Report, 1907	566	Trans-Siberian. Survey completed	574
SULPHATE—		RAINFALL—	
Prices, 1907	288	Distribution since 1st January 1908 to 16th	118
		RAMIE—	
		Degumming process	514
		RAMS, HYDRAULIC—	
		Troubles in working and remedy	200
		RAND MINES—	
		Mono-rail, employment in	66
		RAPE OIL—	
		Market, February 1908	658
		United Kingdom. Market, 1904-07	389
		SEED—	
		Crop forecast	559
		United Kingdom. Imports, 1904-07	389
		CAKE—	
		Dealers and Manufacturers of Calcutta. Enquiry regarding	501
		READY-MADE CLOTHING—	
		Egypt Trade report	80
		REAPING MACHINES—	
		Punjab Government's order	497
		REFRIGERATION—	
		New Machine	650
		RED OXIDE OF IRON—	
		Purchasers. Enquiry regarding	303
		SEA PORTS—	
		Textile imports from America and Italy	6
		REGISTRATION—	
		Ships. As British. New firm	171
		"RENGOKAI"—	
		Explanation	231
		RESIN—	
		Lac adulterated with. Report, 1907	174
		Trade name being copal	87
		United Provinces. Manufacture, 1906-07	174
		REVENUE—	
		China. Receipt for 1907	241
		Land and Sea Customs. Figures, periodical	84, 360, 573
		RIBBON INDUSTRY—	
		France. Report, 1906	167

	Page		Page
RICE—		RUBBER CULTIVATION—contd.	
(See also Paddy.)		Madras Presidency. Condition	550
Argentine. Yield, 1907	653	Malay States. Activity	228
Bangkok. Exports, December quarter, 1907	387	EXHIBITION—	
Exporters. Enquiry regarding	63	London Application	552
Forecasts, final	399	— Prospectus	385
Prices, fortnightly, at selected stations	139, 253, 359, 469, 574,	INDUSTRY—	
Rotation with cotton	668	Ceylon. Report	284
— Jute	388	United States. Review, 1906	309
Saigon. Exports, fourth quarter, and year 1907	467	MARKET	552
Sambalpur. Prices	192	TRADE	662
CULTIVATION—		Malay States. Figures, 1907	228
Burma. Acreage	118	World's chief countries' shares	228
MILLS—		RUBY—	
Siam. New projects	347	Output, 1906	302
RIVER DUES—		RAIN—	
Calcutta Port. Notification	606	Punjab. Duty	172
ROADS—		RUSSIA—	
Baghdad-Aleppo	129	Barley, adulteration	284
— Korbulla	ib.	Cereals, yields, 1907	283
— Khanakin	ib.	Flax trade. Railway facilities	429
Ispahan. Robbery	281	Labour conditions at Odessa. Effects	337
Khorasan. Freights	502	Tea, Indian. Import for consumption	282
Persia. Condition for trade	129, 193, 601,	RUST PROOF	22
— Extortion of guards	550	RYOTS—	
ROBBERIES—		Sambalpur. Condition	192
Ispahan road	281		
Persia. Caravan	497		
— Ports	648		
ROLLED WIRE ASSOCIATION—			
Germany. Prices	445	SACKS—	
ROLLING STOCK—		(See Bags.)	
Keamari, shortage. Karachi Chamber on	238	SAFFLOWER—	
ROPEWAYS—		Relation to sunflower	511
Turkestan. Report	17	SEED—	
ROSELLE—		Oil. Percentage	347
Culture and uses	518	Uses	ib.
Plaint for fibre	519	SAJJI-MATT—	
ROSIN—		Dealers or brokers. Enquiry regarding	651
United Provinces. Report of the industry, 1906-07	508	SAKHALIN—	
— States. Exports and prices, 1905-06	355	Naptha fountains	646
ROUTES—		SALT—	
(See Roads.)		Baluchistan Agency. Manufacture at Nasirabad prohibited	175
ROYALTY—		— Importation into Nasirabad of Kalat made article, prohibited	ib.
United Provinces. Limestone	174	Output, 1906	302
RUBBER—		Prices, fortnightly, at selected stations 139, 253, 359, 469, 574,	668
Asiatic v. American. Prices	228	DUTY—	
Cost of production	662	Calcutta, receipts. December quarter, 1907	387
Latex extraction by formaldehyde	5	TRADE—	
Mergui. Imperial Institutes' test	603	Calcutta clearances. December quarter, 1907	ib.
Prices	228	Spain. Figures, nine months, 1907	517
— Controlling causes, 1906	300	Tibet	344
Samples, Indian. Imperial Institute's report	576	SALTPETRE—	
Toughness v. Resilience	5	Output, 1906	302
CULTIVATION—		SAMBALPUR—	
Activity	228	Economic condition	192
Burma. Experiments	386	SANDAL WOOD—	
Ceylon. Activity	228	Exports and price per ton, 1905-06	552
— Report	228		
Charduar plantations	20		
Jamaica. Cocoa and banana interplantation	20		

	Page		Page
SANDSTONE—		SHIPPING— <i>contd.</i>	
Central Provinces. Mining, 1906-07	580	United Kingdom. Review, 1907 and prospects, 1908	650
SAPPHIRE—		— RINGS—	
Output, 1906	320	Africa South. Evidence from	228
SARDINE OIL—		SHIRAZ—	
Factory at Cornua	570	Trade conditions, November, 1907	114
SAUERBECK'S—		SIAM—	
Index-Numbers, 1907 186, 459,	663	Industrial development, report	347
SAVINGS BANKS—		Tenders for railway materials and locomotives	616
Guidance rules 286,	443	and incinerators	347
SCHOLARSHIPS—		Trade developments. Openings for	193
Technical. Bengal. Subjects. Bengal Chamber on	609	Trade prospects	ib.
— Bombay. Subjects. Karachi and Local Chambers on 238,	452	Steps by foreigners for development	ib.
— Millowners' Association on	295	SIDDAPUR TANK—	
— Candidates invited	385	Madras. Government's grant for improvement	170
— Central Provinces. Candidates invited	385	SILK—	
— Punjab. Award for learning textile industry, 1908	341	Artificial. Brussels. Manufacturer's report	4
— United Provinces. Candidates invited	645	— and Cologne. Companies	ib.
SCHREIBER—		— Japanese factory	232
Cumberland	200	— Manufacture in Germany	573
SEA-BORNE TRADE—		— Preparation and uses	232
Figures, 1907	361	Black dyeing recipe	360
— monthly 29, 252,	524	China. Quality	196
— ISLAND COTTON—		Exporters. Enquiry regarding	63
Trade figures, September to December, 1907	338	— CULTIVATION—	
SEASON AND CROP PROSPECTS—		Bulgaria. Report, 1906	183
(See Crop Prospects.)		China. Report	196
SECURITIES—		Eastern Bengal and Assam. Government Central	409
British. Depreciation	244	Kalat State. Report, 1907	551
SEEDS—		Uganda. Report	ib.
Jamaica. Importation	282	Yezd. Report, 1906	73
SEISTAN—		— MARKET	444
Products, chief	395	— MILLS—	
— AND KAIN—		United States. New ores, 1907	193
Report, 1906	394	— TRADE—	
SERICULTURE—		China. Best markets in	196
(See Silk Cultivation.)		— Raw and manufactured, 1906	ib.
SESAMUM—		Europe. Trust	604
Crop Forecast, 1907-08 63,	122	Lyons. Clearances and market report, weekly	444
SEWING MACHINES—		— Report, 1906	4
Dealers. Enquiry regarding	177	Prices. Sauerbeck's figures, 1907	460
SHARE TRANSFERS—		SILVER—	
Stamp duty. Bengal Chamber on	610	Consumption, average annual	308
SHELLAC—		Indian demand, 1907	ib.
(See Lac.)		Prices, 1907	308
"SHERADZING."—		Prices. Sauerbeck's figures, 1907	460
Iron and steel preventive	22	Prospects	308
SHIPS—		— EXPORTS—	
Propellers. Bronze v. Cast Steel	289	(See Bullion movements.)	
Registration as British. New firm	171	— IMPORTS—	
SHIPBUILDING—		(See Bullion movements.)	
Germany. Figures, 1907	192	— SITUATION—	
United Kingdom. Figures, 1907	287,	308	
SHIPPING—		SILVERWARE—	
Register form, new	171	Exporters. Agency in Copenhagen. Enquiry regarding	63
United Kingdom. Figures, monthly	227,	SIND—	
	523	Agriculture. Comparison with Egyptian	241
		Irrigation, operations, 1906-07	226
		SISAL FIBRE—	
		Yucatan. Company for growing, etc.	84
		— Particulars	ib.
		— Hemp	241

	Page		Page
SKINS (See Hides and Skins.)		SUGAR CANE CULTIVATION—	
SLABY-ARCO SYSTEM—		Cross-fertilization	518
Wireless telegraphy	16	Java. Report, 1907	566
SLEEPERS—		Dumraon. Manuring results	386
Prices and Australian competition	147	Forecast, final	401
SMOKELESS COAL—		— CONVENTION—	
Wales	306	Act. Protest	195
SOAP—		Duty. Holland. Russian and Argentine import	62
Importers. Enquiry regarding	177	Relation to Sugar Industry	ib.
Manufacture from cotton oil. Recipe	357	— INDUSTRY—	
Tasauchoufu. Factories, openings for	659	Belgium. Beet. Report, 1907	195
SOCIETE DES AGRICULTEURS DU NORD—		France. Beet. Report	341
Resolutions concerning Act of the Brussels Conference	195	— Brussels Conference Act, effect	195
SOUDA—		Germany. Excise law	500
Articles in demand. List	522	United Provinces. Factory at Panchli	551
SOY BEANS—		— States. New factories	602
Exporters. Enquiry regarding	119	— TRADE—	
SPELTER—		Imports, monthly 198, 414,	666
German maker's control on trade	649	— weekly 31, 86, 141, 200, 313, 417, 473,	668
Prices, 1907	287	Persia. Consumption by Bakhtiari subjects prohibited	647
SPICES—		Simalpur. Condition	192
Dealers, Indian and foreign. Enquiry regarding	651	Yezd. Report, 1906	72
SPINDLES—		SULPHUR—	
China. Total number, 1906	349	United States. Output, 1906	305
United States. Addition since, 1901	193	SUN-DRIED MANGO	118
SPINEL—		SUNFLOWER CULTIVATION	511, 513
Output, 1906	502	— OIL	512
SPINNING—		— SEEDS	ib.
(See also Textile Industry.)		SUNN HEMP—	
Hand-power machines. Kain and Seistan	550	Bengal exporters. Enquiry regarding	63
SPIRITS—		Central Provinces. Crop report, 1907 and different varieties	170
Duty, lower rates. Claim for rendering unfit for human consumption	497	"SWAPPING"—	
France. Steps for using alcohol as fuel	288	Explanation	4
Punjab. Duty	176	SWEATED INDUSTRIES BILL—	
STAMP DUTY—		United States. Terms	649
Share transfers, Bengal Chamber on	610		
STANDARD COPPER—			
Market report, weekly	339		
STARCH—			
Importers. Enquiry regarding	607		
STEEL—			
Alloys with vanadium. Uses	570		
Rust preventive	22		
— ARTICLES—			
Purchase for public service	126		
— INDUSTRY—			
Eastern Bengal and Assam. Monograph	509		
Prices. Report by German Steel Syndicate	356		
— SYNDICATE—			
Germany. Report as to prices	ib.		
STOCK NOTES—			
Payment dates	441		
STONE INDUSTRY—			
Cambay	226		
STRAITS SETTLEMENTS—			
Trade. Report, 1906	14		
SUGAR BAGS—			
Exporters. Enquiry regarding	177		

T

TALLOW—			
Market. February, 1908	659		
TANBARK—			
United States. Consumption, 1906	298		
TANK—			
Madras, Siddapur. Grant by Government for its improvement	170		
TANNIN—			
Mangrove barks, from	578		
Teas. Percentage	176		
United States. Consumption, 1906	298		
TANTALUM—			
Uses	571		
TARIFFS—			
Act, Amendment. Effect on liquors	58		
Aniline dye. Duty, Bombay Chamber on	604		
Electric power transmission plant. Bengal Chamber on	236		
Australia. Bill, second reading	341		
— Eggs in liquid form. Importation	456		

	Page		Page
TARIFFS—contd.		TELEGRAPHS—	
China. Russian exports by land	66	Wireless. Germany, Bill	615
Holland. Sugar from Russia and Argentina	62	—, system	16
Jamaica. Seeds or plants importation	282	—, Marconi system, speed	31
Japan. Evasion and preventive steps at Kobe	231	—, Slaby-Areo system. Report	16
Mauritius. Schedule	226	TELEPHONE—	
Mekran Coast. Baluch Mir's action	225	France. Improvements	253
Portuguese India. Mhowra flowers, import- ation	114	TENDERS—	
Russia. Tea, Indian and Ceylon	116	Aden Brigade's call	607
Turkey. Corn, suspension	180	Agra Ordnance Officer's call	7
United States. Camphor, artificial as duty free	175	Alipore Army Clothing Factory Superintendent's call	177
— Revisional measures	4	Allahabad Arsenal Officer's call	119
— Revision, remuneration for	ib.	Bombay Director of Royal Indian Marine's call	343
— CHANGES and Customs Notifications, 11, 66, 126, 180, 239, 296, 347, 404, 456, 507, 563, 610,	656	Calcutta Army Clothing Director's call	7, 447
TAX—		— Store and Shipping Officer's calls	177, 447
China. Opium, indigenous	194	Ferozepore Arsenal Officer's call	119
TEA—		Fort William Arsenal Officer's call	ib.
Exporters. Enquiry regarding	63, 119	Lahore Divisional Contract Officer's call	ib.
Sambalpur. Use spreading	192	Lucknow Divisional Supply and Transport Officer's call	177
Tannin, percentage	175	Meerut Divisional Contract Officer's calls	7, 447, 555
AUCTIONS—		Peshawar Divisional Contract Officer's call	447
Calcutta. Weekly	139, 200, 359, 469, 523	Poona ditto ditto	289, 343
BOXES—		Quetta ditto ditto	63, 233, 289
Woods for	69	Rawalpindi Ordnance Officer's call	7
BUSHES—		Siam. Locomotive and other railway materials and incinerators	616
Life duration	413	TENGUEH—	
Cess—		Trade figures. September quarter, 1907	114
Act. Enforcement of sections 2 to 7	62	TEXTILE FIBRE—	
CULTIVATION—		Discovery, new	230
Celebes	282	INDUSTRY—	
Life of bushes	413	Ahmedabad. Report	186
PRODUCTION—		Austria. Profits, 1907	360
India. Estimate, 1907	62	Bayrouth. Profits, 1907	360
TRADE—		China. Report, 1906	349
Export for Russian consumption	282	Condition	282
Calcutta. Auctions, weekly, 139, 200, 359, 469,	523	Europe. Report	31
China. Report, 1906	115	Fast printing	521
London. Prices, 1907	62	Germany. Profits, 1907	446, 468, 498
Persia. Consumption by Bakhtiari subject's prohibition	647	Hariambhai Manufacturing Co.	441
Review, 1907	189	Handloom. Appliances essential	286
Russia. Report, 1906	555	Italy. Report	353
— Consumption of Indian and Ceylon article	116	Japan. Profits, half-year, 1907	442
— Imports from India. Parliamentary proceedings	647	— Spinner's trust	659
— Indian article for consumption	282	Karachi Spinning and Weaving Co. Prospectus	498
United Kingdom. Import from China, 1907	174	Prospects, 1908	282
— Import from India, April, 1907 to first half of March, 1908	604	Punjab Government's Scholarship, 1908	341
Yezd. Report, 1906	72	Spinning and Weaving returns. Monthly, 138, 415,	572
TEAK TIMBER INDUSTRY—		United Kingdom. Work-rooms and their healthfulness	517
Siam. Report	193	United Provinces report, 1906-1907	509
TELEGRAMS—		— States. Mills construction, 1907	193
Baluchistan, British and India. Rates	550	—, Spindles and looms. Increase, 1907	498
China-Bhamo. Delay. Punjab Chamber on	561	—, Position	7
France. Letter-telegrams	6	—, Spindles, increase, since 1901	193
Mekran Coast and India. Rates	550	World's cotton consumption	172
Postage stamps as fee	387	—, operatives	ib.
Receipt	387	—, loom	ib.
Repetitions, demand for. Madras and Burma Chambers on	453, 562	—, spindles	ib.

	Page		Page
TEXTILE LABOUR—		TOBACCO—contd.	
Massachusetts. Restrictions from "Overtime Bill"	4	United States. Curing methods	131
MACHINERY—		—, Varieties	130
Looms. New Churchill	226	CULTIVATION—	
— Sayaji Poor Man's	ib.	Coch Behar. Report, 1906-07	386
United Kingdom. Exports, monthly	611	United States. Accounts	130
Wool Spinning machines at Kain and Seistan	550	—, Diseases and insects	132
MILLS—		—, Manuring	131
Electricity. Advantages and objections	134	—, Harvesting	ib.
— Use in	133	—, Plant bed	130
TRADE—		—, Seed selection	ib.
China. Report	349	—, Shading	132
— Imports, 1906	136	—, Soil	131
Germany. Figures, 1907	389	—, Transplanting	130
Italy. Markets and prospects	353	—, Varieties	ib.
Persia. American v. Italian	6	TRADE—	
Red Sea ports. American v. Italian	ib.	Madras License fees by Municipality. Chamber on	453
Shanghai. Market reports, weekly 1, 60, 115, 173, 282, 442, 498, 554, 602,	646	United Kingdom. Reports, 1907	465
Straits Settlements. Report, 1906	15	TRADE—	
United Kingdom. Spinning profits, 1907	231	Africa, West Coast. Depression	392
— Exports, India and East, for year ending October, 1907	13	Australia. Statistics	341
— States. Market report, weekly 7, 60, 198, 414,	173, 668	Bengal Frontier. Report, 1906-07	570
THRASHING MACHINES—		Bhutan-Bengal. Report, 1906-07	ib.
Agency. Enquiry regarding	447	Bombay. Cotton-seed exports, 1907	605
THYMOL—		—, Presidency. Report, 1906-07	568
Ajowan for manufacture of. Exporters, enquiry regarding	651	Cape Colony. Figures, periodical	404
TIBET—		China. Development	309
Marts	344	—, Opium. Report, 1906	194
Trade. Report, 1906-07	ib.	—, Report, 1906	612
TIL—		—, Tea. Report, 1906	115
(See Sesamum.)		Egypt. Figures, 1907	445
TIMBER—		—, Ready-made clothing	80
Burma. Saw-mills owners. Enquiry regarding	651	Figures, weekly 30, 85, 140, 199, 254, 312, 416, 472, 575, 619,	667
Mysore. License rules	59	France. Motors, exports, imports	183
United States. Exports, 1905-06	355	Germany, figures, 1907	392
—, Scarcity	392	—, Opening in Persia	128
TIME CONTRACTS—		Ispahan. Report, 1906	78
Manchester Chamber's views	388	Kerosine. Figures, weekly 30, 85, 140, 199, 254, 312, 416, 472, 575, 619,	667
— reference and Karachi	504	Khorasan. Exports and imports, Russian Report, 1906-07	502
Chamber on	604	Kinngchow. Report, 1906	23
TIN MARKET 61, 116, 172, 229, 285, 339, 390,	444	Lao. Report, 1907	174
MINING—		Land. Figures, periodical	250, 470
Malay States. Report	193	Nepal-Bengal. Report, 1906-07	570
ORE—		Nuski-Seistan. Figures, monthly	550
India. Output, 1906	302	Ocean. New channels	306
PLATE—		Openings in Persia	129
Welsh makers and American tinplate bars	116	—, Khorasan	502
TRADE—		Persia. Germany's advantage	128
Prices, 1907	287	—, Openings for India in Seistan and Kain	394
—, Sauerbeck's figures, 1907	460	Punjab-Kashmir. Complaints against trade returns	176
TOBACCO—		Punjab. Reports, 1906-07	613
Burning quality	615	Saigon. Rice export, fourth quarter and year, 1907	227
Ispahan. Report, 1906	79	Sambalpur. Condition	193
Nicotine percentage and determination	75	Sea-borne. Figures, monthly	524
Quantity	132	—, 1907	361
United States. Culture	131	Seistan and Kain. Facilities	394
		—, Openings for India	ib.
		Sugar imports, monthly	198, 414, 626
		—, weekly 31, 86, 141, 200, 313, 417, 473, 576, 620,	668

	Page		Page
VALUE-PAYABLE SYSTEM—		WHEAT ELEVATORS— <i>contd.</i>	
United Kingdom-India. Millowners' Association	455	New York. Rules for inspection, grading, storage, etc.	410
VANADIUM—		Openings	464
Alloys with iron or steel. Uses	570	— TRADE —	
VESSELS—		Australia. Shortage. Re-importation of supplies, terms for	2
Registration as British ships. New form	171	Western. Export, quantity available for, 1908	443
		Buenos Ayres. Weekly report	338
		Canada. Outturn	3
		Charts of monthly movements, February 6 (Supplement.)	
		Grading. Books on	295
		— rules	292
		Karachi. Dust percentage, Bengal Chamber's reference. Karachi Chamber on	655
		Market review, 1907	227
		Movement statistics from principal railway stations	464
		New York. Storage charges	411
		— companies	ib.
		— Tour charges	ib.
		— Sampling, etc., charges	412
		— Lighterage charges	ib.
		Prices, 1907	613
		— London	291
		— Fortnightly, at selected stations	
		139, 253, 359, 469, 574,	668
		Review, 1907	612
		— weekly	284
		Supplies, 1907	613
		United Kingdom. Arrival chart	291
		Rates, weekly 59, 116, 188,	
		235, 284, 338, 393, 443, 499, 553, 604,	650
		WHISKY—	
		Panjab. Duty	176
		WIRELESS TELEGRAPHS—	
		(See Telegraphs.)	
		WIRE ROPEWAYS—	
		(See Ropeways.)	
		WOLFRAM—	
		Cumberland	200
		WOLFRAMITE—	
		Central Provinces. Discovery	339
		Composition	407
		WOOD—	
		Packing cases, for	69
		— ALCOHOL—	
		United States. Exports, 1906 and previous years	665
		WOOD-WORK—	
		Carved. Manufactures. Enquiry regarding	343
		WOOD-PULP—	
		Paper, for. United Provinces	174
		WOOL—	
		Yarn making machinery. Enquiry regarding	63
		— INDUSTRY—	
		Tibet. Prospects	345
		United Kingdom. Report, 1905 and 1903	18

xxiv INDEX TO THE INDIAN TRADE JOURNAL, JAN. TO MAR., 1908.

	Page		Page
WOOL TRADE—		YARN TRADE—	
Australia. Market report, weekly 3, 60, 114, 175	176	Business condition at Shanghai, weekly report	646
Bradford. Colonial wool. Report, weekly	3	China, Japanese scheme	657
East India. Review 1907	307	Prize coupons by Japanese spinners	657
London. Colonial wool. Report, weekly, 3,	499	Production, probable, by local mills	349
Prices. Sauerbeck's figures, 1907	460	Europe. Short-reeled, contract for. Agitation	2
Review	77	European market for	64
Tibet. Figures and places of disposal	344	Exporters. Enquiry regarding	177
United States. Auctions at Hebua	550	Germany. Exports, imports, 1907	389
WASTE—		Imports, monthly	198, 414, 666
Importers. Enquiry regarding	177	Japan. Prospect in China	657
WOOLLEN GOODS—		Shanghai. Market report, weekly	1, 60, 115, 173, 282, 442, 498, 554, 602, 646
Importers. Enquiry regarding	ib	YELLOW OCHRE—	
INDUSTRY—		Purchasers. Enquiry regarding	393
Europe. Condition, 1907	307	YEZD—	
United States. New mills, 1907	193	Local industries	73
WORLD'S—		products	72
Coal mines. Workers and yield per head	31	Trade report, 1906	ib
Cotton consumption	172	YANG YANG TREE—	
operatives	ib	Cochin China. Cultivation and use	557
Crop prospects. Report, weekly 3, 59, 116, 175, 227, 283 338, 391, 490, 553, 604,	650	YOLK OF EGGS—	
Fur Trade	190	Mosul. Export trade	233
Gold production, 1907	607	Z	
stock	61	ZINC—	
Lead production	355	European works. Production	446
Looms, textile	172	Germany. Syndicate	500
Petroleum production, 1906	603	United Kingdom. Prices, 1907	447
Principal countries. Trade figures, periodical	81, 566	OXIDE—	
Rubber trade. Chief countries shares	228	United States. Production, 1906	451
Spindles	174	SHEETS—	
Tea trade, 1907	189	Germany. Prices	446
Wheat harvests, 1807-97	8	Importers. Enquiry regarding	119
		Locust killers	134
		Silesia. Report of industry	134
		ZINFRO—	
		Fasting food	608

Y
YARNS—
Short-reeling. Agitation

