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NOTES.

New Motor Rules, applicable to the whole of Burma, are published in the *Burma Gazette* of the 21st ultimo, on which date they came into force.

According to the *Englishman,* some **jute** grown experimentally at the **Lyallpur Canal Colony,** Punjab, has been pronounced by a Bengal jute expert to be "equal to the best jute grown in Bengal."

Amongst the latest **industries** started by Europeans at **Bagdad** is a flour mill, which, by the way, is driven by an oil-engine. A Turkish subject recently started a rice-cleaning plant there; but for some reason or other the local authorities have declined to permit it to work.

The **Dessi Cotton Mills, Ld.,** have been opened on the site of the Bengal Mills Co., Ld., **at** Mateabrooj, **Calcutta.** At present there are 450 looms in the weaving shed of which, however, only 250 are working. It is intended to gradually lay down a plant of about a thousand looms.

In the *Burma Gazette* of the 21st ultimo there appears a draft notification, which will be taken into consideration on the 3rd November next, providing that, with effect from the 1st January, 1908, a **royalty of Rs. 10 per 100 viss** (viss=3·125 lbs.) shall be levied on all **lac** exported by sea from Burma.

From a return supplied to us by the British Empire Motor Trades Alliance we learn that the total **exports in 1906 of motor cars of British manufacture** numbered 1,379 cars, valued at £495,399. The total number exported in 1905 was 1,078 (£376,230) and in 1904 it was 701 (£240,758). That is one side of the story. The other is that in 1906 Great Britain imported from foreign countries 5,484 motor-cars valued at £2,312,070, and of these cars France, we notice, contributed no fewer than 4,199, valued at £1,764,809. The figures for 1905 were 5,337 (£2,278,696) and, for 1904, 5,148 (£1,966,514). The lesson to be learned from these figures seems to be that France is far and away the largest exporter of motor cars and that England is one of her best customers.

Further communications have been received from firms in Europe desirous of entering into correspondence with shippers of **Indian cotton goods**, and copies, with such samples as accompanied them, have been forwarded to the various Chambers and Associations. In cases where only one set of samples have been received it has been sent to the Bombay Millowners' Association, with a request that the samples may be shown to such members of the other Associations as may call for that purpose. Replies have also been received from H. B. M. Consuls at Constantinople and Piræus giving information valuable to Indian shippers of cotton goods, and copies of these have likewise been sent to the various Associations. The Consul at Constantinople has also forwarded samples of 14 descriptions of grey cotton cloths in demand in that market, and these, on receipt, will likewise be sent to the Bombay Millowners' Association.

Now that an active demand for **Indian yarns** has sprung up on the Continent, where the metric system is in vogue, we would draw the attention of spinners to a useful little book entitled *International Yarn Tables*, published at one shilling by Messrs. J. and R. Parlane, Paisley. Among other things the book contains a series of tables which enable spinners, with ease, to mark on their packages and invoices, in addition to the local count, the equivalent of the International Metric System. The use of these tables would, at this juncture, tend to facilitate the export trade of Indian yarns; and at the same time prove very convenient for all calculations made in metres and grammes.

The number of bales of **cotton imported** into the **United Kingdom** during the week ended the 5th September, 1907, was 9,630 (including 135 bales British West Indian and 117 bales British West African), and the number imported during the thirty-six weeks ended the 5th September was 3,219,617 (including 5,568 bales British West Indian and 7,657 bales British West African). As regards exports, the figures are, for the week ended the 5th September, 1907, 10,597 bales, and for the thirty-six weeks, 370,361.

The object of the **Bill** to amend the law relating to **Private Trusts and Trustees**, which was introduced at a meeting of the Viceroy's Legislative Council, is to remedy two defects which experience has shown to exist in the law as it stands at present. Clause (*d*) of section 20 of the Indian Trusts Act 1882, is in one respect too narrow; in another too wide. It is too narrow, in that it does not permit the investment of trust money in the debentures or other securities of port trusts or city improvement trusts in the large towns of India, which are particularly suitable for such investments. It is too wide, in that it admits of the investment of trust money in the stock of municipal bodies, in the case of which, owing to subsequent legislation, there is no longer the guarantee of solvency which existed at the time of the passing of the original Act. It is to remedy these two defects that the present Bill has been drawn.

Natal's wool trade is steadily increasing, and gives promise that it will soon again reach the figures obtaining before the Boer war. The record of the exports for the year 1906-07 was 57,894 bales, against 45,980 bales in 1905-06, an increase of 11,914 bales, or 25·9 per cent. A proportionate increase for the current year would about restore the pre-war rate of export.

We learn from advices to hand by the Australian mail which reached Calcutta this week that shearing is now in full swing in the northern states, and wools from the Riverina and Darling districts of New South Wales, also from Queensland, are arriving freely in **Melbourne wool market.** The Riverina and Queensland wools are reported to be of excellent colour and quality, while, though lighter in the grease than last season, they are certainly not so long and bulky. The wool is good, but more fleeces are required to fill a bale than last year, which was to be expected in Riverina and other districts of New South Wales, where the season has been a very adverse one. Wool-buyers think there will be over 100,000 bales more wool than last year, because there are so many more sheep to shear; and, besides, they are inclined to over-estimate rather than under-estimate the clip. Most of the wool-broking houses estimate that there will be **little or no increase** in the Australasian production as compared with that of the year 1906-07, and that, even should there be some slight increase, the same will be counterbalanced by the decrease from North and South America and some of the European countries which latter produce less and less wool each succeeding year. As trade continues on a satisfactory basis, there is not likely to be much fluctuation in the value of the finer grades of wool this year. The regular **selling season** will open in Melbourne on the 7th instant (Monday next), by which time all the buyers will have arrived, and the market will have been well established by the holding of important sales in Adelaide, Sydney, and Brisbane.

In the course of a letter, dated the 5th ultimo, to the *Times of India* on **impure exports of cotton seed,** Messrs. C. A. Slater, Sons and Co., Liverpool, write:—"Business in this article is somewhat restricted and shippers have been having rather a bad time lately owing to large quantities of castor seed being found in the cotton seed. One shipment just arrived at this port on being examined, in some of the bags as many as 1,400 castor beans were found. An arbitration has taken place, and it has been held that the shipment containing such beans is not merchantable, and the buyers have the right to reject shipment. An appeal has been lodged against this decision and will be heard to-day, the result of which will be communicated to you in due course. If such a decision is upheld we may expect to hear similar trouble arising in Hull, also London. As the cake made from the cotton seed is used for cattle-feeding, the presence of castor seed makes it poisonous and almost valueless. A very large business was formerly done in Bombay kurdi cake, but as the presence of castor seed was found, it is absolutely impossible to work this article and a good trade has been lost. You will therefore see the necessity of something being done to save the business in cotton seed, and we should suggest a conference of the leading shippers to be held as early as possible to take some steps to safeguard their interests in this unfortunate affair."

We learn from Messrs. Noël Murray & Co.'s Report on the **Shanghai piece-goods trade,** dated September 5th, to hand by the last China Mail, that though the market for **Indian yarn** has been almost lifeless, fairly steady prices have been paid in all counts for what business has been done. The only demand is for the River markets, the total sales reported only amounting in the aggregate to 1,020 bales, as under:—No. 10s, 525 bales; Elphinstone (Flag) $64·75 (dollar=Rs. 1-8); Currimbhoy (Ring) $65·75/66·00 and Pabaney Mills (Ring) $68·00. No. 12s, 375 bales; Empress Mill, Engine (Chop) $68·00, China Mill and Currimbhoy (Mule) $68·50. No. 16s, 75 bales; Western India (Pony Carriage) $77·00. No. 20s, 45 bales; Empress Mill and Moon $81·00. The Japanese sales reported, which amounted to about 950 bales, show scarcely any change in prices, but the market is exceedingly quiet. The prices current at Shanghai range from $83·50 to $88·50 for No. 16s, and $89·50 to $94·00 for No. 20s. The latest Osaka quotations are:—Yen 124·30 for September and Yen 124·70 for October and November delivery (Yen=Rs. 1-8-6). There is no change to report in the Shanghai market in the way of fresh transactions, but clearances of old contracts are being carried out fairly well, under pressure. In the retail market the selling prices of bundles are weaker for the best spinnings of both 14s and 16s, the others being steady as follows:—No. 10s, $68·75/71·75, No. 12s, $68·75/77·75, No. 14s, $73·75/79·75 and No. 16s, $76·25/81·75. For old crop cotton quotations are nominally two mace lower (mace=3½ annas), *viz*:—Tungchow $19·80, Taichong $19·60, Four Chop $19·20, Best Steam Ginned and Shanghai Ordinary $18·80, Hankow $17·20 and Seed $9·50, while for the new crop the following prices are asked:—Tungchow $19·00, Best Steam Ginned $18·20 and Seed $8·75.

As we go to press later details of the state of the market for **Indian Yarns in China** have come to hand and are of a most satisfactory character. From these we learn that the cheapness of Indian yarns is causing them to carry all before them at the expense of American and Manchester goods. Quite a brisk business in the lower counts of Indian yarns is progressing for Newchwang, Tientsin and Kiaochow, all of which, of course, are distributing centres; and the quantity settled is said to be considerable. The future is regarded as promising, but the following paragraph is both interesting and significant:—"There is undoubtedly a great deal of political unrest in the north especially, and some important changes in the Government of this country appear to be pending. Nothing has got much beyond the rumour stage yet, but there seems to be such an unsettled feeling in the air that it is not surprising that credit in commercial circles is still being greatly curtailed. The outcome of the meeting in the Capital of China's two most influential Viceroys is being watched with intense interest, the more so as both seemed to try and shirk their responsibilities. Another movement which is of the utmost importance to the commercial community in these parts is the reported temporary retirement of the Inspector-General of the Imperial Maritime Customs. It is hoped, however, that the difficulties that presented themselves, when this question came up two years ago, have been so smoothed over that the interests of foreign traders will be efficiently safeguarded."

Indian opium figures in the import trade of **Pakhoi** for 1906 to the amount of 220 cwts., valued at Rs. 2,61,045, as compared with 209 cwts., valued at Rs. 2,34,120 in 1905. **Yunnan opium** is also represented with a modest 9 cwts., estimated at Rs. 9,000. This is interesting, as it affords an opportunity of comparing the respective values of the Indian and the native drug when landed there. Indian opium works out at Rs. 1,185 and Yunnan at Rs. 991 per cwt.

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

For the week ending 21st September, 1907—

In the Calcutta market—

Behar opium—Rs. 1,304; 1,303; 1,312; 1,310; 1,311; 1,307; 1,307.

Benares opium—Rs. 1,275; 1,275; 1,280; 1,280; 1,275; 1,275.

The prices in the time bargains for the Behar opium of the 10th sale of 1907 were, Rs. 1,307; 1,306; 1,315; 1,313; 1,314; 1,310; 1,310.

In the China market—

At Hongkong (exchange Rs. 165¾ to 166 per $100).

Behar opium—$805; 805; 805; 805; 805; 805; 805.

Benares opium—No quotations received.

At Shanghai—No quotations received.

In the Bombay market—

On the 15th and 17th instants (new, 1906-07) Rs. 1,238 to 1,320 and Rs. 1,275 to 1,320; on the 16th and 20th instants (new, 1905-06) Rs. 1,341 to 1,393 and Rs. 1,350 to 1,390; on the 16th and 19th instants (old, 1904-05) Rs. 1,448 and Rs. 1,400 to 1,463, respectively; the latest prices at Hongkong and Shanghai respectively were (new) Rs. 1,332 and 1,402; (old) Rs. 1,465 and 1,498.

The quantity and the value of **gold** extracted from the **Indian mines** in August, 1907, were 47,066 oz. and Rs. 26,87,176 and those of April to August, 1907, were 225,823 oz. and Rs. 1,28,90,948. The output as compared with the corresponding period of 1906 and 1905 was as follows :—

Month of August, 1907.

		1907.	1906.	1905.
Mysore	Oz.	45,916 Oz.	45,795 Oz.	50,929
	Rs.	26,21,176 Rs.	26,38,086 Rs.	29,22,919
Nizam's Territory	Oz.	1,150 Oz.	1,174 Oz.	1,217
	Rs.	66,000 Rs.	69,421 Rs.	69,152

Five months, April to August, 1907.

		1907.	1906.	1905.
Mysore	Oz.	220,223 Oz.	231,346 Oz.	257,770
	Rs.	1,25,70,698 Rs.	1,33,09,777 Rs.	1,48,01,129
Nizam's Territory	Oz.	5,600 Oz.	5,814 Oz.	5,615
	Rs.	3,20,250 Rs.	3,33,089 Rs.	3,21,140

With reference to the reports in circulation relating to **gold discoveries in Manica,** in the territory administered by the Mozambique Company, H. M. Consul at Beira (Mr. R. C. F. Maugham) now reports that the discoveries in question have not assumed anything like the importance that was attributed to them at the time. It is now generally believed, Mr. Maugham adds, that the expert opinion referred to in the previous notice was given under some misapprehension, and that what was regarded at the outset as the discovery of a valuable deposit was, in reality, nothing more than an isolated pocket of over the average richness.

The **tonnage of vessels** entered at ports in the **United Kingdom** from foreign countries and British possessions, with cargoes, during August, 1907, amounted to 3,698,865 tons, and the tonnage cleared to 5,151,189 tons, as against 3,839,572 tons entered, and 4,878,545 tons cleared during August, 1906. With regard to the coasting trade, the tonnage entered with cargoes during August, 1907, amounted to 2,677,257 tons, and the tonnage cleared to 2,693,511 tons, as against 2,834,943 tons entered and 2,800,516 tons cleared in August, 1906. The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes, during the eight months ended 31st August, 1907, amounted to 27,213,514 tons, and the tonnage cleared to 37,972,038 tons as against 27,650,544 tons entered and 35,837,736 tons cleared during the corresponding period of 1906. With regard to the coasting trade, the tonnage entered with cargoes during the eight months ended 31st August, 1907, amounted to 20,810,180 tons, and the tonnage cleared to 20,552,981 tons as against 21,820,899 tons entered and 21,525,686 tons cleared during the corresponding period of 1906.

We understand that since March last 170 cases of **synthetic indigo** have reached **Bushire** by Hamburg-American steamers. Each case weighed 136 lbs. net and either 3, 4 or 5 tins. A tin inspected by a correspondent, measured 20×12×8 inches and weighed 34 lbs. gross. The tin when packed tight in a case weighed 27 lbs. So far as is known, this indigo is not used in Bushire but is sent to Ishpahan, which is one of the great dyeing centres in Persia, where the **Indian indigo** has hitherto had a large consumption. The price of the synthetic indigo at Ishpahan is about 110 krans (Rs. 33 app.) for Shahman (£13). The price of natural indigo varies according to quality from 100 to 220 krans (Rs. 30 to Rs. 66) for Shahman. The prices of Indian indigo in Bushire at the end of July, 1907, were from Rs. 36 to Rs. 42 for Madras, and Rs. 18 to Rs. 24 for Khairpur per maund of 7¾ lbs. We are informed, however, that dyeing with artificial indigo has proved a great success at Ishpahan and at Sultanabad and is, our correspondent states, destined to supplant natural indigo. This is a matter that seems to be worthy of the attention of those interested in the Indian indigo, and steps taken to place on the Persian market a good class of natural indigo at the price at which the artificial dyes are sold and finally the question of standardization should receive a great deal more attention than has been bestowed upon it in the past.

H. M. Consul-General at Hamburg (Sir W. Ward, C.V.O.) has forwarded the following memorandum, based upon apparently reliable information supplied to a Hamburg newspaper, respecting the conditions which are considered at present to obtain in the

German coal industry and trade :—"The general rise in the price of coal in Germany is considered to be due partly to the exceptional briskness in the trade, but more especially to the disadvantage suffered by the Westphalian cartels in consequence of the inferior productivity of their workmen and of the rise in wages. The Westphalian Coal Syndicate is said to have been compelled, in order to satisfy the demand, to place large orders for coal in the United Kingdom, and this proceeding gave rise to partial strikes in Silesia, with the result that the interior of Germany, and especially Berlin, suffered from a shortage in the coal supply and was compelled to resort to the importation of British coal. Latterly, however, there has been, it appears, some improvement in the output in Westphalia and the insufficient supply of trucks is at present not so much felt as formerly; but on the other hand the difficulty in regard to sidings at the railway stations in the mining districts still continues. It is to be anticipated, however, that the usual large amount of traffic in beet and saltpetre in the autumn may again adversely affect the German coal trade."

The **prices of British corn** per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 7th September, 1907, were as follows :—Wheat, 31*s.* 11*d.*; Barley, 24*s.* 2*d.*; and Oats, 17*s.* 7*d.*

The total tenders received for the **Rangoon Municipal Loan** of Rs. 6,94,000 amounted to Rs. 16,95,000. The highest tender was Rs. 96. Tenders at Rs. 93-13 received 6·12 per cent. and above in full. The average was Rs. 94-8-9.

It is stated in Melbourne that there is a probability that a **Japanese-Australian iron and steel industry** will be brought into existence very soon. Recently the Japanese Government sent emissaries to Australia to report on the iron deposits, with a view to their utilization in Japan. These agents, it is said, are now negotiating for supplies with the Blyth River iron mines of Tasmania.

There has recently been a remarkable falling-off in the demand for **hematite iron,** and North-West of England smelters have been compelled to reduce their nominal prices to 80*s.* per ton net f. o. b. Most of them, however, are prepared to do business below this figure. This has resulted from the stoppage of all demand from America and the partial stoppage of the Continental orders which have been coming to the North-West of England for a long time past. The aggregate shipments this year to date have reached 631,282 tons, as against 568,469 tons in the corresponding period of last year, an increase of 62,813 tons.

A correspondent states in the *Times* Engineering Supplement that the **relative value of steel and cast-iron wheels** for passenger cars is still a subject upon which engineers are divided, notwithstanding the numerous tests made for the purpose of comparing their durability. "The chill on the tread of a cast-iron wheel only extends inwards for a fraction of an inch, and as the wear proceeds softer metal is encountered, while it is in no case harder than a steel tire." At a recent discussion at a convention of the Master Car Builders' Association, at Atlantic City, the above opinion appears to be warranted by actual tests, one speaker declaring that tests showed that the flattening of cast-iron wheels is more common than with steel wheels, and this appears to be the universal experience. The relative cost of the two kinds of wheel, wear considered, is a point upon which more testimony is desirable.

"There seems to be a very strong and widespread belief in **the iron and steel trades,**" says the *Manchester Guardian* of the 9th ultimo, "that the **fuel difficulty** which is threatened this winter will necessarily prevent any fall, and probably even cause a rise, in the prices of iron materials. Of course it is not possible to forecast with any degree of certainty the course of iron prices during the winter, but this much may be said with confidence—that fuel alone, whatever may be the price in this country, cannot sustain the iron market. If there were an absolute scarcity throughout the world some effect upon iron prices might be produced, but this is far from being the case. British iron prices are far more dependent now upon what may occur in America and Germany than they ever were before, and the market will be controlled not so much by the price of fuel here as by the position of German and American iron producers. There is a good margin of profit in iron and steel production at the present time, and it will be possible for many producers to pay yet more for their fuel and at the same time sell iron for less money. It is also well to remember that pig iron has been sold at a loss by British furnaces on many previous occasions, and that for long periods at a stretch."

The position in the **copper market** seems to become weeker rather than stronger as time goes on. A fall of over £30 per ton has produced no reaction worth speaking of, and the trade appears to be waiting for a further drop. If the statement in the *Ironmonger* is correct—that the metal is "accumulating at nearly all producing points" in America—it must be admitted that the situation is not very hopeful. It was not speculation but the actual rapid growth in the

consamption of copper which took prices from £40 per ton to £110 per ton, and if it be true that the rate of consumption is rapidly falling off, there is no combination conceivable that would be strong enough to uphold the market. It is stated that in the American brass trade business has fallen away to the extent of from 30 to 40 per cent., and we know that there is fully that decrease in the electrical trades. The other engineering consumption is still good, but it accounts now for only about a fifth of the world's copper consumption, and, however prosperous it might be of itself, it could have but little effect on prices. The position is certainly such that caution is necessary, and the temptation to look upon copper as intrinsically cheap when it may be only relatively cheap must be resisted.

We are informed that the Government of Bengal has decided to improve **road communications** in the **Sambalpore District** of the Orissa Division and has sanctioned an estimate for constructing 2nd Section of the Bargarh-Bolangir road from Barapali to the border of the Sonepur State. An estimate has also been sanctioned for improving the Sambalpore-Cuttack Road in the Sambalpore district.

The **Indian Postal Guide,** which has recently been made a quarterly publication, may now be subscribed for in advance. Subscriptions in respect of any number of copies per quarter will be accepted for any period of whole years at the rate of Re. 1 post free. All that is required to ensure the safe delivery of the desired number of copies of each issue is to hand in at any post office an application, upon which postage stamps to cover the amount of the subscription have been affixed, care being taken to get a receipt from the post office for this amount.

A Calcutta correspondent draws our attention to the fact that, owing to high ocean freights, India finds it very difficult to keep her hold on the **Strait's flour trade.** Now this trade is a considerable one. In 1905 it amounted to 60,293 tons while last year it leaped up to 76,328 tons, of which India's share was very small—2,429 tons valued at Rs. 3,36,190—the bulk of it falling to Australia. In fact this and other Far Eastern trade seems to be so much appreciated in Australia that, if we are to credit the Adelaide correspondent of the *North-Western Miller* (Minneapolis), the Victorian Minister of Agriculture has announced his intention to subsidise a regular line of steamers to Singapore; and, if he does so, the other States of the Australian Commonwealth will almost certainly follow suit. Our correspondent contends that the result will probably be that, handicapped by high ocean freights and subsidised steamers, India will practically drop out of the running for the Straits' flour trade.

The **clearances of silk** at the **Lyons** conditioning house during the week ended August 29th amounted to 161,521 kilogrammes as compared with 140,572 in the preceding week and 119,806 in the corresponding week of 1906. Appended is the detailed comparison with former years:—

Week ended Aug. 29th	Thrown. Organsins. Kilos.	Trames. Kilos.	Raw. Kilos.	Total. Kilos.
1907 .	19,814	23,832	117,875	161,521
1906 .	15,043	22,091	82,672	119,806
1905 .	21,344	25,790	111,956	159,090
1904 .	18,063	21,309	83,127	122,498
1903 .	18,093	18,042	101,793	137,928
1902 .	17,039	22,252	87,521	126,812

Trade in all descriptions of silk and for all the centres of consumption was well maintained at Lyons during the week, and manufacturers everywhere, being apparently without stocks, are constantly in the market for material to keep their looms going. The extreme poverty of stocks and the difficulty of replenishing them with certain descriptions of silk are, in fact, salient features of the situation, and are attributed partly to the accumulated needs of the trade and partly to the drought, which, by reducing the flow of the rivers, has diminished the production of throwsters. The market during the week was firm and advancing all round.

Under the auspices of the Liverpool Chamber of Commerce, Mr. C. H. Hayes, secretary of the Royal Exchange, Sydney, New South Wales, recently addressed a representative gathering of commercial men at the Exchange Station Hotel, Liverpool, where they assembled at lunch on the invitation of Sir Alfred Jones. Mr. Hayes, in an instructive address, stated that the great **recuperative power of Australia** was exemplified in the records established by all and every producing interest. A comparison of banking returns showed that the total deposits in the six States for the March quarter of 1906 amounted to £104,589,233, while for the corresponding quarter of this year they reached £110,888,979. From every State there came the same report of prosperity, and of plenty of employment for those who were willing to work. To those specially having any knowledge of agricultural pursuits and possessing a little capital to start with, no country offered such opportunities. He did not know whether they had sufficiently watched the development of the Australian States, and he thought it was necessary that some effort should be made by the Mother Country to fill up the vacant places and obtain a greater hold upon the trade of Australia before the Panama Canal was finished and before the United States took the initiative.

The judgment of the **Privy Council** in the appeal of the **Vasudeva Mudaliar and others *vs.* K. S. Srinivasa Pillai and another**, which was passed on July 22nd last, appears to have attracted some attention among business men holding mortgages on property, and the following particulars of the suit may prove of interest. It was an appeal from a judgment, dated March 13th, 1905, of the High Court of Madras, modifying a decree of the Subordinate Judge of Negapatam, and the object of the appellants was to enforce payment of an amount due under a mortgage by sale of the mortgaged property. The question was whether the **period of limitation** applicable to such a case was 60 years, under Article 147 in the Second Schedule to the Indian Limitation Act (XV of 1877), as held by the High Court, or 12 years under Article 132, as contended for by the appellants. It was, moreover, one as to which there had been great diversity of opinion among the Indian High Courts for many years past, almost from the time of the passing of the Act of 1877. The two Articles referred to above run thus:—Article 132.—Suit "to enforce payment of money charged upon immovable property," "12 years." Article 147.—Suit "by a mortgagee for foreclosure or sale," "60 years." The preponderating considerations, in the opinion of their Lordships of the Privy Council, were the following:—"The narrower construction escaped the necessity of attributing to the Legislature a great and sudden change of policy. It also gave effect to the ordinary presumption that the Legislature, when it repeated in substance in a later Act an earlier enactment, that had obtained a settled meaning by judicial construction, intended the words to mean what they meant before. The other construction failed in both those particulars." Their Lordships decided that Article 132 provided the rule of limitation applicable to the case. This judgment may seriously affect those who have been holding up mortgages for the accumulation of interest in the belief that the period of limitation was 60 years; and we understand that the Government of India are now considering the advisability of introducing a Bill to settle the question of limitation.

NOTICES.

ENQUIRIES.

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

Cooly Rations.

(125)—A firm in Natal desires to enter into communication with firms in Calcutta who may be in a position to export all kinds of provisions and condiments used by Indian coolies employed in the mines of Natal.

Darjeeling Bristles.

(126)—A Cawnpore firm requires quotations, f. o. r., Calcutta, from first-hand dealers in Darjeeling bristles.

Indian Produce.

(127)—A firm in Capetown desires to act as commission agents for Indian exporters of rice, coir, gunnies, or any raw material.

Silk Machinery.

(128)—A Calcutta firm desires to be furnished with particulars of machinery suitable for spinning, reeling and weaving raw silk. *(English and American papers please copy.)*

Indian Carpets.

(129)—An Indian firm of carpet manufacturers desires to be placed in touch with dealers in India, England, America, Germany and Japan.

CALL FOR TENDERS.

The Divisional Contract Officer, Maymyo, Burma, is calling for tenders for miscellaneous articles, including kerosine, sugar, tinned butter, rice, ghee, flour, coffee, and blankets, 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, the 9th October, 1907:—

Parliamentary Publications.

Colonial Reports—Annual Series—No. 536—Gambia, 1906. Home Work—Report from the Select Committee on ——. India—Statistical Abstract relating to British India, 1905-06. Local Taxation Returns (England and Wales) year 1904-05, Part V. Straits Settlements—Reports on the Federated Malay States, 1906. Training of British Boy Seamen—Report of the Departmental Committee appointed by the Board of Trade. United Kingdom—Monthly Accounts of Trade, August, 1907.

Foreign and Colonial Publications.

Australia—Facts about New South Wales. Canada—Weekly Trade Report, 3rd September, 1907; —Tariffs of Principal Countries with Additions and Corrections to June 1st, 1907. Netherlands—Annual Accounts of Trade, 1906. Norway—Norges Bergværksdrift 1904 og 1905. Portugal—Monthly Account of Trade, November, 1906. United States—Monthly Consular and Trade Reports, August, 1907.

Diplomatic and Consular Reports.

Turkey—Trade of Tripoli for 1905. Belgium—Trade of Belgium for 1906 and the first half of 1907. Italy—Trade of Leghorn 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., Ld.; 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. Nateson & 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, OCTOBER 3, 1907.

VARIOUS SOURCES OF ENERGY.

Perhaps the most readable article in the September number of *Cassier's Magazine*, from an industrial point of view, is "The Energy Problem of the Universe" by Mr. A. H. Gibson, M.Sc., A.M.I.C.E., who, in the course of a lengthy contribution, which is given the first place of honour, deals with this subject very thoroughly and from many standpoints. Omitting the vast possibilities of radium, he argues that the various sources of energy at the command of man may be roughly classified under four heads, namely:—(1) Energy leaving the sun and reaching the earth as radiant heat and as light, this energy being unstored. (2 Heat energy stored in the earth and available because of the high temperature of its interior. (3) The kinetic energy possessed by the earth in virtue of its diurnal rotation, and of which advantage may be directly taken by utilising the rise and fall of the tides as a source of energy. (4) The energy which may be liberated when chemical combination takes place between the various elements and compounds to be found in the earth. The energy of rivers and waterfalls, being only available in virtue of the re-evaporation of water which has reached the sea, he places under the first head; and the energy of the wind under headings 1 and 3, as that form of energy is partly due to the sun's heat and partly to the earth's rotation. Dealing with these headings in turn, he points out that many attempts have been made, and with some small success, to utilise to the best advantage the enormous amount of **heat that reaches the earth from the sun.** In California, for instance, by using huge parabolic reflectors, power has been obtained, an installation fitted with a reflector of 33 feet 6 inches in diameter developing just over 2 h.-p. under favourable conditions. By using this power to charge an accumulator, or to pump water into an elevated reservoir, a fairly steady supply of energy might be obtained. Moreover, experiments have proved that between the equator and 45 degrees north and south, with a clear sky and similar apparatus, quite 3·5 British thermal units per minute can be obtained for nine hours per day for each square foot of projected area perpendicular to the sun's rays. This works out at 8·2 h.-p. for each 100 square feet of projected area and looks very promising; but owing to the thermodynamic inefficiency of the complete apparatus, only about 12 per cent. of this can be utilised. For this reason, together with the high initial cost of the installation, and its maintenance, the utilisation of this source of energy, except on a small scale, is, under present conditions, unsatisfactory.

We next come to the **energy stored in the earth,** and find that practically no attempt has been made to take advantage of it on a large scale. In the geysers of New Zealand, Iceland and parts of the United States there is a never-ending supply of water at a temperature of about 200° F., with an abundance of cold water in the vicinity in each case—just the conditions necessary to work a motor using either vapour or carbonic acid gas, the boiler being treated by the hot and the condenser by the cold water. But these are exceptional instances. In boring towards the earth's centre it is found that after the first 100 feet the temperature increases 1° F. for every 60 feet in depth; and it has been calculated that it would be necessary to sink a hole to a depth of 6,000 feet to obtain a temperature of about 380° F. Now, could a supply of cold water be introduced into this hole and returned at a high temperature through a second hole, these two water supplies could be used as in the case with the geysers, and the supply would, to all intents and purposes, be unlimited. But here, as in the first case, appearances are deceptive. It is believed that the lowering of the temperature that would be caused by the entrance of the cold water, and the great loss of heat that would occur by absorption in the return bore would render the direct utilisation of this source quite impracticable on a commercial scale.

Next in order is **wind power,** which is utilised to a certain extent in various parts of India, notably in the Punjab. For small powers and irregular work it has its merits; but for large powers this method becomes so unwieldy and expensive as to be out of all proportion to the return. Besides, its unreliability tells heavily against it. On the other hand, **waterfalls and rivers** furnish at no great expense a source of energy equally suitable for large or small powers; and the time cannot be very far distant when most of the waterfalls in this country, particulars of which we gave in the issues of the *Indian Trade Journal* of the 6th and 20th June last, will be harnessed and the energy so obtained will be electrically transmitted to the nearest centre of industry. Mysore furnishes an excellent example of what can be done in this direction; and still more ambitious works are now in progress in Kashmir.

Another source of energy that also has the advantage of being open to Indian engineers is that furnished by **the tides.** If any considerable mass of this water could be entrapped, say, at high tide and allowed to escape through turbines, a large quantity of power could be obtained and stored up for future use; but it is this necessity for cumbrous storage systems that militates against the adoption of this scheme. Yet in a scheme of this kind carried out in the estuary of the Seine, near Honfleur, basins having a total area of 25,000 acres were enclosed at a total cost of Rs. 10,80,000. The tidal range there is between 10 and 16 feet, giving an available horse-power of 3,400 at neap tides and 8,800 at spring tides. On the mean power developed the capital cost worked out at Rs. 171 per horse-power. These facts lead Mr. Gibson to the conclusion that, since the mechanical difficulties in the way are not very great and the financial side being favourable, even with coal at its present price, "this method of utilising the energy of the tides is not only feasible but most promising for the future, giving, as it does, an almost inexhaustible supply of energy with absolute constancy." Attempts have also been made to utilise the energy contained in the **waves of the sea,** and, on a small scale, several methods are feasible but are too unreliable for general adoption.

At the present day the principal sources of energy are **coal and petroleum,** both of which come under heading 4. But it is perfectly clear that these supplies are distinctly limited; and Mr. Gibson argues that probably within the next 250 years the cost of coal will have increased to such an extent as to make the use of some other source of energy essential. In that day the fullest attention will be paid to the sources we have already named. Indeed, Mr. Gibson paints a fancy picture of the time when the world will have to very largely depend for its energy on the now despised sun's rays; and, as this power can only be obtained to the best advantage in the vicinity of the equator, there will be a general moving of the industrial centre of gravity of the earth's population to a point within equatorial limits; so that "Back to the Tropics" seems to be written large on the sign posts of the distant future. The engine of the near and also the distant future, he considers, will be the steam turbine, worked for the present by coal or petroleum, and, finally, by solar heat, the energy created being stored till required; but for **marine propulsion and aerial navigation,** where a highly concentrated form of energy is required, the internal combustion turbine, having alcohol as its fuel, will finally become the standard motor.

—Anti-Selenita is the name of a fluid now being manufactured in Monterey, Mexico, for cleaning away and **preventing scale in boilers.** According to the local American Consul, the article is meeting with great success. "It is said," he reports, "to effectually remove scale from boiler tubes, and that it works no injury to the tubes nor to the boiler shell. The compound has been introduced into various countries in America and Europe. It is manufactured wholly from vegetable substances from plants found in Mexico, and is developing into a large local industry. It has come into almost universal use in this country with all industries that use steam boilers, yet the greater portion of the product of the factory goes to the United States and Canada, where boiler users seem to find it a successful solvent and preventive of calcareous scale in boilers."

CHAMBERS OF COMMERCE.

BENGAL.

We take the following particulars from the abstract of the proceedings of the Committee of the Bengal Chamber of Commerce for the month of August, 1907 :—

The recent decision of the Secretary of State, to divert half the profits on additions to the coinage, from the **Gold Standard Reserve Fund** to capital expenditure on Indian railways, has occupied the attention of the Committee during the month. In May last they pressed upon the Government of India the urgent necessity for increasing the railway grant to its original limit of £10 millions. But their suggestion was that the necessary funds should be raised by loan. The recent decision to provide the money by diverting part of the coinage profits has provoked much adverse criticism, and has been protested against by the Bombay and Madras Chambers of Commerce on the ground that the Gold Reserve has not yet reached a safe limit. The Committee of this Chamber were of opinion that so long as existing trade conditions continue, no adverse effect of the decision would be apparent. But at the same time they considered that changes in regard to the Reserve had been of late too frequent. Such modifications of policy were, they thought, calculated to disturb public confidence, and so to tend ultimately in the direction of defeating the main object which the Government have in view. There was an idea abroad that the Government were pursuing a hesitating and vacillating policy in regard to the Reserve, and this idea should be dispelled as quickly as possible. It was their opinion that this could best be done by the appointment of a Commission of Experts to examine the Currency question, particularly in so far as the Gold Reserve is concerned. Such a Commission would, they believed, be able to define and to limit the policy of Government for a period of, say, ten years. And if so, the result would be that changes of policy in regard to the Reserve would be fewer than they have been recently, and confidence would be thereby promoted and maintained.

The Committee addressed the Government of India on these lines on the 6th September, and their letter has been published for information.

It was mentioned in the last Abstract that the Committee had addressed the Government of Eastern Bengal and Assam with reference to the **jute forecasts** submitted by District Officers. In July, 1905, an arrangement was made by the Director of Land Records and Agriculture, Bengal, whereby each District Officer was to forward to the Chamber a copy of his preliminary jute return. The originals of these returns are forwarded to the Director, and the jute forecast is based upon the information which is given in them. This arrangement has been in force since 1905, and has given great satisfaction to the trade. But the Government of Eastern Bengal and Assam decided to discontinue it, beginning with the first forecast for the current season. Against this decision the Committee protested, and they have not so far received a reply to their protest. But they have been informed by the Director of Agriculture, Bengal, that the Government of India, in consultation with the Local Governments, have decided to discontinue the arrangement in question. District Officers are to send copies of their returns to the Director-General of Commercial Intelligence, who will post them for information at the street door of his office. The Committee of the Chamber are of opinion that such a method of making the information public is altogether insufficient, and they have represented the whole question to the Government of India. They have asked that the existing arrangement, which has worked admirably, should be continued, affording as it does a most expeditious and satisfactory way of enabling the trade to obtain the information.

The proposed Bill to provide for the **Registration of Partnerships** was last referred to in the Abstract for January of the present year. After prolonged consideration with their legal advisers, the Committee resubmitted the Bill, on the 12th February, to the different Indian Chambers of Commerce for opinion. The Chambers have given careful attention to its provisions, and have favoured the Committee with valuable reports. The last of these was received during the past month, when the Bill, with the opinions expressed upon it, was again placed by the Committee before their Solicitors for submission to Counsel. When such amendments have been made in the draft as Counsel may consider necessary, the question of again approaching the Government of India respecting it will be discussed by the Committee.

At their meeting on the 27th August the Committee had before them a letter, dated 2nd August, regarding the **Short Reeling of Yarns** from the Secretary of the Singapore Chamber of Commerce and Exchange, forwarding a Report and a statement of results of tests upon ten samples of Bombay yarns bought in the Singapore market. The report was to the effect that the yarns were irregular in both lengths and counts. It was considered that to ship such yarns from India was illegal, seeing that buyers were not only likely to be deceived, but in many cases were deceived in both lengths and counts. A request was made that the Bengal Chamber would use its influence to prevent the exportation of yarns of this description.

It did not appear to the Committee that they could take action, as the yarns were exported from Bombay. They decided, however, to inform the members of the Chamber that the report had been received, and that it could be seen at the office, where samples of the yarns were also available for inspection.

In the Abstract for June the Committee stated that they had addressed the Government of Bengal with reference to the **proposed canalisation of Tolly's Nullah**. They urged that it should be promptly undertaken in view of its great importance to the general trade of the province. The Secretary

to the Government of Bengal, Irrigation Department, replied on the 1st August, defining the present position of the scheme. It appeared that detailed instructions for the preparation of preliminary plans and estimates had been given by Government. These instructions were outlined, and a summary of the steps which had been taken so far in connection with the project was given in the letter.

The Committee were glad to observe that progress was being made, and they decided to take no further action at present.

On the 1st August the Committee were consulted by the Government of Bengal with reference to a proposal made by the Port Commissioners for the levy of a charge on **burst bales of jute at the Kidderpore Docks.** The Port Commissioners complained that burst bales of jute, which could not be shipped, were sometimes left for a considerable period in their custody. With the object of inducing shippers to remove such bales promptly, it was suggested that a charge for rent should be levied upon them. The Commissioners considered that three days' free time would be sufficient. On the expiration of that period, the bales would be removed to a convenient shed or warehouse, and a removal charge of one anna would be incurred. Upon bales so removed rent would be levied on the following scale :—For the first week, or part of a week, 2 annas ; for the second week, 4 annas ; for the third week, 8 annas, and for the fourth week, Re. 1. If the bales were not removed after a month, they would be sold by the Commissioners to defray the charges incurred.

The Committee referred the proposal to the Calcutta Baled Jute Association, who still have it under consideration.

The attention of the Committee was drawn in July to a proposal that **jute in bales** despatched from river stations should, at the time of despatch, have the **number of the railway receipt marked on a gunny label**. This proposal was protested against by those interested in the loose jute trade; and the assistance of the Committee in regard to it was invited. The Committee referred it to the Calcutta Baled Jute Association and the Indian Jute Mills' Association ; and they understand that a conference was subsequently held by representatives of those bodies, and of the Inland Steamer Companies, and the Eastern Bengal State Railway, in regard to it. The result of the conference was that the proposal was to be further discussed by the railway authorities and the steamer companies with a view to a practicable scheme being put forward.

On the 31st August the Committee published, for the information of members of the Chamber, papers received from the Director-General of Commercial Intelligence with reference to the **trade in Indian yarns** with various markets in the Levant and Europe.

BOMBAY.

The following extracts are taken from the proceedings of the Committee of the Bombay Chamber of Commerce for the month of August, 1907 :—

Read letter, dated 8th August, 1907, from the Government of India, in reply to the Chamber's representation, dated 11th July, in which the Committee criticized the decision of the Government to take from the profits on coinage accruing this year the additional Million Sterling which it is proposed to spend on the purchase of Rolling Stock. The Chamber, in its letter referred to above, pointed out that the **Gold Standard Reserve Funds** was formed for a definite object, and that until the invested portion of this reserve reached a much larger figure, there should, in their opinion, be no attempt on the part of Government to divert the funds for other purposes, however urgent such purposes might be.

The Government of India in their reply state that the decision arrived at was that from the beginning of the current financial year, and until the sterling investments of the Gold Standard Reserve reached a total of twenty millions sterling, the profits on coinage shall be invested in sterling securities to the extent of one-half only and the other half appropriated for railway capital expenditure. The whole of the interest on investments will continue to be invested in sterling securities as hitherto. The Government of India invite the attention of the Chamber to references to this subject in the recent Budget debate. Since then the question has been under the consideration of the Secretary of State and the Government of India, and the conclusions arrived at were that ample provision for maintaining the value of the rupee already exists; and that in view of present trade conditions, of the amount of the Sterling Securities held in the Gold Standard Reserve, and of the amount of the Gold in the Currency Reserve and in the Treasuries, any danger of a fall in exchange is illusory.

The Government of India point out further, that they have available for the purpose of combating a fall in exchange a sum of about twenty-three millions sterling, and that twenty millions sterling has been held to give a reasonable guarantee of safety. But in order to err on the side of caution they have decided to continue the investments to the extent of half the future profits on coinage until the reserve reaches twenty millions sterling.

Resolution.—The Government of India to be thanked for the courteous and interesting explanation contained in their letter as to their recent attitude in this matter. With regard to the sum of £25,000,000 alluded to in this Chamber's representation of 11th July it should be explained that this was not meant to indicate a limit beyond which this Chamber considered that investments need not be continued, for on this point the Committee have not expressed an opinion. The figure referred to was taken from a telegram published by Reuter on the 9th of July detailing the Secretary of State's reply to Sir Edward Sassoon, who had asked a question on this subject.

The Committee note from the 6th paragraph of the Government of India's letter that had time permitted, Government would have published their proposals and would have invited the comments of

Chambers of Commerce and other public bodies on the step that has recently been taken. In conclusion the Committee said :—

"The urgent demands for additional rolling stock are admitted, and the Chamber notes that the state of the London Money Market rendered it inexpedient to raise the amount required by sterling borrowing. This remark opens up, however, the question of the financial policy of Government as regards the Railways of this country, but on this point my Committee do not propose to make any comments at the present time. They quite appreciate the reasons which influenced Government in their action, but at the same time they feel, as pointed out in my last letter, that in not taking the general public into their confidence they have created a feeling of distrust in their financial policy, which is to be regretted."

Read letter, dated 6th August 1907, from Messrs. J. A. Begbie & Co., asking for information on a point that has recently arisen in connection with the **Scale of Bombay Yarns** to Continental buyers. The firm, in asking for an expression of the Committee's views, explained that manufacturers might occasionally fail to deliver their goods within the time stipulated, and the merchant in turn, on account of the default of the manufacturer, might be unable to ship such goods within contract date. It was reported that buyers on the Continent, under such circumstances, were not satisfied with their right of cancelment, but maintain that a further responsibility rests with the sellers, and that they (the buyers) are entitled to claim allowances.

Resolution.—Messrs. J. A. Begbie & Co. to be informed that unless the Contract of Sale stipulates to the contrary, the buyer can always claim damages under the law. If, for instance, there is no clause as between buyer and seller to the effect that the latter is not responsible if the mill is late in the delivery of yarn, the buyer has power under the ordinary law to claim any loss of profit or damages he may have sustained.

Read letter, dated 22nd August, 1907, from Messrs. Ralli Bros., calling attention to the **Present Method of Stowing Manganese Ore.** It was explained that the method of stowing this ore is to make a cone-shaped pile in the centre of the hold, around which bag cargo is stacked, separation being afforded by mats. But at the port of destination the discharging of the bag cargo soon exposes the cone, and across this the other bags are frequently dragged with the effect of displacing the mats, and causing rents in the bags by the sharp-edged lumps of ore. In the case of seed shippers considerable loss is incurred on these occasions as a very large percentage of the seed that is scattered gets mixed up with the ore and cannot again be recovered.

Resolution.—A Circular to be addressed to Shipping Companies in Bombay, calling attention to the matter, and suggesting—with the view of remedying the evil complained of—that stevedores be instructed to trim the ore **flat** in the holds, and thus diminish the chances of injury to bag cargo.

Read letter, dated 17th July, 1907, from the Secretary, Railway Board, stating with reference to previous correspondence, that in the **new Contract between the Secretary of State and the Bombay, Baroda & Central India Railway Company** for working that Railway, the Rajputana Malwa Railway, and the subsidiary lines, power has been reserved for the Railway Board to, at any time, require the Company to quote over the Railways comprised in the undertaking such rates in respect of the conveyance of passengers and goods to and from Western ports lying between Karachi and Bombay inclusive, as may be necessary, in the opinion of the Board, to secure the carriage of trade to and from such ports on equal terms, and under this power the Board may require the quotation of a rate from stations of consignment to destination—(i) where the route is entirely over the undertaking; (ii) where the route is only partly over the undertaking.

Resolution.—To be recorded.

MADRAS.

At a meeting of the Committee of the Madras Chamber of Commerce held in August, 1907, the following subjects came up for disposal :—

At the General Meeting held on the 30th July it was resolved to refer the papers on **Fast Colours in Piece Goods** to the Imports Sub-Committee and Messrs. Marshall Reid, C.I.E., and S. Jackson, with a request that they would favour the Chamber with any opinions that they might consider it necessary to offer. After the Minutes had been read, it was resolved to address the other Chambers informing them that, in this Chamber's opinion, it was desirable that steps should be taken to prevent inferior printed and dyed goods masquerading as superior ones by restricting the use of "fast colour" tickets to such goods as would pass a fair test; that this Chamber would be prepared to join in any movement with this object, and that it would be glad to learn the opinions of the other Chambers.

Read and recorded a letter, dated the 16th August, 1907, addressed by the Chamber to the Government of India, Finance Department, protesting against the policy of deflecting any portion of the profits on coining from the **Gold Standard Reserve.**

Read a letter, dated the 24th instant, from the Chairman, Madras Port Trust, with enclosures, on **Madras Harbour Improvements** and expressing the hope that the Chamber would support the resolution of the Port Trust Board passed at its meeting on the 21st instant. Major Bonham-Carter, R.E., proposed the following Resolution which was unanimously adopted :—"The Chamber, having considered the proposals put forward by the Port Trust Board for the further expenditure of cash balances on additional facilities in the harbour, desires to most strongly support the scheme even though involving the necessity of small temporary loans from Government. It is observed that while providing conveniences which have been long pressed for by the Chamber the scheme in no way prejudices the

future developments, whether in the direction of wharves or docks, should these be found desirable later on."

BOMBAY MILLOWNERS' ASSOCIATION.

We take the following excerpts from the proceedings of the Committee of the Bombay Millowners' Association during the month of August, 1907 :—

Read further letter from the Collector of Bombay on the question of making the provision of a **Salinometer** in good repair ***obligatory on all Engineers*** in charge of boilers. The Collector pointed out that this correspondence was initiated because it came to his notice, in one case at least, that the Engineer had no salinometer. He contended that if most Engineers possessed them, there seemed to be no reason why they should not be made compulsory.

Resolution.—The Collector to be informed that the Committee consider that legislation regarding so small a matter is hardly necessary, especially in view of the fact that a Circular Notice has recently been issued by the Association to all its Members emphasizing the necessity of always having such salinometers and maintaining them in good working order. Add that the Committee will, however, raise no objection should Government still consider that legislation is advisable.

Read letter from the Director-General of Commercial Intelligence, forwarding extracts from communications from British Consuls in Europe who were addressed by him on the subject of India being able to supply in some measure the deficiency of **yarn in Europe.**

Resolution.—The Director-General to be thanked for his letter, and copies of extracts to be circulated to Members.

Read letters from Messrs. Duncan, Stratton & Coy. and Messrs. Marshall Sons & Coy., Ltd., with reference to the precautions suggested by the Collector of Bombay, for the **prevention of the bursting of pressure pipes.**

Resolution.—The Collector to be informed that the Committee after obtaining expert opinion believe that one safety valve is sufficient and that this should be fitted on all hydraulic pumps; but as this is a question which affects presses more than mills, the Committee feel thay are not in a position to give any opinion as to the necessity or otherwise of legislation in this matter.

Read letter from the Chairman, Swadeshi Sub-Committee, Sarvajanik Sabha, Poona, stating that the Sabha intends sending agents to the mofussil to advocate **the Swadeshi cause.** That as there is a vague suspicion abroad that much British cloth is smuggled into the Indian market and sold as Swadeshi, they wished the Association to supply them with some samples of cloth produced in the Indian Mills. They further requested that a representative of the Sabha be permitted to visit the mills at times, and see for himself whether the alleged suspicions are unfounded.

Resolution.—The writer to be informed that while the Association sympathises with the endeavours of the Sabha to promote the indigenous industries of the country, it is not in a position to comply with their request. With regard to his desire to be allowed to send agents of the Sabha to visit mills with the object of removing vague suspicions, the writer should be informed that the Committee have no authority for the sanction of such a procedure. The Sabha should write direct to individual mills for the permission they desire.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

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

Australian Commonwealth.—Entry of goods under the British Preferential Tariff: Statutory declaration accepted.

Barbados.—Continuation of Import and Excise Duties to 31st March, 1908.

Germany.—Privileged Customs Treatment of Silk Twists.

Netherlands.—Tariff Classification of "Cedar Nuts" and "Myrrah Beans."

France.—Reduced Duty on Cocoa Imported from Dahomey into France.

French Colonies.—Import Duty on Cocoa in French West African Colonies. Export Duty on Madagascar Rubber. Forthcoming Increase of Alcohol Tax in Algeria. Algerian Octroi de Mer Tariff.

Switzerland.—Customs Decisions.

Roumania.—Tariff Treatment of Insecticides and Bottles.

United States of America.—Unsigned Protest of no effect. Customs Decisions.

Argentine Republic.—Alcohol Surcharge on Imported Fruits Preserved in Alcohol.

China.—Abolition of Wharfage Dues at Dalny.

—Attention has been directed in **Portuguese East Africa** within the last year or two to the cultivation of fibre plants, and a considerable plantation of **sisal hemp** has been started in the Inhambane district. It is stated to be immune from the attacks of white ants or other insects and to flourish in the dry sandy soil which is found near the coast. Experiments have been made with the same plant near Lourenço Marques, and some of the fibre produced has been pronounced to be excellent, both in length and quality. Major Baldwin, the local Consul, thinks other varieties of the *agave* would no doubt do equally well, and there seem to be possibilities in their cultivation.

DATA OF TEMPERATURE, HUMIDITY AND RAINFALL FOR THE WEEK ENDING TUESDAY, THE 1st OCTOBER, 1907.

Station.	Temperature (mean of maximum and minimum).		Humidity (percentage of amount for saturation).		Rainfall.		
	Actual.	Departure from normal.	Actual.	Departure from normal.	Total during week.	Total since 1st June.	Departure of latter from normal.
	°	°	%	%	"	"	"
Burma.							
Lower Burma . Mergui	83	+1	83	−5	1·4	102·3	−18·2
Tavoy	82	+3	90	−2	0·5	186·8	+20·4
Moulmein	82	+1	92	0	0·4	171·9	+20·9
Rangoon	84	+2	89	−4	2·2	67·1	−7·5
Bassein	83	+2	91	−1	0·6	88·5	+0·2
Akyab	83	0	92	0	1·0	100·9	+28·9
Toungoo	84	+1	90	0	4·2	74·8	+12·2
Upper Burma . Thayetmyo	85	+2	83	−2	0	18·9	−7·0
Yamethin	84	+1	87	0	3·0	22·7	+1·0
Mandalay	86	+1	83	0	2·6	15·2	−3·4
Bhamo	81	−1	92	+2	1·3	57·1	−1·7
Eastern Bengal and Assam.							
Assam . Dibrugarh	78	...	93	...	1·4	69·4	−5·0
Tezpur	80	...	92	...	1·9	49·6	+2·5
Dhubri	79	−1	91	0	1·7	71·0	+1·2
Shillong	67	...	82	...	3·2	42·8	−13·0
Silchar	80	−3	90	−1	2·1	92·0	+16·8
Eastern Bengal . Chittagong	82	0	85	−1	0·1	47·8	−2·1
Barisal	85	+2	88	+1	0·8	47·2	−6·1
Narayangan	85	+2	85	−3	0	46·3	−5·5
Mymensingh	83	+1	89	−2	3·4	46·7	−1·8·4
Malda	83	0	90	...	1·1	47·3	+3·4
Jalpaiguri	81	+1	91	0	5·1	106·8	+5·5
Bengal.							
Bengal . Berhampore	86	+2	84	−5	0	28·1	−13·6
Calcutta	86	+4	87	+1	0	41·2	−3·9
Orissa . Balasore	86	+3	83	−4	1·1	33·0	−13·6
Cuttack	86	+2	81	0	0·2	58·5	+12·9
Sambalpur	85	+2	78	−1	0	50·6	−10·1
Chota Nagpur . Chaibassa	84	+2	86	+3	0	40·2	−0·9
Purulia	84	...	88	...	0·5	48·9	+4·1
Hazaribagh	81	+3	55	−24	0	54·0	+8·9
Bihar . Darjeeling	60	+1	91	0	1·1	69·6	−3·7
Darbhanga	84	+1	90	+5	0	34·7	−7·8
Patna	83	+2	70	−10	0	32·5	−8·3
Motihari	84	+3	93	...	0·1	36·6	−7·9
Buxar	86	+4	63	...	0·1	21·4	−14·0
United Provinces.							
United Provinces, East . Allahabad	87	+3	50	−27	0	22·7	−13·2
Bahraich	86	+2	63	−16	0	14·2	−27·6
Lucknow	87	+3	49	−28	0	13·5	−21·0
United Provinces, West . Jhansi	89	+5	62	−6	0	20·6	−15·2
Agra	87	+3	45	−23	0	19·0	−7·0
Bareilly	85	+3	63	−16	0	21·7	−21·3
Punjab.							
Punjab, East and North . Delhi	88	+4	48	−14	0	7·5	−16·5
Sirsa	87	+1	48	−11	0	12·9	+1·4
Ambala	84	+1	55	21	0	16·6	−9·7
Lahore	87	+3	52	−10	0	9·2	−6·1
Punjab, South-West . Rawalpindi	84	+6	44	−23	0	13·1	−9·4
Multan	87	+1	58	−4	0	6·0	+0·6
Kashmir . Srinagar	64	+3	82	−6	0	9·0	+1·1
North-West Frontier Province. Peshawar	82	+2	48	−13	0	2·3	−2·1
D. I. Khan	89	+4	65	+3	0	5·2	+0·2
Sind . Jacobabad	86	−1	79	+15	0	3·2	+0·7
Kurrachee	83	−1	77	−3	0	5·7	−1·0
Rajputana.							
Rajputana, West . Bikaner	87	−1	69	+9	0	18·8	+9·7
Jodhpur	83	...	66	...	0	9·9	−2·1
Rajputana, East . Udaipur	81	...	55	...	0	16·0	...
Ajmer	85	+3	59	−10	0	11·1	−8·4
Jaipur	84	+1	59	−12	0	13·4	−10·4
Kotah	87	...	46	...	0	15·3	...
Bombay.							
Gujarat . Bhuj	81	−3	87	+15	0	14·5	+0·8
Deesa	83	−1	73	+3	0	52·3	+29·2
Ahmedabad	85	−1	71	−1	0	32·8	+1·0
Rajkot	82	0	75	−6	0	19·3	−7·7
Veraval	78	−2	80	−2	0	19·5	+2·7
Konkan . Bombay	82	+1	89	+2	1·0	100·3	+28·7
Karwar	79	0	88	−2	0·7	93·6	−17·2
Bombay Deccan . Malegaon	84	+4	62	−11	0	21·7	+1·7
Ahmednagar	81	+4	72	−7	0·7	17·1	−0·3
Poona	78	0	84	+4	4·4	39·4	+19·1
Bijapur	80	+1	84	+1	2·8	9·1	−6·9
Belgaum	74	+1	90	+3	5·1	52·4	+14·7
Central India.							
Central India, West . Neemuch	83	+3	48	−21	0	13·8	−9·5
Indore	81	+3	57	−23	0	27·1	−3·6
Central India, East . Sutna	83	+3	64	−13	0	28·8	−11·6
Central Provinces.							
Berar . Akola	87	+6	54	−22	0	17·3	−11·5
Central Provinces, West . Saugor	84	+5	47	−29	0	34·0	−10·5
Jubbulpore	81	+2	66	−13	0	28·4	−25·8
Seoni	81	+2	52	−27	0	33·1	−16·0
Nagpur	84	+2	66	−9	0	42·7	−0·7
Central Provinces, East . Chanda	84	+2	75	−1	0	40·2	−9·1
Raipur	83	+1	81	+4	0	45·5	+0·3
Hyderabad.							
Hyderabad, North . Nizamabad	83	...	73	...	0	27·1	...
Hyderabad, South . Gulbarga	82	+2	74	−5	0·7	28·5	+3·1
Hyderabad	83	+4	74	−3	0·1	17·9	−6·9
Raichur	83	+3	77	−2	0·4	18·1	−5·7
Mysore . Bangalore	75	+1	88	+3	4·9	20·6	+1·6
Mercara	70	+2	86	−5	1·8	115·8	+11·0
Madras.							
Malabar . Cochin	80	+1	88	+3	4·2	88·0	+15·0
Trivandrum	78	0	88	+5	8·3	49·2	+22·0
Madras, South-East . Pamban	85	+2	80	...	0	0·7	−1·8
Negapatam	84	0	89	+2	1·0	9·1	−1·5
Coimbatore	81	+1	81	−5	1·0	7·1	+1·7
Cuddalore	82	−1	80	−5	0·3	14·0	−3·3
Salem	82	+1	82	+1	3·9	15·1	−5·6
Madras	84	−1	82	+1	0·5	10·1	−6·7
Madras Deccan . Cuddapah	87	+3	74	0	0·1	5·8	−10·5
Bellary	82	0	79	+8	0·8	9·7	−0·9
Madras Coast, North . Nellore	86	+1	75	−6	0	6·2	−6·3
Masulipatam	85	+1	77	−7	0·1	17·9	−5·5
Waltair	84	+1	75	−4	0·5	15·0	−6·9
Gopalpur	85	+1	80	−3	0	14·2	−15·0

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

Burma.—Ample rain fell throughout Lower Burma and in the northernmost districts, and moderate rain in the dry zone, where prospects have somewhat improved on account of the recent rain. The rainfall registered in inches was as follows:—Shwebo received over 7 inches; Pakokku, Lower Chindwin, Meiktila and Myingyan over 2 inches; Sagaing nearly 3 inches; Thayetmyo, Mandalay and Kyaukse about 1 inch; Myitkyina about ½ inch; Minbu and Yamethin about ¼ inch; and Magwe an infinitesimal amount. Transplanting of wet weather paddy is completed in Thaton; is progressing in the flooded tracts of Amherst; and is approaching completion in most districts. Sowing of beans, *jwar* and sesamum has commenced in the Tarngtha and Myingyan townships of Myingyan. Reaping of early sesamum has been completed in the Natinauk township of Magwe; and sowing of late sesamum in the Yinmabin sub-division of Lower Chindwin. Plucking of maize has commenced in the Gangaw township of Pakokku and gathering of cotton is progressing in Meiktila. The standing crops have been damaged by insects in the Kyaukpyu township of Kyaukpyu; and by rats in the Pantanaw township of Maubin, the Einme township of Myaungmya and the Paan township of Thaton. Considerable destruction of crops by floods has occurred in Amherst, but the area is not yet reported; replanting, however, is in progress. Sesamum is withering for want of rain in parts of Thayetmyo and paddy plants in the Yamethin sub-division of Yamethin; ground-nut in the Magwe township; and *jwar* in the Yenangyaung township of Magwe have withered in part. Crop prospects are good in Lower Burma; and have improved in Shwebo and Lower Chindwin. Ground-nut, peas and cotton plants are very poor in Myingyan. In the unirrigated tracts of Mandalay crops continue unsatisfactory. Crops are poor in the Pauk, Pakokku, Myaing and Seikpyu townships of Pakokku. Rain is still wanted in parts of Meiktila and elsewhere. The price of paddy has risen considerably in Pakokku and slightly in Rangoon and Mandalay; it has fallen slightly in Myingyan and Magwe; elsewhere it is stationary.

Eastern Bengal and Assam.—The weather is hot and cloudy. Slight to moderate rain fell in all districts. Plucking and manufacture of tea are in progress and prospects are generally fair to good. Mosquito blight is slightly increasing in Cachar. Harvesting of early rice is nearly finished. Prospects of jute are reported fair to good. The rain which has fallen has greatly improved the prospects of the winter rice, but more rain is still required in parts of Eastern Bengal. Insects are damaging crops in Silchar. Prices:—common rice—Manipur 16; Kohima 10; Chittagong 8½; Malda, Rangamati, Dhubri and Tezpur 8; Bogra 7½; Pabna and Dibrugarh 7¾; Comilla 7⅝; Dacca, Barisal, Noakhali, Silchar, Sylhet and Gauhati 7½; Mymensingh 7¼; Dinajpur 7$\frac{3}{16}$; Faridpur, Rajshahi, Jalpaiguri, Nowgong, and Sibsagar 7; Tura 6 *to* 7; Rangpur 6½; Shillong 6; and Aijal 5 seers per rupee. Prices have risen in four; have fallen in three; and have remained stationary in the remaining districts.

Bengal.—Moderate rain fell in Bankura, Hooghly, Howrah, the 24-Parganas, Murshidabad, Jessore, Darbhanga, Purnea, Darjeeling, the Sonthal Parganas and Cooch Behar; there was no rain in Angul, Sambalpur and Palamau; from Bhagalpur a fall of 12·75 inches is reported; the rainfall was light elsewhere. More rain is still wanted in Burdwan, Birbhum, Nadia, Murshidabad, Khulna, Saran, the Sonthal Parganas, Ranchi and Palamau. From Saran it is reported that paddy is now withering for want of rain. Harvesting of the rainy weather paddy, jute, and other autumn crops is approaching completion in most districts. Transplantation and weeding of winter paddy still continue. Sugarcane is doing well. Prospects of crops are fair except in part of the flooded tracts of Midnapore and Orissa. Crops in parts of the Bhadrak sub-division of the Balasore district have been destroyed entirely by floods. Fodder is insufficient in parts of Balasore. The water-supply is sufficient. The price of common rice has risen in three and has fallen in eight districts.

United Provinces.—With the exception of a sprinkling in fifteen districts and a fair amount in parts of Basti, no rain has fallen during the week. Rain is very urgently needed everywhere as crops are withering. Irrigation continues where possible and harvesting is going on. Ploughing for spring crops has been suspended in places owing to the drought. Some damage by grass-hoppers to the sugarcane and maize crops is reported from Jaunpur. Grass is drying up in Kheri and fodder is scarce and dear in portions of eleven districts. Supplies are adequate, but prices continue to rise.

Punjab.—Light rain has fallen in Murree in the Rawalpindi district. Prices of food grains are generally rising and warning rates prevail in Gurgaon and Amritsar. Autumn crops are being harvested and sowings of autumn crops are still going on in Multan and Shahpur. Ploughings for and sowings of spring crops are in progress. The condition of the standing irrigated crops is good to average in several districts. Crops on land dependent on rain are withering owing to strong westerly winds and cessation of the rains. Rain is badly wanted throughout the province. Prospects are generally gloomy. Withered crops are being used as fodder in Delhi. Damage to crops is reported in the Phillaur and Nakodar tahsils of the Jullundur district; cotton has been attacked by boll-worms and sugarcane by moth-borer; wild rats are also damaging crops in Lahore. The condition of cattle is generally good. Fodder is sufficient throughout the Province except in parts of the Delhi and Sialkot districts. There are no complaints regarding the water-supply.

North-West Frontier Province.—Slight rain fell in the Mardan and Swabi tahsils of the Peshawar

TRADE OF BEIRUT.

The following is extracted from Consul-General Sir Robert Drummond-Hay's Report on the trade of Beirut for 1906 :—

The year 1906 has been very prosperous for Beirut, both imports and exports having increased to an unprecedented extent. One distinct sign of this progress in trade is shown by the receipts of the Beirut Custom-house, which show an increase of £47,000 on the preceding year. This briskness in trade is to be attributed, firstly, to the opening of the Hama-Aleppo Railway and the subsequent facilities for communication with this town; and, secondly, to the rumours of an increase of the customs duties by 3 per cent. on the 8 per cent. *ad valorem* at present levied, which prompted merchants to place as large orders as possible, with a view to future profit from this difference in duties.

The **grain exports** show an important increase, this being mainly due to the newly-established Aleppo line. The exports might have proved much larger, had it not been for a poor crop in the Hama and Aleppo districts; this was, however, partially compensated for by a good crop in the Hauran. If, as may well be hoped, the new crops are abundant, and there is a good demand from Europe, it is probable that the export of cereals will be double that of 1905. In 1906 the prices paid in Europe for cereals were so low that they gave no encouragement to merchants to ship their goods there, and they only did so in fulfilment of previously made contracts.

Although the **silk harvest** was only fair, the high prices paid in France for silk thread did much to compensate for the deficit in quantity. The average net profit on each bale of silk was not less than £40.

Prominent amongst imports are the **Manchester cotton goods and woollen stuffs**, and notwithstanding the keen competition of Germany and Italy, the United Kingdom keeps well ahead of all foreign competition. The following is an approximate table of the Manchester cotton and woollen stuffs imported :—

Articles.	Quantity. Bales and Cases.	Value. £
Yarn	1,800	97,500
Woollen stuffs	800	65,000
Prints	1,800	145,000
Shirting	4,000	260,000
Madapolam (white)	3,000	254,000
Printed shawls and handkerchiefs	500	50,000

Generally speaking, the prices of Manchester goods were 5 per cent. higher than in the previous year.

There was **not a single case of bankruptcy** in 1906, a fact which tends to show the sound position of trade in Beirut. Prices of **real property** have also gone up about 25 per cent. as compared with their value three years ago.

The table below gives the totals of **shipping** engaged in the foreign trade of Beirut during the years 1904—1906 :—

Year.	Steam		Sailing.		Total.	
	Number of Vessels.	Tonnage.	Number of Vessels.	Tonnage.	Number of Vessels.	Tonnage.
1904	1,001	1,170,695	2,512	63,814	3,513	1,234,509
1905	908	1,187,487	2,269	53,111	3,177	1,240,598
1906	916	1,269,269	2,504	52,776	3,420	1,322,045

The following is a comparative table of the **imports** mentioned below at all the ports of the Consular District of Beirut for the years 1904—1906.

Articles.	Port.		Quantity. 1904.	Quantity. 1905.	Quantity. 1906.	Increase or Decrease in 1906 compared with— 1904.	Increase or Decrease in 1906 compared with— 1905.	Character of Trade.
Coffee	Beirut	Bags	7,650	8,950	9,726	+ 2,076	+ 776	From Santos and French colonies *vid* Marseilles and Liverpool. Best qualities in small baskets from Aden and the Hedjaz.
Cotton goods and woollen stuffs.	Do.	Bales and cases.	9,650	10,350	11,560	+ 1,910	+ 1,210	Chiefly from United Kingdom About one-half of the woollen stuffs shared by Germany, Italy and Switzerland.
Flour	Do.	Bags	44,280	46,990	32,360	− 11,920	− 14,630	Chiefly from Russia
Hides	Do.	Bundles	1,550	1,370	2,170	+ 620	+ 800	Colombo and Singapore.
Rice	Do.	Bags	62,700	53,150	52,900	− 9,800	− 250	Rangoon and Egypt; best qualities from latter country. Small quantities also from Italy.
Sacks and Sacking and Hessian / Jute cloth	Do.	Bales	1,350	1,660	1,050	− 300	− 610	Sacks and sacking, chiefly from India; jute cloths from Dundee.
Yarn and thread	Do.	Bales and cases.	2,450	2,530	3,200	+ 750	+ 670	Mainly from United Kingdom. About 800 bales, each half the size of English bales, from Italy; 600 bales of coloured yarn from Switzerland and Germany.

REDUCING COTTON FIRE LOSSES.

Advice to Underwriters.

A recent number of the *New York Journal of Commerce* contains the following very interesting article :—

The address by Inspector Benjamin Richards of the Underwriters' Bureau of New England, in which he criticises the method of baling raw cotton, has produced considerable comment and discussion, and, while no issue is taken with Mr. Richards in his criticism and the benefits which would be derived from better methods of baling, it would appear that the method of baling cotton is not the primary cause of the very heavy losses which are sustained. It appears, however, to be a fact that the underwriters themselves are largely to blame for the excessive losses in cotton, which for the present season have been abnormally heavy, and the outlook for the coming season and seasons to follow is not encouraging unless different methods are pursued.

It is admitted that cotton when properly housed and protected has been a very profitable class of business, and there seems to be no reason why this class of cotton should not continue profitable, but the main trouble seems to be that only a very small proportion of the crop is now properly warehoused and protected. It is very probable that the question would be asked: Why is not the larger portion, at least, of the crop properly warehoused and protected? The answer to this would be that no incentive has been given to the handler and shipper of cotton, and to the various railway and terminal companies to this end, and the result has been that as the crop has gone West there have been erected only the cheapest class of structures, put up with an idea to economy in the physical plant, without any regard to the protection of the staple, either from the weather or from fire, and the marine underwriters appear largely, if not wholly, responsible for this condition of affairs.

An Illustration.

This may be illustrated by pointing out that two cotton firms, doing what is termed a shipping business, including export, might erect plants at the same point. One would put up a compress plant built of brick and divided into ten compartments of not exceeding 1,000 bales each, with standard fire walls between and all openings properly protected and with adequate hydrant, hose, and other fire-preventing appliances, and another firm would build at the same point a frame compress, with an open platform, with practically no appliances, no dividing walls with the whole 10,000 bales subject to one fire. The owner of this latter compress would secure from the marine companies equally as low a rate on his cotton, which was purchased and concentrated at this compress, as would the owner of the compress of superior construction. The question very naturally arises as to why such condition should exist. It is very easily answered by stating that the marine companies reinsure, in practically all instances, almost their entire fire liability, and in some instances the entire fire liability, therefore the question of fire loss on cotton before it is afloat does not to any degree interest the marine underwriter, so long as he can continue to secure reinsurance. The market for this reinsurance is almost entirely abroad, and, from what we are able to learn, the underwriters undertaking this risk are either very careless of the hazard assumed or they are totally ignorant of the conditions. It is a well-known fact that, in placing risks at Lloyd's, London, and at several points on the Continent, all that is necessary to get a large line handled is for a leader to go on a risk, a number of other underwriters will all follow the leader, the fact that the leaders may have had special inducements in the way of very large premiums on choice risks, guaranteed to them if they will undertake the lead on this class of business does not seem to occur to those who trail in, so to speak, and thus the risk is placed, and the majority of the underwriters apparently know nothing of the hazard they are undertaking.

A Recent Example.

The recent fire at Chickasha should prove a valuable lesson to underwriters on this class of business. Here was a compress which was constructed with an open platform all around it, and cotton concentrated there to the extent of 11,000 bales, all subject to one fire, and the fire occurred, and, outside of about 200 bales which happened to be out of the fire zone, not one pound of cotton was saved. This 200 bales did not take fire at all. It is an error if it is supposed that Chickasha compress is an exception to the rule, and underwriters are informed that it will be rebuilt on practically the same plan as before. Out of about 300 compresses in the cotton States fully 200 of them are of the type of this Chickasha compress. It will be plainly seen that, if the marine companies in making their rates on cotton take into consideration the character of the compress at which the various shippers concentrate their cotton, and made their rate accordingly, it would immediately bring about improvements in the compress already built, and would encourage the construction of a better class of presses and better equipment, but as the marine companies reinsure practically all such risks, it can be readily realised that they are not interested in the fire end of the proposition.

The construction of a compress which would be a better risk from a fire standpoint, however, would be better for marine companies in that if cotton is properly protected from fire it is also protected from the weather, and the claims for country damage losses would undoubtedly be greatly reduced. It is, therefore, to be hoped by conservative fire indemnities that if the marine companies are so jealous of the premiums which they receive on the cotton business as to be willing to incur the tremendous heavy country damage claims, which have piled up against them for the last several years, without

making a serious effort to better conditions, that the fire underwriters who are reinsuring them will have been taught a lesson which will deter them from taking over the fire end of the business under the prevailing conditions and thus force a betterment of conditions which ultimately must benefit the marine underwriters as well.

Peculiar Methods.

One marine company has been able, it is reported, to secure its reinsurances for a flat premium regardless of the amount of cotton which it insures. If this statement is correct it can be readily seen that it would be to the interest of the company in question to secure every dollar of shore risk possible, without regard to where it was located, and how long it might remain at risk. This for the reason that the more cotton they secured the cheaper would be the rate per hundred dollars. It was recently stated that some marine company had actually been granting insurance to factors on cotton which the factors would never ship, but would sell to exporters.

The idea of insuring cotton at a compress or terminal, which rates for fire insurance at 5 to 6 per cent. per annum per hundred dollars for a premium of from 12½ cents to 15 cents per hundred without regard to time, is absurd. Where short rates are applied on a 6 per cent. risk for a period of 15 days the rate would be 90 cents, and yet it is a fact that certain exporters procure insurance in such locations for a period varying from 15 days to 90 days for a premium of from 12½ cents to 15 cents. It is, therefore, apparent that betterment in the conditions and the construction of compresses and warehouses cannot be expected until there is a very decided change in the method of handling this business, and this method is not likely to change unless the country damage claim brings it about, so long as the marine companies can secure reinsurance under the former and present conditions.

—Considerable impetus has been given to the **Java teak trade**, owing to the approaching working out of large districts in Siam and Burma. During last year 39,454 cubic metres were exported, a large increase on former years. Several saw mills are in process of erection at seaports, where the output of the forests will be sawn for export. A considerable quantity of sleepers was again shipped to South Africa for the Government railways.

—Mr. Vice-Consul Walker, of Lille, the principal French **market for jute**, states that spinners had an exceptionally prosperous year in 1906, in spite of prices of the raw material having reached a height never before seen in the jute market. He adds that there are enormous jute factories in the Amiens district, and in the neighbourhood of that town numbers of both power and hand looms are producing large quantities of jute fabrics.

TRADE OF HONGKONG.

Imports and Exports.

THE excerpt below is from Sir Matthew Nathan's Report of Hongkong for 1906 :—

The following table, in which the figures represent tonnage, shows the **principal articles of import** in the year 1906 in vessels of European construction, compared with similar returns for 1905 :—

Articles.	1905.	1906.	Increase.	Decrease.
Beans	2,113	3,360	1,247	...
Coal	1,083,987	971,365	...	112,622
Cotton yarn and cotton.	32,949	41,871	8,922	...
Flour	54,508	79,635	25,127	...
Hemp	26,784	23,356	...	3,428
Kerosine (bulk)	43,411	43,932	521	...
,, (case)	74,506	28,937	...	45,569
Liquid fuel	850	5,850	5,000	..
Lead	800	...	...	800
Opium	2,983	3,286	303	...
Rattan	3,430	12,531	9,101	...
Rice	566,171	624,369	58,198	...
Sandalwood	3,986	2,561	...	825
Sulphur	...	100	100	...
Sugar	311,787	482,178	170,391	...
Tea	900	...	...	900
Timber	66,324	52,242	...	14,082
General	1,554,862	1,653,604	58,742	...
Total	3,869,751	4,029,177	337,652	178,226
Transit	3,415,418	2,878,360	...	537,058
GRAND TOTAL	7,285,169	6,907,537	337,652	715,284
		Nett	...	377,632

During the year 1906, 15,519 vessels of European construction of 19,793,354 tons (net register), reported having carried 9,759,648 tons of cargo, as follows :—

	Tons.
Import cargo	4,029,177
Export ,,	2,163,344
Transit ,,	2,878,360
Bunker coal shipped	688,767
	9,759,648

In imports there is an increase reported of 159,426 tons. In exports there is a decrease reported of 232,864 tons. In transit cargo there is a decrease reported of 537,058 tons. In bunker coal there is an increase of 24,349 tons. The **total** reported **import trade** of the port for 1906 amounted to 22,408 vessels of 11,249,233 tons, carrying 7,372,075 tons of cargo, of which 4,493,715 tons were discharged at Hongkong. This does not include the number, tonnage, or cargo of vessels in local trade. Similarly, the **export trade** from the port was represented by 22,142 vessels of 11,203,844 tons, carrying 2,778,441 tons of cargo, and shipping 690,689 tons of bunker coal.

The Great Typhoon.

The year 1906 is likely to be known by the present generation in Hongkong as the year of the great **typhoon.** Between 8-30 and 11 A.M. on the 18th September a storm of narrow diameter but great violence passed over the colony. In the absence of warning no preparations had been made to meet

it and great loss of life and property resulted. Fifteen Europeans were drowned, including the Right Reverend Dr. John Charles Hoare, Bishop of Victoria, who was on a tour of diocesan inspection. Captain L. A. W. Barnes-Lawrence, R. N., the Harbour Master, died on the 2nd October as the result of exposure during and overwork after the storm. Two thousand three hundred and eighty-five Chinese were actually reported missing, but the loss of Chinese life is believed to have been much greater than this, and probably exceeded 5,000. Fifty-nine European-built merchant vessels, of 72,185 aggregate tonnage, foundered, grounded, or otherwise received injuries which in the case of 18 vessels, of 8,198 aggregate tonnage, amounted to or resulted in total loss. In addition, 80 steam launches were more or less damaged, including 32 that were sunk, of which most were, however, afterwards raised. H. M. S. *Phœnix*, a sloop of 1,050 tons, went ashore and has since been broken up; the French torpedo-boat destroyer *Fronde*, though broken in two by a similar accident, was considered worth repairing; a number of Colonial Government vessels were damaged; 796 junks, 798 cargo boats, 275 sampans and 544 other boats, making a total of 2,413 Chinese craft, were reported lost or missing. All the temporary and some of the permanent piers in Victoria and Kowloon were destroyed, and much injury was done to sea walls in both places and to dykes protecting cultivation in the eastern part of the New Territories. Eighteen houses in Victoria, 122 in Kowloon, and about 50 in the New Territories were blown down wholly or in part or rendered unsafe for habitation. Considerable injury was done to the roads in various parts of the Colony, to the telephone systems, to public buildings in progress, to the pine plantations on the Island, and to the crops on the low-lying grounds on the shores of Tide Cove and Tolo Harbour.

A disaster on a smaller scale than the typhoon but not less horrid in its details occurred about 3 A.M. on the morning of October 14th, when the S. S. *Hankow* (3,073 tons), of the Hongkong, Canton and Macao Steamboat Company, within a few minutes of tying up to the company's pier and with some 800 persons still on board, burst into flames. Ninety bodies, including those of 52 women and 19 children, were recovered of persons who had sought but failed to find safety by jumping into the water and the charred remains of 19 others were found on board, while two persons died in hospital from injuries received. A valuable cargo was lost, and the whole interior of the ship destroyed. The cause of the fire was not definitely ascertained but is believed to have been a coolie smoking on a heap of matting on deck.

Causes Affecting Trade.

Bad as were the effects on trade of the insecurity of the waterway, far greater evils resulted from the direct action of the Canton authorities in issuing from the provincial mint vast quantities of **subsidiary coins containing about 10 per cent. less silver than** the dollar of which they purported to represent fractional parts. This over-issue, bringing down the value of stocks of similar coins already in the country by about 5 per cent, greatly reduced the purchasing power of the Kwang Tung consumer of foreign goods. It incidentally brought down the dollar value of the Hongkong subsidiary coins, to the inconvenience of various trading concerns in the Colony and of its Government who were unable to get rid of a large stock of this coin purchased in the preceding year and had eventually to return $3,398,000 of it to England for sale as bullion. The Hongkong Government decided as a result of this lesson to eliminate from their future financial policy the idea of making profit from the supply of subsidiary coins to the two Kwang provinces and then took steps, which since the end of the year have had some result, to impress on the Government of those provinces the imperative necessity for checking the output from the Canton mint. Other matters outside the colony adversely affecting its prosperity were the **failure,** due to floods, **of the first rice crop** in the neighbouring provinces of China and the continued appreciation of silver. In the **China trade** of Hongkong and as regards **imports** very **heavy losses** had to be faced at the end of the year, owing to the large stocks of **Indian yarn** which were held at prices above their true value. Neither in Manchester fancy, or wool goods was business satisfactory, and in metals it was dull. Importations of Australian flour continued to increase largely. Exports did not do so badly. There was a good yield of silk and fair demand for it, and native dealers were satisfied with the results of the year as regards ginger and soy.

The **rise in the sterling value of the dollar,** which has been going on since early in 1903, continued in 1906, the range of variation in the year being slightly greater than in 1905. At the commencement of January the dollar stood at 2*s.* $0\frac{11}{16}d.$ It fell to 2*s.* $0\frac{5}{16}d.$ for a short time at the end of that month and again at the end of February, rose irregularly to 2*s.* $3\frac{9}{16}d.$ in the middle of November, and was worth 2*s.* $3\frac{1}{16}d.$ at the end of the year. The maximum of the year was the highest value that had been attained since the end of 1893. The rise is said to have involved some withdrawal of capital from the Colony for investment in gold-using countries and consequent depreciation in the value of local stocks. Certainly those **stocks** dealt with in the Colony which give the best indication of the state of its business **decreased considerably in value** during the year. The shares of four land companies went down on an average over 10 per cent., while those of the Hongkong and Whampoa Dock Company, **Limited,** in spite of business brought by the typhoon, fell nearly 12 per cent, and of the Hongkong and Kowloon Wharf and Godown Company 13 per cent. The shares in nearly every industrial undertaking, including the two sugar refineries, the Cement Company and the Rope Manufacturing Company, shrunk in value.

TRADE OF CHINKIANG.

We take the following extract from Mr. Acting Consul Tours' Report on the Trade of Chinkiang for 1906 :—

The year 1906 stands in the annals of Chinkiang trade in the anomalous position of showing figures of value that surpass those of former years, and of having nevertheless been an **unsatisfactory year** from the mercantile point of view. The year commenced well, and for its first half promise to break all records, but with the summer arrived abnormally high water, which inundated nearly the whole of the district north of the river (from which Chinkiang derives practically all its goods for export), destroying a large portion of the bean and groundnut crops; and the second half of the year was transformed into a dismal failure, from the effects of which, it is to be hoped, a normal year in 1907 will afford Chinkiang some chance of recovery. It speaks well, then, for the first half of 1906 that it enabled the total records of the year to surpass previous figures ; of the total figures in 1906 some 75 per cent. were recorded in the first six months. If the year 1906 did not produce the results and the profits to the merchant which its earlier months promise, the outlook for Chinkiang, gauged from an examination of the 1906 returns, is far from gloomy. As a distributing centre to a large and well-populated area in the Grand Canal district north of the Yangtze River, Chinkiang has an unassailable position. The commodities in which figures may be seen to be increasing are articles of practical utility such as kerosine oil, matches and sugar, which cannot be swayed by the dictates of fashion.

The **total trade** of Chinkiang in 1906 was 36,072,073 Haikuan taels, made up of 26,963,414 Haikuan taels, imports, and 9,108,659 Haikuan taels, exports—the exports including 123,108 Haikuan taels, re-exports. The **net trade** of Chinkiang in 1906 was 35,825,857 Haikuan taels, equal to £5,896,338 against £5,015,525 in 1905. This gives an increase for the year, in sterling value, of £880,813, of which imports account for £763,777, exports being unable to hold their own for reasons stated above.

The following table shows the total, gross and net trade of Chinkiang in 1906 with the 1905 totals attached :—

	Value.				
	Imports.	Exports.	Re-exports.	Total 1906.	Total 1905.
	£	£	£	£	£
Total trade .	4,437,729	1,478,871	20,262	5,936,862	5 047,945
Gross „ .	4,437,729	1,478,871	...	5,916,600	5,031,735
Net „ .	4,417,467	1,478,871	...	5,896,338	5,015,525

Trade with United Kingdom.

The value of the **direct trade between Chinkiang and Hongkong and other parts** of the **British Empire** is shown in the following table. For purposes of comparison the values in the two *preceding years are given* :—

	Value.		
	1906.	1905.	1904.
	£	£	£
Foreign goods imported from—			
United Kingdom .	7,680	3,479	349
Hongkong . .	626,128	438,868	347,790
Other British Possessions (Straits Settlements) . . .	12,844	38,691	18,972
Exports and re-exports to—			
United Kingdom .	38	...	...
Hongkong . .	171,627	222,225	279,821
Total .	818,317	702,263	646,932

It must, however, be remembered that Hongkong is almost entirely a port of transhipment, and that for imports and exports to and from Chinkiang it is not necessarily either a port of origin or a port of ultimate destination.

Imports.

The total value of **foreign goods** imported into Chinkiang in 1906 was £3,342,040. Of this amount £2,354,525 came from Chinese ports, chiefly Shanghai, and the balance from foreign countries and Hongkong. Of these goods a small amount, to the value of £10,451, were re-exported from Chinkiang.

Native imports (net) reached a total value of £1, 085,878. The value of **net imports,** foreign and native goods, was thus £4,417,467. A curious feature in the import returns is the disappearance of the native (**Hsuchou**) **opium.** The crop, of course, suffered considerably from the floods in the second half of the year, but the only explanation of its absence from the returns is that it is finding its native markets direct (no doubt aided to a large extent by smuggling), without passing through a treaty port. That there is competition from the native drug can be seen from the cheapened value of Indian opium, the import of which has somewhat recovered itself in quantity.

The popularity of **American cotton goods,** which was noted in the 1905 report, has apparently reached the limit of its depressing effect upon the British article, and British shirtings show a strong recovery. Cotton goods all round show strong import figures, in spite of the unevenness of the year's trade, to which reference has already been made; cotton lastings and cambrics, lawns and muslins are conspicuous. Velvets, although the import figures have much increased, have returned to their former cheaper values. In **cotton yarn** the **Indian** article has recovered well from its 1905 depression, and is far in advance of either the Japanese or the Chinese yarn.

The following table shows the proportion of British and American shirtings, sheetings, drills and jeans imported in the last three years ; it will be seen that British shirtings and jeans have more than held their own, sheetings have remained steady, while drills have decreased considerably :—

	Quantity.		
	1906.	1905.	1904.
	Pieces.	Pieces.	Pieces.
Shirtings —			
British . .	556,283	507,784	539,907
American . .	20,275	19,805	14,460
Sheetings —			
British . .	40,075	40,719	33,440
American . .	33,184	33,320	21,240
Drills —			
British . .	8,396	17,772	13,220
American . .	72,305	74,170	65,011
Jeans —			
British . .	28,295	21,869	17,870
American . .	7,316	6,890	6,140

The following is a return of yarn imports into Chinkiang during 1905-06 :—

Articles.	1906.		1905.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Cotton yarn, British lb.	123,733	5,002	113,600	4,652
„ Indian „	16,408,000	503,303	12,098,400	348,037
„ Japanese „	584,000	18,311	583,466	17,178
„ Chinese „	848,800	26,947	961,856	28,777

American kerosine oil shows the large import of 6,637,300 gallons, value £152,934. The convenience of kerosine oil for heating and lighting purposes is rapidly making itself felt further and further into the interior. There will be an increasing demand for lamps and oil stoves, and the Standard Oil Company, in anticipation of this, have commenced selling lamps and stoves in conjunction with their oil.

The import of **sugar** bids fair to become the most profitable business in the port; 1906 saw an import of 1,337,934 cwts., of £820,039 value, as against 891,001 cwts., of £519,165 value, in 1905. The most popular sugar is from the Hongkong refineries. A Japanese attempt to cut into the sugar trade has not met with success, despite low prices and a Government subsidy. The article placed on the market by the Japanese is refined from Java cane and mixed with some Hongkong refined sugar. The Chinese buyer, however, has already discovered that the Japanese sugar deteriorates rapidly, and until the Japanese can manage to place a better article on the market, their competition with the Hongkong refineries need not be considered.

Exports.

The **failure** of the **groundnut and bean crops** and the **prohibition** of export of **rice** and **grain** handicapped export business considerably, especially in the latter half of the year. The result of shortage in native products was to enhance their value, and prices increased approximately as follows:—Bean cake, 15 per cent.; beans and peas, 25 per cent., lily flowers and nut and wood oil, 30 per cent.; groundnuts, 65 per cent.; and rice, 70 per cent. Values of exports have, therefore, not suffered so badly as might have been expected from which it would appear that the ordinary Chinkiang exports do not meet with much competition in the open market.

The following table shows the **fluctuations** in quantity and value of Chinkiang's **staple exports** during the past four years :—

Articles.	1906.		1905.		1904.		1903.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		£		£		£		£
Bean cake . . cwts.	1,124,224	256,449	1,189,965	231,542	580,989	111,841	504,103	72,432
Beans and peas . . „	354,918	90,631	475,555	106,025	355,670	76,563	481 027	85,066
Eggs . . . . No.	2,497,759	3,796	1,971,000	2,669	4,349,542	5,005	3,970,660	4,094
Groundnuts . . cwts.	456,961	211,004	582,563	198,002	642,855	258,327	753,755	224,936
Lily flowers . . „	100,408	96,753	103,587	77,090	95,238	64,969	85,271	76 340
Oil (nut, wood, etc.) . „	113,145	131,029	111,813	104,968	102,761	130,266	170,202	146,732
Rice . . . . „	843,460	289,189	737,181	149,950	...	...	...	...
Silk piece-goods . . „	1,304	128,671	1,483	133,814	1,370	108,711	1,353	71,424

When it is remembered that the export of **rice** only lasted during nine months of 1905 and six months of 1906, it will be seen of how great importance to Chinkiang's export trade is the success or failure of the Yangtze valley rice crop. The prohibition of export imposed in June, 1906, proved, in the light of the subsequent circumstances of flood and distress among the agricultural population of North Kiangsu, to be more justifiable than its predecessors.

THE COTTON INDUSTRY IN LOMBARDY.

Remarkable Development.

MR. TOWSEY, British Consul, in his Report on the Trade of Lombardy for 1906 writes: The importance attained by the cotton industry in this country, especially in Lombardy, and the fact that Milan has virtually become its centre and that the journal of the Cotton Association, the *Bollettino della Cotoniera*, is published here, will, it is trusted, be sufficient to justify a lengthy reference to it, and explain why the information cannot be confined to the Consular district of Milan. Although it is not actually up to date, and not complete owing to unavoidable difficulties in procuring the latest and fullest particulars, yet the information will possibly be sufficient to show the **flourishing condition** of the industry, which has not only kept many foreign-made goods out of Italy, but has succeeded in placing its own goods in foreign markets, especially in South America, Turkey in Europe, Turkey in Asia and in several places in North Africa.

Italy continues, according to the *Italia Economica*, to import sewing cotton, yarns and fabrics of the finer kinds, and manufactures the commoner goods, yarns of the lower counts, dyed and printed goods, which are less difficult to manufacture, and the list of cotton goods and manufactures in Italy, given in the Report for 1905, may be repeated:—"Bordered goods, common woven coloured goods known as Floirde, and Caroline, *Megador*, domestics fustians, twills satcens, drills, Indian prints, mixtures, lenos, table linen, serges (for umbrellas and prints), madapolams, shirtings, plain and twill flannelettes, plain and coloured reps, fancies (jacquard), jacquards, coloured trouserings, coloured aprons, coloured handkerchiefs."

Situation in 1905.

The following report on the cotton industry in Italy for 1905, by an Austrian Consul-General, published in a review of Leipsig, and subsequently by the *Bollettino della Cotoniera* of Milan, in 1906, may be found interesting:—"1905 may be considered to have been a good year for the Italian textile industry. Steady quotations for the raw article made prices firm, and increased consumption. Greater attention was paid to exports by manufacturers and by exporting firms, of whom there is a fair number, and who are very keen on extending their business. Successes in exportation were followed by extensions of several important mills, and a good number of spinning mills, especially of cotton, started, or are about to start. The factories were fully occupied with orders for several months to come, and this augured well for 1906. The abolition of night work, and consequent decrease in output, was met by an increase in the number of spindles and looms. That not being enough, Italian manufacturers hope much from the measures of the Government for improving the financial position of Southern Italy. Thanks to the facilities accorded by the local authorities, several firms have opened mills near Naples. The greatest number of mills, however, is in the North—Lombardy, Piedmont, Venetia and Liguria—but a limit to their production having been reached owing to the want of labour, a move southwards would be advantageous. Labour there is not scarce or dear. Carriage seawards is easy and cheap, and places of consumption not far off; therefore the effort to create industrial centres in Southern Italy will probably succeed. From this it may be anticipated that the Italian textile industry is approaching a radical change, and will do all it should to learn how to reach the markets of the world, and to assume more than ever the character of an industry conducted on extensive lines and aspirations. Thanks to its plant of modern machinery it can compete with the manufactures of other countries.

"We cannot dwell too much on the methods by which Italians adapt themselves to the special conditions and usages of other markets. Italian manufacturers do not waste their time in devising new patterns or new qualities. They do not even try to sell abroad the goods they can sell at home, but they comply with the **requirements of foreign buyers.** They are practical in their manufactures. They make articles that are sold in large quantities, and in the making of which not much labour or art is required.

"The fluctuations in the price of cotton during 1904 were followed by a period of calm. Spinners and weavers became cautious after that year had disconcerted their calculations and speculations. The abundant crop should have reduced prices, but planters held back their stock in order to reduce exports. Anxiety was felt as to new crops, and towards the end of the year prices rose 39c. per kilo. The situation improved in the second half of 1904, and consequently 1905 became calm and inspired manufacturers with confidence in the future. If we look back to 1887, when the industry began, we find ample reason to admire the development which has taken place within the space of 20 years. What undoubtedly helped was the **employment of electrical power,** derived from waterfalls. This gives the Italian industry a marked preponderance in the world's markets, and explains why the importation of yarns and textiles has, with the exception of certain specialities, become impossible. The industry can now dispense with protective duties, as, thanks to perfection attained technically and commercially, they have become unnecessary.

The **raw cotton imported** in 1905 was valued at 247,000,000 lire, against 223,000,000 lire in 1904, the greater part coming from America. The attempts to grow **cotton in Erythrea** have succeeded, but it is premature to form an opinion as to the final result. The State charges a low duty on the cotton imported. It amounted in 1905 to 4,715,000 lire, but this is returned on re-exportation; yarns receiving back 4 lire and textiles 4 lire 50 c. for

every 100 kilos. of goods. Italy exported in 1905 nearly 101,466 quintals of yarns and 234,096 quintals of textiles; consequently 1,459,206 lire were refunded . . . It is difficult to say exactly the number of spindles, as mills are still being put up, but it is reckoned that there are 2,250,000 and 90,000 looms in Italy. This development will naturally involve an increase in wages, and indeed it is already evident in the neighbourhood of towns."

The Year under Report.

The year 1906 was a good one for the cotton industry, and the **mills were all busy.** It was the same with the woollen, linen, and other spinning and weaving concerns. The Cotonificio Cantoni and the Linificio Nazionale increased their capital. The Cotonificio Veneziano decided to do the same and it is expected that other firms will have to appeal to their shareholders as the necessity of extending business is largely felt. The balance sheets for 1906 are expected to show good results, but it is probable that dividends will not exceed those of the previous year, and that sums will be passed to reserve accounts.

Cotton **growing,** which was in a flourishing condition formerly, **has fallen off,** and is now confined to the Adriatic littoral from Foggia southwards and to Sicily. On the other hand, there has been a very remarkable **increase in the quantity of raw cotton** imported into this country with an equally remarkable **increase in the exports of cotton yarns,** and a corresponding **diminution in the imports of yarns,** as the following table of yearly averages will show:—

Imports and Exports.

	Raw Cotton.		Cotton Yarns.	
	Imports.	Exports.	Imports.	Exports.
	Quintals.	Quintals.	Quintals.	Quintals.
1871-74 .	255,127	85,935	95,615	186
1875-79 .	254,060	39,541	107,750	1,474
1880-84 .	584,111	183,952	89,618	1,106
1885-89 .	775,130	157,599	51,643	2,708
1890-94 .	1,020,384	174,604	18,476	6,464
1895-99 .	2,208,342	46,671	9,667	44,779
1900-04 .	1,428,167	59,973	8,612	85,797

In the customs returns the average value of the raw cotton imported between 1900 and 1904 is given as 177,643,218 lire, and of that exported as 3,039,623 lire. Of the cotton yarns imported during the same period (except sewing cotton) the average value is 1,910,910 lire, while of that exported it was 17,733,533 lire.

Mills, Spindles and Looms.

In 1903 there were 719 cotton mills in Italy, divided as follows:—17 for wadding, 10 for lint, 9 for waste cotton, 142 for spinning and doubling, 12 for sewing cotton, 392 for weaving, 28 for spinning, doubling, and weaving combined, 9 for spinning, weaving and printing combined, 100 for dyeing, bleaching, printing and sizing of yarns and piece-goods combined. These mills were fitted with 1,091 boilers, developing 64 885 horse-power, and driving 1,151 engines of 86,992 horse-power. They gave employment to 138,880 workpeople, whereof 34,335 were men, 4,739 boys, 82,056 women and 17,750 girls. The number of spindles in 1903 was 1,933, 953, of which 1,639,863 were for spinning and 240,090 for doubling; 78,700 looms, whereof 39,923 power looms for grey piece-goods, 20,702 power looms for coloured piece-goods and 4,568 were jacquard; besides, there were 116 printing machines, of which 81 were "continuous" and 35 "discontinuous." The *Industria* of Milan last year stated that there were about 825 cotton mills, and if those for working flax and hemp are added, there are nearly 1,000 textile mills, employing from 160,000 to 175,000 hands. Nearly 100 factories are engaged in the dyeing industry and 25 in printing.

According to the fourth half yearly report of the International Federation of Master Cotton Spinners and Manufacturers, as published in the *Textile Mercury* of Manchester for April 6th, 1907, the number of spinning spindles (actual returns) in Italy was 3,125,563, but the estimated total number was 3,547,000; and the stocks in actual bales in Italy were:—American, 137,612; East Indian, 75,473; Egyptian, 5,421; sundries, 6,184. In 1900 the daily output of yarn per spindle was reckoned at 125 grammes per working day of 12 hours, or about 36 kilos. per year per spindle at the spinning mills that only worked during the day, and 65 kilos. on an average per year and per spindle at the mills that worked day and night. Reckoning that two-thirds of the spindles worked day and night and one-third the day only, it was estimated that nearly 1,000,000 quintals of yarn were spun in 1900. The number of spindles in 1903 was less than in 1900, and this, it is explained, may be due to the fact that old spindles were replaced by newer ones smaller in number, but better, and it is expected that there will be a daily output of 170 grammes per spindle and per working day of 12 hours.

Weaving has progressed likewise. Mills have increased in number, their output has augmented, and exports of piece-goods have considerably exceeded imports. Numbers of hours worked per day are, on an average, 12 for the power looms and 8 for the hand looms, and it is calculated that the former work 290 days in the year and the latter about 250. On this basis, it is reckoned that the hand looms produced 10 metres of plain goods per day, the jacquard looms 6 metres, the power looms 32 metres of the average weight of 110 grammes per lineal metre. According to this calculation the 63,135 power looms (including the 2,413 jacquard looms in mills equipped with steam engines) wove in 1900 about 640,000 quintals of yarns, which had been spun by about 1,148,000 spindles, and the remaining

731,129 spindles, with an output of about 402,000 quintals, worked for hand looms mixed fabrics, hosiery, sewing cotton and other special articles. As the number of looms in 1903 was a few hundreds more than in 1900, the production of fabrics could not have been less. Calculating the price of plain goods woven by hand looms at 60c. per metre (length measurement), of figured goods at 10c. and of those made by power looms at 50c. the metre, the value of cotton yarns and piece-goods turned out in 1900 is valued at 301,620,990 lire. The manufacture of cotton wool or wadding and of sewing cotton is more largely developed in Tuscany, absorbing cotton and waste in Lombardy, spinning, weaving, printing and dyeing in Lombardy and Piedmont. The number of mills in the South of Italy is small, and there appears to be none in Basilicata, Calabria and Sardinia.

Capital Invested.

It is calculated that at present nearly 500,000,000 fr. are invested in the Italian cotton industry and about 160,000,000 fr. are paid yearly in wages to the workpeople. It is also stated that 23 per cent. of the goods manufactured in Italy are exported. Almost all the machinery used is imported. Hours of labour now are 11, 10½ and 10.

Home Looms.

A large quantity of cotton goods is made by home looms, of which there were more than 60,000 in 1903. The transformation which has taken place in the mills does not seem to have reduced the home industry, perhaps because the goods made by the hand looms in the homes of the country people are supposed to be stronger than those made by the power looms.

THE SICILIAN SULPHUR INDUSTRY.

THE conditions of the Sicilian sulphur industry in 1906 underwent considerable modification, writes Mr. Consul Sidney Churchill in his last annual Report. For more than 10 years the majority of the sulphur mine owners of Sicily had joined together in selling the production, under conditions favourable to themselves, to the Anglo-Sicilian Sulphur Company. The Government concession under which this company existed approaching its termination, those engaged in the sulphur industry again found themselves face to face with a crisis. It seemed that a renewal of the competition which existed before the creation of the Anglo-Sicilian Sulphur Company might again throw the industry into disastrous convulsions. This prospect was rendered more troublesome by the extraordinary development of the United States sulphur industry, which disturbed Sicilian sulphur mine owners. Two official missions were sent to Louisiana by the Italian Government to endeavour to elicit trustworthy information as to the invention of Mr. Hermann Frasch for the recovery of sulphur from the subterranean deposits there in solution under excessive steam pressure. Mr. Frasch, who is the manager of the United Sulphur Company of the United States and the inventor of the system used for extracting the sulphur, seems to have only allowed the Italian experts access to such information as he considered it expedient for them to know. The report of Signor Baldacci, the first expert sent over to the United States, has been published. The other experts were Signor Dompé, late technical adviser to the Anglo-Sicilian Sulphur Company and present head of the sulphur industry in Sicily, and Signor Molinari. Their reports are not yet published. Mr. F. Frasch appears to have treated the second commissioners with much more reticence than he observed in regard to the first Italian delegate.

There can be no doubt that the policy of the United States industry was to persuade the Sicilian mine owners to come to an agreement for controlling the world's sulphur industry, and for the division of the markets between the united industry. The United States industry endeavoured to purchase the stock of the Anglo-Sicilian Sulphur Company, and with this it could have paralysed the action of the Sicilian mine owners for some considerable period of time. Under these circumstances, under considerable pressure as to time, the Italian Government decreed that the Sicilian Sulphur Industry, from August 1st, 1906, should be formed into an obligatory syndicate for the control of all sulphur produced in Sicily. Arrangements were made with the Anglo-Sicilian Sulphur Company for the purchase, under exceptionally favourable conditions for the newly formed Syndicate, of the stocks held by the Company, the payments to be guaranteed by the Italian Government. Signor Dompé was placed at the head of the Obligatory Syndicate. The law creating this new commercial institution also provided for the institution of a Mineral Credit bank, and for general warehouses. Article 25 of the law provided that foreign companies, constituted to exercise in Italy the exploitation of industries in which sulphur is a principal element, shall be exempt from taxation, and from legal and fiscal dues in regard to their recognition in Italy, or when establishing therein a representative or agency. One of the principal objects of the new Syndicate was the limitation of the activity of the mines.

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	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—								0 10
Rangoon . .	1 1	...	...	...	...	...	...	
Toungoo . .	1 10	...	...	...	...	...	...	1 5
EASTERN BENGAL AND ASSAM—								
Rangpur . .	2 8	2 0	...	...	...	...	...	1 4
Backerganj . .	2 6	...	...	...	...	...	...	1 0
BENGAL—								0 10
Calcutta . .	1 11	1 9	...	...	...	...	...	
Patna . .	2 0	1 6	1 2	...	...	...	...	0 11
UNITED PROVINCES—								
Cawnpore . .	...	1 6	1 1	1 2	1 1	..	1 1	0 9
Fyzabad . .	...	1 9	1 2	...	...	...	1 2	1 0
Meerut . .	...	1 6	1 0	1 1	1 1	...	1 2	0 8
PUNJAB—								
Delhi .	..	1 5	1 0	1 0	1 1	...	1 0	0 9
Amritsar . .	...	1 1	0 8	0 10	0 10	...	0 10	0 7
Ráwalpindi .	...	1 1	0 9	0 8	0 9	...	0 11	0 8
SIND—								
Karáchi . .	...	1 5	...	1 0	1 0	...	1 2	0 8
BOMBAY—								
Belgaum . .	...	1 8	...	1 1	1 1	...	...	0 11
Ahmadnagar .	...	1 7	...	0 9	0 10	...	...	0 9
Bombay . .	...	1 7	...	1 4	1 2	...	...	0 11
Ahmadabad .	...	1 7	...	1 0	1 3	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore . .	...	1 4	...	...	...	...	1 1	1 0
Nagpur . .	1 9	1 4	...	1 3	...	...	1 4	1 1
Raipur . .	1 6	1 3	...	...	...	...	1 3	1 2
MADRAS—								
Bellary . .	2 1	...	...	1 0	...	1 0	...	0 10
Madras . .	2 3	...	...	...	...	1 4	...	0 7
Salem . .	1 11	...	...	1 4	1 6	1 2	...	0 11

—The Ecole Supérieur de Commerce in Lyons, the centre of the **French silk industry,** receives pupils from foreign countries, and teaches them the entire silk business, from the raising of the worm to making the designs, weaving the silk and putting it upon the market. While a pupil is at this school learning to make silk, he can also acquire a thorough knowledge of the French language. A two years' course of study includes loom and weaving instruction, commercial law, political economy, book-keeping, and modern languages, the charge for foreigners being £40 per annum. At the end of the two years' course, the pupil never has any difficulty in obtaining a situation in one of the silk houses of Lyons. The two silk schools in Lyons are expected to supply young men for the silk houses in that city and in others also. The second school in Lyons teaching the silk business is the Ecole Municipal de Tissage et de Broderie, which is owned by the city and is intended only for the children of the inhabitants. It is free, with the exception of a registration fee of two shillings and sixpence. The American Consul at Lyons says that foreigners, however, are admitted on equal terms with the natives. It is not known how long this will be continued. It has been proposed to suspend their admission, but they continue to attend and enjoy all the advantages of the school for the sum of two shillings and sixpence for the two years. In each of these schools a young man has all the advantages of learning a good business, and at the same time the language and social habits and customs of the country.

WEEKLY TRADE MOVEMENTS.

For the week ending 28th September, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.		496,624
	Bombay „		367,582
	Madras „		288,712
Indian— Exports by sea from	Calcutta „		355,036
	Bombay „		5,784,335
	Madras „		2,023

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	18,175,532
	Bombay „	4,185,791
	Karachi „	290,884
	Madras „	1,139,903
	Rangoon „	47,937

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	7,175,471
	Bombay „	4,471,023
	Karachi „	880,893
	Madras „	680,727
	Rangoon „	442,392

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	3,174,288
	Bombay „	6,965,740
	Karachi „	1,776,165
	Madras „	1,366,501
	Rangoon „	676,851

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	38,221
	Bombay* „	6,076
	Karachi „	20,796
	Madras „	6,071

Raw Cotton.

Imports into Bombay	By sea	cwt.	1,588
	Coastwise	„	13,961
	By rail	„	13,455
Imports into Karachi by rail		„	494
„ „ Calcutta by rail and river		„	3,323

JUTE.

Arrivals by all routes in	Calcutta, cwt.		824,397
Exports by sea from	Calcutta — Gunny bags, No.		17,113,011
	„ cloth, yds.		29,697,152
	Jute, cwt.		639,360
	Chittagong—Jute „		72,864

TEA.

Arrivals by all routes in	Calcutta	lbs.	8,331,167
Exports by sea from	Calcutta	„	6,985,153
	Chittagong	„	2,404,196

WHEAT.

Imports into	Calcutta by rail and river,	cwt.	55,638
	Karachi by rail	„	153,666
	Bombay — By sea	„	...
	Coastwise	„	426
	By rail	„	51,755
Exports by sea from	Calcutta	„	8,120
	Bombay	„	34,422
	Karachi	„	129,240

RICE.

Arrivals by all routes in	Calcutta,	cwt.	198,422
Exports by sea from	Calcutta	„	23,781
	Chittagong	„	...
	Bombay	„	5,072
	Karachi	„	11,846
	Madras	„	89
	Rangoon	„	17,678

LINSEED.

Imports into	Calcutta by rail and river,	cwt.	59,335
	Bombay — By sea	„	383
	Coastwise	„	391
	By rail	„	12,935
	Karachi by rail	„	...
Exports by sea from	Calcutta	„	108,232
	Bombay	„	75,068
	Karachi	„	...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river,	cwt.	32,686
	Bombay — By sea	„	...
	Coastwise	„	3
	By rail	„	13,288
	Karachi by rail	„	49,412
Exports by sea from	Calcutta	„	7,099
	Bombay	„	4,279
	Karachi	„	16,118

COTTON SEED.

Exports by sea from Bombay,	cwt.		70,279

* B., B. & C. I. Railway figures only.

KEROSENE OIL, WEEK ENDING 28th SEPTEMBER, 1907.

Imports by sea into—	From Russia.	America.	All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	106,578	1,671,317	1,777,895
Bombay	187,962	...	...	187,962
Karachi	...	...	...	...
Madras	...	...	...	...

Exports by sea from Burma to		
	Bengal . galls.	...
	E. B. & Assam „	420,300
	Bombay . . „	...
	Sind . . „	...
	Madras . . „	562,000
	Indian Ports, Non-Br. „	...
	Foreign Ports . „	...

IMPORTS OF SUGAR, WEEK ENDING 28th SEPTEMBER, 1907.

Country of Shipment.	Refined sugar imported into Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	38	...	3	...	7	30	78
Germany	...	...	...	...	300	...	300
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...	...
Java	103,730	...	120,591	...	...	...	224,321
Mauritius	...	...	11,550	1,707	...	...	13,257
Other Non-European Countries	...	...	597	...	...	1,205	1,802
					Total refined		239,758
					Total unrefined		18,068
					Grand Total, cwt.		257,826

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08. Sold in sale of 27th September. Packages.	Average price per lb. A. P.	Sold to 27th September. Packages.	Average price per lb. A. P.	Season 1906-07. Sold in sale of 20th September. (No Sale 27th Sept. 06.) Packages.	Average price per lb. A. P.	Sold to 28th September. Packages.	Average price per lb. A. P.
Assam	7,995	6 11·1	97,138	7 6·7	7,008	6 11·2	64,231	6 10·2
Cachar	4,433	5 11·6	33,337	5 11·6	6,498	4 2	16,942	4 1·1
Sylhet	4,090	6 2·5	62,585	5 11·1	2,699	3 11·2	50,307	3 9
Darjeeling	2,170	8 4·4	39,426	9 0	2,570	8 10·5	32,128	8 10·8
Dooars	7,965	6 4·1	97,052	6 7·3	7,963	5 4·5	71,239	5 2·2
Terai	644	6 0·1	13,972	6 1·1	939	3 11·2	17,925	4 1·4
Chittagong	432	5 10·1	5,065	6 0·6	636	4 0·6	5,597	3 10
Chota-Nagpore	...	...	549	5 1·2	...	...	236	4 8·3
Kumaon and Kangra	218	6 4·9	3,014	5 10	...	...	..	...
Madras	..	...	242	6 0	...	...	116	4 5
Dehra Dun	...	...	204	6 3·3	...	...	...	...
Nepaul	61	6 11	126	6 7·1	...	...	...	...
Total	28,008	6 6·9	402,720	6 9·6	28,313	5 7	308,721	5 4·4

(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 18,361 packages Dust* sold to 27th September — As. 7 P. 0·2

* On account of gardens which sell only that grade on this market.

—In his Report on the trade of **Bahia** for 1906 the British Consul mentions that **refined whale oil** as prepared at Bahia resembles cod-liver oil so closely in the attributes of colour, consistency, odour and taste as to be almost indistinguishable therefrom. The oil in question enjoys a high reputation locally for its medicinal properties and is preferred to cod-liver oil. The point as to whether Bahia whale oil is really possessed of medicinal virtues akin to those of cod-liver oil assumes importance in view of the fact that refined whale oil is considerably lower in price than cod-liver. There are unfortunately only too many sufferers, consumptive especially, who would benefit from taking cod liver oil regularly, but for whom the high price of that article is prohibitive.

—H. M. Consul at Nagasaki (Mr. F. W. Playfair), in his Report for 1906, states that he is informed on good authority that the **Imperial Steel Works at Wakamatsu** (near Shimonoseki) are about to submit to a series of tests before Lloyd's surveyor at Nagasaki the Siemens mild steel made by them, their object in so doing being to have their name added to the list of approved foreign firms who make steel to be used in the construction of ship or boiler material for vessels classed at Lloyd's. This they hope to accomplish by the end of 1907. Mr. Playfair remarks that their success would seriously affect the export of steel and shipbuilding material from the United Kingdom, while it would also deprive a number of British steamers of much valuable freight.

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

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (3*a*.)

MONTHLY.

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

MISCELLANEOUS.

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

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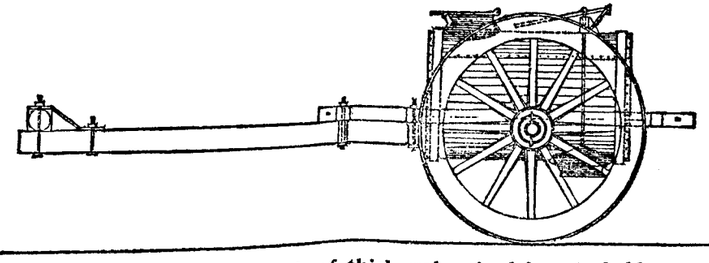
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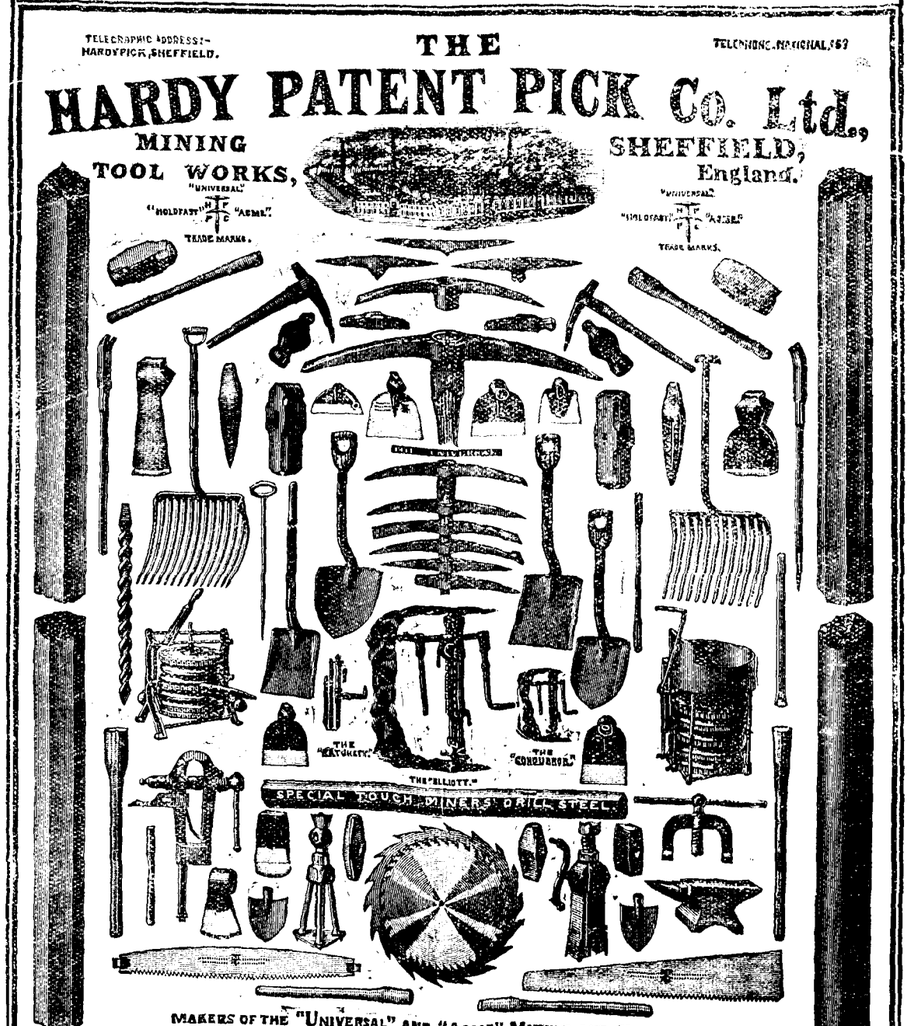
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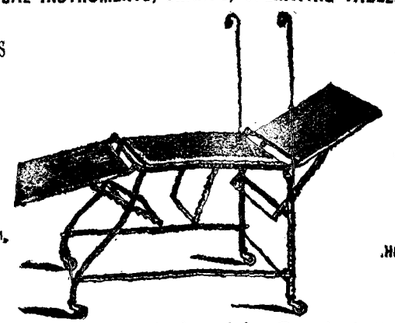
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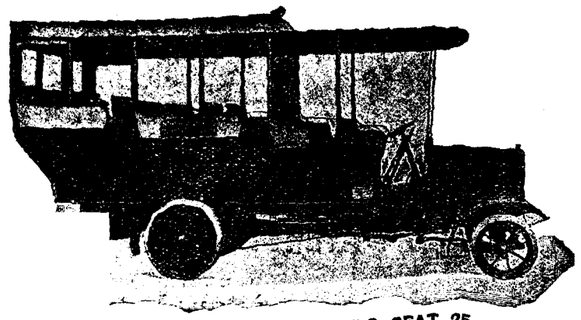
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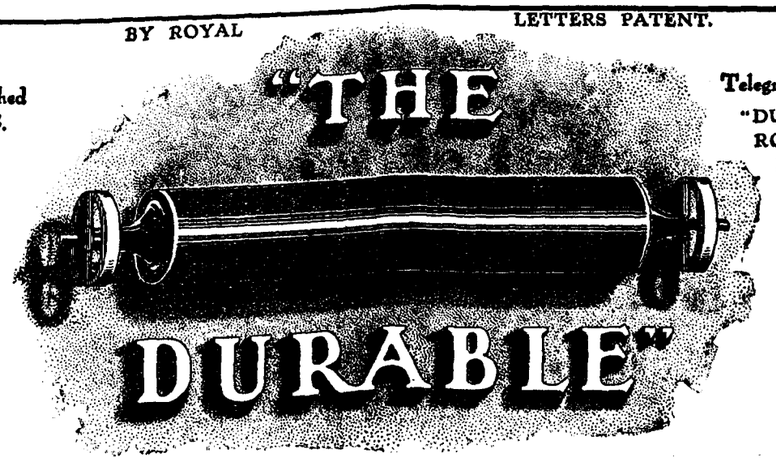
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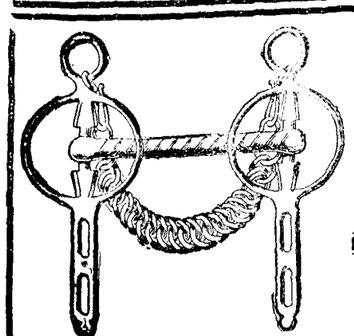


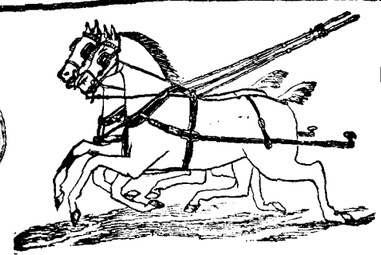
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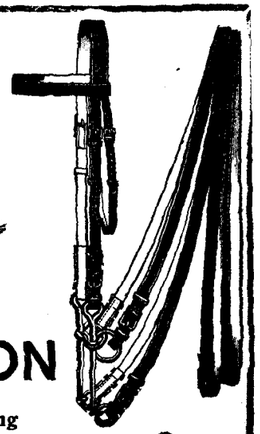
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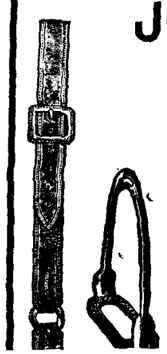
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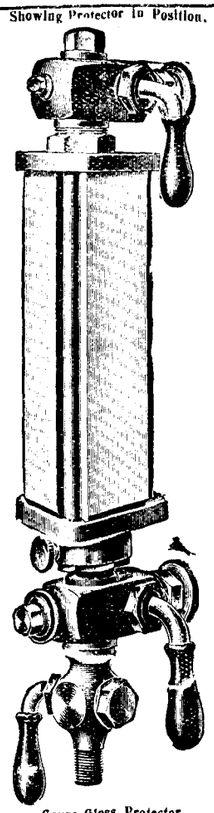




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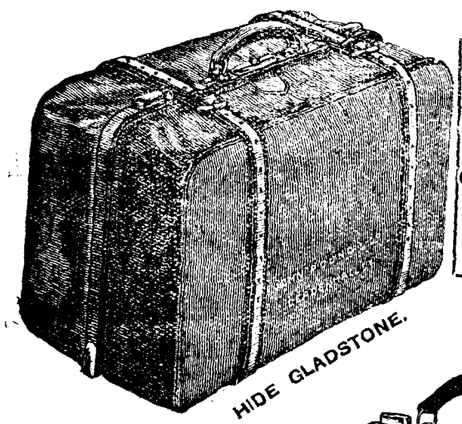
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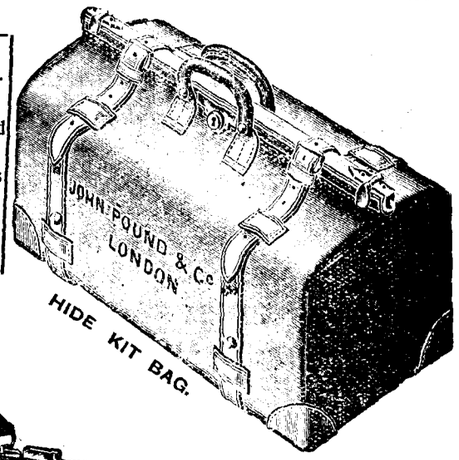
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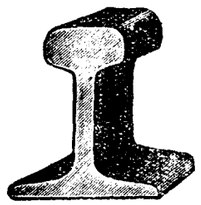
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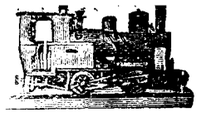
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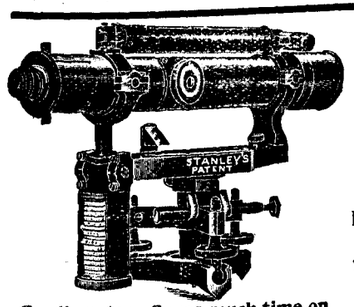
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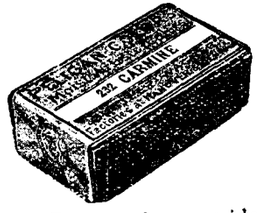
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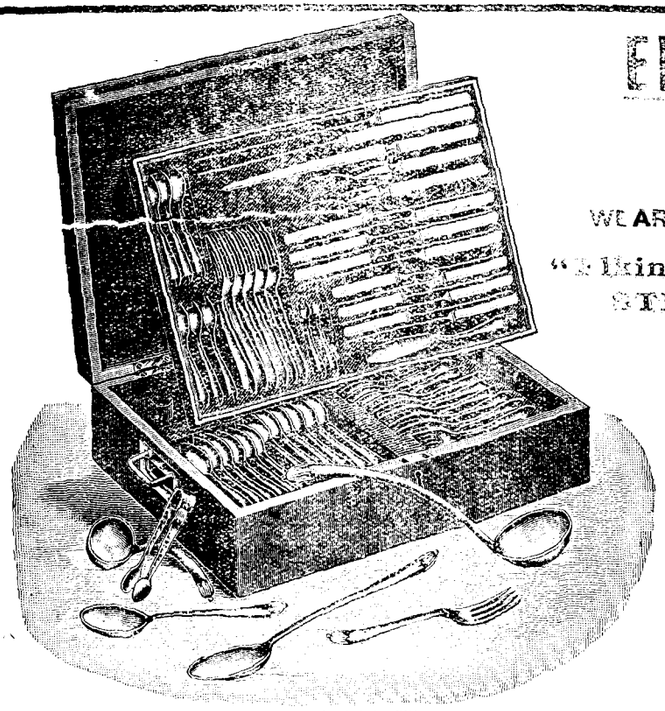
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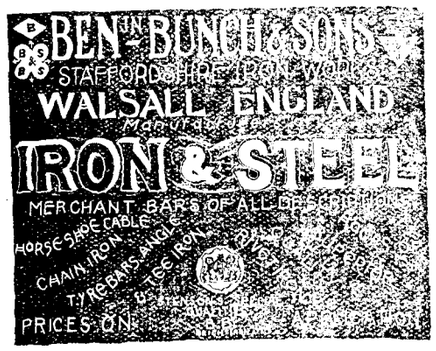
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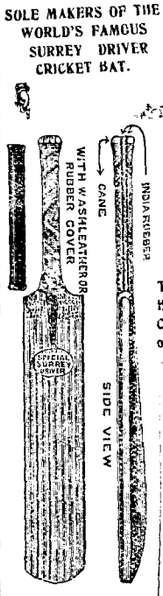
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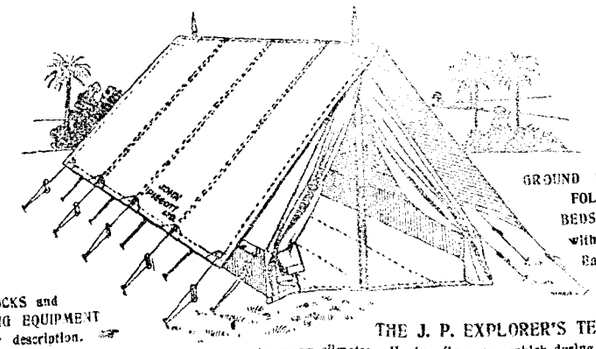
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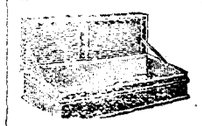
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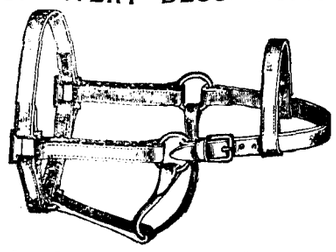
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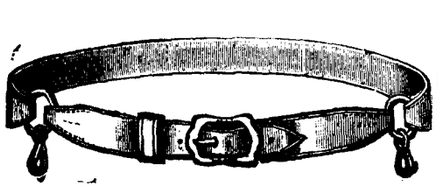
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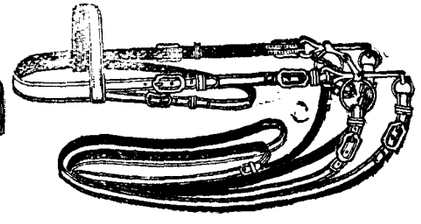


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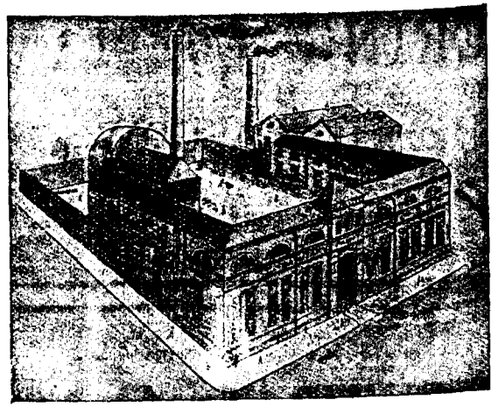
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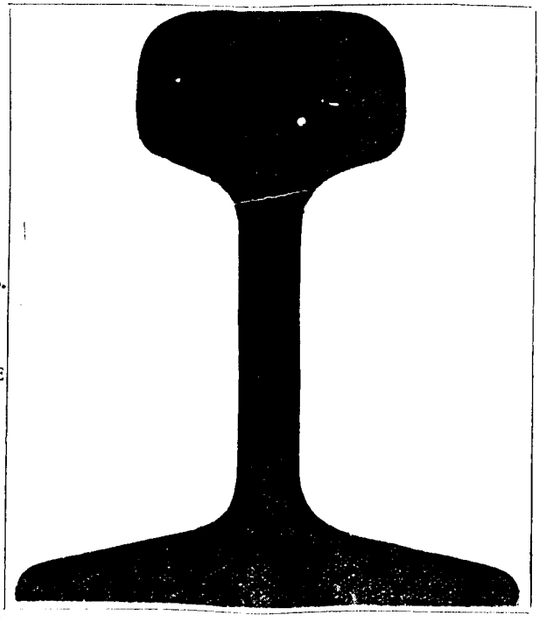
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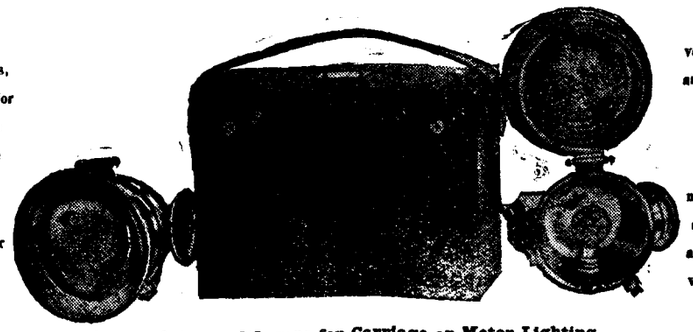
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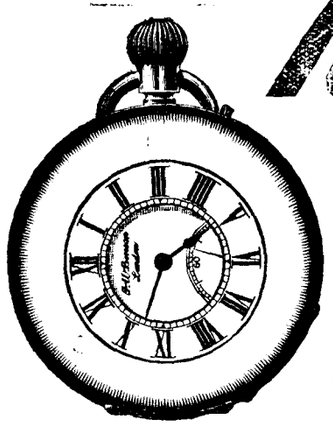
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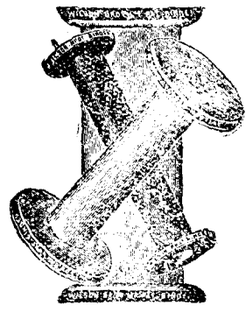
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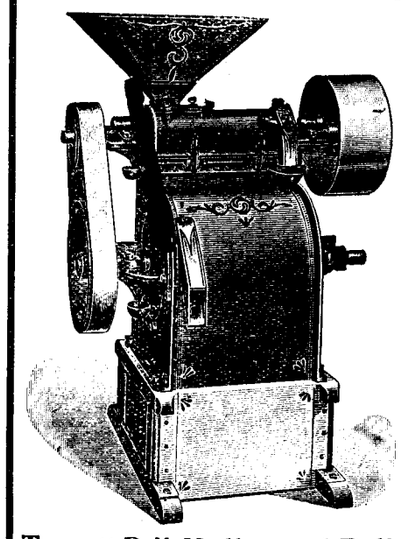


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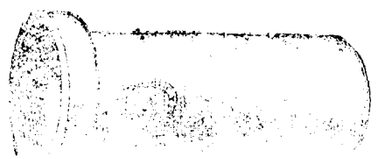
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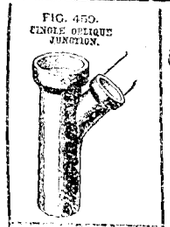


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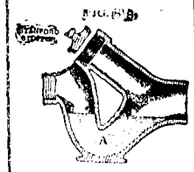
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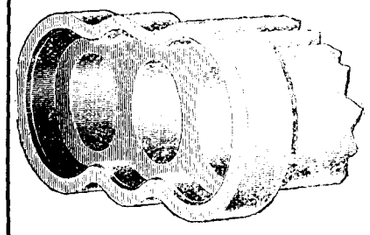
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SYKES' PATENT STONEWARE CONDUITS FITTED WITH BITUMENOUS SELF-CENTREING JOINTS FOR ELECTRIC CABLES.



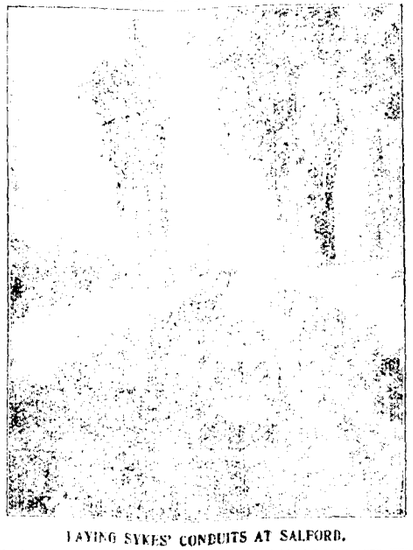
SKETCH

Made in following sizes:—

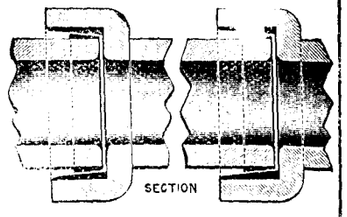
2 way 2" 2 way 2½" 2 way 3"
3 ,, 2" 3 ,, 2½" 3 ,, 3"
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Duct yards supplied.

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The spigot is simply inserted in the socket and pushed home.

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SYKES' PATENT SANITARY SPECIALITIES.

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REGR. CHIEF SEC. 10 OCT 1907 CALCUTTA

PUBLISHED WEEKLY.

REGISTERED.

The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 80.] CALCUTTA, THURSDAY, 10th OCTOBER, 1907. [ANNAS 4.

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NOTES.

We have received from the British Consul General at **Beirut** a range of **samples of cotton goods** most in demand in that market. These we have forwarded to the Bombay Millowners' Association with the request that they may be made available to all shippers of yarns, not necessarily members of that Association.

A draft Notification is published in the *Gazette of India* of the 5th instant regarding the supply of **medical stores** to be carried by **emigrant vessels** under the Indian Emigration Act, and will be taken into consideration on the 4th proximo, by which time objections or suggestions should be sent in.

A **Karachi** correspondent complains of the **falling off in freight rates,** and instances two steamers which were glad to fill up for Antwerp last week at Rs. 9-12 and Rs. 10-8 per ton, respectively. He attributes this state of affairs to the high price of wheat and the threatened famine in parts of the Punjab and elsewhere.

In a Minute dated 7th February, 1907, the Board of Trade made certain Rules under Section 10 of the **Merchant Shipping Act,** 1906, for the protection of seamen from risk arising from the **carriage of wood as deck cargo** in uncovered spaces. *It was* then provided that "when wood goods are carried in an uncovered space there shall be fitted on each side

of the ship temporary rails or bulwarks of a substantial character for the full length within which the deck cargo is stowed, extending to a height of not less than **three feet** above the line of the top of the deck cargo." An amendment has now been issued substituting "four feet" for "three feet."

The question of permitting collieries and other large concerns to own **private railway wagons**, which they would be at liberty to lease to the railway with which they deal, has often been discussed in one form or other. It is now again to the front in connection with the Railway Conference at Simla, and it is not improbable that something may come of it.

Mr. Vice-Consul Bice has reported that at Huelva important trials have been made with **Asturian coal**, with the result that it is proved to be a good burning and quick steaming coal; it leaves very little residue and consequently does not clog the fire bars. Comparing it with best Welsh coal, the price is 20 per cent. cheaper, but there is an increase in consumption of 7 per cent. with stationary engines and 15 per cent. with locomotives. In view of these results it is quite possible that the Asturian coal may seriously compete with the imports into **Cadiz** from the United Kingdom.

The *Journal Officiel* publishes the following statistics of the **production of coal in France** during the first half of the current year, as compared with the production during the corresponding period of 1906 :—

	First half of 1906.	First half of 1907.
	Metric Tons.	Metric Tons.
Pit coal and anthracite . .	15,389,592	17,708,834
Lignite	367,757	380,884
Total .	15,757,349	18,089,718

It should be noted that the figures for 1907 are provisional.

Figures compiled by W. W. Ruley, Chief of the Bureau of Anthracite Statistics of the U. S. Geological Survey, indicate that this year's **production of anthracite coal** will be the greatest in history. Shipments for the first eight months of this year total 4,897,704 tons greater than for parallel months of 1905, which year now holds the record for maximum production. July shipments for this year were 630,897 tons higher than for July, 1906, and August shipments this year were 315,741 tons greater than August, 1906. Last year would have been a record breaker, but for the fact that during April and May the output dropped off owing to the partial suspension of work pending the decision to continue the awards of the Anthracite Strike Commission for three years longer. Shipments for the last four years have been as follows: 1903, 59,362,831; 1904, 57,492,522; 1905, 61,410,201; 1906, 56,262,567.

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 September, 1907, were as follows:—Wheat, 31*s.* 4*d.*; Barley, 24*s.* 4*d.*; and Oats, 17*s.* 6*d.*

The following **summary of the world's crops** was circulated on the 17th ultimo by the *Corn Trade News* in North America and Europe:—**United States of America**—Spring wheat reports mostly unfavourable, but a good crop movement predicted. Winter wheat farmers ploughing, and still inclined to hold. **Canada**—Crop reports bad. Crop short, and much is frosted. **Russia**—Still great complaints of disappointing threshings and scanty deliveries, but there are occasional indications of a large movement to favoured ports. The draught is fairly broken in the south and seeding reports generally favourable. Reports of northern harvest and of maize are mostly unfavourable. **Roumania**—More ploughing rains wanted. Maize is half crop. **Bulgaria**—Good rains have fallen. Maize half crop. **Hungary**—Maize outlook has improved. Weather too dry for ploughing. **Italy**—Wheat crop shows splendid quality. **Spain**—Reports continue unfavourable. **Greece**—Quality fair, quantity short. **France**—Good crop and quality satisfactory, except in the North where damp. **United Kingdom**—Harvest made good progress, early threshings fully equal expectations. **Germany**—Fine weather improved partially wheat and oats crops, whilst outlook for potatoes generally improved. **Denmark**—Satisfactory harvest. **Australia**—The weather continues generally droughty and unfavourable. **Argentina**—Weather favourable and crops in excellent condition. Latest official indication for wheat shows only 5 per cent. increase. **India**—Holders are firm.

A movement seems to be on foot in **Ceylon** to improve the **inland fish supply** of the island by cultivation and the suppression of wholesale netting and dynamiting.

The Secretary of State has sanctioned the appointment of a **second Inspector of Explosives** in India, whose duties will be identical with those of the present Inspector of Explosives. Lieutenant J. W. Turner has been selected for this new appointment and will take up his duties about the 1st December next.

We understand that steps are now being taken to thoroughly overhaul and place on a more satisfactory basis the system of **frontier trade registration in the Punjab.**

One of the latest publications calculated to be of interest to the commercial community is a little book entitled *Weight Exchange Tables.* The author is Babu Bigyan Chandra Ghosh, and his task, which he seems to have accomplished with credit, is to make easy the operation of converting tons into maunds and maunds into tons. The book is published by the Eastern Bengal Railway Press, and the price is Re. 1-4.

To make the journey Home by Persia, says the *Pioneer*, is a thing to which the thoughts of many turn, but which few attempt, because of the time involved and the arrangements requiring to be made beforehand. Its accomplishment, however, has been sensibly smoothed by a new development. This is the establishment of a through **horse-dak service from Baghdad to Aleppo**, which has just been achieved by a Turkish Company. The carriages started on their trial trips from either end on the 1st September, and got through the one in nine days and the other in ten. This will no doubt come down to eight days or a week as the road is improved. The travelling is by day only, and the principal objection to the route from the tourist's point of view is the character of the night accommodation. But the promoters have already in view the building of dâk bunglows at the stopping stages and when these are up it will be possible to make the journey in every reasonable comfort.

The Governor-General in Council is pleased to publish for general information the following **amendments** which His Excellency in Council, in exercise of the powers conferred by section 5 of the **Indian Explosives Act**, 1884, proposes to make in the rules regulating the transport and importation of Explosives published with the Notification in the Commerce and Industry Department, No. 4555-4 (Explosives), dated the 31st May, 1907. The draft will be taken into consideration by the Governor-General in Council on the expiration of two months from the date of publication of this Notification in the *Gazette of India* (September 28th, 1907). The amendments are as follows:—"(1) In rule 17, after the word 'Aden' the words '(in the case of the explosives referred to in rule 18) Chittagong,' shall be inserted. (2) In rule 18, after the word 'Aden,' the word 'Chittagong' shall be inserted. Rules 17 and 18 read as follows:—17.—An explosive shall not be imported by sea except at one of the ports of Calcutta (including Moyapur and Diamond Harbour), Madras, Bombay, Rangoon, Calicut, Karachi, Aden, and (in the case of crackers only) Negapatam and Moulmein. But a license to import an explosive by sea from Rangoon into the port of Akyab Sandoway, Kyouk Phyoo, Tavoy, Mergui or Victoria Point as the case may be, may be granted by the Magistrate of the District in which such port is situated. The fee payable in respect of each such license shall be one rupee, and the license shall be in Form A in the schedule hereto annexed. 18.—If the explosive is gunpowder or an explosive of the 1st division of the 6th (ammunition) class or of the 7th (firework) class, the license to import the same may be granted, —(*a*) if the importation is by sea, by the Commissioner of Police of Calcutta, Madras, Bombay or Rangoon, or the District Magistrate of Calicut, Karachi, Aden, Negapatam or Moulmein as the case may be, and (*b*) if the importation is by land, by the officer appointed to grant licenses under rule 21."

The **Review of the monsoon of 1907** shows that the monsoon currents were characterized by several abnormal features, one of the most noteworthy being the retardation of their appearance in Indian regions. They were delayed almost as much as in June, 1906, and their extension inland was also abnormally slow, so much so that in the north, central and north-western parts of the country the rains were not established till the end of the third week of July. From that time on to the end of the third week of August both currents were unusually steady and vigorous, but from the 22nd August the Arabian Sea current weakened materially and abruptly. A complete break in the rains set in over North-Western India, and extending eastwards was by the 30th established over the whole country, excluding Burma, North-East India and the Peninsula. During September very little rain fell outside those three areas, and thus the rains of 1907 may be regarded as having ended over North-Western India and the west of Central India in the fourth week of August, or three to four weeks before the normal date. The **total precipitation** of the period June to September exceeded the average only in Burma, Madras and Bombay, but even in these areas the excess was insignificant. The deficiency over the rest of the country was the greatest in the United Provinces, which obtained only half of its normal supply, but was also considerable in the Punjab, Central India, Rajputana and the Central Provinces, where it ranged from 24 to 29 per cent. On the mean of the whole country the monsoon rainfall was ten per cent. short of the normal. The unfavourable character of the season was chiefly due to the abnormally early withdrawal of the currents from the northern parts of the country. A similar early cessation of rains occurred in 1896. The net result is that crops have suffered more or less severely in several parts of the country, and relief measures are being actively considered, particularly in the United Provinces, for which territory a grant of Rs. 50,00,000 has already been made by the Government of India.

We have received photographs, catalogues and price list of a British-made, high power **cigarette machine**; particulars of a patent **tobacco-cutting machine**; and details of a type of **modern packing** for mechanical and chemical purposes, said to be superior to rubber, leather and asbestos. These may be inspected at this office.

The British Ambassador at Constantinople has informed the Government of India that the Turkish authorities have resolved to levy a **sanitary tax** of ten piastres (Re. 1-6-6) on all **Shiah pilgrims going from India to Basra.** We understand that under the old regulations the Shiah Mahomedans escaped the payment of this tax, hence the present amendment.

We see it stated in the Resolution on the Report on the working of the Civil Veterinary Department in the **Central Provinces** for the year ending 31st March, 1907, that steps are to be taken to extend the work of **protecting cattle from disease by means of inoculation,** and an increased staff has been sanctioned for that purpose. The distribution of good cattle every year from the Government cattle farms will, it is hoped, in course of time, have an appreciable effect in raising the general standard of the village cattle of the province. The results obtained at the Nagpur Farm are very satisfactory, and the improvement of the herd at Hoshangabad by the addition of animals of the pure Malwa breed is said to be a measure which will fully justify the initial cost entailed.

Considerable speculation, says a local paper, is being indulged in just now by the leather merchants of India. **High prices are ruling both** for **Hides and skins,** and some curious facts may be mentioned concerning recent "raw buffalo" sales. Some Calcutta exporters who usually buy exclusively for export have lately been offering their goods in Cawnpore, where the rates paid by the owners of large factories are actually higher than those obtainable in Europe and America. A reason for this state of affairs may be found in the fact that the great bulk of buffalo hides are exported in the dry or arsenicated state, comparatively few of them being transported in the salted condition, whereas during the monsoon, owing to the difficulties of drying, arsenicating operations cease and the hides are nearly all salted. The majority of these find their way to Cawnpore, where, in consequence of the keenness of the competition for their possession, prices rise to a high level. At the present moment the holders of stocks are eagerly watching for a fresh burst of the lost monsoon, but the more timid, on the other hand, are clearing out at cost price, in anticipation of a possible famine, with an attendant fall in values. "There is some method in the madness of those who are now speculating, as it might seem to the uninitiated, rashly, for during the famine of 1900 the profits realised by hide brokers and exporters was enormous, as much as £100,000 sterling having been netted in Calcutta by one firm alone."

We have received a copy of the **Australian Tariff Proposals,** which were introduced by the Federal Treasurer in the Commonwealth House of Representatives on August 8th last. The proposed tariff, which took effect from the date of introduction, provides for preferential rates of duty on certain goods, when the produce or manufacture of the United Kingdom, imported into the Commonwealth. The Tariff has yet to be considered by the Commonwealth Parliament and may be considerably altered during its progress through Parliament, and, therefore, the present printed schedule cannot be accepted as final. The proposed Tariff may be inspected at this office.

The Collector of **Salt Revenue** for the **Bombay Presidency** has now issued his Report for 1906-07, and the facts stated therein show that the reduction of the duty has very fully benefited the consumers, as it was intended to do. Between the years 1903 and 1906, the duty on salt was reduced from Rs. 2-8-0 to Re. 1-8-0 per Indian maund (maund-82⅔ lbs.) and the result is remarkable. In all the eighteen districts of the Presidency the market price of salt has fallen very largely, and in fourteen the difference is more than the rupee by which the duty has been reduced. In Bombay City, for instance, where the price of salt was kept at an artificially high level, the price has fallen Rs. 1-4-0. The consumption of salt per head of the population has risen, as might be expected, and far fewer cases of smuggling have been detected during the year under review. This latter circumstance is apparently due to the fact that, with the cheapening of salt, it is no longer worth while to smuggle it. It is too early yet to note correctly the result of the latest reduction in duty which brings the tax down to Re. 1-0-0 per maund, but an increase in the removals of sea-salt affords some indication that it is appreciated. A scheme has been sanctioned by Government for the establishment of a new set of salt works at Bhandup, from which it is expected fifteen lakhs of maunds of salt will be provided annually. The acquisition of the land required is causing delay at present.

The Report on the Administration of the **Salt Department in Eastern Bengal and Assam** during the year 1905-06 states that the imports from the United Kingdom amounted to 81,444 maunds (maund = 82⅔ lbs.), against 258,270 maunds during the preceding year, *i.e.*, a decrease of 68·4 per cent.; the imports from Hamburg and Bremen were 121,069 maunds, as compared with 209,907 maunds in 1904-05, *i.e.*, a decrease of 42·3 per cent.; and the imports from

Aden were 481,045 maunds, against 249,530 maunds the year before, or an increase of 92·74 per cent. The total quantity passed into consumption, excluding what was introduced from Calcutta by rail, comes to 3,197,199 maunds, giving an average consumption of 4 seers (seer = 2·204 lbs.) and 3 chittacks (chittack = 2·.6 oz.) per head for the whole province. The consumption of those portions of saliferous districts which are within the **Salt Law** limits, shows an increase of three chittacks per head. In Noakhali there was a decrease attributed to the partial failure of the rice crop, but elsewhere the increase is said to be due to the reduction of the salt duty. The average selling price for the province was Rs. 2-9-2 per maund, against Rs. 3-0-10 in 1904-05 and Rs. 3-2-6 in 1905-04. The reduction in price as compared with the year 1904-05 is less than 8 annas, which represents the reduction in the duty; and there is reason to believe that retail buyers have benefited largely by it. In the Chittagong Division retail prices have gone down on an average from 2 annas to 1 anna per seer. The wholesale dealers, however, are most benefited. The average retail price in the Rajshahi Division is reported to be 12¼ pies per seer, 5⅓ pice in the districts of Dacca, Mymensingh and Faridpur, and 4½ pice in Bakargunge. The **total receipts** of the Department were Rs. 29,55,819, as against Rs. 35,87,642, for 1904-05, the decrease being due to the reduction in duty and the short importation of salt.

The **Mysore Dasara Industrial and Agricultural Exhibition,** which was referred to in the *Indian Trade Journal* of August 15th, was opened with great ceremony last Saturday morning by the Maharaja of Mysore in the presence of a large number of Indian and European officials and visitors. In the course of his speech the Maharaja said that it was not to be expected that exhibitions of this kind should have immediate or revolutionary influence on the agricultural industries of the country; but they offered to all classes an opportunity of seeing what their neighbours were producing. To craftsmen they were of special use in indicating the directions in which their skill might be most usefully directed, whilst distributors might learn from them of new markets on the one hand and, on the other, of new sources of supply. This exhibition is to be an annual fixture.

The **Indian Factory Labour Commission** is now practically complete. The President will be Mr. W. T. Morison from Bombay, and the members Colonel C. Mactaggart, I.M.S., from the United Provinces. Mr. S. M. Chitnavis, Deputy Commissioner, Central Provinces, Mr. W. A. B. Beaumont, Superintendent of Factories, Manchester, Dr. Nair, Madras, Municipal Commissioner, the Hon. Mr. A. McRobert, of the Cawnpore Chamber of Commerce, and Mr. Nicol, lately President of the Indian Jute Mills Association. The Bombay Chamber of Commerce and Millowners' Association will also nominate a member. The Secretary will be Mr. John Campbell, I.C.S. The Commission assembles on the 1st November at Bombay, and will be on tour until about the 15th April next, visiting the principal industrial centres in India. It is likely to submit its report in the end of May next.

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

For the week ending 28th September, 1907—

In the Calcutta market—

Behar opium—Rs. 1,308; 1,311; 1,311; 1,324; 1,331; 1,332; 1,331.

Benares opium—Rs. 1,280; 1,280; 1,280; 1,290; 1,300; 1,300; 1,300.

The prices in the time bargains for the Behar opium of the 10th sale of 1907 were, Rs. 1,310; 1,313; 1,313; 1,326; 1,333; 1,334; 1,333.

In the China market—

At Hongkong (exchange Rs. 165 to 165¾ per $100).

Behar opium—$807½; 810; 820; 810 and 825; 815 and 835; 835; 835.

Benares opium—On the 25th and 26th instants $805 and 807 respectively.

At Shanghai (exchange Rs. 227 per 100 taels).

Behar opium—On the 26th instant 604 taels.

Benares opium—On the 26th instant 592 taels.

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,275 to 1,320; (new, 1905-06) Rs. 1,350 to 1,390; (old, 1904-05) Rs. 1,400 to 1,463; the latest prices at Hongkong and Shanghai respectively were (new) Rs. 1,332 and 1,401; (old) Rs. 1,465 and 1,503.

We are informed that it is proposed to open a private **commercial bank** at **Kokand.** A Government bank already exists there.

A correspondent states that there has been found at **Chimion,** Persia, a kind of **jelly that burns** very well. No idea is given of its composition, but it is probably petroleum jelly.

The **British trade returns** for September show increases of £281,441 in imports and £4,831,187 in exports. Of the latter one million is in coal and three millions in manufactured articles, including one million in textiles.

A London telegram announces that the **Convention of Cotton Growers and Spinners** has opened at **Atlanta,** Georgia, and representatives of Britain and the chief countries of Europe are present. The President said that they wanted the latter to see for themselves that America could grow all the

cotton the world needed, but he admitted the importance of growers, by personal contact with spinners, realizing that to maintain their supremacy they must improve the growing, handling and marketing of cotton, and remove abuses. Mr. Marcara urged that it was time that a determined effort was made to diminish the burden imposed by illegitimate speculation.

It is stated that a Syndicate has been formed of prominent Chinese residents of the Straits and Malay States, with a capital of 1,800,000 dollars, under the name of the **Eastern Steamship Company,** Ld., to purchase forty steamships which had been engaged for years past in trading between Southern China, Burma and the Straits Settlements. Seventy-five per cent. of the purchase money will be taken by the five firms concerned in the form of fully paid up shares in the new company, and the balance in cash.

The Directors of the **East Indian Railway Co.** have recommended a dividend of £1 1*s.* 4*d.* per cent. on the deferred annuity capital and the deferred annuity capital class "D" of the company, in addition to the guaranteed interest of £2 per cent. for the half-year. The **Eastern Telegraph Co.** announce the payment on the 15th instant of a dividend at the rate of 3½ per cent. per annum, less tax, on the preference stock for the quarter ending September 30th, and the second quarterly interim dividend of 1¼ per cent. on the ordinary stock in respect of profits for the year ending December 31st. The report of the **National Bank of India** for the half-year ended June 30th shows a net profit of £248,022. An interim dividend has been declared at the rate of 12 per cent. per annum, tax free. The **Hongkong and Shanghai Banking Corporation** report a net profit of $3,845,222 for the half-year ended June 30th. The Directors have recommended the payment of a dividend of £1-15 per share.

According to a Rangoon correspondent, the old-established firm of Messrs. Kruger and Co., rice merchants, has been purchased by a rice-trading company which has been established at Bremen and London under the name of the **Burma Rice-Trading Company** with a capital of half a million sterling.

Mr. Walter Clark, president of the Mississippi Division of the Southern Cotton Association, was present at the International Cotton Conference held at Vienna in June last, and whilst *en route* inspected **damaged cotton** both in Manchester and Liverpool. He was apparently so much impressed by what he saw that he has been moved to publish the following statement:—"After seeing the damaged condition of our cotton as received in Liverpool and other foreign ports, caused by exposure in open compress yards and on the streets of various towns and cities, I desire to serve notice on all parties concerned, that in the coming session of the Legislature of Mississippi, I will have introduced a bill making it a misdemeanour for any person receiving cotton for storage to collect any charges whatever unless said cotton is stored in a thoroughly waterproof warehouse. I shall also bring this matter to the attention of the officers of the Cotton Association and the Farmers' Union in each and every State with a view of having similar legislation. Enough cotton was lost in the State of Mississippi last season to build fireproof warehouses to store every bale of cotton grown in the State, and I shall do everything possible to have this corrected at the earliest possible moment." There is certainly nothing lukewarm in Mr. Clark's advocacy of reform in cotton baling.

The following paragraph will be read with interest by cotton dealers in India. It is from the *Manchester Guardian* of the 17th ultimo:—We learn that steps are being taken to form a company in Lancashire to develop on a considerable scale the experimental cultivation of perennial cotton, which has been successfully carried on by Mr. J. R. Spence at Deesa, India. Some account of this experiment was recently published in the *Manchester Guardian*, when it was stated that cotton from the Deesa plantation had been sold at Liverpool for 7½*d.* per lb., and in Bombay had been spun into a good 50's yarn. Mr. Spence claims that if only one-third of the **Indian cotton acreage** were planted with this variety "the result in the first year would be a **yield equal to that of America and India** put together." Something a little short of that would be useful, and although it is not for us to influence in any way the judgment of investors upon the proposals which may be put before them, it would be distinctly interesting to Lancashire to see the claims so confidently and definitely made on behalf of this particular variety of cotton put to the test upon a commercial scale. The Indian cotton crop at present leaves very much to be desired, both in quality and in yield per acre.

A London telegram states that owing to a dispute regarding the amount of day work, eight thousand members of the **Cotton Handlers' Union** of **New Orleans** have gone on strike, stopping all shipments of cotton.

According to the *Indian Daily News*, a parcel of **Ceylon cotton** at Liverpool fetched 14½*d.* per lb. The grower admits that it costs him 6*d.* to grow it, but a profit of 8½*d* per lb. can hardly be called unsatisfactory.

The second forecast of the **cotton crop in Burma** says that the total area under cotton is now estimated at 186,041 acres, or 3,172 acres less than the area reported in August. The crop prospects are fair, but more rain is required in almost all the districts.

The moderately bearish view which seems to have been recently prevailing in the **cotton markets** is reflected in Messrs. Hubbard's New York cotton letter dated September 3rd. Admitting that the season has opened with more than usual uncertainty as to the future supply, and making due allowance for the effect of the drought in Texas, which, it is estimated, may reduce the yield from that State by a million bales as compared with last season, Messrs. Hubbard remark on the undoubted improvement in other sections since June 1st and the well-authenticated eagerness of the planter in those more favoured parts of the cotton belt to sell at the present range of prices all the cotton that he can market during the early part of the season. Thus even the merchant who doubts whether this season's yield will equal the consumption is not prepared without the support of outside speculation to absorb the offerings at the high prices current. Equally, in view of the lateness of the crop and its danger from early frost, he is unprepared to anticipate lower prices by bear sales. The hesitation of the market to show confidence in present values is unquestionably increased by the fear of a general reaction in business, of which the decline in iron and copper is thought by some to be an unmistakable premonition, and speculators in particular are affected by considerations of this kind.

Jubbulpore is to have an **electric supply.** The licensees are Messrs. Kilburn and Co., Calcutta.

The text of the draft license to be granted to the **Barrackpore Electric Supply Company,** Ld., is published in yesterday's *Calcutta Gazette*.

His Highness the Maharaja Scindiah has given a concession for the construction of an electric tramway, the lighting of the streets, and a **supply of electric power** for the three Municipalities of Lashkar, Morar and Old Gwalior which together constitute the capital of the **Gwalior State.** The contract includes provisions for a cheap supply of electric power to private enterprise, the intention of the Maharaja being to foster the growth of his capital as an industrial centre. The Ajmere Import and Export Company are the concessionaires.

We learn from an address recently delivered by the Resident of Kashmir that the **Kashmir electric scheme** will produce 20,000 h.-p. and be the biggest electric scheme in India. The power will be enough to light Srinagar, heat the silk factory—which is the largest in the world and the most paying—operate the dredging fleet, run the railway, work the wool factory, the oil pressing factory and other concerns which are in contemplation, and have eight or ten thousand horse-power to spare to sell in the Punjab for lighting Abbottabad and Rawalpindi, running factories, and, may be, eventually assisting in working the N.-W. Railway by electricity as they are now beginning to work main lines in America. The dredging operations are calculated to so deepen the Jhelum river as to largely prevent floods in the Kashmir Valley, to convert 100,000 acres of swamps into rice land, and to improve navigation.

During the week ended September 11th, 156,604 kilos. of **silk** were cleared at the **Lyons conditioning-house** as compared with 161,521 in the preceding week and 128,007 in the corresponding week of last year. Appended is the usual tabular comparison:—

Week ended Sept. 11th.	Thrown.		Raw. kilos.	Total. kilos.
	Organsins. kilos.	Trames. kilos.		
1907 . .	21,950	25,260	109,394	156,604
1906 . .	12,935	21,810	93,232	128,007
1905 . .	19,023	23,584	116,832	159,439
1904 . .	18,468	21,371	86,327	126,166
1903 . .	16,852	21,576	94,225	132,653
1902 . .	16,137	21,594	98,435	136,166

There has been a moderate trade in all descriptions of silk at unchanged but easily maintained prices. The comparative quietness of the market is the natural result of the very large business transacted last month, the continued scarcity of available supplies, especially in thrown silks, and the stiffness of producers and holders. The situation generally is considered very strong; manufacturers are being well supplied with orders, and the position of the raw material is such that when consumers again come into the market more freely prices will receive a further impetus upward.

The *Reichsanzeiger* of 13th September publishes statistics of the **production of sugar in Germany** during the campaign 1906-7 (from 1st September, 1906, to 31st August, 1907). In 1906-7 the quantity of raw beet used in sugar manufacture was 14,171,666 metric tons as compared with 15,733,478 metric tons during the 1905-6 campaign; the amount of raw sugar produced in 1906-07 was 1,941,810 metric tons against 2,127,948 metric tons in 1905-6, whilst the production of refined sugar amounted to 1,656,548 metric tons in 1906-7 as compared with 1,711,063 metric tons in 1905-6. The total output of sugar (raw and refined) during the period from September, 1906, to August, 1907, expressed in terms of raw sugar, was 2,241,110 metric tons as compared with 2,400,771 metric tons in the corresponding period of 1905-6.

The following paragraph appears in the *Manchester Guardian* of the 14th ultimo:—Notice of **an advance in the price of sugar** of one farthing a pound, to begin on Monday, is given by the Manchester and Salford District Grocers' Association, who state that in consequence of the increased cost of sugar retailers are compelled to take this step. Crystals and first marks will, after Monday, be 2*d.* per lb. and fine granulated 2¼*d.* per lb. It should be explained that crystals and first marks represent the cheaper kinds of Continental sugars.

The *Manchester Guardian* of the 16th ultimo writes:—Last week witnessed a **further fall of £8 per ton in the price of standard copper,** and the market shows no sign of recovery as yet. The *Ironmonger* says that "at the present time producers all over the world are piling up copper from day to day, and the position each week is becoming so much the worse." If this is a correct statement of the facts some heavy selling may soon become necessary for financial reasons, and in that case it is impossible to guess what further reduction may be needed to force sales. It would appear that rumours of labour difficulties are being made use of in order to stir up fear amongst consumers of copper, the suggestion being that the output will be seriously curtailed. A few months ago the producers could dictate their own terms, and they did not spare the feelings of consumers in doing so; now the whole position is reversed, and it will probably take a good deal to bring the largeconsumers again into a wholesale buying mood. The general rise in the price of copper was spread over a period of eight years, the extravagant part of the rise occupying—as is usual—only a very small proportion of this time. The fall to more reasonable figures has also been rapid; but the period of depression which customarily follows an unduly inflated market may be long drawn out. We may add that the directors of the companies subsidiary to the **Amalgamated Copper Company** met in New York on the 18th ultimo, and resolved to **restrict their output by 50 per cent.** immediately. The Companies represented were the Anaconda, Butte, Boston, Montana, and Parrott.

Quartz from the shores of Loch Fine, **Argyllshire,** has been found to contain a high proportion of **gold** and the preliminaries for sinking a shaft have been started, says the *Tribune*. The spot is on the Stronachullin estate of Mr. Robert Graham Campbell, J. P., three miles south of the fishing village of Ardrishaig.

We learn from advices by the Australian mail which reached Calcutta this week that shearing has gone on without interruption in the northern states, and is about to commence in Victoria. Though wages for shearing and shed work are excessively high, pastoralists and farmers would be glad of delay through rain at the present juncture, for the outlook in many districts as regards the season is depressing. The latest reports make it clear that it is unlikely there will be any increase in the **Australasian wool clip** of 1907-08. Everything, however, points to a most successful **selling season** and it is fortunate that Australia's primary product is likely to meet again with such a strong and genuinely consumptive demand at a high all-round range of value. During the first week of September merinos showed increasing firmness, and in Bradford fine tops advanced ¼*d.* per lb., being 2¼*d.* per lb. higher than at same period last year. Despite the fact that American buyers have been taking the best English wools, medium and coarse quality cross breds have fallen ¼*d.* Since last report—medium quality sorts are 1½*d.* and coarse sorts 1*d.* per lb. below rates current twelve months ago. An important matter in connection with the wool trade which requires attention is the quality of the **pack** in which wool is marketed. So serious is the annual loss to manufacturers through jute fibre becoming admixed with the wool that the Bradford Chamber of Commerce and like institutions in other manufacturing countries have issued circulars dealing with the matter. At the wool sales which were held in Sydney in the first week of September up to 13*d.* was secured for greasy fleece from the Brewarrina district of New South Wales, and 24½*d.* for scoured from the same district. Generally speaking, the market for good merino fleece was 5 per cent. better than at the corresponding sale last year; but burry skirtings, etc., which were relatively too dear last season, showed a depreciation of from ¼*d.* to ½*d.* as compared with the September sales of 1906.

The total **exports of rice from Bangkok** for the quarter ending June last was 210,490 tons valued at Rs. 18,52,978.

NOTICES.

CROP FORECASTS.

THE following General Memoranda on crops of the season 1907-08 will be published in the *Indian Trade Journal* of the 17th instant:—

Second Memorandum, Cotton.

Second Memorandum, Sugarcane.

First Memorandum, Indigo.

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 16th October at 4 P.M.

ENQUIRIES.

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

Ceylon Yarn.

(130)—A Ceylon planter desires to be furnished with the addresses of spinners in and about Calcutta, to whom he desires to send samples of yarn, of which, he says, great quantities could be exported.

Raw Silk.

(131)—A New York dealer wishes to be placed in communication with exporters of "Cherra" silk.

Cutlery Machinery.

(132)—A Bombay correspondent requires the addresses of makers or importers of modern machinery for the manufacture of cutlery.—(*English and American papers please copy.*)

Hide Cuttings and Fleshings.

(133)—A Bombay firm requires the addresses of Calcutta and Madras shippers of hide cuttings and fleshings.

CALLS FOR TENDERS.

Medical Stores.

The Medical Store-keeper to Government, Lahore Cantonment, is inviting tenders up to the 1st proximo for the supply of local medical stores, surgical instruments, appliances and sundries and also for the repair of surgical instruments. Particulars may be had from the officer in question.

Coffee.

The Divisional Contract Officer, Poona, is inviting tenders up to the 16th December for the supply of coffee in berries during the year 1908-09.

Railway Stores.

The Agent of the Assam Bengal Railway is inviting tenders up to the 30th instant for miscellaneous stores for open line for the year 1908.

Miscellaneous Stores.

The Divisional Contract Officer, 9th Division, Ootacamund, is calling for tenders for a variety of miscellaneous stores including tea, coffee, sugar, flour, blankets, kerosine, table linen, etc.

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, the 16th October, 1907:—

Parliamentary Publications.

Canada—Papers Relative to the Working of Taxation of the Unimproved Value of Land in Canada. Foreign Trade and Commerce—Monthly Accounts of —— for the month of August, 1907. Post Office—Fifty-third Report of the Postmaster General on the ——.

Foreign and Colonial Publications.

Australia, Western—Statistical Register, 1906. Part I—Population and Vital Statistics. Austria Hungary—Budapest Fővaros Statisztikai Havifüzetei, January to June, 1907. Belgium—Monthly Account of Trade, August, 1907. Egypt—Monthly Account of Trade, August, 1907. Greece—Annual Account of Trade, 1905. Mexico—Boletin de Estadistica Fiscal, February, 1907. Newfoundland—Legislative Acts, 1907. Norway—Statistique Sociale V, Enfants illegitimes; Statistique du Commerce de la Norvége, 1906. Straits Settlements—Return of Imports and Exports for the Quarter Ending 30th June, 1907. Switzerland—Quarterly Account of Trade, 2nd qr. of 1907; Annual Account of Trade, 1906. United States—(1) Yearbook of the Department of Agriculture, 1906; (2) Bureau of Animal Industry—Order No. 144—To prevent the spread of Splenetic Fever in Cattle; (3) Order No. 147—Regulations Prescribed in Regard to Renovated Butter in Accordance with the Act of Congress Approved May 9th, 1902; (4) Forest Service—Instructions for Examinations, Agricultural Settlement, 1st July, 1907; (5) Production of Lumber, Lath, and Shingles, by States and Species, 1906, 1905 and 1904; (6) Bureau of Entomology—Bulletin No. 68, Part II—The Spring Canker-Worm; (7) Office of Experiment Stations—Bulletin 181—Mechanical Tests of Pumping Plants in California; (8) Experiment Station Record, June, 1907; (9) Bureau of Chemistry Bulletin No. 105—Proceedings of the 23rd Annual Convention of the Association of Official Agricultural Chemists held at Washington, D. C., November, 14-16, 1906; (10) Bureau of Biological Survey—Circular No. 62—Directory of Officials and Organizations concerned with the Protection of Birds and Game, 1907.

Diplomatic and Consular Reports.

Italy—Trade of Florence, 1906. Guatemala—Trade and Finances of Guatemala, 1906. Belgium—Coal Mining Industry in Belgium. Persia—Trade of Ispahan and Yezd, 1906. Brazil—Trade of Pernambuco, 1906. Turkey—Trade of Consular District of Smyrna, 1906. Muscat—Trad feo Muscat for the year 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., Ld.; 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, OCTOBER 10, 1907.

INDIAN COTTON SEED.

Its Industrial Possibilities.

III.*

In the second article of this series (which appeared in our issue of the 19th September, 1907) we discussed the exports and the probable supplies of Indian Cotton Seed. In the present article we propose to deal with the characteristics and constitution of that seed more particularly with regard to its oil content.

A rough working estimate of the quantity of crude oil industrially obtained from undecorticated Indian Cotton Seed by good European mills is one in eight. Applying this ratio to the quantities of cotton seed discussed in the last article, we find that the industrially available oil in the average cotton crop of India is about 175,250 tons, or 52,341,300 gallons, while the potential oil exported is about 22,725 tons or 6,787,200 gallons.

Mr. Sly, in 1902, published the results of analyses of 28 samples of cotton seed from the Central Provinces, which showed an average oil content of 17·72 per cent. These were as follows:—

Sample.	Percentage of Oil.	Fibre.
Bazar sample, Poona	18·33	17·53
Do. Do.	14·57	25·05
Surat	16·51	27·11
"Hybrid"—Cawnpore	15·06	22·30
"Cook's long staple"—Cawnpore	19·49	18·10
Local variety—Cawnpore	18·68	16·62
"Varadhi"—Khandesh	20·78	13·03
"Deshi"—Surat	19·09	14·61
Do. Do.	17·87	16·06
"Jari"—Chanda, C. P.	16·99	11·69
"Bani"—Do.	20·33	13·59
Darwari—Nimar, C. P.	20·35	15·01
Do. Do.	20·87	14·61
Do. Do.	20·59	15·36
"Deshi"—Nimar, C. P.	17·71	18·66
Do. Do.	16·37	21·20
Do. Do.	18·81	16·45
"Tiphania"—Nimar, C. P.	17·52	19·99
Do. Do.	20·66	14·66
Do. Do.	21·68	13·58
"Gungri"— Do.	20·21	15·93
Do Do.	19·39	17·72
Do. Do.	19·32	18·22
"Rozi I"—Kaira, Gugarat	20·04	14·68
"Rozi II"—Nadiad, do.	17·24	15·04
"Rozi III"— Do. do.	16·18	16·95
"Rozi IV"—Narsanda, do.	15·40	18·98
"Rozi V"—Chakeasa, Kaira	16·04	17·98

Mr. Mollison also published in the Agricultural Ledger the following analyses of 64 samples of cotton seed from Madras, Bombay, Central Provinces and United Provinces:—

Province and District.	No.	Name of Variety.	Oil.	Fibre.
Madras Presidency—				
Madras	251	Unknown	17·89	16·75
Ditto	252	Ditto	18·60	15·59
Ditto	253	Ditto	16·76	16·41
Ditto	254	"Yerrapatti"	18·41	16·58
Bellary	270	"Jowari" (mixed seeds).	18·09	15·12
Ditto	271	Late country (white seeds).	17·02	16·02
Ditto	273	"Mungari Bilai"	15·09	16·23
Ditto	274	"Yerrapatti"	18·78	14·83
Kistna (Guntur)	275	"Local"	17·08	18·17
Ditto (Nursaropet)	276	Ditto	16·42	18·20
Ditto (Nandigama)	277	Ditto	18·09	18·59
Kurnool (Nandyal)	278	Ditto	17·93	16·71
Ditto (Koil Kuntha).	279	Ditto	18·04	15·37
Anantapur (Tadpatri).	280	Ditto	17·14	15·81
Bellary (Adoni)	281	Ditto	16·74	16·07
Ditto (Alur)	282	Ditto	17·15	17·45
Coimbatore (Karur)	283	Unknown	19·02	19·92
Ditto (Palladum)	285	"Uppam"	16·04	14·99
Coimbatore	287	Ditto	15·91	21·60
Madura (Palni)	288	Ditto	16·01	20·42
Coimbatore (Pudunur).	529	"Local"	17·45	16·60
Erode	530	"Nadam"	20·36	15·68
Ditto	531	Unknown	16·69	21·63
Madura (Tirumangalum).	532	"Uppam"	17·52	18·41
Koilpatti Farm	533	"Karunganny"	17·37	19·49
Ditto	534	"Uppam"	17·03	19·91
		Madras average	17·41	17·41

*For earlier articles of this series see *Journal* of August 15th and September 19th, 1907.

Province and District.	No.	Name of Variety.	Oil.	Fibre.
Bombay—				
Khandesh (Pachora)	151	"Varadi"	19·35	16·92
Surat	65	"Deshi"	17·87	16·06
Ditto	322	Ditto	17·93	16·10
Ditto	323	"Goghari"	16·63	17·57
Broach	289	"Broach"	18·75	17·01
Ditto	290	Ditto	16·60	17·58
Ditto (Wagra)	291	Ditto	17·37	17·47
Ditto (Amod)	292	"Goghari"	17·50	17·79
Kaira (Nadiad)	143	"Rozi"	20·04	14·68
Ditto do.	144	Ditto	17·24	15·04
Ditto do.	145	Ditto	16·18	16·95
Ditto (Nursanda)	146	Ditto	15·40	18·98
Ditto (Chaklari)	147	Ditto	16·04	17·98
Baroda	187	Ditto	19·16	14·62
Khandesh (Jalgaon)	181	Unknown	20·07	15·58
Ditto do.	182	Ditto	15·35	18·42
Dharwar	305	"Kumpta"	18·82	19·82
Khandesh (Jumner)	249	"Local"	17·56	18·18
		Bombay average	17·66	17·04
Central Provinces—Nagpur.	158	"Jari"	20·10	16·92
Ditto	160	"Bani"	22·49	16·14
Wardha	153	"Katil Vilayati"	20·44	15·98
Ditto	155	"Bani"	19·89	16·62
Nimar	75	"Dharwari"	20·35	15·01
Ditto	76	Ditto	20·87	14·61
Ditto	77	Ditto	20·59	15·36
Ditto	78	"Deshi"	17·71	18·66
Ditto	79	Ditto	16·37	21·20
Ditto	80	Ditto	18·81	16·45
Ditto	81	"Tifina"	17·52	19·99
Ditto	82	Ditto	20·66	14·66
Ditto	84	"Gungari"	20·21	15·93
Ditto	85	Ditto	19·09	17·72
Ditto	86	Ditto	19·32	18·22
		Central Provinces average.	19·65	16·90
United Provinces—Cawnpur.	441	"Local"	18·68	16·62
Ditto	402	"Deshi"	18·48	18·46
Meerut	403	Ditto	20·95	15·69
Aligarh (Gursikran)	401	Ditto	19·71	17·07
Unao (Abaspur)	400	Ditto	21·63	16·66
		United Provinces average.	19·89	16·80

Practically it may be taken that Indian seed contains 18 per cent. of oil, and this percentage is generally assumed by the trade at home. A certain quantity of the oil in the seed is not extractable by ordinary pressure processes, but remains in the cake and meal. It constitutes part of their value as cattle-feed, but not as manure.

In the United States the cotton seed most commonly crushed is of the description known as "Uplands," which, like Indian seed, retains a certain quantity of fluff or lint after ginning. Tompkins in his *Cotton and Cotton Oil* (1901) gives the following decomposition of ginned uplands seed, to which we add percentages. (It will be borne in mind that in all American discussion of this subject, the "ton" quoted is the short ton of 2,000 lbs. This fact should be remembered more particularly in treating of price quotations.)

Short lint	75 lbs.	3·75 per cent.
Hull (husks,)	925 „	46·25 „
Oil (52 gals.)	390 „	19·50 „
Meal	610 „	30·50 „
	2,000	100

Mr. Hooper, of the Indian Museum, has been good enough to ascertain for us the percentage of lint adherent to Indian ginned cotton seed, and reports that it varies from 8 to 12 per cent. of the total weight of the ginned seed.

In America the seed is subjected to a second and even to a third **delinting** process, and is also decorticated—that is to say the husks are removed from the seeds—before crushing. The first of these processes removes about one-third of the adherent lint; and this, as "linters," is sold for use in the manufacture of paper, hats, carpets, and shoddy. The hulls or husks, with the remaining two-thirds of the linters adhering to them, are also removed and sold for cattle-feed. It is recognised that the delinting process diminishes the risk of heating by fermentation; but the prime reason for its employment is that the hulls, which are treated and marketed separately in America, would be rendered unsuitable for cattle-feed if the whole of the lint were left on them.

Tompkins goes on to show, as distinct from the analytical constitution of the seed, the industrial results to be expected from a good mill in America. Here again we add percentages:—

Linters	25 lbs.	1·25 per cent.
Hulls	1,000 „	50 „
Oil (40 gals.)	300 „	15 „
Meal	675 „	33·75 „
	2,000 „	100

Thus 90 lbs. of the oil equal to 4½ per cent. of the whole weight of seed or about 23 per cent. of the oil is left in the other products. Of this, 65 lbs. or 16¼ per cent. of the oil goes to meal and cake; while 25 lbs. or 6¼ per cent. of the oil remains in the hulls.

Lamborn, in his *Cotton Seed Products* (New York, 1904) gives other analyses as follows. The second is valuable as showing the percentage of waste:—

Linters	1·1 per cent.	1·15 per cent.
Hulls	48·9 „	47·15 „
Crude Oil	12·5 „	14·10 „
Cake and meal	37·5 „	35·65 „
Waste	...	1·95 „
	100	100

Returning to Tompkins' figures and considering the 65 lbs. of oil retained by the original 610 lbs. of absolute meal, it appears that the decorticated cake retains oil equal to 10·65 per cent. of its weight. It might seem reasonable, therefore, to assume that lint or hulls in a disintegrated form, if incorporated in the cake, would retain a further measure of oil approximating to 10 per cent. of

their weight, and thus impose a serious loss. In practice, however, this is not found to be the case.

In the United Kingdom it is not the practice either to delint or to decorticate Indian cotton seed before crushing. It is merely freed of foreign substances of a kind injurious to machinery—such as stones and scraps of iron—and is further cleaned when it is found to contain an excessive quantity of sand. The hulls with the adherent lint represent not only one-half of the total weight of seed but more than one-half of its nutrient value as cattle-feed.

The following table is given by **Lamborn** in his *Cotton Seed Products* :—

Food Constituents of Cotton Seed Products.

FRESH, OR AIR DRY MATERIAL.

	Water	Ash	Protein*	Fibre†	Nitrogen free extract‡	Fat§
	%	%	%	%	%	%
HULLS—						
Minimum .	7·25	1·65	2·78	35·75	12·41	0·75
Maximum .	16·73	4·43	5·37	66·95	41·24	5·41
Average .	11·36	2·73	4·18	45·32	34·19	2·22
MEAL (*i.e.*, decorticated cake ground up) —						
Maximum .	18·52	10·62	52·88	15·15	38·68	20·66
Minimum .	5·29	1·72	23·27	1·88	9·13	2·18
Average .	8·52	7·02	43·26	5·44	22·31	13·45

Undecorticated seed is not only crushed in the rolls, but is subjected to further trituration by means of a heavy edgestone, which does not increase the yield of oil, but disintegrates the hulls and lint in such a way as to insure a more homogeneous and attractive cake or meal. The presence of the disintegrated hulls and lint in the so-called "meats", appears to render the mass more open and to facilitate the issue of the oil at comparatively low pressure. And it is to be borne in mind that a resort to very high pressure leads to the passing over of various albuminous and other substances which are wanted in the cake but are out of place in the oil.

* Protein is a term used to include nominally the total nitrogenous substance, which consists of a great variety of chemical compounds which are conveniently divided into two classes —proteids and non-proteids. Actually the term is used to designate the product of the total nitrogen by an empirical factor 6·25. As the proteids contain about 16% of nitrogen the factor is generally accepted for bodies of this class.

† Fibre is a term applied to substances allied to carbohydrates but insoluble in dilute acids and alkalies. They constitute the framework of plants, and as a rule the most indigestible constituent of feeding stuffs.

‡ Nitrogen-free extract includes all carbohydrates as starch, sugar, gums, etc., which constitute the most important part of all feeding-stuffs. In analysis it is determined by difference.

§ The term "fat" is applied to substances of mixed character forming the other extract, and may include, besides real fats, waxes, colouring-matter, lecithins (nitrogenous fats), etc.

That the **oil in the cake** represents nothing like 10 % of its weight may be seen from the following analyses made by Dr. Leather of three samples of undecorticated Indian cotton cake :—

Moisture	10·41 per cent.	10·90 per cent.	10·73 per cent.
Oil	4·77 „	4·76 „	4·94 „
Albuminoids	17·87 „	17·50 „	17·44 „
Carbohydrates	39·41 „	43·35 „	42·60 „
Woody fibre	20·55 „	17·27 „	18·75 „
Mineral matter	6·99 „	6·22 „	5·54 „
	100	100	100
Nitrogen	3·07	3·06	3·05
Sand	1·98	1·26	0·95

These figures should be compared with the analyses of the American decorticated cotton cake given in the foregoing paragraph. The great superiority of the Indian undecorticated cake in respect of carbohydrates should be noted.

The ancient prejudice against the presence of a certain quantity of properly disintegrated **lint in cake** when fed to cattle has largely given way to experience. No doubt it increases the bulk of the mass to be cooked and pressed, and retains in the cake a certain percentage of oil that might otherwise be extracted. No doubt, also, its presence detracts from the character of the cake as a highly concentrated food; but grass feeders like cattle require a measure of waste and fibre in their diet, and persons of good experience now hold that the lint, besides facilitating the issue of the oil, also renders the cake now permeable by the gastric juices. There would be no point in eliminating it laboriously when the hulls are not to be treated separately; and the analyses given above show clearly how the cake or meal gains from inclusion of the hulls. The small quantity of oil retained in the extra bulk of cake is not lost, but is available as cattle-feed.

We have seen an authoritative estimate which gives the **optimum industrial expectation of oil** from Indian cotton seed undecorticated as 13·7 % and from decorticated seed as 14·3 %. The difference is, therefore, 0·6 % ; and although this is equal to an increase of 4·4 % in the yield of oil, it would almost certainly not pay to extract it at the double cost of decorticating and delinting.

The only serious drawback to leaving the lint in the cake is that it bears the germs and spores that cause fermentation and heating. The risk from heating in cotton seed in America is estimated by one authority as equal to 10% of its value ; and it must be greater in India. There is no reason to doubt that if the lint could be completely and quickly got rid of by some process such as that proposed in our issue of the 15th August, 1907, and could be made further to serve the purpose of destroying the spores that give rise to fermentation, the gain would be substantial.

CHAMBERS OF COMMERCE.

KARACHI.

AT a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on the 24th September, 1907, the following items received attention :—

Note, dated 28th August, 1907, by the Chairman, the Hon. Mr. M. de P. Webb, C.I.E., recording his views on the action of the Secretary of State for India in deciding to expend £1,000,000 more than was budgeted for additional rolling stock for Indian Railways from the **Gold Standard Reserve**. Also read letter from the Bengal Chamber of Commerce to the Government of India, Finance Department, on the same subject.

Resolution.—The Committee concur with the views expressed, and a letter to the Secretary to the Government of India, Finance Department, should be drafted strongly supporting the views of the Bengal Chamber.

Laid on the table particulars of a **test measurement of Fish Manure** in bags, taken by the Chamber Measurer at the Chamber Office on the 11th September, 1907, (*vide* Committee's Resolution of 27th August, 1907).

Resolution.—The tonnage scale should be fixed at 9 cwt. per ton for steamers, subject to confirmation by the next General Meeting of the Chamber.

READ letter, dated 9th September, 1907, from the Secretary, Bengal Chamber of Commerce, forwarding with reference to previous correspondence, copies of letters passed between his Chamber and the Bombay Chamber on the subject of the proposed **East India Committee,** and intimating that for reasons stated in his letter his Committee have abandoned the suggested organization of an East India Committee in London.

Resolution.—The Committee concur that it is under the circumstances advisable to abandon the proposal.

READ letter No. 6156, dated 6th September, 1907, from the Assistant Director of Statistics, forwarding copy of his circular letter, dated 6th September, 1907, to the Chief Customs Authorities in the maritime provinses in respect of the proposed sub-division of the head **"other sorts" in the seaborne trade returns,** and inviting remarks or suggestions the Chamber may desire to make. Also read letter No. S.-454, dated 19th September, 1907, from the Chief Collector of Customs in Sind, forwarding with reference to the above proposal, a complete copy of the present classification list, and requesting the Chamber to make suggestions in respect of any particular trade of which it may be desirable to have details recorded.

Resolution.—To be referred to the Sub-Committee for Local Affairs, etc., for favour of report.

READ letter No. 5231-T., dated 10th September, 1907, from the Director General of Telegraphs, stating that he has ascertained that a large proportion of **mutilations in code messages** is due (1) to the very complicated combinations of letters of which many code words are now composed, and (2) to the doubtful formation of certain letters in the handwriting of both senders of messages and of signallers at transit offices ; and requesting the Chamber with a view to improving the transmission of code messages, that the attention of the members be drawn in the first place to the danger of using combinations differing so little from mere letter code and the desirability of adopting more simple and pronounceable combinations for code words, and in the second place, to the advisability of handing in all code messages typed or very clearly written.

Resolution.—To be acknowledged, circulated and recorded.

READ letter, dated 20th September, 1907, from Messrs. E. D Sassoon and Company pointing out that **Kurdai Seed** is not included in the Karachi Tonnage Scale and requesting that scale for it be fixed, as they are likely to make some shipments of this seed to Europe.

Resolution.—The scale in Bombay for this article is 13 cwt. per ton for steamers, and as the Bombay and Karachi Tonnage Scales are assimilated, the same scale should be adopted here, subject to confirmation by the next General Meeting of the Chamber. Messrs. E. D. Sassoon and Co. to be informed accordingly.

READ letter No. P. T.-12149, dated 20th September, 1907, from the Chairman, Karachi Port Trust, stating in reply to this Chamber's letter of 11th September, 1907, that the question of immediate **construction of ship wharves** on the west side of the channel and other subjects dealt with in the Chamber's letter have received the attention of the Trustees, who have resolved that it is desirable to build 10 berths forthwith on the west side of the channel.

Resolution.—To be acknowledged, circulated and recorded.

—For **Japan** as a whole imports of **kerosene oil** showed during last year a certain advance, 77 per cent. of the total being American and 14 per cent. being Dutch. At the port of Yokohama, however, there was a falling-off of 2,817,114 gallons and Rs. 8,46,165. Prices ranged from Rs. 3-1 to Rs.4-13 per case for Langkat, Rs. 4-9-6 to Rs. 5-2 for Russian, and Rs. 4-14-6 to Rs. 5-7 for American, the year closing with prices at their highest for the last two oils. It is proposed to obviate the duty of Rs. 1-7-6 per 10 gallons on refined oil by importing crude American oil and refining it locally. Burma does not appear to share in this trade, though more favourably situated than America.

DATA OF TEMPERATURE, HUMIDITY AND RAINFALL FOR THE WEEK ENDING TUESDAY, THE 8th OCTOBER, 1907.

	Station.	Temperature (mean of maximum and minimum).		Humidity (percentage of amount for saturation).		Rainfall.		
		Actual.	Departure from normal.	Actual.	Departure from normal.	Total during week.	Total since 1st June.	Departure of latter from normal.
		°	°	%	%	"	"	"
Burma.								
Lower Burma	Mergui	81	+1	94	+5	6·0	108·3	−16·0
	Tavoy	80	-1	93	+2	10·0	196·8	+27·7
	Moulmein	80	−1	92	+1	3·5	175·4	+21·9
	Rangoon	81	−1	90	−3	4·7	71·8	+1·1
	Bassein	81	0	96	+4	3·9	92·4	+1·8
	Akyab	81	−2	94	+3	7·4	198·4	+33·4
	Toungoo	82	−1	90	0	4·8	79·6	+15·1
Upper Burma	Thayetmyo	82	−1	88	+4	2·4	21·3	−5·9
	Yamethin	82	−2	89	·3	3·4	26·1	+2·6
	Mandalay	84	0	82	−1	1·4	16·6	−2·9
	Bhamo	79	−2	94	+6	4·3	61·4	+1·8
Eastern Bengal and Assam.								
Assam	Dibrugarh	80	...	84	...	0·3	69·7	−6·2
	Tezpur	81	...	88	...	0·2	49·8	+1·7
	Dhubri	80	−1	91	+1	0·1	71·1	+3·3
	Shillong	67	...	78	...	0·6	43·4	−14·3
	Silchar	83	+1	85	-8	0·2	92·1	+15·2
Eastern Bengal	Chittagong	81	0	91	+2	2·1	49·9	-21·7
	Barisal	84	+1	86	0	0·1	47·4	−7·5
	Narayanganj	84	+1	88	+2	2·6	42·9	−3·9
	Mymensingh	83	+1	86	−3	0·2	46·8	−14·5
	Malda	83	0	83	...	0	47·3	−12·4
	Jalpaiguri	82	+1	82	−8	0·1	106·9	+4·1
Bengal.								
Bengal	Berhampore	85	+1	85	−1	0	28·1	−14·7
	Calcutta	85	+2	85	0	0	41·3	−5·1
Orissa	Balasore	83	0	79	−7	0·1	3·1	−14·6
	Cuttack	85	+1	76	−3	0	58·5	+11·8
	Sambalpur	83	0	72	−6	0	50·6	−10·8
Chota Nagpur	Chaibassa	83	+2	79	+1	0	40·2	−1·5
	Purulia	86		87	..	0	48·9	+3·5
	Hazaribagh	80	+3	60	−11	0	54·0	+8·0
Bihar	Darjeeling	60	+2	74	-20	0	69·6	−35·3
	Darbhanga	84	+2	86	+3	0	34·7	−8·8
	Patna	86	+3	66	−10	0	32·5	−9·3
	Motihari	83	+2	89	...	0	36·6	−9·5
	Buxar	87	+5	63	...	0	21·4	−15·2
United Provinces.								
United Provinces, East	Allahabad	86	+3	43	−29	0	22·7	−14·2
	Bahraich	87	+5	67	−10	0	14·2	−28·6
	Lucknow	86	+4	51	−22	0	13·5	−21·6
United Provinces, West	Jhansi	89	+6	63	+4	0	20·6	−15·5
	Agra	87	+3	43	−20	0	19·0	−7·2
	Bareilly	84	+3	63	−14	0	21·7	−21·8
Punjab								
Punjab, East and North	Delhi	87	+4	48	−6	0	7·5	−16·6
	Sirsa	87	+3	45	−6	0	12·9	+1·3
	Ambala	83	+2	54	19	0	16·6	−9·7
	Lahore	87	+5	57	−1	0	9·3	−6·3
Punjab, South-West	Rawalpindi	82	+6	41	−21	0	13·1	−9·6
	Multan	88	+3	47	−12	0	6·0	+0·6
Kashmir	Srinagar	63	+4	80	−6	0	9·0	+0·8
North West Frontier Province.	Peshawar	81	+3	53	−4	0	2·8	−2·1
	D. I Khan	84	+2	58	+3	0	5·2	+0·2
Sind	Jacobabad	86	+1	68	+9	0	3·2	+0·7
	Kurrachee	82	0	77	+7	0	5·7	−1·0
Rajputana.								
Rajputana, West	Bikaner	88	+1	53	−3	0	18·8	+9·7
	Jodhpur	84	...	44	...	0	9·9	−2·2
Rajputana, East	Udaipur	81	...	49	...	0	16·0	...
	Ajmer	85	+4	53	−10	0	11·1	−8·5
	Jaipur	84	+2	42	−14	0	13·4	−10·5
	Kotah	87	...	37	...	0	15·3	...
Bombay.								
Gujarat	Bhuj	83	−2	87	+23	0	14·5	+0·8
	Deesa	78	−6	58	−3	0	52·3	+29·1
	Ahmedabad	86	−1	49	−16	0	32·8	+0·8
	Rajkot	84	+1	75	−1	0	19·3	−7·8
	Veraval	80	0	78	+2	0	19·5	+2·7
Konkan	Bombay	84	·3	89	+2	0	100·3	+2·9
	Karwar	82	+3	91	0	0	93·6	−19·0
Bombay Deccan	Malegaon	84	+4	50	−22	0	21·7	+0·7
	Ahmednagar	81	+3	50	−26	0	17·1	−1·2
	Poona	80	+1	78	−2	0	39·4	+17·7
	Bijapur	81	+2	61	−16	0·1	9·2	−8·4
	Belgaum	76	+2	87	+1	0·1	52·5	+13·1
Central India.								
Central India, West	Neemuch	82	+2	37	−26	0	18·8	−9·7
	Indore	81	+3	46	−26	0	27·1	−4·2
Central India, East	Sutna	83	+3	57	−14	0	28·8	−12·8
Central Provinces.								
Berar	Akola	85	+4	45	−26	0	17·3	−12·3
Central Provinces, West	Saugor	83	+4	38	−30	0	34·0	−11·0
	Jubbulpore	79	−1	61	−15	0	28·4	−26·3
	Seoni	79	+2	48	−21	0	33·1	−16·6
	Nagpur	83	+1	54	−15	0	42·7	−1·2
Central Provinces, East	Chanda	81	−1	63	−9	0	40·2	−9·6
	Raipur	81	−1	62	−10	0	45·5	−0·2
Hyderabad.								
Hyderabad, North	Nizamabad	81	...	59	...	0	27·1	...
Hyderabad, South	Gulbarga	82	+1	51	−25	0	28·5	+2·5
	Hyderabad	82	+2	59	−18	0	17·9	−7·5
	Raichur	84	+3	52	−19	0	18·1	−6·5
Mysore	Bangalore	75	+1	82	−1	0·1	20·0	−0·4
	Mercara	70	+1	82	−9	0·6	116·4	+9·3
Madras.								
Malabar	Cochin	81	0	86	+2	3·8	91·8	+16·6
	Trivandrum	78	−1	87	+5	2·2	51·4	+22·7
Madras, South-East	Pamban	82	−1	85	...	2·5	3·1	−0·3
	Negapatam	82	−2	85	+7	3·1	12·2	−0·6
	Coimbatore	79	−2	88	+1	2·8	9·9	+3·5
	Cuddalore	82	−1	89	+3	2·9	16·9	−1·3
	Salem	80	−1	82	+2	0·5	15·6	−6·8
Madras Deccan	Madras	82	−2	91	+12	9·1	19·2	+0·7
	Cuddapah	86	+2	71	0	0·1	8·9	−11·7
	Bellary	84	+2	62	−7	0	9·7	−2·1
Madras Coast, North	Nellore	84	−2	85	+10	4·3	10·4	−2·4
	Masulipatam	88	+3	76	−4	0	17·9	−6·5
	Waltair	85	+1	63	−13	0	15·0	−8·3
	Gopalpur	84	+1	70	−10	0	14·2	−16·5

THE AGRICULTURAL OUTLOOK.

Situation in the United Provinces.

The following special telegraphic reports on the agricultural prospects to the end of September have been published as a supplement to the *Gazette of India* :—

Burma.—The crops are excellent in Lower Burma. In Upper Burma they have improved in some parts, and are worse in others, but should rain continue the prospects in most parts will materially improve. On the whole the Local Government considers there is no real cause for anxiety, but the situation is being watched in the precarious districts.

East Bengal and Assam.—The general agricultural situation has been seriously affected by the scarcity of rain throughout August, and the unusual lowness of the rivers. The outturn of the autumn rice crop is satisfactory. Prospects of the winter rice were seriously injured in all parts of the province by unfavourable conditions in August, but greatly improved by the September rainfall there. At present there are no signs of distress. The prices of rice continue excessively high and are showing a tendency to rise.

Bengal.—The agricultural situation up to the end of September in the province as a whole was fairly favourable. The crops have suffered from insufficient rain in parts of Burdwan, Murshidabad, Nadia and Saran. Some scarcity is apprehended in parts of Cuttack, Balasore, and Puri, owing to floods. The outturn of the "bhadoi" crops is estimated at 90 per cent., and the preliminary forecast of the winter rice is estimated also at 90 per cent., but produce will greatly depend upon the fall of rain during the current fortnight.

United Provinces.—The outturn harvest, speaking generally, will now be a failure. In Jaunsar and Bawar test works will probably be required before long, and will shortly be required in Bahraich, Gonda and Fyzabad. The above estimates of outturn pre-suppose that no rain at all will fall to assist the present crop. Even if it does now come the autumn harvest must be poor everywhere. The difficulty about spring sowings causes even more anxiety. The soil is particularly hard and unless rain comes by the 20th October the spring area must be very contracted. The Local Government has issued orders for liberal grants of "takaavi" for "kachcha" wells and seed throughout the provinces, and has instructed district officers to submit, before the first instalment of rent becomes due, proposals for suspensions of the kharif demand, and for remission where this is necessary. It hopes that if rain comes in time to assist the spring sowings these two measures will be sufficient, except in districts in which it has already been stated that test works will probably have to be opened. If, however, rain does not come before the 20th October, it is feared that distress will be widespread throughout the province, and that relief measures will have to be undertaken on a large scale. Speaking generally, stocks are very low, but are being supplemented in many districts from the Punjab. Meerut division is still well supplied and is exporting wheat from parts. In Kumaun grain is very scarce, and arrangements for importing supplies may become necessary. Prices are very high in all districts. In some they have reached scarcity rates and in others are above warning rates. Special statements showing districts (1) in which prices have reached scarcity rates, (2) in which prices have reached warning rates, and (3) in which they are below warning rates will be forwarded next week. Fodder is generally scarce and is insufficient to meet local requirements in the cis-Gogra districts of Fyzabad division, Lucknow division, except Kheri and Agra divisions, where it will be sufficient only till Christmas. Parts of Allahabad division, particularly Jalaun, and in one or two districts of Rohilkhand and in Aligarh arrangements have been made, firstly, for the pressing of grass by the Forest Department and its despatch for sale to the affected districts; and, secondly, for opening to grazing forest tracts in the eastern circle, where the need is greatest.

Punjab.—The state of the irrigated autumn crop is average, and of the unirrigated bad. Throughout the province the prospects are gloomy, specially in the Delhi division, where there have been practically no sowings of unirrigated spring crop, and unless there happens to be rain this month there will be much distress.

North-West Frontier Province.—A large failure of the autumn crop is expected on the dry lands.

Rajputana.—The drought throughout September has injured the good autumn prospects. The crops throughout Rajputana on unirrigated lands are withering, and the estimated outturn varies from one to six annas. Prices are generally high. If rains do not fall generally in Upper India for the spring crops the position in Eastern, Central and Southern Rajputana will quickly become critical.

Central India.—The autumn crop will average about eight annas, if rain falls within the next fortnight; without rain about four annas. Unless good rain falls the spring sowings will be very limited, but with rain they are estimated at about 12 annas. Prices are high everywhere in the Central Provinces. Little or no rain has fallen lately, and the situation is causing anxiety. Crops are withering in the Jubbulpur and Nerbudda divisions, and the prospects of the autumn harvest appear gloomy, but would be retrieved in most parts by good rain within a week. The prices ruling are equal to or above scarcity level in all but three districts.

Bombay.—The situation in Konkan is not one of anxiety, but in Gujrat and parts of the north Deccan rain is urgently needed, and unless it falls within a week or ten days the autumn outturn will be nowhere more than fair, and generally poor. Prices generally continue above normal. The quantity of food grains purchasable per rupee is from 3 to 40 per cent. less than normal.

Madras.—Prices are above warning rates everywhere, but the high prices nowhere indicate distress *and are probably due to pressure elsewhere. The* grain stocks will be sufficient till next harvest. General prospects have recently improved owing to opportune rainfall, *and there is no apprehension of* distress. Prospects are now fairly normal.

EASTERN BENGAL AND ASSAM.
CROP PROSPECTS.

(*By Telegram.*)

Shillong, October 8th.

THE following is a summary of the weather and crop reports of *Eastern Bengal and Assam* for the week ending the 7th instant :—

The weather has been seasonable. There has been no rainfall in Rangpur, Pabna, Khasi and Jaintia Hills, Kamrup, Nowgong, Sibsagar or Lakhimpur, and only slight to moderate rain elsewhere. More rain is wanted in Tippera, Noakhali, Rajshahi, Bogra, Malda, Sylhet, Goalpara and the Garo Hills.

The plucking and manufacture of tea are in progress, and prospects generally are fair to good.

The harvesting of early rice and jute is nearly finished.

The steeping and washing of jute are in progress and the outturn is fair to good.

The transplantation of winter rice is finished in places in Eastern Bengal and nearly finished in Assam. The crop has suffered to some extent from drought in Dacca and in parts of Bogra; insects also are damaging it in places in Sibsagar.

The sowing of pulses continues, and ploughing for mustard has commenced in parts of the Assam Valley.

Cattle disease is reported from eight districts.

The prices of common rice are :—Manipur, 16½; Rangamati, 11; Kohima, 10; Chittagong, 8⅜; Rampur Boalia and Nowgong, 8; Comilla, 7 13/16; Pabna, 7¾; Dacca, Barisal, Noakhali, Malda, Sylhet, Dhubri, and Gauhati, 7½; Mymensingh and Silchar, 7¼; Dinajpur, 7 3/16; Faridpur, Jalpaiguri, Tejpur, Sibsagar, and Dibrugarh, 7; Rangpur and Bogra, 6½; Tura and Shillong, 6; and Aijal, 5½ seers per rupee.

Prices have risen in five, fallen in eight, and have remained stationary in the remaining districts.

—The exports of **tea from Java** during 1906 show a large increase. Over 2,000,000 lbs. more than in 1905 were shipped to various countries, and while shipments to Russia, Germany and Australia show a falling-off, the quantities taken by the United Kingdom and the Netherlands are larger than ever, *viz.*, 11,135,040 and 15,568,000 lbs., respectively, as against 9,179,735 and 14,532,511 lbs. in 1905. Qualities of Java tea are showing improvement year by year—especially low grown teas—from the fact that all new teas are now grown from the best imported Assam seed (which was not the case formerly), and also as the manufacture is now more careful and better.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

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

CAPE OF GOOD HOPE.—Customs Amendment respecting Ships' Stores.

CHILE.—Proposed Suspension and Reduction of Import Duties.

AUSTRALIAN COMMONWEALTH.—New Tariff, Decisions. Lime Juice. Australian Traders' Names. Watches. Watches on Bracelets. Articles for Clubs. Maturity of Spirits: Statutory Declaration accepted.

TRANSVAAL.—Importation of Spirits into the Transvaal.

NATAL.—Regulations respecting the Importation of Second-hand Clothing.

EGYPT.—Revised Valuation Tariff for certain metals.

MAURITIUS.—Revocation of Prohibition of Importation of certain Articles from Réunion.

RUSSIA.—Determination of the Counts of imported Yarns.

FRANCE-ALGERIA.—Customs Service in South Algeria.

SWITZERLAND.—Customs Treatment of Grape-cake.

SPAIN.—Temporary Admission Duty-free of Motor Cars and Bicycles.

CUBA.—Amendments of the Customs Tariff.

CHILE.—New Ports for the importation of Alcoholic Liquors.

COLOMBIA.—Bounties on Cotton, Coffee, Tobacco and Rubber.

JAPAN.—Drawback of Customs Duty on Raw Sugar imported for Refining.

—*H. M. Consul at* **Damascus** (*Mr. G. P. Devey*) reports that the trade in **inlaid mother-of-pearl goods** is making amazing progress in that city. In this industry the walnut wood is either inlaid with mother-of-pearl and white wood, or simply carved with various designs and inscriptions. The total value of goods exported abroad during the year 1906 was not less than £16,000.

—The *Handel's Museum* of 12th September contains a notice to the effect that there is a **good market in the Turkish Provinces**, Constantinople, and Persia for **gold and silver thread** made of nickel silvered or gilt, wound over cotton or silk. These goods are at present imported from Moscow, Lyons and Nuremburg, the Russian thread being cheap and bright, and the French particularly cheap. A recent Austrian consular report, however, states that Germany has begun to compete seriously in this direction.

TRADE OF THE CHUMBI VALLEY.

A RECENT computation places the area of the Chumbi Valley at 650 square miles. It is bounded on the north by the Tang La, on the west by Sikkim, and on the east and south by Bhutan. The population has not as yet reached that state of civilization where a census would be considered of use to them, so the headmen of the villages keep no record of births and deaths. There is reason to believe, however, that, like most other parts of Tibet, the Chumbi Valley is sparsely populated. As a matter of fact a rough estimate recently compiled does not place the total population at a higher figure than 2,608 men, women and children combined. In the absence of good roads and other facilities the trade of the Valley is of a precarious nature and of but small extent. The crops generally grown are barley, buckwheat, wheat, turnips, potatoes and mustard. Of these barley and buckwheat are grown to the greatest extent, the buckwheat being sown after the barley is harvested. Some Canadian seeds of rye, barley, oats and peas, which are said to be quick growing and likely to do well in the Chumbi Valley, have been distributed to the people as an experimental measure. Phari is 14,300 feet above sea level and no crop will ripen there ; but, notwithstanding this, barley is sown and is cut for fodder in the winter.

The Labour Supply.

The cost of labour, skilled and unskilled, is very high when compared with the rates current in India. At Phari, for instance, the rate per day for a common labourer is 6 annas ; in the Lower Chumbi it is 4 annas for a man and 3 annas for a woman, but in all three cases food is also given, and this costs about 6 annas a day. Masons cannot be obtained under 14 annas and carpenters under Re. 1-8 per day, food included. The reason we have heard assigned to account for these high rates, is that the labourers of the Chumbi Valley are much better off than their confréres in India or Tibet, and do not care to work away from their homes. Probably taking advantage of this surplus wealth the astute Bhutanese engineered a " corner " in grain last year. At Phari the people outwitted the Bhutanese by the simple process of refusing to buy grain at the enhanced prices demanded. As the passes began to snow up the Bhutanese quickly realised that they could not stay on indefinitely at Phari, so they gave in and sold their consignments of grain at normal rates. In the Chumbi Valley, however, the " corner " was more successful and the inhabitants were compelled to purchase at the rates fixed by the Bhutanese traders.

The Wool Trade.

Nothing is manufactured in the Chumbi Valley for export ; all manufactures—woollen cloth, yak hair tents, ropes, furniture, butter and cheese—being for home consumption and never for sale. The inhabitants depend entirely for their income on transit trade, having practically the monopoly of the carriage of merchandise between Phari and Kalimpong. This monopoly is of long standing and all attempts to break it down have failed. Not so long ago, for example, a Hindu trader purchased 500 maunds of wool at Phari, but a case was immediately brought against his agent accusing him of buying stolen wool ; and, although he was acquitted, he has not ventured to buy wool at Phari again. At the end of March last the price of wool at Phari was Rs. 22-8 for a maund (maund = 82⅔ lbs.), but in Kalimpong, which is only 90 miles away, the ruling price was Rs. 30 per maund. It is thus instructive to note that the price of wool between these two places rises by Rs. 7-8 a maund, while between Kalimpong and Calcutta (406 miles) it only rises Rs. 4 for the same weight. During the official year 1906-07 41,356 maunds of wool crossed the Jelap La, so after all it is perhaps natural that the people of the Chumbi Valley should be desirous of keeping this lucrative trade under their own control.

The most important of the imports into India through the Chumbi Valley are wool, mules, musk, yak tails and blankets ; the extent of the latter varying considerably as the price of raw wool at Kalimpong rises or falls. Cotton piece-goods form the chief export from India. It is worthy of notice that some of the overland trade between China and Tibet now finds its way to Calcutta by sea and thence to Lhasa *vid* the Chumbi Valley.

CLAYS IN MANCHURIA.
Variety and Composition.

THE Acting British Commercial Attaché at Peking has forwarded to the Board of Trade a copy of an extract from the *Harbinsky Vestnik* dealing generally with **Manchurian clays and their composition**, from which the following particulars are extracted :—

Fire Clay is found in Manchuria along the banks of many mountain streams of the Syaolin ridge, and in the Western slopes of the Greater Hsing-an mountains, and is composed of two kinds :—(*a*) a white pure porcelain clay suitable for the finest work, for instance China-ware, and (*b*) a light yellowish or reddish fire clay suitable for making fire-proof material, such as fire-brick, etc. Fire-clay is also known to exist along the Sungari and Utsimi rivers, and in the Ussuri District along the Mo and the Lephu rivers.

Fusible Clay is found in different parts of South Manchuria. It is soft, and in admixture with water is highly plastic and easy of dissolution. Its colour is bright red or yellow. Many of the different kinds of this clay represent very fine material for the removal of grease spots, and can, therefore, be used as cloth rolling clay.

Of the different clays **Brick Clay** is most common, and its use has been well developed in making building material for small Chinese shops and stores in the larger centres of Manchuria, especially in the vicinities of Harbin, Tsitsihar, Hailar, Handaohedze and Pogranichnia, also near Vladivostock and Nikolsk in the Primorsk.

Along the Sungari and Nonni rivers there are many deposits of **sandy and blue clays.** In the sandy clay deposits along the Nonni are found gold leaves, indicating that the deposits have their origin from the stream.

In addition to other clay-silicic compositions' Manchuria has many **deposits of clay and lime marl**, some of which are very valuable as material for the manufacture of cement.

Rotten-stone is found between Imenpo and Utsimi and along the Eastern branch of the Eastern Chinese Railway. The material is used in large amounts in the manufacture of dynamite, ultramarine, crystal glass, enamel and glazing; for polishing and cleaning; the manufacture of sealing-wax, paper and soap; and for making light brick and cement for stone.

The Acting Commercial Attaché states that the rotten-stone referred to in the last section is understood to be the Kieselguhr deposit between Imjanpo (Yi-mien-p'o) and Uzeima (Wu-chi-mi), which lie a little to the east of Ashiho on the Chinese Eastern Railway to the east of Harbin.

COTTON CULTIVATION IN THE PUNJAB.

Enormous Damage by Boll-worm.

WE learn from a note by Mr. W. Renouf, I.C.S., on the cotton failure in the Central and South-West Punjab in 1905, and on the results of the measures taken to prevent a recurrence in 1906, that the loss to the cultivator on account of boll-worm alone was estimated at some two or three crores of rupees. It was apparent that there was every reason to anticipate that boll-worms would re-appear in the following spring and, if unchecked, would multiply as before and destroy the entire cotton crop. It was therefore imperative to do all that was possible to extirpate the pest and the following measures were decided on in consultation with Mr. Lefroy:—

(1) To urge cultivators to cut down and burn or bury all cotton or *bhindi* stalks during the cold weather months, and to plough up old cotton fields. The boll-worm hibernates on or near old cotton or *bhindi* plants and this measure, if carried out, was calculated to destroy them in large numbers.

(2) To advise cultivators to sow *bhindi* (*Hibiscus esculentus*) as a trap crop at the same time as cotton in the proportion of some 40 or 50 plants to the acre, the plants being in rows or in compact blocks. Observations made by Mr. Lefroy have shown that boll-worms feed on *bhindi* as well as cotton and, if anything, prefer the former. It was expected that the *bhindi* would develop and form flowers and pods ahead of the surrounding cotton. The first generation of boll-worms would settle on the more advanced plant. When this happened, at about the end of July, the *bhindi* would be cut down and destroyed by burning. This would be just before the flowering stage of the cotton was reached.

(3) To reintroduce the parasite *Rhogas Lefroyi*. Boxes containing infested bolls from tracts in which this parasite was known to exist were to be despatched to the affected districts and distributed in the cotton areas. These were to be exposed in the fields. The boxes were covered with a wire mesh of sufficient closeness to prevent the issue of boll-worm months, while admitting free egress to the parasites. It was expected that with the rapid multiplication of this parasite a box sent very early in the season would have a beneficial effect within a radius of four or five miles. Boxes exposed late would reintroduce the parasite and show results in the next following season.

The Affected Districts.

The above operations were confined to the districts of Ferozepore, Montgomery, Lahore, Jhang, and Lyallpur, and to Amritsar, which were most affected in 1905, as it was expected that all districts which had an 8 or 12 annas crop, and in which much or most of the damage was due to an unpropitious season, would make a natural recovery. Still the area affected represented quite two-fifths of the cotton area of the Punjab in 1905, or 700,000 acres, and it was a task of considerable magnitude to bring the remedies to the notice of the cultivators concerned, the majority of whom are illiterate. A circular letter was issued to all districts early in December on the subject of the destruction of cotton and *bhindi* plants and the ploughing up of the fields in which they were standing. Seventy-five thousand copies of a translation of a pamphlet on the subject were distributed among cotton growers through Deputy Commissioners and the revenue staff. In the event of natural moisture being insufficient for ploughing, the Irrigation Department kindly agreed to supply water free. The tenor of the reports received from district officers is that the instructions circulated were generally complied with. In all districts, however, there were large cotton areas which had been resown with wheat, oilseeds or *senji*, and which it was manifestly impossible to plough up. In Multan, ploughing had to be omitted owing to lack of water in the inundation canals. In Gujranwala, the attitude of the people was one of incredulity and indifference, and it was difficult to induce them to adopt these precautionary measures.

The Main Line of Attack.

The trap crop constituted the main line of attack, and it was on this that the greatest expectations were based. The American boll-worm, which is, however, a different insect, is kept under control with maize as a trap crop, and there are numerous other instances in agriculture of the success of trap crops when intelligently applied. Elaborate arrangements were made to explain the idea to the agricultural population. Deputy Commissioners were addressed on February 6th, and were supplied with copies of Mr. Lefroy's report for distribution to all official or private individuals who could read English; 80,000 copies of a vernacular pamphlet of instructions were printed for broadcast distribution The reasons and objects of the measures undertaken were explained personally by the superior revenue staff to their subordinates, and, by these, to the agriculturists. The assistance of the Press was invited and heartily accorded. The Irrigation Department came forward with an offer of co-operation which was gladly accepted, and, in addition, they agreed to make no charge for water applied to *bhindi* treated as a trap for boll-worm. Lastly, the Local Government placed a sum of Rs. 10,000 at the disposal of Mr. Renouf for rewards to those persons, official or non-official, who exerted themselves in inducing others to grow and destroy trap crops. The scheme was made known to all concerned in a remarkably short space of time and the object of the trap crop was well understood. But success ended here. It was at once apparent that the supply of seed was very scanty, as in the Central and South-Western Districts *bhindi* is only grown by gardeners in the vicinity of towns. Applications were received for large quantities of seed. An advertisement in the leading newspapers resulted in a large consignment from Peshawar and set several agencies at work. One enterprising merchant practically cornered the market and accumulated a large stock in Lahore, which he unloaded at the very last moment. Eventually, district indents were complied with in full, 80 maunds (maund 82⅔ lbs.) of seed being obtained through Mr. Renouf's office. But, all this involved the loss of valuable time and the *bhindi* was generally sown rather late.

A Discouraging Result.

Proceeding to the cultivation of the crop, it was found that the majority of the cultivators were ignorant as to its proper treatment. It is a garden crop needing manure, careful attention and frequent waterings. The ordinary cultivator, to whom it was absolutely new, cultivated it as a field crop and in consequence germination was poor and the growth exceptionally slow. Added to this, the requisite number of waterings (every 7 or 8 days in the hot weather) could not be provided with canal irrigation in which water is usually available at intervals of 15 or 20 days. Lastly, a plague of grasshoppers devastated cotton and *bhindi* alike in the early stages of the crops. The net result was that by the end of July, when the *bhindi* patches should have been standing out prominently in the cotton fields, the *bhindi* plants were few in numbers and very stunted. Those plants which survived were cut down and destroyed. But, with rare exceptions, the *bhindi* was not sufficiently developed to attract boll-worm.

INTERNATIONAL YARN TABLES.

Indian and Metric Counts Contrasted.

Now that the cotton yarn trade is increasing between India and the Continent, the following tables may prove of interest as they should enable spinners to mark on their packages and invoices, in addition to the local count, the equivalent in the International Metric System.

We may explain that the **International Metric Count** is for all classes of yarn and was approved by the Paris Conference of 1900. Number 1 means that a length of 1 metre will weigh 1 gramme; No. 100, that 100 metres will weigh 1 gramme.

The **English Cotton Yarn and Spun Silk Count** means that the hank is 840 yards, and the number of such hanks in 1 lb. is the count of the yarn; 2/40 cotton means single 40 doubled to 20; whereas 40/2 **spun silk** means single 80 doubled to 40. A spindle is 18 hanks=15,120 yards.

The tables are as follows:—

International Metric Count Metres per Gramme.	Cotton and Spun Silk Count.	International Metric Count Metres per Gramme.	Cotton and Spun Silk Count.
1	0·59	51	30·12
2	1·18	52	30·72
3	1·77	53	31·30
4	2·36	54	31·89
5	2·95	55	32·48
6	3·54	56	33·08
7	4·13	57	33·66
8	4·72	58	34·26
9	5·31	59	34·85
10	5·90	60	35·44
11	6·49	61	36·03
12	7·08	62	36·62
13	7·68	63	37·21
14	8·27	64	37·80
15	8·86	65	38·39
16	9·45	66	38·98
17	10·04	67	39·57
18	10·63	68	40·16
19	11·22	69	40·75
20	11·81	70	41·34
21	12·40	71	41·94
22	12·99	72	42·53
23	13·58	73	43·12
24	14·17	74	43·71
25	14·76	75	44·30
26	15·36	76	44·89
27	15·94	77	45·47
28	16·54	78	46·07
29	17·13	79	46·66
30	17·72	80	47·26
31	18·31	81	47·84
32	18·90	82	48·43
33	19·49	83	49·02
34	20·08	84	49·61
35	20·67	85	50·21
36	21·26	86	50·80
37	21·85	87	51·39
38	22·44	88	51·98
39	23·03	89	52·57
40	23·63	90	53·16
41	24·21	91	53·75
42	24·80	92	54·34
43	25·40	93	54·93
44	25·99	94	55·52
45	26·58	95	56·11
46	27·17	96	56·70
47	27·76	97	57·29
48	28·35	98	57·88
49	28·94	99	58·48
50	29·53	100	59·07

HUNGARIAN TRADE.

ENCOURAGEMENT OF INDUSTRY.

THE following Report on State encouragement to industry in Hungary by Mr. F. S. Clarke, His Majesty's Consul-General at Budapest, has been forwarded to the Foreign Office. It is explained that Law XLIX of the year 1899, framed for the purpose of encouraging industrial enterprise in Hungary and reported on by His Majesty's Commercial Attaché at Vienna in June, 1900 (*see Miscellaneous Series No. 537*) has been modified and considerably extended by the provisions of a new law which came into force on January 1st last. The following is a translation of the law in question and has recently been published by the British Foreign Office :—

CHAPTER I.—OF THE ENCOURAGEMENTS TO BE GRANTED TO NATIONAL INDUSTRY.

Section 1.—Manufactories, newly established in the lands of the Hungarian Holy Crown, and organised according to modern technical arts, may, besides the exemption of house-rates granted by Article 2 of Act LI of the year 1870, obtain the following State encouragements, provided they produce such articles as are not produced in the country at all, or not produced in a measure to provide for a greater part of the demand, or, generally, articles, an increased production of which is required by general economic interests namely :—

Various Subsidies.

(*a*) They may be exempted from all direct public (State) taxes imposed on manufactories as well as from all municipal, communal, and Chamber of Commerce rates payable in addition to the said public taxes. (*b*) They may be exempted from the payment of all Government and communal taxes and duties as well as from the equivalents thereof payable for the acquisition, lease, and transfer of manufactory grounds and buildings, and of the machineries to be used therein, as well as for the hypothecary registration of the lease and, if the said manufactories are established in the form of limited companies or associati ons, or if within the duration of the encouragement they are transformed into such limited companies or associations or are newly organised or associated with other companies, they may also be exempted from all stamps and taxes and communal taxes and fees payable for contracts passed with respect to the organisation of the company or the raising of its capital, or with respect to the issue of shares or debentures made at the time of such organisation, or with respect to the increase of the capital during the company's business, or with regard to other documents made in connection with such contracts, also with regard to all legal transactions concerning the payment of shares and debenture, or of the association-shares, and with regard to all documents relating to such legal transactions, as well as with regard to all transfers of any property made for that purpose. (*c*) The favour granted by Article 159 of Act I of the year 1890 may be extended also to industrial establishments organised on the basis of the present Act. (*d*) They may be classed, during the term of the encouragements granted, with those enterprises which, in the sense of Article 99 of Act I of the year 1890, are exempt from duties payable according to Article 89 of the same law. (*e*) The Minister of Finance may sell the salt required by the said enterprises for industrial purposes below the price fixed by Article 13 of Act L of the year 1875, and, simultaneously with the delivery of such salt, may also fix the sum of the caution money to be deposited by the said enterprise below the amount stated by the above cited Article.

Qualifications.

Section 2.—The encouragements mentioned in section 1 may be granted :—(*a*) To existing manufactories answering the requirements of the first paragraph of Article 1 with respect to their essentia working equipment made according to modern technical arts, in which case the proportion between the several branches of industry liable, and not liable to encouragement shall be stated in percentage, and it will be left to the judgment of the Minister of Finance to fix, in concert with the Minister of Commerce, the measure in which the encouragements, mentioned under section (*b*) of Article I may be applied to such branches. (*b*) To those industrial establishments which were created since the entry into force of Act XLIX of the year 1899, and are still existing, on the day when the present law shall come into force, or which may be created henceforward, and also those branches of electricity-producing establishments which yield electric current for industrial or agricultural purposes, provided they submit themselves to the conditions fixed by the Minister of Commerce with respect to the prices of the rent of localities and of electric currents.

An exception will be made in this respect for currents servingifor lighting, which shall not be accorded any encouragement. Electric currents produced, and any other energy which may serve technical purposes, shall enjoy the protection of the criminal laws in the same way as these laws protect moveables in general. Consequently any unlawful appropriation, in whatever way it may happen, or any unlawful and wilful damage or destruction of the said currents will be published in Hungary in the sense of the dispositions of Act V of the year 1878 respecting damages caused to other people's moveable goods or concerning theft. In Croatia, Slavonia, and Dalmatia they will be punished according to the criminal laws there in force.

Those industrial establishments which have submitted themselves to the conditions fixed by the Minister of Commerce with respect to rented localities and production of current will enjoy the said encouragements from the beginning of their work. (*c*) Enterprises established for the systematic occupation of a greater number of workmen engaged in home industry. (*d*) Associations, small industries, and agricultural associations if producing articles falling under the dispositions of the present law. (*e*) Ship-building establishments, shipyards and ships, as well as ship-repairing works, floating and dry docks answering the requirements of technical art.

Section 3.—The disposition of Article 2 of Act LI of the year 1870 which grants permanent exemption from taxes for habitations offered gratis to agricultural and industrial workmen is hereby so far extended that the Government may grant exemption from taxes for such workmen's habitations, built by the undertaking, in conformity with sanitary requirements, which are offered to workmen under the conditions that, as a countervalue, they shall receive less wages or that a certain part of their wages shall be employed towards the payment of their rent or the acquisition of the house.

Workmen's Houses.

The Government may grant exemption from taxes for 20 years from the beginning of occupation for such workmen's houses as are built either to be rented or to be sold to workmen for a price to be paid by instalments, provided such houses may be considered as new, and in this case these houses shall be exempted for the same period from all public (State), municipal, and communal taxes as well as from all additional income taxes. The conditions under which the encouragements may be granted under the present Article will be fixed by the Minister of Finance, in concert with the Minister of Commerce. The encouragements, however, shall be withdrawn from the moment when the said workmen's houses or habitations shall be used for other purposes, or in which they will lose the quality specified in the present Article.

Section 4.—The granting of encouragements, the day of their entering into force, and their cessation, will be decided upon by the Minister of Commerce in concert with the Minister of Finance and in cases concerning farming and forestry, also in concert with the Minster of Agriculture, while, with respect to agricultural distilleries, such decisions will be made by the Minister of Agriculture in concert with the Ministers of Commerce and of Finance. The period of duration of the encouragements cannot exceed 15 years from the day of their coming into force. The granting of the encouragements can be asked for within one year from the day of the beginning of the working of the respective industrial establishments ; after this time, the encouragements can only be asked for in the cases specified in Article 5. The encouragements may be guaranteed also before the establishment of the industrial enterprise, but the encouragements thus guaranteed will be forfeited if the enterprise does not begin working within two years from the day fixed by the license.

The encouragements granted or previously guaranteed, in the sense of Act XLIX of the year 1899, will remain unaffected. These encouragements may be continued in the interest of the existence or extension of the respective enterprises within the limits of the present law provided they concern such industrial establishments as may be encouraged in the sense of the present law, and provided that such prolongation, together with the period of encouragement, granted on the ground of the old law, shall not exceed the term of 15 years. Prolongation of encouragements may be asked for when their time has lapsed.

Petitions presented later than one year from the day of cessation of the term cannot be taken into consideration.

Section 5.—The Minister of Commerce is hereby authorised to grant the encouragements warranted by the present law, or part of them, in concert with the Minister of Finance, provisionally, also to such factories or industrial establishments, specified in Article I, first paragraph, of the present law, as are already existing, whenever they may be required by important economic interests, and this without regard to the question whether or not they have previously enjoyed such encouragements on the ground of Acts XLIV of the year 1881, XIII of the year 1890, or XLIX of the year 1899. Such encouragement, however, may only be granted to whole branches of industry. On the strength of this Article, no exemption can be granted either from municipal or communal taxes or from supplementary taxes.

Railway Facilities.

Section 6.—The Minister of Commerce is hereby authorised :—(*a*) To transport, or to have transported, by the Royal Hungarian State railways and on railways subsidised by the State at charges equal to only the bare cost of transport, all the material required for the building or extension of the factories and industrial establishments mentioned in Articles 1 and 2 of the present law, as well as all the machinery, and portions of machinery, and, generally, all articles required for the outfitting and arrangements of said factories and industrial establishments. (*b*) To have built by the above-named railways, charging only the actual cost, the industrial railway lines, required for the use of industro-agricultural, forest, and mining establishments. (*c*) To charge to industrial enterprises, at actual cost, the expenses of shunting on the railways hereabove-mentioned under (*a*), and eventually even to free entirely, for a certain time, the said enterprises from the payment of such shunting expenses.

Section 7.—The Minister of Commerce is hereby authorised to subject, in concert with the Minister of Finance, the granting of the encouragements under the present law to conditions as to the terms of the encouragements, the place, extension, or transfer of the establishments, the quantity of their production, the number and quality of their employés, or, in general, to conditions appearing necessary in the interest of the development of national industry—having special regard to the employment of workmen. As to these latter it is decreed that at least 75 per cent. of the number

must be Hungarian citizens, the Minister of Commerce, however, being entitled to modify this condition on reasonable grounds.

The factories and industrial establishments enjoying encouragements will be held responsible to provide, out of home industry and production, all the required building and outfitting materials as well as the materials and half manufactured goods required for their working in so far as they are made in the lands of the Holy Crown of Hungary. The Minister of Commerce may, however, grant release from this obligation.

Real Estate.

Section 8.—The expropriation of real estates belonging to the State, to municipalities, communities, and to townships may, in the sense of Act XLI of the year 1881, be ordered in favour of factories and industrial establishments, in favour of industrial railways and cable lines, of lighting or transmission and pipe-conduits destined for manufacturing, agricultural, and forestry purposes, and also in favour of water-works, pumping-tubes, and levers indispensable to working if officially granted by virtue of Act XXIII of the year 1885, provided that the said real estates are under agricultural or forest cultivation or are lying fallow. No expropriation can, however, take place if the said estates are serving, or are destined for ecclesiastical, religious (public), educational, scientific, or pious purposes. To a like extent, and under like conditions, private real estates may also be subjected to expropriation under Act XLI of the year 1881 in favour of industrial railway lines, cable lines, lighting or transmission, and pipe conduits destined for manufacturing, agricultural, and forestry purposes, and also in favour of water-works, pumping-tubes and levers, indispensable to their working, if officially granted by virtue of Act XXIII of the year 1885.

Industrial Concerns.

Section 9.—Whenever the establishment, extension, or maintenance of an industrial concern appears desirable in the general interest of national economy, the Minister of Commerce, in order to enhance or assure the industrial production of the country, is authorised to grant to single concerns, once for all or for several years, Government subsidies from the sums available for the purpose of industrial development, or he may promote the organisation of such concerns by means of participation. Also domestic industry and industry on a small scale shall be adequately encouraged out of sums available for the purpose of industrial development.

In every case where the total amount of the subsidy to be granted shall exceed 50,000 crowns (Rs. 3,245) or where a participation of the State is intended, the permanent committee of the National Council of Trade shall be consulted. In cases where a sum is to be granted or engaged, which exceeds the credit fixed by the budget voted in the previous year, a report shall be made to Parliament, and such grant shall only be held valid if the report has been accepted by Parliament. State subsidies can only be granted at times when the voted budget or indemnity law is in force. The disposition of Article 7 shall apply to State subsidies and to factories and industrial establishments respectively enjoying State subsidy.

Revocation of Privileges.

Section 10.—The Minister of Commerce may, in concert with the Minister of Finance, revoke the encouragements granted or part of them, whenever the factory or industrial establishment shall not fulfil one or other of the conditions fixed in the sense of the present law, or fail to fulfil the obligations fixed by the second paragraph of Article 7, or if the proprietor of the concern be definitively condemned for any crime or misdemeanour committed for the sake of gain. The encouragement shall also be revoked in the case where the proprietor of the concern is lawfully condemned by a criminal court, or by some disciplinary authority for behaviour subversive of the State or for having committed the offence of inciting against the Constitution.

Section 11.—Every grant of encouragement (section 4) shall be published in the official Gazette and must be communicated to the Minister of the Interior and to the Minister of Finance as well as to the municipality concerned, and, by means of this latter, to the interested community, the competent Chamber of Commerce and Industry, and the competent Royal Hungarian Directorate of Finances. (In Budapest the communication must also be made to the Royal Tax Inspector and to the Central Tax Office). Lastly, it must be communicated to the competent Royal District Inspector of Industries. In the case of encouragements granted in the territory of Croatia and Slavonia, the competent municipality and community shall be informed by means of the Ban of Croatia, Slavonia, and Dalmatia. The Minister of Commerce shall make a yearly report to Parliament at the time of the presentation of the budget of the grants made of subsidies and encouragements, of the subsidies given for several years in conformity with Article 9, and also of the cessation of such subsidies and encouragements.

Erection of Factories.

Section 12.—The erection or extension of factories, industrial establishments, and workshops under the present law may also be facilitated by municipalities and communities by means of ready money or by other encouragements. The said factories and industrial establishments may be exempted by the respective municipalities and communities from their obligation to participate in the expenses of building, administrating and maintaining the roads, connecting railway stations and landing places with the adjacent public road or commune, as well as in the expenses of the communal roads, as prescribed by Article 1, paragraph 3, and Articles 29 and 36 of Act I of the year 1890; they may also be exempted from the duties laid down by Article 81 of the same Act. Newly-erected or greatly extended factories and industrial establishments, even if they do not fall under the dispositions of the present law, may also be exempted from taxes and other revenues to be received by the community or town, provided their erection or extension is desirable in the general interests of public economy. The decisions come to in this respect by the municipalities or communities must be confirmed by the Minister of the Interior, who shall act in concert with the Minister of Commerce and of Finance. In Croatia and Slavonia the consent of the Ban of Croatia, Slavonia, and Dalmatia will be required who, in this respect, shall act in concert with the Minister of Commerce. The dispositions of the present Article are not derogatory to the autonomous rights of Croatia, Salvonia, and Dalmatia, nor to the organisation of the communities. No appeal shall lie against decisions of municipalities, townships, and communities declining to give exemption.

Chapter II.—Public Supply.

Section 13.—The industrial supply and work required by the State, by municipalities, and communities, by institutions and organisations (created by either of them), or required by transport institutions destined for public traffic, shall, as a rule, be furnished by the products of home industry. Bills concerning orders made by the State or by municipalities if they do not exceed the sum of 100,000 crowns (£4,166) shall be paid within 30 days from delivery, while those above the sum of 100,000 crowns (£4,166) shall be paid within 60 days from the same date. The Minister of Commerce may, on reasonable grounds, grant dispensations to authorities, offices, institutions, institutes, and enterprises under his control, while other Ministers may grant such dispensations, to authorities, offices, institutions, institutes and enterprises under their control in concert with the Minister of Commerce.

Section 14.—The industrial establishments and concerns furnishing public supplies and public works shall be under the control of the Minister of Commerce in order to make sure that the Articles supplied consist of materials of the country, that they are made therein, and that the work is done by Hungarian subjects.

The Minister of Commerce is authorised to regulate, in concert with the Minister concerned, by means of decrees, the furnishing or executing, the advertising and adjudicating of the industrial supplies and work required for the authorities, offices, institutes, and institutions specified in Article 13, and also the drawing-up of contracts and the control of their execution without regard to the dispositions contained in Articles 38 and 39 of Act XX of the year 1897. The Minister of the Interior shall dispose of all matters referring to municipalities and communities.

Section 15.—In any case of abuse in the furnishing of supplies or work the furnisher or contractor may be excluded by the competent Minister in concert with the Minister of Commerce from further participation for ever or for a certain period; in the case of a second offence complete exclusion must take place. The Minister of Commerce shall be informed of every such exclusion, together with the reasons, for the exclusion, and he shall keep a list of the excluded furnishers and contractors and communicate the same to all the other Ministers.

Section 16.—The Ban is to have the right of decision as to the application of the regulations and principle specified in Articles 13 to 15 with respect to the supplies required by the authorities, offices, institutes and institutions, subject to the control of the Local Government of Croatia, Slavonia, and Dalmatia.

Chapter III.—Final Dispositions.

Section 17.—The present law will come into force on January 1st, 1907. Chapter I will remain in force until December 31st, 1915, while the encouragements, granted under this law, will remain in force during the term fixed in the document of concession —Act XLIX of the year 1899 is hereby repealed.

Section 18.—The Government is hereby authorised to publish the present law by a decree in the town and district of Fiume in view of the existing special conditions there.

Section 19.—The Ministers of Commerce, Agriculture, Finance, and of the Interior are entrusted with the execution of Chapter I of the present law, while, with respect to Croatia, Slavonia, and Dalmatia, the Minister of Commerce shall proceed in concert with the Ban of Croatia, Slavonia and Dalmatia. The execution of Article 8 referring to Croatia, Slavonia, and Dalmatia is entrusted to the Ban of Croatia, Slavonia, and Dalmatia.

The execution of Chapter II of this law is entrusted to the Government, and with regard to Croatia, Slavonia, and Dalmatia, to the Ban of Croatia, Slavonia, and Dalmatia with the exception of the public offices and institutions not submitted to the authority of the Local Government of Croatia-Slavonia.

—The exceptional steps adopted, through the valorisation plan, to prevent the surplus product of **coffee in Brazil** from exerting a demoralising influence upon prices, are now a matter of history. But on account of the enormous crop in 1906-07, and the steps taken to safeguard the planters, especial interest attaches to the completed statistics of distribution, etc., now available. The *Brazilian Review* of Rio de Janeiro furnishes exhaustive details, and from these it appears that the actual commercial crop of 1906-07—the coffee marketed through the various ports—reached 20,409,180 bags of the average weight of 60 kilos (about 132 lbs.). This compares with crops barely half as great in each of the three preceding seasons, and is an excess of 4,132,715 bags over the previous record crop of 1901-02. The increase was due mainly to results in the Sao Paulo district, which shows an excess of over 120 per cent. compared with the previous year, whereas the Rio territory gain was approximately 30½ per cent., and there was an actual decrease of the smaller sources of supply. When comparison is made with the former bumper crop of 1901-02, Sao Paulo alone records an increase.

JOINT STOCK COMPANIES.

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

No.	Class and Name.	Situation of Registered Office.	Object.	Capital. Nominal.	Capital. Paid-up.
	I.—BANKING, LOAN AND INSURANCE.				
	(a) Banking and Loan.			Rs.	Rs.
1	Shri Venkatesh Bank	Hubli, Bombay	Banking business	29,970	...
2	Saidapet Parasparopakara Chathurtha Upanidhi.	Saidapet, Madras	Money lending	84,000	...
	Total, Banking and Loan	.....	.....	1,13,970	...
	(b) Insurance.				
3	Indian Mercantile Insurance Co.	Bombay	Fire insurance	50,00,000	...
	Total, Banking, Loan and Insurance	.....	.....	51,13,970	...
	II.—TRADING.				
	(a) Printing, Publishing and Stationery.				
4	Madras Standard	Madras	Printing, publishing, etc.	1,00,000	...
	(b) Other than Printing, etc.				
5	Tenasserim Motor Car Co.	Moulmein, Burma	Business of motor car service	1,50,000	...
6	Wa-Neik-Za-Wun-Sha-Thu-Kha-Ba-La Co.	Myingy, „	Trade in products	1,00,000	...
7	Chota Nagpore Motor Service Co.	Bengal	Carrying passengers and goods.	4,00,000	...
8	Agra Boot and Equipment Factory Co.	Agra	Tanning and manufacturing leather.	5,00,000	...
9	Shri Ambica Merchant Co.	Ahmedabad	General trade	20,000	...
10	Satara Swadeshi Commercial Co.	Satara	Trade in Indian articles	20,000	...
11	Cuddalore Swadeshi Mercantile Co.	Cuddalore, Madras	General trade	20,000	...
12	South Indian Agricultural and Industrial Improvement Co.	Anakapalle, „	„ „ and commission agency.	1,00,000	...
	Total, other than Printing, etc.	.....	.....	13,10,000	...
	Total, Trading	.....	.....	14,10,000	...
	III.—MILLS AND PRESSES.				
	(a) Cotton Mill.				
13	Jam Shri Ranjit Shinjee Spinning and Weaving Co.	Bombay	Spinning and weaving cotton, etc.	8,00,000	...
	(b) Cotton and Jute Screws and Presses.				
14	Bharat Press Co.	„	Ginning and pressing cotton, etc.	2,50,000	...
15	Sri Tripura Sundari Cotton Press	Bezwada, Madras	„ „ „	85,000	...
	Total, Cotton and Jute Screws and Presses.	.....	.....	3,35,000	...
	Total, Mills and Presses	.....	.....	11,35,000	...
	IV.—PLANTING COMPANY.				
16	Mysore Fruit Syndicate,	Bangalore	Fruit cultivation	3,00,000	...

JOINT STOCK COMPANIES—*contd.*

No.	Class and Name.	Situation of Registered Office.	Object.	Capital. Nominal.	Capital. Paid-up.
	V.—MINING AND QUARRYING.			Rs.	Rs.
	(a) Coal.				
17	Minto Coal Co.	Bengal	Coal business	3,00,000	...
18	Charnock Collieries	„	„ „	3,00,000	...
19	West Navagark Coal Co.	Bombay	„ „	3,00,000	...
	Total, Coal	.....	.....	9,00,000	...
	(b) Other than Coal.				
20	Tata Iron and Steel Co.	„	Mining iron ore, etc.	2,31,75,000	...
	Total, Mining and Quarrying	.....	.....	2,40,75,000	...
	VI.—LAND AND BUILDING.				
21	Rangoon River Land Co.	Rangoon	Purchasing land	2,50,000	...
	IX.—SUGAR MANUFACTURE.				
22	Hadi Sugar Manufacture Works	Meerut	Manufacture of Sugar	1,00,000	...
	GRAND TOTAL	.....	.....	3,23,83,970	...

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

	Capital (Rs.) Nominal.	Capital (Rs.) Paid-up.
2 Banking and Loan Companies	1,13,970	...
1 Insurance Company	50,00,000	...
1 Printing and Publishing Company	1,00,000	...
8 Other Trading Companies	13,10,000	...
1 Cotton Mill	8,00,000	...
2 Cotton and Jute Screws and Presses	3,35,000	...
1 Planting Company	3,00,000	...
3 Coal Mining Companies	9,00,000	...
1 Mining Company other than Coal	2,31,75,000	...
1 Land and Building Company	2,50,000	...
1 Sugar Manufacturing Company	1,00,000	...
22 TOTAL	3,23,83,970	...

NEW REFERENCE BOOKS.

YEAR BOOK OF THE UNITED STATES DEPARTMENT OF AGRICULTURE, 1906.
9¼ × 5½, 720 pp.
Washington: Government Printing Office.

GRAPES:
And How to Grow Them. By J. LANSDELL, F.R.H.S., edited by T. W. SANDERS. Illustrated. 7½ × 5 . . . . . 1s. net.
Collingridge.

PRACTICAL COAL-MINING.
By Leading Experts in Mining and Engineering, under the editorship of W. S. BOULTON, B.Sc., F.G.S., Professor of Geology at University College, Cardiff. Divisional Volume III. 10 × 6¾, vi + 192 pp.
The Gresham Publishing Company.

ELECTRIC POWER USERS' HANDBOOK.
By P. HUNTER-BROWN, 6½ × 4¼, xi + 209 pp. 5s. net.
Hodder and Stoughton.

THE CORPUSCULAR THEORY OF MATTER.
By J. J. THOMSON, Professor of Experimental Physics, Cambridge. 8¼ × 5¼, vi + 172 pp. . 7s.6d. net
Constable.

BRITISH RAINFALL, 1906.
On the Distribution of Rain in space and time over the British Isles during the year 1906, as recorded by more than 4,000 Observers in Great Britain and Ireland, and discussed, with articles upon various branches of rainfall work. By HUGH ROBERT MILL. The forty-sixth annual volume. With Maps and Illustrations, 8¼ × 5½, 280 pp.
Stanford.

TURBINES.
By Engineer-Commander A. E. TOMKINS, Royal Navy, late Instructor in Steam and Marine Engineering, etc., at the Royal Naval College, Greenwich. With about 100 illustrations. 6½ × 4¼, 208 pp. . . . . 3s. 6d.
(Romance of Science Series) S.P.C.K.

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in the Indian mills in August, 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 August			Five Months, April to August		
	1905	1906	1907	1905	1906	1907
British India.						
Bombay	43,883,280	41,800,704	38,404,038	213,187,764	208,038,636	191,716,026
Madras	3,198,074	3,285,593	3,347,141	15,241,955	15,318,702	16,032,354
Bengal	4,615,626	4,121,354	3,049,985	21,311,569	19,785,431	16,625,510
United Provinces of Agra and Oudh (also Ajmer-Merwara)	2,914,586	3,079,635	3,075,112	13,588,090	14,421,965	14,740,317
Punjab	1,148,913	1,218,621	1,059,564	5,816,829	6,150,895	5,308,182
Central Provinces and Berar	2,687,575	2,478,288	2,403,701	12,484,764	11,583,954	11,885,378
Total	58,448,054	55,984,195	51,339,541	281,630,971	275,329,583	256,307,767
Foreign Territory.						
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	2,270,777	1,948,778	1,953,475	11,031,114	10,275,784	10,042,783
GRAND TOTAL	60,718,831	57,932,973	53,293,016	292,662,085	285,605,367	266,350,550

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 1906 and 1907.]

		Month of August			Five Months, April to August		
		1905	1906	1907	1905	1906	1907
British India.							
Bombay	pounds	10,930,431	11,693,218	12,100,376	55,390,394	55,086,235	60,837,520
	yards	37,714,856	52,906,884	52,279,035	198,700,378	246,109,076	265,653,089
	dozens	27,775	53,007	88,576	87,124	215,307	282,213
Madras	pounds	753,830	707,381	646,268	3,499,120	3,271,484	3,267,465
	yards	1,034,510	2,332,364	2,014,648	4,939,397	11,172,677	10,752,285
	dozens	...	703	1,256	...	3,576	7,087
Bengal	pounds	66,800	94,315	68,253	282,994	557,015	542,018
	yards	254,223	399,060	303,485	1,059,671	2,472,360	2,460,310
	dozens	624,706	794,398	875,996	2,968,305	3,056,966	3,299,555
United Provinces of Agra and Oudh (also Ajmer-Merwara).	pounds	2,313,133	3,299,690	3,615,135	11,321,278	12,681,115	13,167,578
	yards	...	3,897	4,215	...	17,228	20,868
	dozens	17,391	35,237	38,101	104,621	167,663	183,952
Punjab	pounds	47,698	104,012	102,710	298,452	491,954	504,733
	yards	...	...	152	...	71	656
	dozens	716,484	598,294	659,744	3,392,691	2,773,775	3,173,946
Central Provinces and Berar.	pounds	2,202,186	2,435,188	2,696,421	9,786,093	11,316,377	13,044,192
	yards	..	642	690	..	1,485	3,612
	dozens	13,109,642	13,922,843	14,388,738	65,638,125	64,913,138	71,304,456
Total	pounds	43,966,606	61,477,118	61,041,434	226,105,269	284,243,559	305,582,187
	yards	27,775	58,249	94,889	87,124	237,667	314,466
Foreign Territory.							
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, and Wadhwan.	pounds	599,709	500,178	537,049	2,847,427	2,818,549	3,016,614
	yards	2,225,218	1,935,825	2,060,502	11,324,595	10,967,756	11,768,494
GRAND TOTAL	pounds	13,709,351	14,423,021	14,925,787	68,485,552	67,731,687	74,321,070
	yards	45,791,824	63,413,023	63,101,936	237,429,864	295,211,315	317,350,681
	dozens	27,775	58,249	94,889	87,124	237,667	314,466

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 six months, April to September, 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	1,46	1,36	1,	1,38	1,59	1,39	1,91	1,72	1,72	2,41
Liquors—										
Ale, beer, porter, cider and other fermented liquors	94	95	88	1,00	1,04	1,25	1,37	1,35	1,44	1,38
Spirits and liqueurs	30,45	32,04	30,76	31,04	32,55	35,89	36,35	38,59	34,34	44,24
Wines	1,63	1,63	1,53	1,54	1,74	1,68	1,55	1,75	1,60	1,74
Opium	1	1	1	2	2	1	2	2	2	2
Petroleum	21,65	18,00	21,53	26,11	26,50	21,79	23,35	19,33	17,01	22,23
Sugar (countervailing duties, 1899)	—	1,67	9,19	15,35	14,62	1,94	6	1	...	...
Sugar (countervailing duties, 1902)	—	—	—	—	3,12	12	4	...	...	...
General Import Duties.										
Articles of food and drink (excluding sugar)	5,26	5,71	6,43	5,85	5,75	5,97	6,72	8,10	8,15	10,15
Sugar (ordinary duties)	6,66	6,28	11,99	12,77	11,85	12,31	13,44	11,94	23,85	19,40
Chemicals, drugs, medicines and narcotics, and dyeing and tanning materials	4,92	5,26	4,79	5,54	5,49	6,53	6,21	6,74	6,93	8,89
Cotton manufactures—										
Piece goods, grey	22,08	24,98	21,63	24,79	26,90	24,01	26,60	31,44	32,99	34,08
„ white	8,78	9,80	8,87	14,99	8,53	9,65	13,91	14,18	12,73	18,84
„ coloured	8,86	12,19	9,05	11,37	10,47	13,42	15,40	15,69	15,53	18,03
Other goods	70	1,29	1,07	1,35	97	1,58	2,60	2,78	2,70	2,98
Metals and manufactures of—										
Silver bullion and coin	18,03	13,98	5,85	15,60	21,86	17,84	22,26	15,36	21,93	26,95
Other metals and manufactures of metals	9,61	7,80	10,05	10,90	15,09	14,40	18,24	14,93	15,11	19,13
Oils (excluding petroleum)	90	64	75	85	84	47	46	56	1,10	1,30
Manufactured articles	21,89	25,96	25,48	29,17	27,83	32,55	38,42	39,45	37,97	45,71
Raw materials and unmanufactured articles	3,80	2,85	4,42	4,58	4,13	4,24	5,00	5,72	5,17	6,44
Total Imports	1,67,63	1,72,40	1,75,70	2,14,20	2,20,89	2,07,04	2,33,91	2,29,66	2,39,59	2,83,92
Excise duty on cotton goods	6,55	6,50	4,97	7,60	8,03	9,25	9,06	11,42	10,96	18,65
Export Duties—										
Rice and Rice-flour	49,31	43,59	38,83	39,12	53,84	53,01	58,98	53,11	48,34	45,90
Land Customs and Miscellaneous	3,32	3,52	3,95	3,96	4,15	4,55	5,01	4,12	4,77	5,17
GRAND TOTAL	2,26,81	2,26,01	2,23,45	2,64,88	2,86,91	2,73,35	3,06,96	2,98,31	3,03,66	3,48,64

—According to the *Reichsanzeiger*, **tin** has recently been discovered near Lüderitzbucht, **German South-West Africa**, at a distance of from ½ to 3 kilometres from the railway. Samples have been sent for tests to Windhoek and Berlin.

—The discovery of **a rich stretch of tin-bearing rock in the Transvaal** is reported by a Natal paper. The fields are located in the Potgietersrust district, and it is stated that two Europeans working there are already making about £4,000 profit per month. It appears that no crushing is being done, but that the ore is merely extracted from the rock and shipped Home, where it realises from £60 to £100 a ton.

—It is stated by the *Journal des Usines a Gas* c September 5th that the process devised by Pr fessor Ostwald for the **manufacture of nitrate from ammoniacal gas liquors**, by the catalyti action of platinum, is being used with success on commercial scale in Germany. Thus it has bee taken up by the Düsseldorf Company for blast furnace construction and by the Lorrain Company This method enables a very weak liquid containin ammonia to be converted into a saturated solutio of nitrate; all the nitrogen present being converte into nitric acid. This process appears to be likel to become of much importance in the future, notabl in the recovery of the ammonia from the waste ga of coke ovens.

FOOD-GRAINS AND SALT.

Retail Prices of certain food-grains and salt at selected stations for the first half of September, 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 0	...	...	...	...	...	...	0 10
Toungoo	1 10	...	...	...	...	...	...	1 5
Eastern Bengal and Assam—								
Rangpur	2 6	2 0	...	...	...	...	...	1 4
Backerganj	2 6	...	...	...	...	...	...	1 0
Bengal—								
Calcutta	1 11	1 10	...	...	...	...	...	0 10
Patna	2 0	1 7	1 2	...	...	...	...	0 11
United Provinces—								
Cawnpore	...	1 8	1 3	1 2	1 2	..	1 2	0 9
Fyzabad	...	1 8	1 2	...	...	...	1 3	0 11
Meerut	...	1 6	1 0	1 1	1 1	...	1 2	0 9
Punjab—								
Delhi	..	1 7	1 1	1 1	1 2	...	1 1	0 9
Amritsar	...	1 3	0 9	0 10	0 11	...	0 11	0 7
Ráwalpindi	...	1 3	0 9	0 9	0 10	...	1 0	0 7
Sind—								
Karáchi	...	1 9	...	1 1	1 1	...	1 2	0 7
Bombay—								
Belgaum	...	1 9	...	1 1	1 1	...	...	0 10
Ahmadnagar	...	1 7	...	0 9	0 10	...	...	0 9
Bombay	...	1 7	...	1 4	1 2	...	...	0 11
Ahmadabad	...	1 9	...	1 1	1 3	...	...	0 7
Central Provinces—								
Jubbulpore	...	1 4	...	...	...	...	1 2	1 0
Nagpur	1 9	1 5	...	1 3	...	...	1 4	1 1
Raipur	1 6	1 3	...	...	...	...	1 2	1 2
Madras—								
Bellary	2 1	...	...	1 1	...	1 0	...	0 11
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 2	...	...	1 4	1 6	1 2	...	0 11

—The British Consul for **Hawaii** (Mr. Layard) reports that considerable progress has been made of late by the experiment station of the Hawaiian Sugar Planters' Association in the contest with **insect and fungus life injurious to sugar cane**, particularly with that pest the "leaf-hopper" (*Perkinasiella saccharicida*, Kirk.) Search has been and is being made successfully far and wide by the association's experts for enemies of these pests, and to such good purpose that in one case as many as 87 per cent. of leaf-hopper eggs were found to be destroyed in one favoured field. The most valuable of the numerous destroyers which have been imported and are being regularly distributed are the four egg parasites, *Paranagrus optabilis*, *P. perforator*, *Anagrus frequens* and *Ootetrastichus beatus*, of which the first two appear to be the most effective locally. In addition to these insect enemies, fungus diseases which attack the leaf-hopper and its eggs are being propagated. If, as it is hoped, these enemies prove to be successful ultimately in combating the leaf-hopper, the result will be enormous gain to the territory, the loss from that pest since 1900 being estimated on the best authority to amount to millions of dollars. Special attention is now being given to the destructive "cane-borer" beetle (*Sphenophous obscurus*, Boisd.), for which it is hoped to discover some effectual natural enemy.

WEEKLY TRADE MOVEMENTS.

For the week ending 5th October, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.	196,828
	Bombay „	166,991
	Madras „	11,400
Indian— Exports by sea from	Calcutta „	462,695
	Bombay „	591,260
	Madras „	...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	8,654,688
	Bombay „	3,754,220
	Karachi „	1,103,470
	Madras „	188,187
	Rangoon „	97,999

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	3,108,707
	Bombay „	3,617,421
	Karachi „	3,140,076
	Madras „	135,639
	Rangoon „	655,693

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	2,048,903
	Bombay „	5,650,934
	Karachi „	1,904,891
	Madras „	237,167
	Rangoon „	981,450

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	34,199
	Bombay* „	6,660
	Karachi „	17,641
	Madras „	700

Raw Cotton.

Imports into Bombay	By sea cwt.	94
	Coastwise „	16,822
	By rail „	14,438
Imports into Karachi by rail	„	602
„ „ Calcutta by rail and river	„	4,393

JUTE.

Arrivals by all routes in Calcutta, cwt.		749,356
Exports by sea from Calcutta	Gunny bags, No.	4,538,950
	„ cloth, yds.	20,401,450
	Jute, cwt.	451,108
Chittagong—Jute „		81,436

TEA.

Arrivals by all routes in Calcutta lbs.		6,379,832
Exports by sea from	Calcutta „	6,079,161
	Chittagong „	1,107,521

WHEAT.

Imports into	Calcutta by rail and river, cwt.	43,436
	Karachi by rail „	981,511
Bombay	By sea „	...
	Coastwise „	6,918
	By rail „	71,433
Exports by sea from	Calcutta „	55
	Bombay „	9,685
	Karachi „	470,976

RICE.

Arrivals by all routes in Calcutta, cwt.		163,811
Exports by sea from	Calcutta „	29,342
	Chittagong „	...
	Bombay „	2,157
	Karachi „	5,637
	Madras „	...
	Rangoon „	296,800

LINSEED.

Imports into	Calcutta by rail and river, cwt.	68,638
Bombay	By sea „	20
	Coastwise „	238
	By rail „	7,687
Karachi	„	...
Exports by sea from	Calcutta „	100,384
	Bombay „	70,110
	Karachi „	...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river, cwt.	20,564
Bombay	By sea „	...
	Coastwise „	562
	By rail „	10,951
Karachi	„	52,012
Exports by sea from	Calcutta „	15,015
	Bombay „	2,046
	Karachi „	18,467

COTTON SEED.

Exports by sea from Bombay,	cwt.	14,177

* B., B. & C. I. Railway figures only.

KEROSENE OIL, WEEK ENDING 5th OCTOBER, 1907.

Imports by sea into—	From Russia.	America.	All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	1,268,264	...	1,268,264
Bombay	...	123,454	61,423	184,877
Karachi	...	...	476,607	476,607
Madras	...	147,211	...	147,211

Exports by sea from Burma to	Bengal galls.	709,300	
	E. B. & Assam „	...	
	Bombay „	985,400	
	Sind „	...	
	Madras „	...	
	Indian Ports, Non-Br. „	...	
	Foreign Ports „	...	

IMPORTS OF SUGAR, WEEK ENDING 5th OCTOBER, 1907.

Country of Shipment.	Refined Sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	23	...	88	5	1	7	124
Germany	..	...	3,300	...	...	...	3,300
Austria-Hungary	...	...	1,102	11,171	...	...	12,273
Other European Countries	...	..	...	...	...	...	...
Java	34,556	...	27,317	...	205	5,084	67,162
Mauritius	3,881	...	28,406	330	...	...	32,617
Other Non-European Countries	4,007	...	298	...	...	49	4,354
Total refined							119,830
Total unrefined							...
Grand Total, cwt.							119,830

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 4th October.		Sold to 4th October.		Sold in sale of 5th October.		Sold to 5th October.	
	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	8,943	6 10·5	106,081	7 6	8,065	6 11	72,296	6 10·3
Cachar	4,682	6 0·4	88,019	5 11·7	3,982	4 4·2	70,924	4 1·3
Sylhet	2,858	5 10·9	65,443	5 11·1	4,903	4 6·2	55,210	3 9·7
Darjeeling	2,123	8 3	41,549	8 11·4	2,596	8 4·5	34,724	8 10·4
Dooars	8,110	6 4·8	105,200	6 7·1	7,793	5 3·8	79,032	5 2·4
Terai	937	6 1·4	14,909	6 1·1	1,409	4 4·6	19,334	4 1·7
Chittagong	327	6 1·9	5,392	6 0·7	374	4 8·9	5,971	3 10·7
Chota-Nagpore	...	...	549	5 1·2	...	...	236	4 8·3
Kumaon and Kangra Madras	73	5 10	3,087	5 10	120	5 0	120	5 0
Dehra Dun	..	...	242	6 0	...	...	116	4 5
Nepaul	...	...	204	6 3·3	...	...	...	...
	...	...	136	6 7·1	...	...	...	...
Total	28,053	6 6·8	430,811	6 9·4	29,242	5 8·2	337,963	5 5

(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 20,252 packages Dust* sold to 4th October — As. 6, P. 11·2

* On account of gardens which sell only that grade on this market.

—The United States Consul at Hongkong, replying to an inquiry in regard to **Chinese camphor,** states: "This business is mainly in the hands of five German firms. The camphor from Kwangsi province is inferior, perhaps 20 per cent. less as compared with Fukien province camphor; in colour it is markedly darker than the Fukien article, and the natives have a way of mixing it with fish and other impurities. It has become discredited, and the supply being comparatively small, apart from that consumed here or sent to India, Kwangsi camphor is not much in evidence in Hongkong at present. The Fukien or Foochow camphor (Foochow is a central port for exportation) is also shipped from this port. In appearance it resembles the coarsest white sugar, though off in colour, with the strong camphor odour. The evaporation is considerable, usually 5 and sometimes 10 per cent., and leads to disputes, making it a difficult article of commerce. Consignees claim underweight, and lawsuits occur. **India is a large consumer of South China camphor,** Madras being a leading point. Camphor for export is packed in tin—or zinc—lined cases to avoid rust, 1 picul (133⅓lbs.) to the case, and shipments of 500 and 1,000 cases are not unusual. Camphor is never shipped in the same Oriental cargo with tea. Most of the camphor from this port is shipped to New York City."

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 (3*a*.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2*a*.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
   - Vol. I—Abstract and detailed Tables of Imports and Exports. R3. (15*a*.)
   - 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. (10*a*.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (7*a*.)
5. Accounts of the trade of Aden. As. 10. (1*a*.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6*a*.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7*a*.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3*a*.)
9. Prices and Wages in India. R1-2. (3*a*.)
10. Financial and Commercial Statistics of British India. R4. (12*a*.)
11. Judicial and Administrative Statistics of British India. R2. (10*a*.)
12. Agricultural Statistics of India. R3½. (12*a*.)
    - Vol. I.—British India.
    - Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2*a*.)
14. Production of Tea in India. As. 8. (2*a*.)
15. Note on the production of Coal in India. As. 10. (3*a*).
16. Note on the production of Coffee in India. As. 4. (1*a*).
17. List of Joint Stock Companies in British India for 1906. R2. (2*a*.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (3*a*.)

MONTHLY.

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

MISCELLANEOUS.

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

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., 16, James Street, Hay Market, London, W.
Bernard Quaritch, 15, Piccadilly, London.
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., Charing Cross Road, W.C.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.

On the Continent.

R. Friedlander & Sohn, 11, Carlstrasse, Berlin, N. W.
Otto Harrassowitz, Leipzig.
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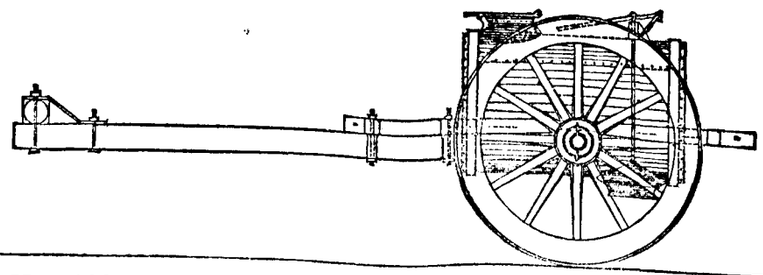
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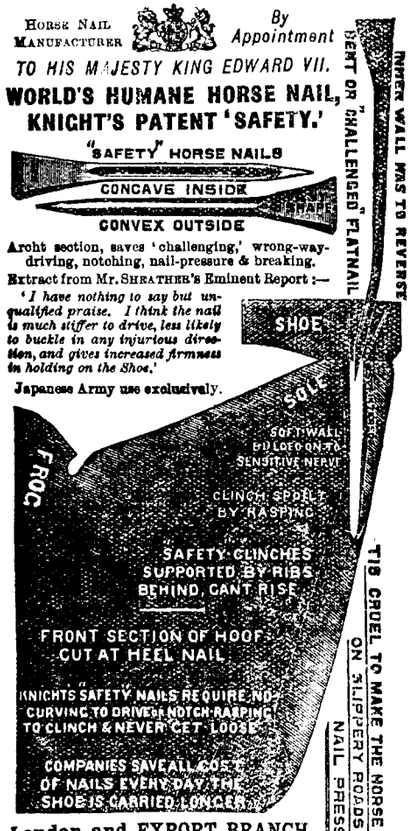
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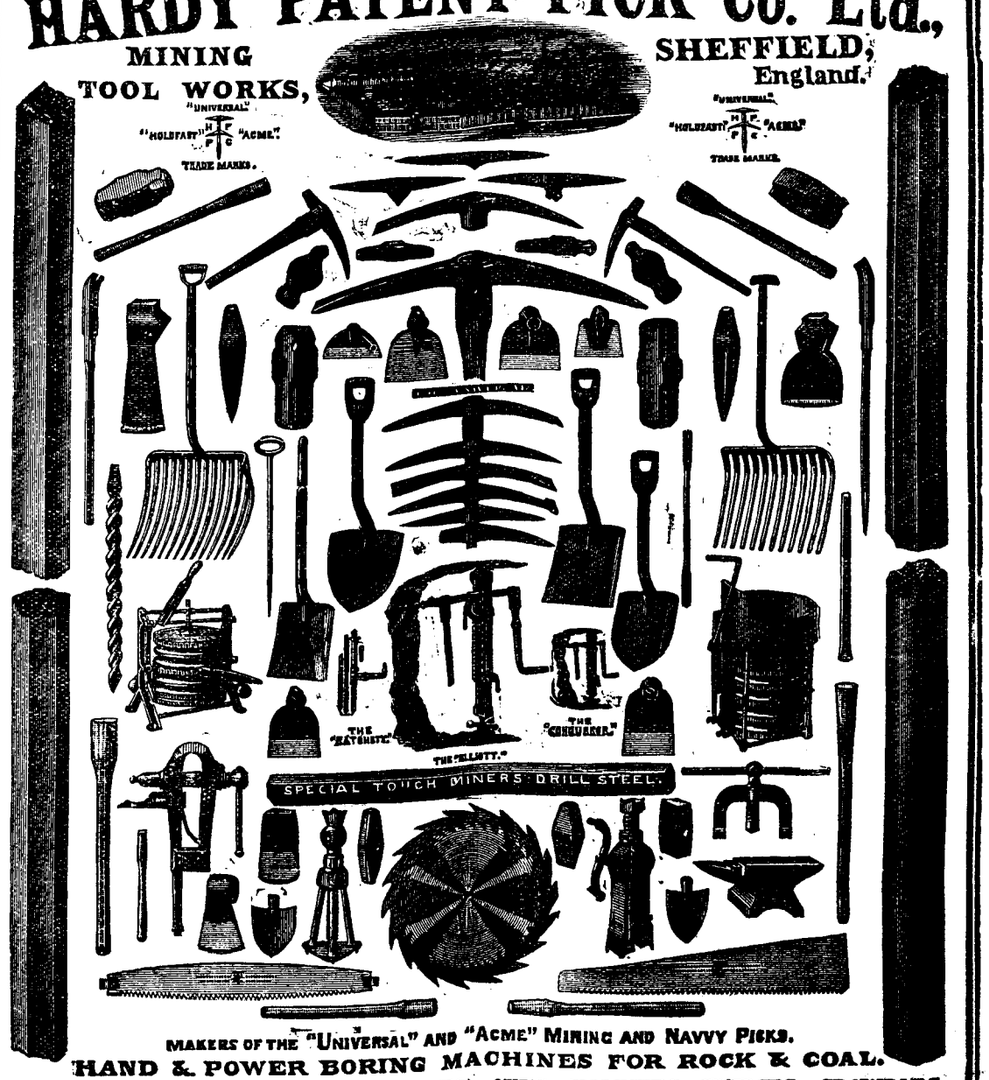
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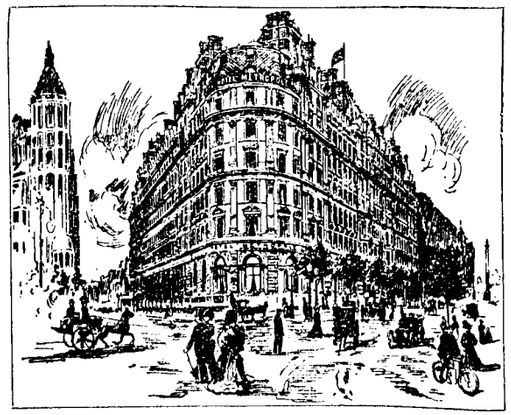
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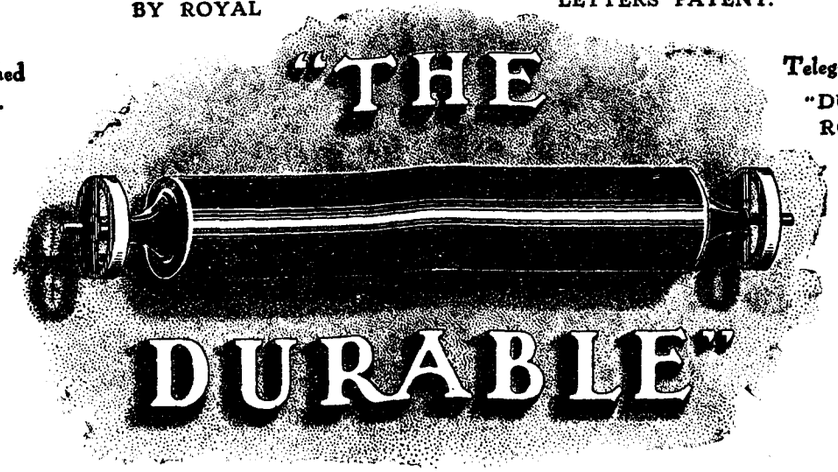
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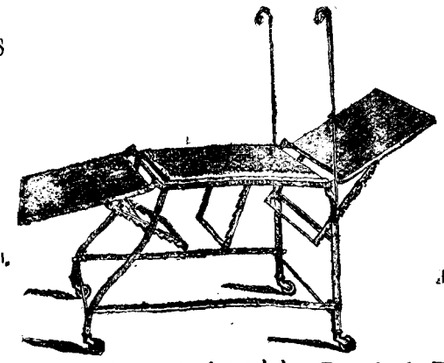
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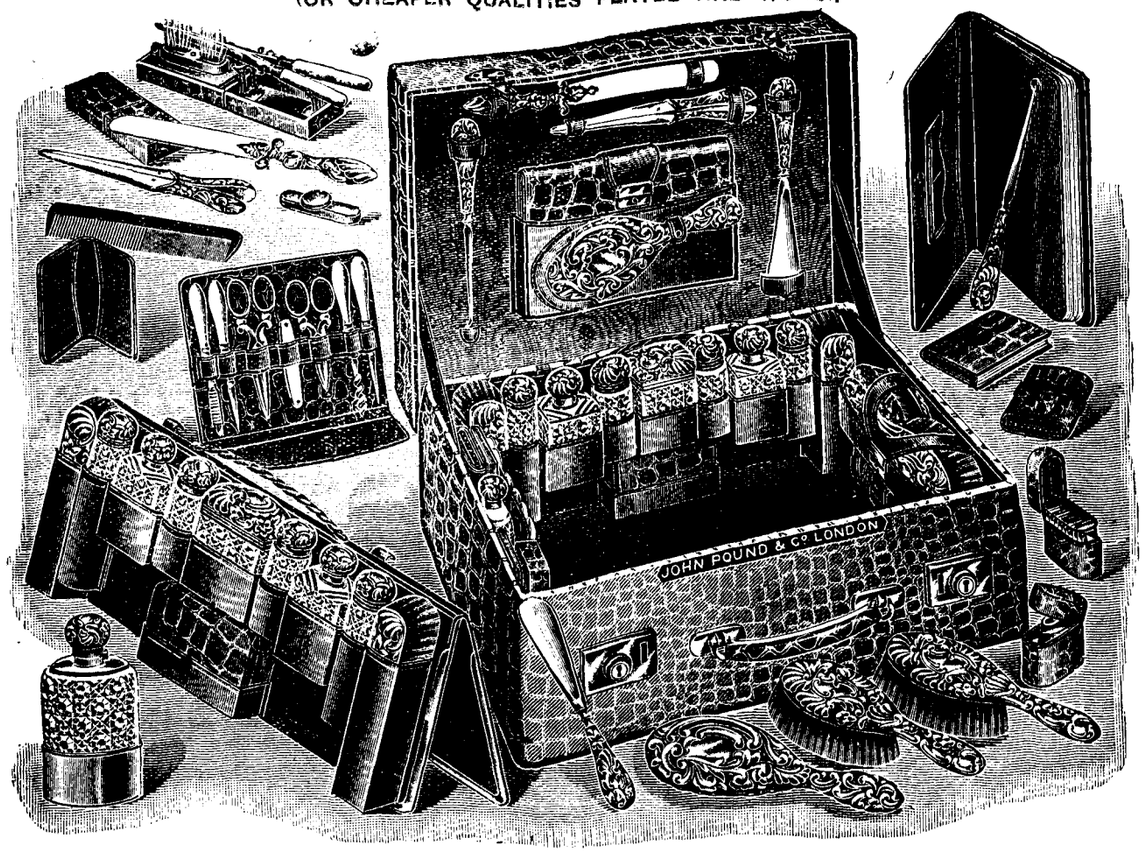
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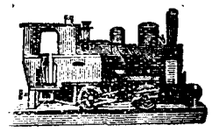
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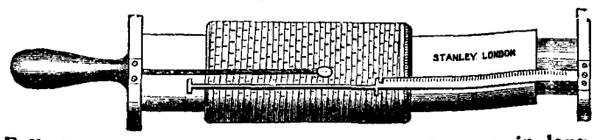
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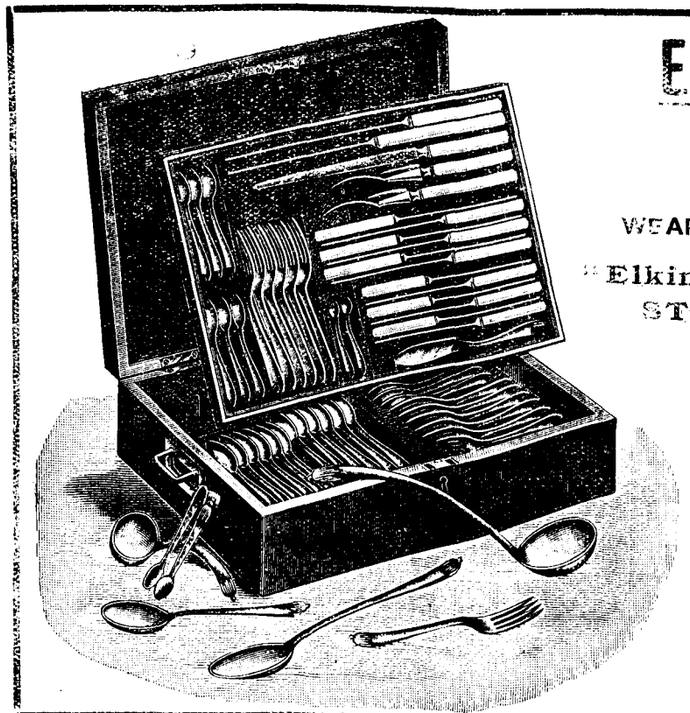
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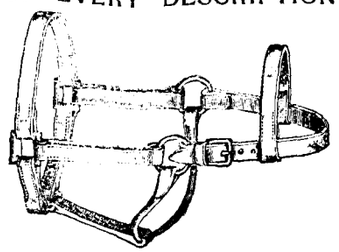
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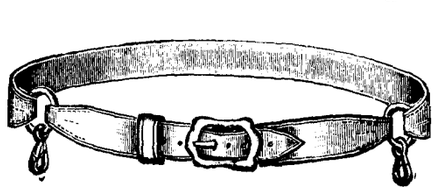
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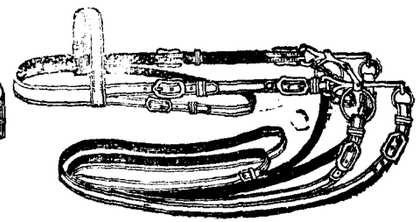
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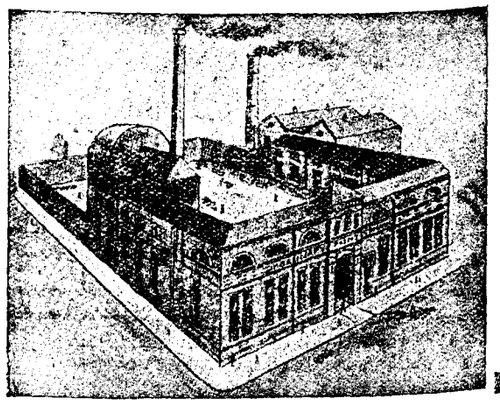
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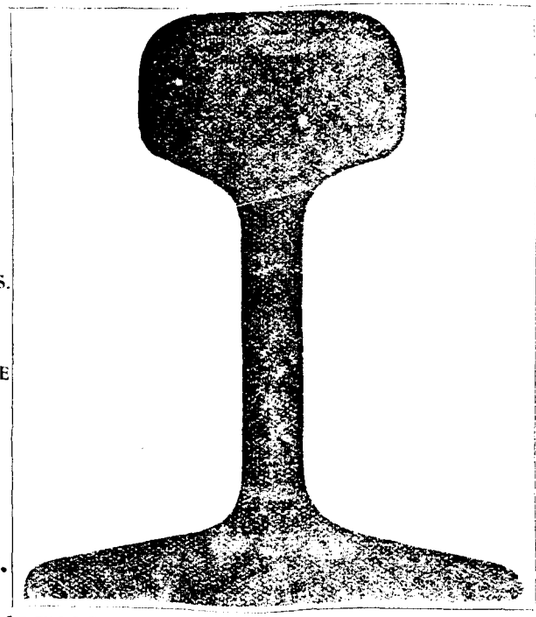
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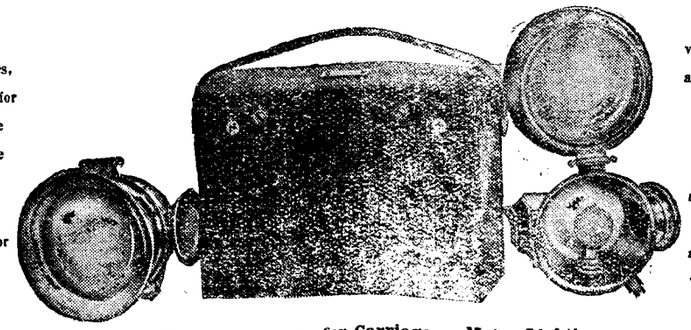
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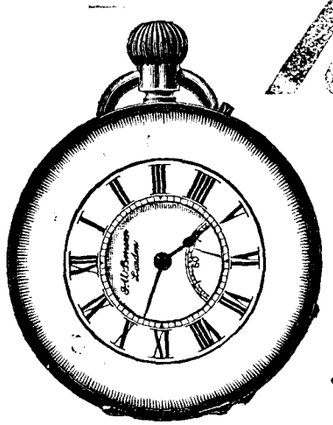
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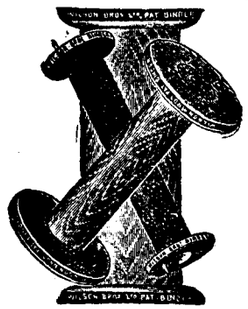
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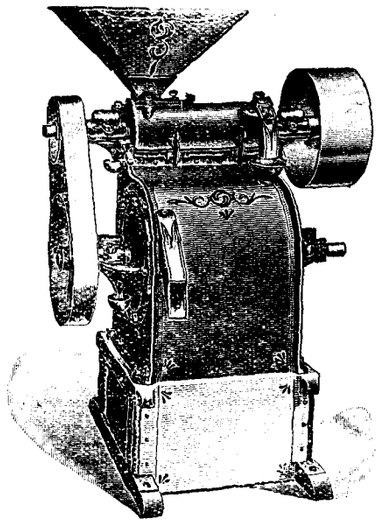


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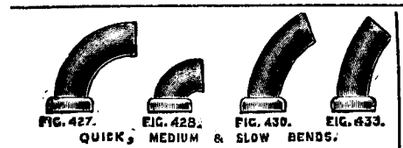
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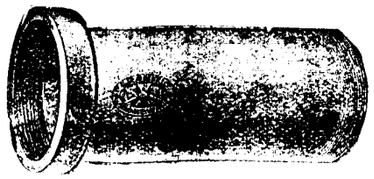
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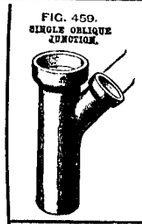


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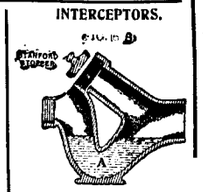
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INTERCEPTORS.





TAPER PIPES WITH

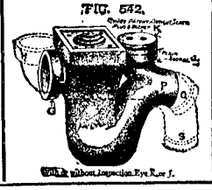


FIG. 420.
HALF CHANNEL PIPE.

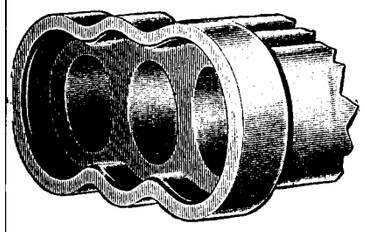


YARD GULLIES

FIG. 542.



SYKES' PATENT STONEWARE CONDUITS FITTED WITH BITUMENOUS SELF-CENTREING JOINTS FOR ELECTRIC CABLES.



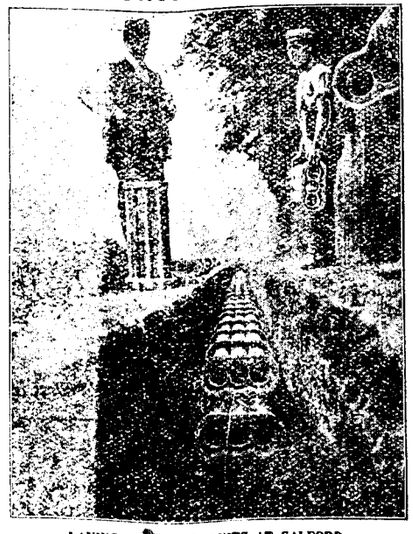
SKETCH

Made in following sizes:—

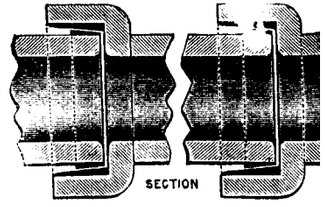
2 way 2″	2 way 2½″	2 way 3″
3 ,, 2″	3 ,, 2½″	3 ,, 3″
4 ,, 2″	4 ,, 2½″	4 ,, 3″
		6 ,, 3″
2 way 4″		
3 ,, 4″		4 way 3½
4 ,, 4″		

Large Stocks kept for prompt shipment.

50,000 yards all sizes in stock



LAYING SYKES' CONDUITS AT SALFORD.



OVER

4,745,550

Duct yards supplied.

No Mandrels required as the join are self-centreing.

No Cement for Jointing.

The spigot is simply inserted in th socket and pushed home.

Easily and quickly laid by unskilled labour.

. . Also Manufacturers of . .

SINGLE TROUGHING 2, 3 & 4 CHASE TROUGHING FOR ELECTRIC CABLES LAID ON THE SOLID SYSTEM.

STANFORD JOINTED STONEWARE DRAIN PIPES.
STREET GULLIES, ALL DEPTHS AND DIAMETERS.
SYKES' PATENT SANITARY SPECIALITIES.

INVERT BLOCKS.
PIPE AND BLOCK FLAP TRAPS.
JUNCTION BLOCKS.
GULLY BLOCKS.

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NOTES.

The Government of India have decided that in future **samples of goods** not intended for sale, which are **re-imported by commercial travellers** into British India after duty has once been paid on them, shall be passed free of duty.

A London cablegram states:—"Russian merchants at **Ispahan** have telegraphed to the *Novoe Vremya* that all **roads are in the hands of brigands.** Trade is at a standstill, the authorities are supine, and the Consuls helpless. Priests are preaching a boycott of foreign goods, and the merchants urgently ask for aid."

A Seistan correspondent recently visited some of the **carpet factories** in the vicinity of Duruksh, **Persia,** and states that the productions were excellent both in design and colouring. It seems that the carpets are made of any size for the European market; but the trade is entirely in the hands of Turks and its only outlet at present is through Russia.

We notice from advices to hand by the last China mail that the demand for **Indian Yarns at Shanghai** is brisk. For instance, Messrs, Noël Murray in their report of the 19th ultimo state:—The better tone reported in our last has developed during the interval, and comparatively speaking a very extensive week's business has to be recorded The market has in fact been in a mild state

of excitement, particularly over No.110s., for which the demand is greatest, being wanted for the North and Szechuen. Prices show an advance of one to two taels a bale and close steady at that. The higher Counts, all of which have been bought for the River Markets, are also firmer by at least a tael. The total sales amount in the aggregate to 13,230 bales, though in some quarters it is said to be considerably more. Neither Japanese nor local spinnings have participated in the demand there has been for Indian yarns, the market being very quiet for both with prices barely maintained.

The number of bales of **cotton imported** into the **United Kingdom** during the week ended the 19th September, 1907, was 16,428, and the number imported during the thirty-eight weeks ended the 19th September was 3,259,849 (including 5,606 bales British West Indian and 8,132 bales British West African). As regards exports, the figures are for the week ended the 19th September, 1907, 6,605 bales, and for the thirty-eight weeks 381,854 bales.

The Growing and Handling Committee has recommended to the **Atlanta Cotton Convention** that all cotton should be housed for forty days before ginning, to meet European spinners' complaints of dampness which is not acquired on board-ship. The Committee recommends that planters individually or communities should adopt gin compressing, and thus free themselves from the Gulf Cotton Compress Trust. This would permit direct handling from the planter to the spinner. The Committee urges the adoption of the Egyptian form of bale as fast as possible and the use of burlab instead of jute.

The **Cotton Convention at Atlanta** has adopted a proposal favouring a square bale instead of a round bale. The Convention also took action to prevent slipshod baling whereby spinners will be saved £5,000,000 annually. A Conference between the Farmers' Union of Atlanta and Mr. McAlister of Manchester has arranged that the central office of the former will notify the European agency of all cotton ready for sale, while Mr. McAlister guarantees that all cotton offered will be bought, but he explained that all cotton offered must conform with the grades sold, and baling and compressing be in accordance with the terms adopted by the Conference. This was agreed to.

The **Sea Island cotton crop** for the season 1906-07 is 59,907 bales. This compares with 124,765 bales last year and 102,529 bales the year before. South Carolina produced 8,037 bales, Georgia 31,425, Florida 20,170, and Porto Rico 275. The exports were 60,395 bales, of which Great Britain took 14,827 bales, the Continent 5,940, and the American mills 39,628. It may be noted that the South took 6,113 bales, against 6,394 bales last year. The stock on hand in Charleston and Savannah on September 1st was 709 bales, as compared with 1,197 bales a year before. **New crop advices** say that, should the yield not be reduced by storm and early frost, there is no reason why the crop should not reach 90,000 to 100,000 bales; but it is backward, and therefore more liable to disaster than it would be were it well advanced.

Writing from Alexandria on September 16th, a correspondent says of the **Egyptian cotton market**:—There was a marked increase of activity last week, but a decline in prices. The more favourable report of the Washington Bureau made felt the competition of American. Besides this, the too rapidly incoming supplies from Upper Egypt overtaxed the resources of a market whose absorptive powers are still distinctly feeble. Reports on the crop differ only as to whether it will be of 7½ million cantar (cantar =99·05 lbs.) or eight millions. There appears thus to be a danger of over-production, which will be of weight in the final settlement of the present disparity between American and Egyptian cotton. Spot transactions were only practicable if facilitated by concessions on the part of sellers of new cotton. The week's exports exceeded the most sanguine expectations, amounting to 6,500 bales, against 3,700 last year.

On the 26th ultimo the **Liverpool Cotton Association** decided by a substantial majority to reject the proposal to legitimatise the trading, under certain conditions, in **25-bale future contracts.** Up to a recent date a certain amount of informal trading of this character was done by a few firms. A number of the small merchants made sales of, say, 25 bales, part of 100 bales which were hedged. Not desirous of "selling short" even to the extent of 25 bales, and still less desiring to cover in his total hedge of 100 bales and put himself 75 bales "long," the merchant contracted with one of a few firms who specialised in this business and purchased 25 bales, promising to buy from that same firm at a future date, or dates, the balance of the 100 bales. When the four 25-bale lots had been covered an average price was struck and the contracts were practically exchanged for a new contract of 100 bales.

Messrs. Hubbard Brothers and Co., of New York, writing on September 10, remark that the Goverment report on the condition of the **American cotton crop** was more favourable than the trade had anticipated, as it was expected that deterioration in Texas would be taken much more seriously. In the falling market it might have been expected that speculative or investment buying would have brought an early recovery, but Messrs. Hubbard suggest that

"the conditions existing in financial circles and the temper of conservatism (under the impression that the yield this season would equal the probable consumption) prevented this demand." The strength of near positions in future is attributed to a demand for the lower grades, as spinners have found the value of these cottons, which were so derided during the winter to the manifest injury of every planter. Spot houses are now endeavouring to secure possession of these grades by receiving the near-by tenders of cotton for so long a time held by Wall-street houses.

A meeting of the Board of Directors of the Manchester Chamber of Commerce was held on the 25th ultimo with Mr. E. H. Langdon, president, in the chair. The minutes of the Yarn Executive Committee contained a resolution on the subject **of short-reeled yarn in Indian mills** arising upon a communication from the Singapore Chamber. That Chamber drew attention to certain samples of yarn sent for the inspection of the Manchester Chamber, together with reports of tests made by a sub-committee, which showed that the whole of the samples—part of consignments imported from India—were short-reeled, and therefore caused Singapore buyers to be deceived as to length and in many instances as to counts. The Singapore Chamber expressed the desire that an effort should be made to prevent the exportation of such yarn. The Bombay Chamber had also written supporting this view. The Yarn Executive had resolved that, whilst strongly sympathising with the Singapore Chamber in their endeavour to prevent the importation thither of short-reeled yarn, they were of opinion that the question was one for the Governments of India and Singapore. They therefore suggested that the Singapore Chamber should endeavour to obtain some kind of oversight and inspection of imported yarns, such as at present obtains in the Indian ports. The Board approved and adopted this resolution.

We take the following paragraph from *Commercial Intelligence* of the 25th ultimo:—The **United States Government** have sent a **special agent to British India** to report on the **various aspects of the cotton industry** there, and that gentleman is at present writing up the subject in a somewhat depreciatory spirit. He has paid a just tribute to the capable management of the Bombay mill industry, but on the very important subject of the improvement of the native-grown cotton he does not regard the prospects at all favourably. "There is no probability," he writes, "that India will ever be able to produce on anything but a small scale cotton equal in cleanness, silkiness, or length of staple to that grown in the United States." He bases his opinion not only upon the deficiencies of the Indian cultivators, but also upon the climate, in which, he says, cotton comes to maturity too early to suit long stapled varieties. This is to some extent true, the questionable point being how far climatic influences can be combated by the careful selection of seed. This special agent is rather too anxious to make out a case, and the rapid deterioration of **Sea Island cotton in Ceylon,** which he ascribes as due to the climate, was due, we recollect, to the utter disregard of elementary principles in the selection of seed. Then the Indian Government's fibre-growing experiments and its research stations are dismissed as obtaining "few results of permanent value." No reference is made to the success which has attended the growth of the **Egyptian variety in Sind,** and the report, in fact, is all of a piece. At the best, Indian cotton can be improved only by exceedingly slow degrees, but there is no need to discount the future so heavily. Not for ever will the Indian cultivators be uneducated.

The **Indian Factory Labour Commission,** referred to in our last issue, has now been completed and is constituted as follows:—W. T. Morison, Bombay Civil Service, President. Members:—W. A. B. Beaumont, Superintending Inspector of Factories, England; S. M. Chitnavis, Statutory Civil Service, Deputy Commissioner, Central Provinces; Colonel Mactaggart, Indian Medical Service, Inspector-General of Prisons, United Provinces; A. McRobert, Upper India Chamber of Commerce; John Nicoll, Bengal Chamber; Vitholdas Damodar Thakarsey, nominated jointly by the Bombay Chamber and the Millowners' Association; Dr. T. M. Nair, Municipal Commissioner, Madras; Secretary, J. Campbell, Indian Civil Service. The Commission will commence its enquiry on the 1st proximo and will probably finish its work by the end of May.

The deaths of Consul-General Mulvany (Dusseldorf) on August 16th and Vice-Consul Single (Santander) on September 1st have been reported. Consul-General Vansittart (Port au Prince) has reported his arrival in England. Consul-General Schwabach (Berlin) and Consul Gastrell (Stuttgart) have returned to their posts. The following **Consular appointments** have been made under the date mentioned:—Mr. C. W. Rickard, appointed British Vice-Consul at Frontera, August 22nd. Mr. R. H. Broome, appointed British Vice-Consul at Daralbaida, September 3rd. Mr. A. Finn, His Majesty's Consul at Chicago, has been promoted to the rank of Consul-General, to date from August 1st. Mr. H. A. R. Hervey, His Majesty's Consul at Guatemala, appointed His Majesty's Consul at Adis Abeba, July 25th. The Hon. H. C. Dundas to be His Majesty's Consul at La Paz (Bolivia), September 2nd. Dr. F. P. Koenig to be His Majesty's Consul-General at Dusseldorf, September 2nd. Mr. H. L. Rabino to be His Majesty's Vice-Consul at Resht, May 16th. Mr. C. Mosle to be British Vice-Consul at Bremen, September 20th.

At a meeting of the **Bombay Port Trust** last week the Chairman read a memorandum of the **revenue receipts** for the half-year ending September 30th. The receipts from all sources (including interest and pilotage accounts) for the half-year were Rs. 34,06,000 and exceed the receipts for the corresponding period of last year by Rs. 5,000. The result was considered most satisfactory. A 20 per cent. rebate was allowed on wharfage, port dues, and water supply to shipping. The pilotage fees amounted to about Rs. 3,50,000, so that the actual revenue for the first half of 1907-08 as compared with the first half of 1906-07 shows an increase of about Rs. 3,55,000.

A Melbourne correspondent, writing to the *Manchester Guardian* on August 21st, says that a great **agitation against the Australian tariff** is proceeding, and that the Protectionists are seriously alarmed at the storm they have raised. It is asserted that lodgers' bills have been raised 3*s.* to 7*s.* a week, and that workmen and their wives are angrily demanding lower duties. The Labour party, the correspondent says, practically propose the universal use either of an official "union label" or a "Commonwealth mark." The Commonwealth mark would imply that certain conditions of labour had been complied with. It is suggested, too, that there should be a permanent investigating Committee for the protection of consumers, which would have weight in recommending the reduction of import duty in cases where the protected industry was fleecing the public.

The Commissioner of the Presidency Division forwards as a contribution from Mr. Ahmed, I.C.S., Collector of **Khulna**, on the **economic condition** of that part of Bengal. Mr. Ahmed points out that tea-drinking is on the increase amongst the better class people, and that cigarettes, which were practically unknown in the Khulna district a few years ago, are now found in almost every grocer's shop. The consumption of imported sugar has considerably increased, though molasses is still in large demand by the poorer classes. Artificial manure is rarely used; in fact the large tracts of culturable land on which paddy is grown are seldom manured at all, but in rare cases the use of cowdung and castor seed cakes is not unknown, specially in orchards and on farms. Water transport is most in vogue. In the Khulna district the average daily cost of living of the cultivators is about 2½ annas; and we also see from a contribution forwarded by the Deputy Collector of Murshidabad, Babu Radha Prasad Mukerjee, that it is about the same at Murshidabad.

We have received a copy of the **Tariff Proposals** which were introduced by the Colonial Treasurer in the **New Zealand** House of Representatives on **16th July** last, containing Resolutions from the Committee of Ways and Means, repealing the duties levied under previous Customs Laws and providing for a new Tariff of duties on goods imported into New Zealand, with effect from the above-mentioned date. The new proposals provide for the continuation, for the most part, of the preferential treatment of certain goods, the produce or manufacture of some part of the British Dominions, the principal exceptions being that the preferences previously granted on cream of tartar, certain kinds of glass and paper hangings cease after 31st October, 1907, when these articles become free of duty. At the same time, provision is made for **preferential treatment** to be extended, **after 31st March, 1908**, to many articles, when of British production, by the imposition of **additional duties on foreign goods** —the rates on British goods remaining, in many cases, unaltered. The new Tariff rates of duty, as set out in these proposals, have not yet been finally passed by the New Zealand Parliament, and are, therefore, subject to revision. A copy of the Tariff may be inspected at this office.

Now that the **Pravara River irrigation project, Bombay Presidency,** has received the sanction of the Secretary of State, a few details of the scheme may be of interest. The Pravara River rises in the Western Ghauts and flows in an easterly direction until it joins the Godavari near Nevasa. The storage sites and land to be irrigated lie in the Ahmednagar District. The lands which are under the command of the proposed canals are situated in the Sangamner, Kopergaon, Rahuri and Nevasa Talukas. The project has been divided into four main heads: storage reservoirs, head works, Ojhar left bank canal, and Ojhar right bank canal. The tract under command is served by the Dhond-Manmad Railway connecting the two Great Indian Peninsula Railway systems from Bombay to Madras and Bombay to the north. The area under irrigation may be roughly described as diamond-shaped with the railway as its short diagonal. It is expected the railway will derive considerable benefit from the construction of the project both from produce and an assured supply of water for the engines. The left bank canal is served by a metalled road running parallel to its whole length and there are also several cross roads. The right bank canal is mainly served by the Kolhar-Rahuri metalled road, but in the head portion there is no metalled road but a service road is provided along the canal. Work will be commenced simultaneouly on the Bandardara dam, which is expected to take five years to complete, the extension of the left bank canal, and the masonry works on the right bank canal. The total cost of the project is estimated to reach Rs. 86,44,841. The Bombay Irrigation Department has just issued a Blue-book, entitled "Correspondence Relating to the Pravara River Irrigation Project, 1906-07," in which full details of the scheme are available.

The latest returns of **irrigation operations** in the **Punjab** show that up to the 31st August last the area of the kharif (autumn) crops served by the canals was 3,389,734 acres.

It appears from the **irrigation returns** just issued by the Government of **Bengal** that the area leased for irrigation up to the end of July, 1907, was 743.085 acres, as against 682,002 acres during the corresponding period last year.

The total **earnings of Indian railways** from the 1st April to the 28th September exceed the results in the same period last year by 1 crore 82 lakhs.

The Railway Board have sanctioned a detailed survey being made by the agency of the Bengal-Nagpur Railway Company for a board gauge **line of railway from Amda to Gurumasini,** *viâ* Chaibasa, a distance of 48 miles. The survey will be known as the Amda-Gurumasini Railway Survey.

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 September 1907, were as follows:—Wheat, 31*s.* 5*d.*, barley 25*s.* 0*d.*, and oats, 17*s.* 6*d.*

The latest advices from London state that the **price of wheat in England** is now 33*s.* 3*d.* per quarter. It has risen on an average 4*s.* since October 1st and 9*s.* since September 1st and is still rising. This, it is claimed, portends **exceptionally dear bread** during the coming winter. The rise in price is attributed to the smallness of the English yield, the poorness of the foreign crops and the failure of the area of supply to extend commensurately with the world's demands.

According to an official *communique* issued to the **Turkish** papers the **export of wheat** from the vilayets of Uskub, Monastir, Salonika, and Adrianople, the sandjak of Ismidt in the vilayet of Erzerum, the Black Sea and the Sea of Marmora ports, and the vilayet of Smyrna is **prohibited.** The import of foreign wheat is also exempted from duty, while foreign flour is subject to a duty of only 6 per cent. Flour and wheat arriving from other parts of the Empire are exempted from the usual duty of 2 per cent.

From the beginning of the official year to the end of August twenty crores of **gold and silver** were **imported into India,** of which the Government of India purchased eight crores of silver for coinage purposes; the amount coined in India during the same period was ten crores of rupees, and thirty-nine lakhs of small silver change.

His Majesty's Consul-General at Antwerp reports that "**tea** is gradually becoming **more popular in Belgium,** and there are many retail houses which supply tea to retail dealers. It is, however, not so easy to obtain really good tea as might be expected, and there is room for a good deal of enterprise in this connection. There is no import duty on tea, so the retail selling price should not be high."

On the basis of statistics showing the production and export of **Japanese tea** during the last ten years the *Osaka Asahi* (Rising Sun) entertains pessimistic views about the future of Japan's tea trade, which now ranks next to raw silk. In Europe and America, says that paper, there ars indications that coffee, cocoa and chocolate are gradually superseding tea; and this tendency is also noticed even in Asia, especially in Japan.

The **revenue from Bengal opium** during the present month amounts to Rs. 53,76,185, being Rs. 3,76,185 better than the estimate. The revenue from **Bombay opium** during September was Rs. 13.56,300 or Rs. 5.56,300 better than the estimate. The total revenue from sales of Bengal opium to the end of the present month is Rs. 4,00,10,775, being Rs. 35,10,775 better than the estimate. The revenue from the pass duty on opium exported from Bombay during the six months ending 1st October was Rs. 44,80,800.

In a paragraph dealing with the **Navigation of the Tigris,** the *Englishman* says:—"Since the permission granted to Messrs. Lynch Brothers, by the Turkish authorities, to run three steamers on the Tigris instead of two as hitherto, it is now possible for all cargoes shipped through this firm to be forwarded to their respective destinations without being unnecessarily delayed *en route*. Competition is now raging fiercely between Messrs. Lynch Brothers and the Hamidieh Administration and, as a consequence, rates of freight have considerably decreased. The latter, it is rumoured, have ordered two new steamers from Belgium."

Discussing the estimates of the **cultivated area and yield of jute** the Director of **Agriculture, Eastern Bengal,** makes the following **statement:**— "The great bulk of the jute produced is exported in the same year. In this instance, therefor, we may compare the estimated production with the export from the province in the same year. The total

outturn was 36,631,952 maunds (maund=82⅔lb.) while the export from the province was 25,415,350 maunds. Local consumption and stocks held back will probably not account for the whole balance of 11,216,602 maunds. This would indicate that either that area cropped or the average outturn are probably overestimated. This question will be investigated."

The **production of cement in the United States** in 1906 amounted to the enormous total of 51,000,445 barrels, valued at 55,302,277 dols., exceeding by 10,897,137 barrels in quantity and 19,370 744 dols. in value the production of 1905. Classified according to character, the production was as follows :—

	Barrels.	Value.
Portland cement .	46,463,422	52,466,1 6 dols.
Natural „ .	4,055,797	2,423.170 „
Puzzolan „ .	481,224	412,921 „

A composite company, under the name "Gesellschaft für Elektrostahl-Anlagen," has just been **organized at Berlin for producing steel with the electric furnace.** The leading concern in it is Siemens and Halske. and it also embraces the Eicher Huttenverein le Gallais-Metz and Co., of Dommeldingen, in Luxemburg. Consul Paul Credt, of Luxemburg, Röchlingsche Eisen und Stahlwerke, of Völklingen on the Saar, and the Metallurgiska Aktiebolaget, of Stockholm. The company will utilize the induction furnaces of Kjellin and Röchling-Rodenhauser for making iron and steel and ferro products. Its activity will extend to all countries except Great Britain and its Colonies, the United States, Norway, and Sweden, in all of which companies already exist for the exploitation of these furnaces.

The attention of persons desirous of **taking out patents in Japan** is particularly directed to the provisions of the Industrial Property Convention of 1883, as modified by the "Additional Act" of 1900—to which Japan is a party—which allow an applicant for a patent in one of the States, parties to the Convention, a twelve months' right of priority in regard to applications for patents for the same subject matter in other contracting States. It has been suggested to the Board of Trade that it is very desirable that British subjects wishing to take out patents in such a State should not fail to make their applications within the twelve months in which, by the Convention, they are entitled to protection. Patentees and applicants for patents are warned that delay may prevent them from obtaining valid patents in such a State, and permit any person to manufacture their inventions there.

A new engine, claimed by the inventor to rival the turbine, was shown to a number of engineers and others at Winchester House, **London,** on the 23rd ultimo. It is called the "Werry Engine," after its inventor, Mr. W. C. Werry, of Melbourne, Australia. It is a high-speed, reciprocating twin-screw engine of 65 b. h. p., and occupies very little space. Its freedom from vibration was demonstrated by the fact that it rested on two light wooden tressels while running at high speed. Mr. Werry claims there will be a considerable saving of coal as compared with the best types of marine reciprocating engines. Vessels fitted with a set of these engines, he says, will benefit by the centre of gravity being below the water line, and this would be an advantage to engineers in charge, in that the whole machinery will be well down under their observation and control.

American Consul J. I. Brittain, of Kehl, quotes from a recent issue of a Strassburg paper the account of a **discovery** by Professor Grihant, which should become **valuable in mining.** It is said by the use of the apparatus of Professor Grihant that the presence of fire damp in the air of a mine may be determined even when the gas is present in the atmosphere in so small a proportion as 1/200 of 1 per cent. The article says the invention is simple in construction and easy to understand. It consists of a column of metal, supporting above a cup and below a rod, connected with an electric current. Between the little inverted cup at the top and the rod below is placed a graduated tube, bell-shaped, into which is introduced the gas for analysis. Experimenting with his invention before spectators, Professor Grihant demonstrated, by a very simple calculation, that the explosive mixture used in his test contained 5 volumes of fire damp for 15 volumes of oxygen, and 30 volumes of air, which had been introduced to moderate the effects of a too violent explosion. The gas serving for this analysis was 10 per cent. Professor Grihant experimented a second time with gas at 4 per cent. and, although reaching his conclusions by a slightly different method, arrived at equally convincing and exactly similar results as at first. By the invention it will thus be easy to determine the presence in the air of a mine the existence of fire damp in small quantities before it becomes dangerous.

The Society of Silk Manufacturers at Zurich has just issued a report dealing with the position of the **silk industry in Switzerland,** from which it appears that there are 65 firms engaged in the weaving of silk goods, the total number of looms being 26,586, of which 15,156 are power and 11,430 hand looms. The number of persons employed is 37,350. The number of hand looms has been declining steadily for some time, as has also that of jacquard looms, owing to the fact that figured fabrics are going more and more out of favour. During the past ten years the number of jacquard looms has decreased from 2,263 to 1,446. The following table shows the progress of the trade during the past 25 years. From the productive point of view three hand looms may be considered equivalent to one power loom :—

	Power Looms.	Hand Looms.	Total in terms of Power Looms.
1881 . . .	...	30,398	10 133
1891 . . .	6,893	20,625	13,858
1900 . . .	13,296	19,544	19,811
1904 . . .	14,885	13,041	19,232
1906 . . .	15,156	11,430	18,966

It would appear from this that the industry is at a standstill, though, as a matter of fact, the actual production is increasing. It must be remembered, however, that lighter material is now being produced. The total production in 1881 was 27,551,500 metres, in 1891 29,560,500 metres, 1900 47,067,400 metres (value 103,595,000 francs : Franc=10 annas), 1904 50.423 700 metres (value 104,530,000 francs), and 1906 52,520,600 metres (value 109,627,000 francs).

At the recent meeting of the British Association, Mr. John Smyth spoke on the application of **water power** and how to secure the greatest efficiency in its working. He showed that a great many falls of water were not now made use of because they were too small or the supply of water was too irregular, but that they might become valuable by supplementing the water power by means of a variable auxiliary power. On the Upper Bann river in the North of Ireland there were a number of those small falls in which supplementary power was used. He expressed the view that water power was not sufficiently valued by engineers and mill-owners. This, he believed, had arisen in a great measure from the general use in low falls of imperfect and inefficient water motors, yielding small percentages of the theoretical power of the water, and the neglect to use the full flow of the water in all seasons. There was no difficulty now in procuring water-motors for all heights of falls to give 80 per cent. of the theoretical power in place of from 50 (or still lower) to 70 per cent., as had been too much the sale hitherto. Particulars of waterfalls in India were published in the *Indian Trade Journal* ofthe 6th and 20th June, 1907.

H. M. Legation at Rio de Janerio have forwarded an extract from the *Messager de S. Paulo* calling attention to the **mineral wealth** of the State of Rio Grande do Sul, **Brazil.** This has, it appears, been little exploited, and presents considerable opportunity for mining enterprise. By Brazilian Law minerals when found become the property of the owner of the land where the discovery is made. The greater part of the land in the State named is in the hands of small farmers or ranchers, woh would doubtless be prepared to sell at a low rate. Moreover, in order to encourage the mining industry the Brazilian Government has resolved not only to abolish taxes upon mines and upon the export of ores, but to offer every facility to foreign capitalists who wish to undertake researches. The existence of gold in the district of Lavras has long been known. It is now exploited by three companies. Rich veins have been discovered. The metal is found within a radius of five or six miles round the village of Lavras, traversed by the river Camaquan. Bom Retro, high up on the river Vaccacahy, a few miles distant from Suspiro Station, is said to be very rich in gold. The country is covered with masses of quartz, all containing ores, some even of pure gold, silver, sulphites, copper pyrites, galena, and molybdenite. A deposit of magnetic iron ore, terminating in a rich vein of pure gold covered by auriferous pyrites, has been discovered at one place. There has been a certain attempt to exploit this land, but want of capital has greatly limited the work. Along all the river beds gold is to be found. In the River Vaccacahy nuggets from half to one ounce are common. Where modern dredging machinery is employed, as in New Zealand and California, it is believed that the results would be very satisfactory.

NOTICES.

CROP FORECASTS.

THE following General Memoranda on crops of the season 1907-08 will be published in the *Indian Trade Journal* of the 24th October, 1907 :—

First Memorandum, Rice,
Second Memorandum, Sesamum.

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 5, Clive Street, Calcutta, on the 23rd October at 4 P.M.

CALL FOR TENDERS.

Tea.

THE Divisional Contract Officer, Ootacamund will receive tenders up to the 30th proximo for the supply of 129,500 lbs. of Indian black tea.

ENQUIRY.

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

Oil-Crushing Machinery.

(134)—An official at Benares requires particulars of the machinery required to set up a linseed oil mill. (*English and American papers please copy*).

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., Ld.; 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.

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The Indian Trade Journal.

THURSDAY, OCTOBER 17, 1907.

INDIAN COTTON SEED.

Its Industrial Possibilities.

IV.*

HITHERTO the profits derived from the production of cotton seed oil in India have not been such as to stimulate competition and an expansion of the industry. For this there are several reasons, some of them affecting oil and some affecting cake or meal. We have noticed in some quarters a tendency to speak of the cake as a by-product of the oil; but this is incorrect. The cake not only constitutes some seven-eighths of the output, but it also ought to represent quite half of the receipts of the mill. It is of course true of many industries that the profit on the staple products is, under conditions of competition, dependent on the rates obtained for by-products and offals. But in the case of a cotton-oil mill the secondary product preponderates so greatly in quantity that any abatement in its selling price makes most serious inroads on the balance; while, under normal conditions, a heavy decline in its market entails the immediate disappearance of all margin. No regular record of the prices of cotton oil and cotton cake in an Indian market are available; so we must resort to home quotations in estimating the relative aggregate value of the two chief products. The following statement gives the **average monthly spot prices in Hull of refined cotton seed oil, "naked"** (*i.e.*, without barrels) **and of "Bombay" cotton cake** (*i.e.*, cake made of Indian cotton seed) **during the 24 months, September, 1905, to August, 1907 :—**

Spot Refined.

Date.	Cotton seed oil (naked) spot at Hull per ton.	Cotton cakes, Bombay, at Hull per ton.
	£ s. d.	£ s. d.
1905.		
September	15 1 6	4 0 1
October	14 16 3	4 1 3
November	15 8 1	4 5 11
December	15 5 7	4 7 10
1906.		
January	17 5 0	4 11 10
February	17 11 3	4 10 11
March	17 16 8	4 9 6
April	20 0 0	4 5 10
May	20 6 10	4 4 8
June	19 8 6	4 3 9
July	20 0 7	4 3 9
August	20 13 0	4 4 3
September	20 16 3	4 9 8
October	22 8 9	4 10 0
November	23 7 6	4 7 0
December	21 8 9	4 3 9
1907.		
January	22 18 9	4 7 6
February	25 0 0	4 10 0
March	24 15 0	4 5 9
April	24 11 10	4 0 11
May	31 3 6	3 19 9
June	30 12 6	3 19 8
July	28 16 8	4 0 0
August	28 3 6	4 0 0
Average for two years	21 11 6	4 5 2

The prices in the first four months of the period averaged £15-2-10 and £4-3-9 per ton. In the last four months they averaged £29-14-0 and £3-19-10 per ton. The price of oil therefore improved by 96·5 per cent, which enabled crushers to sell their cake at a reduction of 4·6 per cent, the net improvement in receipts being one of about 30 per cent. This does not of course mean that there

*For earlier articles of this series, see *Journal* of August 15th, September 19th, and October 10th, 1907.

a profit of 30 per cent for we have seen already that the cost of the raw material had risen largely. But in effect the crushers of Indian seed have been able throughout the past season to sell their cake at about £1 a ton cheaper than cake made of Egyptian seed while the intrinsic value of it probably does not fall short of the latter by more than 10 shillings.

From the above statement it will be seen that the average price of oil during the two years has been £21-11-5. That of cake has been £4-5-2. The price of oil has been to that of cake as 5 to 1. The output of oil, as was stated in the third chapter, is to that of cake as 1 to 7. Therefore the receipts in respect of oil have been to those on account of cake as 5 to 7; and a drop of 1 per cent in the price of cake must have the same effect as a drop of 1·4 per cent in the much larger price of oil. This calculation takes no account of receipts from by-products such as soap-stock.

Now, in India the **market for cotton cake** has so far been extremely limited. The cattle are not accustomed to eating it, nor the people to the methods of feeding it to cattle. The risk from heating it necessarily great. The use of oilcake as manure is making way in India, but progress is slow. And while the practice of direct fertilization of land with oilcake is certainly wasteful, the methods of managing, housing, and pasturing cattle in this country do not lend themselves either to parking and feeding cattle upon land to be cultivated, or to stalling them in such a way as to secure the liquid and solid excrement.

We propose in a future article to discuss various expedients for the more profitable marketing of cotton cake in India. For the moment it is sufficient to state that the demand for it is at present weak. From this it follows that if the industry is to thrive it must do so at first by obtaining relatively large receipts for oil.

But for **cotton seed oil** also, as known in this country, the **market** is very limited. In its crude state it has few uses; and if exportation be relied upon there is no point in extracting the oil in India, seeing that the cake must then either be shipped in its turn or be marketed in a country where notoriously only a feeble market for it as yet exists.

Since, then, the production of crude cotton oil in India at present offers so poor a prospect, it remains to be seen whether that oil may not be subjected to further treatment and placed on the Indian market in a form likely to satisfy some want obviously felt in this country. We are disposed to think that this is very possible.

Cotton seed oil like other vegetable oils contains certain bodies that become solid at temperatures lower in various degrees than the normal. When the temperature of an oil is reduced to the solidifying point of one of these bodies, the oil becomes clouded and less fluid. The solid particles of so-called stearine are heavier than the olein and tend to settle to the bottom of the containing vessel; but they are commonly separated by filtration. These bodies are used in other countries for the manufacture of diverse **substitutes for butter,** one of the best known of these being "cottolene." But the melting point of cotton stearine is higher than that of butter, and to give to the former the consistency required in Europe or America it is mixed with an extract of animal fat known as oleo-stearine. Such an ingredient would be inadmissible in this country, having regard to the prejudice of the Hindu against animal food. It would be necessary to accept this prejudice as absolute and to allow the people to satisfy themselves that it was respected. But the particular form of butter most generally used in India does not possess the same consistency as is requisite in European butter. **Ghi,** the clarified butter used more or less throughout India, is not spread on bread as in the Western world, but is employed in a semi-fluid condition in cooking and in the preparation of sweetmeats. Stiffness is therefore not a desideratum and would in fact probably be disliked, as unusual.

It may be explained for the information of readers outside India that ghi (or ghee) is made in various ways, but all processes appear to involve protracted boiling. The butter loses about 25 per cent of its weight in the process of boiling and skimming. The melting point of ghi ranges between 30° C. (86° F.) and 32° C. (90° F.). In India, as we have said, it is generally in a semi-fluid condition, but this constitutes no disadvantage except as regards handling in sale. The better qualities are the more fluid. Those qualities that are adulterated with starch and fat have a relatively high melting point.

On the other hand, the melting point of cotton stearine ranges from 26° C. to 40° C.—say an average of 33° C. (93° F.). It is therefore slightly higher than the melting point of ghi and should stand Indian temperature equally well so far as consistency is concerned.

The following statement shows the temperatures

encountered at certain principal centres in India at various seasons (Fahrenheit):—

1905.		Calcutta.	Cawnpore.	Karachi.	Bombay.	Madras.
January	Max.	83·7	81·3	80·7	86·9	87·2
	Min.	65·2	58·8	65·3	74·5	75·3
February	Max.	86·9	76·2	80·5	87·9	91·3
	Min.	70·3	63·9	68·4	74·8	76·6
March	Max.	94·7	96·3	86·3	86·7	9?·9
	Min.	79·3	74·9	75	78	79·5
April	Max.	98·8	105·4	102·1	88·3	94·7
	Min.	85	87	80·6	82·1	84·1
May	Max.	100·7	113·1	106·7	92·1	107·9
	Min.	85·7	92·6	84·7	84·6	88·7
Jun	Max.	106·1	112	99·5	93·9	108·2
	Min.	84·5	90·9	86·8	82·4	8·4
July	Max.	93·9	103·4	95·9	88·2	104·9
	Min.	83	85·6	84·3	79·5	85·7
August	Max.	91·5	101·4	91·3	87·6	101·2
	Min.	82·4	83	82·4	79·4	84·5
September	Max.	93	99·4	92·3	88·3	101·8
	Min.	82·6	83·4	82	79·4	83·9
October	Max.	90·9	99·4	104·3	94·7	93·7
	Min.	80	77·4	80	80·7	80·8
November	Max.	87	94·3	95·5	93·2	89·5
	Min.	72·4	67·8	74	79·3	77·9
December	Max.	82·9	79·9	87·7	89·7	86·2
	Min.	65·3	59·9	67·4	76·4	757

We do not know of any investigations showing the **percentage of cotton stearine** in Indian cotton oil. In fact it is curious to note that the leading technical books upon oils and fats are silent as regards the percentage in oils derived from American or Egyptian seed. One authority states it as 25 per cent, and it is interesting to enquire therefore whether there is likely to be in India a market for any considerable portion of the output of a large industry run on the lines now under discussion. We saw in our last article that the quantity of crude oil derivable from the average crop of cotton seed in India would be about 175,250 tons. Allowing a round 10 per cent loss in refining this ought to yield some 39,500 tons of stearine, which is equal to 88,480,000 lbs.; and if it be considered that India's population amounts to about 300,000,000, it will be seen that this quantity would only give ·295 of a pound per annum per head of population—that is to to say about 4¾ oz.

In our next article we propose to show the very great dimensions of the Indian demand for ghi, the gravity of the burden that is imposed on the people by the great rise of price recorded in recent years, and the extent and nature of the opening that exists for a wholesome and pure ghi-substitute.

—The **exports of British textile machinery** are still increasing. The total value for August is £655,228, as against £535,232 for August last year and £483,650 for August, 1905. For the expired eight months of the current year the amount is £5,225,322, as against £4,272,062 for the corresponding period last year, and £3,454,383 for January to August inclusive, 1905.

CROP FORECASTS.

COTTON.

Second General Memorandum on the COTTON crop of the season 1907-08.

This memorandum deals with the whole of the **early** crop, and so much of the **late** crop as was sown up to the end of September.

The **total area** under cotton reported up to date for the whole of India amounts to 16,825,000 acres as compared with 19,678,000 (revised figures) at the same period last year, which represents a percentage decrease of 14·5.

The most noticeable decreases in British India are in Madras (28 per cent), the United Provinces (25 per cent), and Bombay and the North-West Frontier Province (20 per cent each), and among Native States, Mysore (32 per cent), Bombay States (16) and Hyderabad (15·6). The total percentage decrease for British provinces is 14·2 and for Native States 14·9. Only the two unimportant British provinces of Ajmer-Merwara and Eastern Bengal and Assam show some increases, amounting to 14·6 per cent in the former and 3·5 per cent in the latter.

Throughout Northern, Central, and Western India the unirrigated crop is reported to be suffering seriously through prolonged drought, though in the Bombay-Deccan and Karnatak some improvement has been effected by the recent rains. The condition of the irrigated crop is reported to be generally good. In Bengal, Eastern Bengal and Assam, Madras, Burma, and Mysore, the prospects of the crop are reported to be from fair to good, but more rain is wanted in places.

Estimate of the area under cotton in October.

Provinces and States.	1907-08.	1906-07.	1905-06.
Bombay (a) and Baroda	4,379,000	5,369,000	4,615,000
Central Provinces and Berar.	4,497,000	4,684,000	4,840,000
Madras (b)	604,000	841,000	753,000
Panjab (a)	1,155,000	1,413,000	1,769,000
United Provinces	1,100,000	1,475,000	1,350,000
Sind (a)	218,000	257,000	237,000
Burma	186,000	188,000	183,000
Bengal	69,000	75,000	67,000
Eastern Bengal and Assam (c).	59,000	57,000	61,000
Ajmer-Merwara	39,000	34,000	27,000
North-West Frontier	48,000	60,000	37,000
Hyderabad	2,971,000	3,522,000	2,713,000
Central India	1,012,000	1,170,000	969,000
Rajputana	443,000	467,000	311,000
Mysore	45,000	66,000	7,000
TOTAL	16,825,000	19,678,000	17,939,000

(a) Including Native States.
(b) For raiyatwari area only. The area sown in villages other than raiyatwari is reported to be 54,500 acres compared with 53,800 acres last year.
(c) Excluding the Hill Tippera State which reports 18,000 acres for 1906-07.

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 reported cotton area of India is ordinarily cultivated in that province :—

Bombay (*30·5*%).—The total area under **early** cotton (grown in the Deccan only) is now reported to be 1,427,000 acres (1,401,000 in the British Districts and 26,000 in the Native States) which is nearly 25 per cent below the estimate at this date last year, though 11 per cent in excess of the average of the preceding ten years. In the North Deccan continuous rain in July-August and its abrupt close afterwards have seriously affected the crop and only a poor outturn is expected. In the South and East Deccan prospects have somewhat improved by recent rains, but the area in these tracts is only 14 per cent of the total. As regards the **late** crop the information received is incomplete as sowings continued in places at the date of report. The estimates up to the 1st of October give a total area of 2,952,000 acres (1,958,000 being in Native States including Baroda), which represents a decrease of about 15 per cent as compared with the estimate at this date last year. The decrease in area is attributed to incessant rain in Gujarat and to want of timely rain in Karnatak. At present the crop is withering for want of rain in Gujarat and prospects are unsatisfactory. In the Karnatak recent rains have effected improvement and prospects are fair.

Central Provinces and Berar (*23·4*%) now report a total area of 4,497,000 acres (1,433,000 in the Central Provinces and 3,064,000 in Berar) as compared with 4,684,000 acres (1,390,000 in the Central Provinces and 3,294,000 in Berar) for last year—a decrease of 4 per cent. As reported in the August forecast, the sowing season, though late, was generally favourable; but the rainfall during the last fortnight of July and the beginning of August was heavy and continuous and many of the fields were swamped. Weeding operations were in consequence retarded. Since the last fortnight of August there has been very little rain. The crop recovered rapidly from the effects of excessive rain, but is now suffering through the continued drought; and apprehensions are entertained that it will be seriously damaged. So far as the present conditions go, an outturn of 72 per cent of the normal is estimated.

Madras (*8·8*%).—The total area sown in raiyatwari villages (about two-thirds of the province) up to the end of September is reported to be 604,000 acres (129,000 under **early** crop and 475,000 under **late** crop)—a decrease of 237,000 acres or 28 per cent, as compared with the corresponding period of last year. The decrease is attributed to want of seasonable rainfall. Villages other than raiyatwari report a total area of 54,500 acres, which is 700 acres more than that reported at this date last year. The condition and prospects of both the early and late crops are reported to be fair to good, but rain is required in some places.

Panjab (*7·9*%) now estimates the area to be 1,017,000 acres as compared with 1,259,000 acres last year—a decrease of 19 per cent. The area reported from Native States is 138,000 acres compared with 154,000 acres for last year. The condition of the irrigated crop is, on the whole, up to the average; but the unirrigated crop is suffering on account of the failure of rain in September.

United Provinces (*6·4*%) report no change in the estimate made in August, namely, 1,100,000 acres compared with 1,475,000 acres for last year. The rainfall in August was favourable; but September was practically rainless, and dry west winds continue to blow. The unirrigated crop is withering in many places; but the irrigated crop, which ordinarily occupies about one-fourth of the total area under cotton, is in good condition. The outturn per acre is at present estimated to be about one-half of that reported last year. This estimate, however, is based on reports prepared at the end of September, and is liable to further reduction as the effects of the drought cannot be fully ascertained at present.

Sind (*1*%) reports the total area sown up to 1st October to be 218,000 acres as compared with 257,000 acres at this date last year—a decrease of 15 per cent, due to low inundation. The crop is reported to be in fair condition.

Burma (*0·9*%) now estimates the area to be 186,000 acres as compared with 188,000 acres last year—a decrease of 1 per cent. Prospects of the crop are fair; but more rain is required.

Bengal (*0·4*%) now reports a total area of 69,000 acres sown with both **early** and **late** cotton, as compared with 75,000 acres of last year—a decrease of 8 per cent. Sowings of the late crop, however, still continue in some districts. Weather conditions up to date have been generally favourable for both early and late crops, though in some places some damage is reported to have been caused by excessive rain and floods.

Eastern Bengal and Assam (*0·3*%) report no change in the estimate made in the August forecast, namely, 59,000 acres compared with 57,000 acres for last year—an increase of 3·5 per cent. Condition and prospects of the standing crop are reported to be fair to good.

Ajmer-Merwara (*0·2*%) now estimates the acreage to be 39,000 as compared with 34,000 for last year—an increase of 14·6 per cent. Prospects of the unirrigated crop are reported to be very gloomy.

North-West Frontier Province (*0·2*%) now reports practically the same area as estimated in August, namely, 48,000 acres, which is 20 per cent below the area of last year. The prospects of the crop owing to drought in September are reported to be rather below the average.

Hyderabad (*13·3*%) now reports the area to be 2,971,000 acres (2,436,000 under **early** cotton) as compared with 3,522,000 acres last year—a decrease of 15·6 per cent. Further sowings are, however, still expected if there be more rain. The crop is suffering through deficient rainfall; and

though some rain has fallen in places, the outturn of the crop depends on the weather of the next few weeks.

Central India (*4*°/₀).—Reports have not been received from certain States. Taking for these States the figures as reported in the August forecast, the total area now comes to 1,012,000 acres as compared with 1,170,000 acres last year—a decrease of 13·5 per cent. The crop is reported to be suffering badly from drought.

Rajputana (*2*°/₀).—The total area is now reported to be 443,000 acres as compared with 467,000 acres for last year—a decrease of 5 per cent. The unirrigated crop is reported to be withering everywhere through want of rain. The irrigated crop is generally in good condition.

Mysore (*0·4*°/₀) now reports the total area to be 45,000 acres as compared with 66,000 acres last year—a decrease of nearly 32 per cent. The crop is reported to be generally in good condition, but rain is wanted in places.

INDIGO.

First General Memorandum on the INDIGO crop of the season 1907-08.

The provinces dealt with in this memorandum contain 98 per cent of the total area under indigo in British India calculated on the average of the five years ending 1905 06. The average area under the crop in that period is 617,000 acres ; but in 1906-07 the total acreage reported at the corresponding period was only 335,400, and the figures for 1907-08 now reported are 328,500, thus representing a decrease of 2 per cent. The condition of the crop is reported to be generally from fair to good ; but some damage has been done by insects and irregular rainfall in parts of Bengal ; while want of rain is being felt in parts of Madras.

Estimate of the area under Indigo in October.

Province.	1907-08.	1906-07.	1905-06.
Bengal	153,000	137,800	170,700
Madras	76,600	94,900	51,500
United Provinces . . .	55,000	40,400	40,000
Panjab	43,900	62,300	67,500
Total . .	328,500	335,400	330,400

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 indigo area of British India is ordinarily cultivated in that province :—

Bengal (*37·6*°/₀).—The area sown is reported to be 153,000 acres against 137,800 acres of last year—an increase of 11 per cent. Weather conditions were generally favourable in the important indigo growing districts of North Bihar. Some damage was, however, done by caterpillars in Saran in the beginning of the season ; and in Purnea the crop suffered from deficient rain in May and June, and from excessive rain in July ; locusts also did some damage. The average outturn per acre is estimated to be 76 per cent of the normal as compared with 79 per cent last year.

Madras (*31*°/₀) reports the total area sown in *raiyatwari* villages up to the end of August to be 76,600 acres, which is 19 per cent less than the area at this date last year. The decrease is attributed to less demand and to want of seasonable rainfall in Nellore and Cuddapah. The crop is reported to be in fair to good condition, but rain is required in some places.

United Provinces (*19·6*°/₀).—The total area sown is roughly estimated at about 55,000 acres compared with 40,400 acres last year—an increase of 36 per cent attributed to good prices realised last year. The crop germinated freely and water for irrigation was generally sufficient. No injury from insects or hot winds has been reported except from some of the eastern districts. The rains though unusually late have been favourable to indigo, and prospects are generally good.

Panjab (*9·8* °/₀) estimates the area sown to be 43,900 acres compared with 62,300 acres finally ascertained last year—a decrease of 29 per cent attributed to the late flowing of the canals for irrigation in the Muzaffargarh and Dera Ghazi Khan districts. The general condition of the crop is normal.

SUGARCANE.

Second General Memorandum on the SUGARCANE crop of the season 1907-08.

The provinces dealt with in this memorandum contain 96·2 per cent of the total area under sugarcane in British India, calculated on the basis of the averages for the quinquennium ending 1905-06 No change has been made in the figures of acreage given in the August forecast for the United Provinces, Bengal, Eastern Bengal and Assam, and the North-West Frontier Province. There is a very slight increase (300 acres) in the figures for the Panjab. The total area under sugarcane for the reported provinces is estimated at 2,439,500 acres, compared with 2,327,900 (revised figures) for the corresponding period last year, which represents a percentage increase of 4·8. The prospects of the crop have considerably deteriorated owing to continued drought in the United Provinces and the Panjab ; in the former province the plants are stunted, and in the latter the unirrigated crop is being used as fodder in places. In other provinces the prospects are good, but rain is wanted in parts of Madras.

Estimate of the area under Sugarcane in October.

Province.	1907-08.	1906-07.	1905-06.
United Provinces . .	1,450,000	1,360,000	1,229,000
Bengal	431,700	424,500	420,600
Panjab	303,100	277,700	172,800
Eastern Bengal and Assam .	186,600	193,300	224,800
Madras	39,400	43,800	52,100
N.-W. Frontier . . .	28,700	28,600	25,600
Total . .	2,439,500	2,327,900	2,124,900

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*°/₀)—No change has been made in the rough estimate made in August, namely, 1,450,000 acres compared with 1,360,000 acres for last year. The rain, which had set in towards the close of July, continued till the last week of August, when it stopped altogether : the month of September was practically rainless with dry west winds. The cane crop, which was exceptionally promising till the end of August, has consequently deteriorated considerably, the plant being stunted and the quantity of juice reduced. The yield is now estimated to be from 65 to 75 per cent of the normal, the average outturn per acre being about three-fourths of that reported last year. These estimates are subject to revision as the effects of the drought are not yet fully known.

Bengal (*18·9* °/₀) and **Eastern Bengal and Assam** (*10·7*°/₀).—No report is furnished by these provinces in October. The figures reported in the first forecast in August were 431,700 acres in Bengal and 186,600 acres in Eastern Bengal and Assam, compared with 424,500 and 193,300 acres respectively for last year.

Punjab (*12·6* °/₀)—now reports the area to be 303,100 acres as compared with 277,700 acres for last year—an increase of 9 per cent. The condition of the irrigated crop is on the whole fair, though in the Delhi division dry winds have done damage. The unirrigated crop is poor, and in some tracts is being used for fodder. On the whole prospects are only moderate.

Madras (*2·7*°/₀).—The total area planted in raiyatwari villages up to the end of September is reported to be 39,400 acres as compared with 43,800 acres last year—a decrease of 10 per cent. attributed to the presence of pest in the Godavari district and to want of reasonable rainfall in the Trichinopoly district. The general condition of the crop is reported to be from fair to good, but rain is required in some places. The total area under sugarcane reported from villages other than raiyatwari is 1,400 acres.

North-West Frontier Province (*1*°/₀) reports no change in the estimate made in August, namely, 28,700 acres compared with 28,600 acres for last year. The prospects of the crop are good so far, and an average outturn is expected.

C. W. E. COTTON,

Assistant Director of Statistics,
for *Director General of Commercial Intelligence.*

—For both **Sweden and Norway** the **production of cellulose** this year is estimated at about 600,000 ons, Sweden's share being 400,000 tons. The total production for both countries in 1908 is estimated at 700,000 tons.

SEASON AND CROP PROSPECTS FOR THE WEEK, ENDING SATURDAY, 5th OCTOBER, 1907.

Rajputana.—No rain fell during the week. Rain is urgently wanted throughout Rajputana both for standing crops and for sowing. Crops on unirrigated lands are now partially withered. Ploughing of land for spring crops still continues. Cattle are generally in good condition except in parts of Mewar, Banswara and Jhalawar. Pasturage and fodder are sufficient. Prices are rising rapidly in all the States, especially in Mewar, Dungarpur and Karauli, but in Bundi prices are steady and in Jaisalmer they are reported to be falling. In Ajmer the dry crops are reported to have withered ; in Merwara they are withering, but there is considerable irrigation from tanks.

Central India.—There was general rain in Gwalior ; and *nil* in other parts of the Agency. The situation is critical in Indore owing to the abrupt cessation and prolonged holding off of the rains. Irrigation of the autumn crop continues in Gwalior. Ploughing of fields for spring crops is in progress in Indore, Bhopal, Bhopawar and parts of Malwa ; elsewhere irrigation is at a standstill for want of moisture. Sowings have commenced in Rutlam and Piploda. Crops are withering for want of rain. Prospect are bad and entirely dependent on October rain. Crops have been damaged owing to continued drought. The condition of agricultural stock is fair to good except in parts of Indore, Bhopal, Baghelkhand and Bhopawar. Pasturage is indifferent in Bhopal ; and fair to good elsewhere. Prices are rising everywhere.

Central Provinces—The days are hot an the mornings and nights cool. The week was rainless. Autumn crops, except where irrigation is possible, are deteriorating especially on high lands ; the damage will be irreparable all over the Provinces if rain holds off much longer. Locusts are causing slight damage in parts of the Sausar tahsil (Chhindwara). Preparation of land for spring sowings continues where there is sufficient moisture in the ground ; and sowings have also been started in places but continued drought impedes operations. Fodder and water are adequate. Prices :—wheat in Saugor, Damoh, Narsinghpur, Raipur and Bilaspur ; gram in Saugor, Damoh and Narsinghpur , and *jaur* in Saugor and Chanda became dearer by two seers, wheat is reported cheaper by two seers in Nagpur ; gram in Jubbulpore and rice in Raipur rose by three seers. Prices remain stationary in seven districts but exhibit a tendency to rise in others.

Native States.—No rain fell during the week. Crops in almost all the States are withering and rain is urgently required. Preparation of land for spring sowings continues, but progress is slow for want of rain. Fodder and water are sufficient. Wheat in Raj-Nandgaon and Sakti became dearer by two seers ; in Kawardha by four seers ; and in Chhuikhadan by three seers. The price of rice in Chhuikhadan

Raj-Nandgaon and Sakti; and of *kodon* in Kawardha and Raj-Nandgaon rose by two seers; in Raigarh rice become dearer by three seers.

Bombay.—Good rain fell during the week in parts of Colaba, Ratnagiri, Poona, Sholapur, Satara, Bijapur and Belgaum; and slight rain in parts of Surat, Thana, Kanara, East Khandesh, Nasik, Ahmednagar, Dharwar and Kathiawar. More rain is generally needed for standing autumn crops and spring sowings. The standing crops are withering in parts of Sind, Gujrat, Khandesh, Nasik, Ahmednagar, Kathiawar, Baroda, Rewa Kantha and Palanpur; otherwise crops are in good condition except for slight damage by rats in parts of Karachi and Hyderabad; and by insects in parts of Bijapur, Baroda and Kathiawar. Harvesting of autumn crops continues in parts of Karachi, Sukkur, Hyderabad, the Konkan, the Deccan, Belgaum and Cutch. Preparation of lands for spring sowings is in progress in parts of Sind, Ahmedabad, Broach, the Deccan and Dharwar. Spring sowing continues in parts of the Upper Sind Frontier, Broach, Ahmednagar, Poona, Sholapur, the Karnatak, Baroda and Palanpur. The fodder-supply is generally adequate. Agricultural stock is in good condition. Drinking water is sufficient. The supply of water for irrigation is sufficient except in parts of Sind, Nasik and Sholapur. The quantity of food-grains purchaseable per rupee is in the Karnatak 11 to 19 per cent; in the Deccan 12 to 44 per cent; in the Konkan 12 to 37 per cent; in Gujarat 20 to 45 per cent; and in Sind 14 to 36 per cent less than the normal. During the week ending the 28th September 27 persons were relieved gratuitously in Belgaum.

Hyderabad.—The rainfall during the week was 32 cents. Prospects have improved in parts by the week's rainfall. The autumn crops are reported to be withering in six talukas. More rain is required in fifteen talukas. Crops elsewhere are in fair to good condition. The autumn crop is being harvested. Early rice is being weeded and spring sowings continue. Prospects of spring crops entirely depend on the rainfall in the later months of the year. Prices—wheat $6\frac{3}{4}$; coarse rice 7; and *juar* $14\frac{1}{4}$ seers per rupee.

Mysore.—Good rain fell throughout the Province. Prices of food-grains are steady. The standing crops are in good condition. Prospects of the season are good. Cattle are generally healthy. Water and fodder are available.

Coorg.—The rainfall during the week was 56 cents. Picking of cardamon continues. The price of food-grains is normal. Water and fodder are sufficient.

Madras.—The rainfall was very heavy in Madras and Chingleput; heavy in Tanjore, Malabar, South Arcot, Trichinopoly, Madura and the Nilgiris; good in Coimbatore, Salem, Tinnevelly, Nellore, North Arcot, South Kanara and Anantapur; *nil* in the Vizagapatum littoral, Kistna and Kurnool; and light to fair elsewhere. Irrigation supplies are insufficient in parts of all districts except Kistna, Coimbatore, Tanjore, Malabar, South Kanara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress. The standing crops are generally fair and have been benefited by the recent rain; but some in parts of Godavari, Kurnool, Bellary, Cuddapah and Tanjore require more rain; and some in parts of Ganjam, Vizagapatam and Kistna are withering. Harvests continue with outturn poor to normal. Pasture is sufficient except in parts of Godavari, Kistna, Bellary, Nellore and Madura. Fodder is scanty in parts of Ganjam, Godavari, Nellore and Salem. The condition of cattle is generally good. The price of rice is stationary in ten districts; has fallen in seven; and has slightly risen in six. The prices of millets have fluctuated as follows:—*Ragi* is stationary in seven districts; has fallen in seven; and has slightly risen in seven. *Cholam* is stationary in four districts; has fallen in six; and has slightly risen in four. *Cumbo* is stationary in two districts; has fallen in five; and has slightly risen in seven.

EASTERN BENGAL AND ASSAM.

CROP PROSPECTS.

(*By Telegram.*)

Shillong, October 15th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 14th instant:—

The weather has been seasonable. Slight to moderate rain has fallen in most districts. More rain is wanted in Eastern Bengal, especially at Bogra, Rajshahi and Faridpur.

The plucking and manufacture of tea are in progress and prospects generally are fair to good.

The harvesting of jute is nearly finished and the outturn is fair to good.

The harvesting of early rice still continues in Lower Assam. The transplantation of winter rice is finished. This crop has suffered to some extent from drought in East Bengal and Lower Assam, the districts most affected being Bogra and the northern part of Dacca.

The sowing of pulses and the ploughing for mustard continue.

Cattle disease is reported from six districts.

The prices of common rice are: Manipur, 17; Rangamati and Kohima, 10; Sibsagar, 9; Dinajpur, $8\frac{2}{5}$; Chittagong, $8\frac{3}{8}$; Barisal, Noakhali and Nowgong, 8; Commilla, $7\frac{13}{16}$; Faridpur and Pabna, $7\frac{3}{4}$; Dacca, Mymensingh, Bogra, Malda, Sylhet, Dhubri and Gauhati, $7\frac{1}{2}$; Silchar, $7\frac{1}{4}$; Rampur Boalia, Jalpaiguri, Tezpur, and Dibrugarh, 7; Rangpur, $6\frac{1}{2}$; and Shillong and Aijal, $5\frac{1}{2}$ seers per rupee.

Prices have risen in one, fallen in eight and have remained stationary in the remaining districts.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 26th September, in the section relating to Tariff Changes and Customs Regulations, gives particulars about—

Dominion of New Zealand.—New Tariff Proposals.

South African Tariff Customs Union.—Customs Decisions.

Cape of Good Hope.—Prohibition of the Exportation of Ostriches and their Eggs.

Transvaal.—Prohibition of the Exportation of Ostriches and their Eggs.

British North Borneo.—Tariff Amendments.

Solomon Islands.—Customs Management Law: Import Duty on Tobacco. New Ports of Entry. Landing and Storage Fees Payable at Tulagi.

France.—Customs Weighing of Imported Goods.

Turkey.—Importation of Motor Cars and Motor Bicycles authorised.

Spain.—Penalties for not Removing Goods from Wharves within Prescribed Period.

Columbia.—Export Duty on Vegetable Ivory.

Paraguay.—Duty-free Admission of Automobiles and Carriages.

China.—Customs Regulations for the Kwangtung Province.

ICHANG TRADE RETURNS.

The Cotton Industry.

In nearly every report on the **trade of Ichang** for the last 25 years attention has been called to the fact that whatever importance from a commercial point of view the port possesses is due to its position as a place of transhipment for goods from and to Ssuch'uan, and that the local trade presents no features of interest to the British manufacturer or merchant. Still the net value of the trade for the year 1906 was £780,413 as against £490,910 in 1905. The foreign imports were valued at £177,700, an increase of nearly £6,000, and the exports at £539,000, which was more than double the figure for the previous year. The increase in exports appears to be mainly accounted for by a diversion of the trade in native opium from the land to the water route, the amount that passed through the port during the year being nearly 50,000 cwts. as against just over 36,000 cwts. in 1905.

Imports and Exports.

In **imports** the chief items were **white shirtings,** 10,155 pieces; **Indian yarn,** 15,152 cwts. **Japanese yarn,** 2,927 cwts.; **Chinese yarn,** 9,973 cwts., all of which show considerable increases. In **exports** the principal articles were:—**Hemp,** 10,427 cwts.; **raw cotton,** 3,734 cwts.; **goat-skins,** 524,346 pieces; **hides,** 14,257 pieces and **vegetable tallow,** 14,457 cwts., all those figures being a considerable improvement on those for the previous year.

The **tonnage of steamers** entered was 168,136 tons, an increase of over 20,000 tons. The carrying trade is entirely in the hands of British, Japanese and Chinese companies, and each flag shared in the increase.

In the previous year's report reference was made to a **cotton mill** recently established at Ichang and a few details concerning it may prove interesting to Indian millowners. The capital of the company is about 10,000 dols. (dol.=app. Re. 1-8) and the following machinery has been imported from Japan:—One 15 horse-power engine (price 3.000 dols.), driving 40 looms (price, 80 dols. each), which turn out daily one piece of cloth 117 feet by 2 feet 11 inches; 150 feet looms (price 40 dols. each), turning out daily one piece of cloth 47 feet by 1 foot $3\frac{1}{2}$ inches. The prices include freight, which amounts to about 30 per cent. The cloth is somewhat dearer than that made by native looms, but it is of a better quality and sells readily. The output per loom is about half as much again as in the case of the native article. There are also a certain number of Japanese ginning machines in use at Ichang and in other places in the district. These machines seem to be finding a ready sale in every part of the country.

THE SRINAGAR-LEH ROUTE.

Transport Difficulties.

Discussing this matter from various points of view in a letter dated August 1st, 1907, a Leh correspondent writes:—

The question of the supply of transport animals on the Treaty Road is demanding serious attention. The majority of the traders have taken approximately thirty days to cover the distance between Srinagar and Leh. The difficulty is due to a variety of causes. Many people have sold their ponies and the number available is consequently reduced. The presence of the settlement establishment has had a disturbing effect. These officials require a certain amount of transport but perhaps not so much as the Kardars and Zamindars represent. To check this a fixed scale of transport for each grade of settlement official has been introduced. Again the carriage of grain from Kashmir and Skardu to replace the deficit in Ladakh reduces the number of animals available for traders still further. European travellers report that 350 loads were lying at Lamayuroo a week ago and that the owners had been stranded there for twelve days. A Turki merchant, who spent 32 days on the road, has now been in Leh for 10 days and his goods have not yet arrived. It is obvious that under existing conditions trade is seriously hampered. The Assistant Wazir is now devoting his serious attention to removing the block. Subordinate officers have been sent to make the best arrangements possible, but the real problem remains to be solved. The Assistant Wazir proposes to advance Rs. 1,500 to the villagers at each stage

where there is difficulty, that is practically each stage on the Ladakh side of Kargil. He estimates that for Rs. 1,500 twenty ponies could be purchased which would be a material improvement The present numbers are so small that many animals are doing double journeys and an appreciable percentage have broken down under the strain, and this near the beginning of the busy season.

A Large Order.

The traders are to blame in a sense as they leave Srinagar with large caravans. One man telegraphed for one hundred and sixty animals and thereby dislocated existing arrangements which are not on a scale to supply such large numbers simultaneously. The situation is further aggravated by the closing of the granaries at many stages. The traders complain that they are often stranded without transport at a place where food grain is unobtainable and consequently forced to come on to Leh and abandon their goods to follow afterwards. Even at Leh they can only obtain very limited supplies of wheat. The granary supply is exhausted and the Wazir-i-Wazarat has borrowed thirty maunds (maund=82⅔ lbs.) as a temporary measure, but a much larger supply will be required almost at once as the Central Asian caravans will soon be here. The obtaining of supplies from Kashmir and Skardu has been too long delayed. Had this been undertaken in the earlier part of the season before the traders started, the present difficulty of both transport and supplies would have been considerably less. The outcome of the present state of affairs is that the traders all declare their intention of abandoning the Srinagar-Leh route. They appear to think that the Kulu route may offer fewer difficulties, but it is very doubtful whether they have any knowledge of the local conditions there. Meanwhile there is a strong feeling of dissatisfaction which is all the more to be regretted at a time when the Russian trade with Chinese Turkestan appears to be less flourishing and an opportunity thereby afforded to the Indian traders to do more business and increase the volume of the Indo-Kashgarian trade. When I leave Leh I shall have certain proposals to make for the improvements of the supply of transport animals and the possible re-opening of certain granaries. Under the present system there are no granaries between Leh and Lamayuroo (four days) and Leh and Panamik (five days) and with the difficulty of obtaning transport the traders are almost certain to be detained for some days *en route* without supplies.

—The total value of the **trade of Shanghai with India** during the years 1905-06 was as follows: Imports, £4,876,506 in 1906, against £4,865,256 in 1905; Exports, £230,251 in 1906, against £362,521 in 1905.

—The total **trade of Yokohoma with India** during last year amounted to £1,894,941, of which imports were valued at £1,362,057 and exports at £532,884.

TRADE OF TENGYUEH.

We take the following commercial summary from the trade statistics furnished by the Customs authorities at Tengyueh for the quarter ending June, 1907. Previous articles on this subject appeared in the *Indian Trade Journal* on July 25th, 1907.

Pack animals with loads—

Import	12,141
Export	2,875
Transit	7,612
Total for June quarter 1907	22,628
Total for June quarter 1906	12,051

Principal Articles of Import.

Articles	Quantity.	Direct.		Transit.	
		1906.	1907.	1906.	1907.
Shirtings, grey, English	Pieces	3,746	3,940	2,773	3,612
„ white, plain	...	110	613	31	503
T cloths, English	No.	1,425	250	1,350	349
Drills, Indian	...	90	562	3	545
Cotton, Italians	...	2,672	3,682	2,181	2,454
Velvets and velveteens	Yards	1,810	1,020	71	67
Cotton blankets	Pieces	1,392	5,832	619	5,083
Yarn, Indian	Piculs	8,033	6,013	4,248	5,765
Cotton, raw	„	2,844	4,933	2,572	3,117
Matches, Japanese	Gross	7,896	7,594	3,812	5,588
Oil, kerosene, American.	Galls	16,685	10,840	1,730	940
Birds-nests, 2nd quality	Catties	781	107	382	56

Principal Articles of Export.

Articles.	Quantity.	1906.	1907.
Carpets	Pieces	1,976	946
Fresh eggs	...	6,000	9,740
Hides	Piculs	186	1,244
Orpiment	...	752	1,257

Customs Revenue for the quarter ending June 1906-07.

(Duties estimated in Haikuan taels.)

	1906.	1907.
Import	5,866	7,448
Export	589	1,350
Transit inwards	2,809	3,618
Total for revenue	9,261	12,416

The new stretch of road constructed by Burma for China for Kulikha to Manhsien, 15 miles, is not frequented by traders during the summer months. The small amount of merchandise exported from Bhamo in the rainy season comes up by boat to Manmo (Hsintien); thence by Kachins and transport bullocks to Manhsien; thence by mules to Tengyueh. Freights, of course, rule very high then, fully twice the winter rates, say, Rs. 20-25 a mule load.

GOVERNMENT AND RAILWAY COMPANIES.

The following is the text of a Resolution on Railways by the Government of India, in the Department of Commerce and Industry, published in the *Gazette of India* of the 12th instant:—

The Government of India have had under consideration the important proposals made by the late Mr. Robertson, special Commissioner for Indian Railways, for relaxing the stringency of the control exercised by Government over the affairs of Railway Companies. So far back as August, 1901, Mr. Brodrick called for the recommendations of the Government of India in regard to this matter, but the formation of the Railway Board had first to be effected and the importance and intricacy of the proposals necessitated much discussion before the case could be laid before the Secretary of State.

2. Under existing arrangements the control of Government is exercised through the medium of Consulting Engineers, who in Madras, Bombay and Burma work under the Local Governments, and in the other provinces are now directly subordinate to the Railway Board. The main functions of these officers may be classified as follows: (1) To sanction such expenditure on proposals submitted by Companies as may be within the powers delegated to them and to refer for the consideration of the Supreme or Local Government, as the case may be, those which involve expenditure beyond these limits; (2) to carry out the duties of Government Inspectors under the Railway Act, and to bring to notice any defects which may be observed; (3) to act as the channel of communication between the Government and the Railway Companies.

Present System of Control.

3. Railway Companies have at present no original powers of sanction and have to obtain such authority from or through the Consulting Engineers. The control at present exercised by these officers is very complete. The estimates for works which Companies desire to carry out and the periodical rolls for establishment and other working expenses which they frame have to be sanctioned by the Consulting Engineers (or by higher authority) before any expenditure can be incurred, and even when general sanction has been accorded the application of the detailed rules often requires that further references should be made to the Consulting Engineers. The control now exercised over Companies is thus of a minute character and extends not only to matters of engineering and of expenditure, but to practically all questions, both executive and administrative, connected with railway working. Mr. Robertson pronounced himself strongly in favour of altering this state of affairs, but the Government of India, while disposed to agree that the time for a change of system had arrived, desired to first obtain the opinion of the Railway Board on the question at issue. The Board unhesitatingly expressed the opinion that the retention of the present procedure was unnecessary, and, following generally the recommendations of the Special Commissioner, adopted the view that there should be no authority interposed between themselves and the Companies, and that the latter should be allowed to work their lines with greater freedom. They represented that however necessary it may have been in the early days of railway enterprise in this country to establish and maintain a close and rigid local control over the affairs of Railway Companies, the altered conditions and revised contracts under which the latter now construct and work the railways no longer necessitated the continuance of such control, and they advocated the introduction of more liberal and elastic methods. They urged also that the constitution of the Home Boards was such as to command confidence, and that as the Companies' Consulting Engineers, who were men of eminence in their profession were referred to in all important technical questions affecting the permanent-way, works and rolling-stock, there were ample guarantees that every proposal was subjected to careful examination. At the same time the presence of the Government Director on these Boards was an assurance that the views of the Government would always be represented.

Radical Modifications.

4. These radical modifications received the most careful consideration of the Governor-General in Council, and were discussed exhaustively with the Local Governments concerned. Assent had already been given to the proposition that a considerable relaxation of control was desirable, and to the view that the control of Government should be limited as far as possible to essential requirements. The Goverment of India recognised the validity of the arguments advanced by the Railway Board, and were much influenced by the consideration that the Companies' Board might reasonably be considered the best judges of the expenditure necessary for the maintenance of their lines, as dividend-earning concerns, and that the participation of their shareholders in the surplus earnings supplied a powerful incentive towards efficient and economical working.

5. The Government of India, however, when deciding on the principles to be followed in settling the exact nature of the relations between Government and the working agencies, held the opinion that it would be advisable to maintain some measure of control to protect the rights of Government adequately. While willing to surrender extensive powers of sanction to the Companies' Boards, the Government of India decided to retain in their own hands such safeguards as the limitation of expenditure by budget provision and the audit check by the Government Examiners of Accounts attached to the several railways.

The Government's Proposals.

6. With this explanation of their views the Government of India laid before the Secretary of

State the following proposals: (1) That certain powers of sanction and administration should be delegated to the Companies' Boards and that they should be requested to entrust their agents with a considerable portion of their own powers, Government reserving the right to re-impose more detailed control should the circumstances of any line require it; (2) that the appointment and duties of Consulting Engineers should be abolished; and (3) that Government Inspectors should be appointed to carry out the duties prescribed in chapter 4 of the Railway Act. In his despatch of the 2nd August, 1907, the Secretary of State has sanctioned these recommendations. The change in organisation will accordingly be brought into force from the 1st June, 1908. The withdrawal from Consulting Engineers and Local Governments of the powers of sanction hitherto delegated to them, necessarily follows from the revised procedure to be introduced under these orders.

7. The abolition of the post of Consulting Engineer which in the case of the appointments at the headquarters of the Governments of Madras, Bombay and Burma has hitherto been united with that of Secretary to Government, will sever the connection of the local authorities with the direct control of the rail way in these provinces, but it is not apprehended that the withdrawal of the power of control hitherto exercised by Local Governments through the Consulting Engineers will diminish the legitimate influence of the Local Governments in the larger questions of railway administration affecting them. Although the Administration of all railways will in future deal direct with the Railway Board, the Board will instruct all Railway Administrations to keep the respective Local Governments fully advised on all questions in which they may be interested.

8. With the approval of the Secretary of State the Government of India have decided, however, that as a temporary measure for two years a Government Inspector shall be at the disposal of the Government of Madras for employment as Railway Secretary to that Government in addition to his own duties as Inspector. This arrangement will not in any way affect the orders now issued regarding the grant of powers of sanction to the Boards of Companies in that province, and the bringing of all railways under the direct control of the Railway Board.

9. Detailed orders dealing with the powers now to be delegated to, and exercised by, Companies, the means to be adopted for providing for the existing administrative executive and office staff of the *Consulting Engineer Department*, and the scale and distribution of the Government Inspectors as sanctioned by the Secretary of State, will be issued by the Railway Board in due course.

—The Commercial Attaché to H. M. Embassy at Madrid (Mr. S. P. Cockerell) reports that the mean annual **production of olive oil in Spain** is estimated at about 200,000 metric tons. The estimated production for 1906 was 133,665 metric tons, as compared with 149,249 metric tons in 1905.

FALSE MARKING OF IMPORTS.

H. M. Customs Commissioners' Report for 1906-07.

There were nearly 1,500 consignments of imported goods detained by the British Customs during the past financial year because they bore marks which appeared to infringe the provisions of the Merchandise Marks Act. In 564 cases the goods either proved to be of British manufacture or the marks were otherwise shown to be not misleading. In 915 other cases the marks or descriptions were at fault, and of this number 751 consignments were not released until the marks had been removed or properly qualified, nine were seized, and 155 consignments were returned to the port of shipment.

On this occasion the report of H. M. Commissioners of Customs for the year ended March 31st, 1907, from which these particulars are taken, does not state the kinds of goods which have given offence. In the preceding year cement was the article most frequently imported under a false description, 81 consignments being detained, and there were numerous detentions in the case of over a dozen other articles.

The Articles Seized Last Year

included consignments of type metal from Holland marked "English Metal"; brass buttons and studs from Austria marked "Best English Make"; cotton pieces from Italy marked "Aberdeen Dowlas"; felt hats from Italy marked "Best Quality, London"; soap from Holland marked "Old Brown Windsor, London." There were also a few seizures for infringement of the registered trade marks of British manufacturers who have registered their marks at the Customs Department.

Certain consignments of foreign manufactured goods imported for transhipment to the Colonies were detained on account of their bearing

Fictitious Names and Addresses,

purporting to be those of British firms, accompanied by words definitely implying that the goods had been manufactured in the United Kingdom. These consignments were only released for exportation through bond after the false marks had either been removed or qualified by an indelible indication of the foreign origin of the goods and at the same time a detailed statement of the circumstances was forwarded to the Colonial Office for transmission to the authorities of the Colonies concerned.

The number of detected attempts to smuggle dutiable goods during the past financial year was the largest recorded since 1894-5, but the quantities of tobacco, cigars, and spirits seized were less than in the preceding year. The cargo of contraband goods on the Dutch vessel *Maria*, captured within the three mile limit off the Humber, was the most notable seizure.

No Foreign Spirit.

For the second year in succession no foreign spirit for methylating was imported, and only 3,119 gallons

for use in manufacture. About 1,200,000 gallons were imported for these purposes in 1902-03, but the home-made spirit has since had the market practically to itself.

It was a bad year for coffee and cocoa. The quantity of the former retained for consumption was 250,363 cwts., which yielded £175,216 duty, the lowest figures recorded in the past five years. The cocoa duties yielded £273,100, a decrease of 9·56 per cent. Raw cocoa (40,843,006 lbs.) produced £170,283 and cocoa in any way manufactured (8,877,132 lbs.) produced £74,226. It is notable that while imports of raw cocoa declined by over 7,000,000 lbs. imports of the manufactured article rose by 463,000 lbs.

Adulteration of Foods.

The clearances of tea were the largest on record. This, however, is the usual thing, the record having been broken thirteen times in the last fifteen years. For the first ten years of the same period the average annual value of imports steadily decreased. From 10·7*d.* per lb. in 1892, it fell to 7·20*d.* in 1902, and, ruling a little higher since, stood last year 7·40*d.* per lb. Of the 2,205 tea samples taken last year 16·6 of the consignments represented were rejected as unfit for home consumption or ships' stores, an unusually large proportion. However, the figures are not so alarming as they look, the year's rejections representing no more than 449 packages. On the other hand, the search for impoverished or adulterated margarine, cheese, milk, cream, and condensed milk resulted in proceedings only in seven cases, but the manipulation of butter continues. The Customs had great difficulty in proving a case against butter scientifically adulterated with foreign fat, and for a time the outlook was serious. However, importers were warned that the prosecutions would be continued, if necessary, and that particular form of adulteration has not been troublesome since. Watered butter is now the most popular form of adulteration, and it is a significant coincidence that the number of butter samples found to contain excess water has increased from 11 in the year 1905-06 to 24 in this year.

The marking of imported plate is closely looked after, but the total imports are very small; £25 worth of gold plate and £29·929 worth of silver plate is all that was imported last year. The average imports have been a little higher, though during the next year the Court of Appeal decided that finished watches, as well as watch cases, must be regarded as plate.

The Commissioners refer to the agreements concluded with the Belgian and Swiss Governments for facilitating the clearance of commercial travellers' samples, and state that negotiations are in progress with other countries for the purpose of arranging similar reciprocal facilities.

Reference is made to the tobacco drawbacks provided for in the Finance Act, 1906, as "a concession to the trade which is of an appreciable advantage"

INDIAN COTTON INDUSTRY.

Effects of the Swadeshi Movement.

The *Times of India* publishes a long article by an expert on the present aspect of the cotton mill industry. The writer declares that the chief factor which weighs down the industry at present is the want of rain in several important parts of India. There is a fear of famine and a shortage of cotton, while American cotton has given way recently by about one penny per pound. The writer says:—

Our local market is very strong, and although it is too early to predict what will be the ultimate outturn of the cotton crop owing to the failure of September rains, fears are still entertained that cotton may rule high, whilst owing to partial famine the purchasing power of the people may be affected. Whatever may have been the failures of the monsoons in previous years, we always had a fairly good cotton crop, except in the years 1900 and 1901, when the average yield fell by about 50 per cent. Barring that particular season, although we have had several famines in India, the cotton crop, which requires very little moisture, turned out large enough for all our requirements.

The present rise in cotton, which is an important factor as regards the profits of the textile industry, is more or less local and speculative since, after all, it is the American cotton market which will rule the Indian market.

Locally our yarn market is steady owing to the high price of cotton, but China merchants, however, are indifferent buyers since there is no large response on the other side. A little firmness has been imparted to the yarn markets in China owing to the fall, from Rs. 227 to Rs. 220, in silver which has recently taken place at the Shanghai Exchange, while at the Hongkong Exchange silver, which stood at Rs. 166 per 100 dollars, has fallen to Rs. 162. This imparted some steadiness to the China market, but the off-take is very limited.

One factor which depresses the China yarn market is the want of facilities offered by sellers to their purchasers, whilst Japanese merchants are giving increasing facilities to their customers, the competition of Japan thus telling, as it is bound to tell, more and more as years roll on. In this case Bombay will have to depend still more on the Home trade, which is steady and profitable, yarn having given way about one anna per pound from the highest point touched, while cloth remains unaffected.

Although the fear of famine is having a slight depressing effect on the cloth market, yet prices have not given way, the only difference being that the rise which was anticipated with a bumper monsoon has not taken place.

The cloth mills will show a satisfactory result, not only for this year, but also for the ensuing year, as far as one can judge by present conditions. Stocks of cloth are very light, and with the Swadeshi movement, which is in full force, to help the country-made goods, no fall in price is antici-

pated. As regards the progress of the weaving industry, last year Rs. 29 lakhs were realised, and it is believed that in the near future this will again show a large increase. We are able to sell cheaper, and, at the same time, realise very large profits from the weaving branch of the industry, which keeps constantly expanding. There are, therefore, two factors working in favour of Indian-made cloth—one is its cheapness in price, and the other is the Swadeshi movement.

INDIAN ESSENTIAL OILS.

Yield and Prices.

THE United States Consul-General, Calcutta, reports on Indian essential oils as follows :—The annual exports of **rusa-grass oil** from India during the decade, 1896-97 to 1906-07, increased from 6,199 gallons to 23,436 gallons, and in value from $40,651 to $183,808. It is understood in India that Indian oils are manipulated in both Germany and France in such a way as to make their most popular perfumes, for which fancy prices are realised. The Indian **geranium oil** of late years has been put on the market unadulterated with oil from grasses, and commands better prices than it did when adulterated with oily products. There is a demand for all this class of oil produced in India by the manufacturers of perfumes and fancy soaps. The price last year for geraniol was the lowest yet realised, but the producers were satisfied with the net results and are preparing to increase the production by greater acreage, by improved methods of cultivation and harvesting, and by using more modern apparatus in distilling the oil. The **lemon-grass oil**, made from what is usually called Andropogon citratus, while allied to rusa-grass, is quite distinct from it in its chemical composition. It has a lemon-like odour and taste, and readily dissolves in 70 per cent alcohol. This oil is made in Southern India during the time of the year when the grass is sufficiently green and juicy to render it profitable to work. The larger portion of the oil is used in the manufacture of citral and ione, which is an artificial violet perfume. The most delicate violet perfume is made from it, and, considering the cheapness of the base of the perfume, is sold in American markets at an exorbitant price. The effect of this has been to run up prices in India, but they are not likely to go much higher. **Citronella oil** is distilled from grass grown in Ceylon, with an estimated 60,000 acres now under cultivation. Two crops are grown in a year, and the harvests occur in July or August and in December. The average yield of oil to the acre of grass is from 368 to 460 ounces in the summer and about half that in winter. The record year of exports was 1899, when they amounted to 1,500,000 pounds. It is inferior to the lemon-grass oil, and has been used in adulterating the latter in foreign laboratories. A supply of Indian lemon-grass roots and seeds will be sent to the Agricultural Department at Washington, which is already interested in experimentation with essential oil grasses.

FORMOSA TEA INDUSTRY.

Increasing Exports.

U. S. A. Consul J. H. Arnold, of Tamsui, furnishes a report on the Formosa tea industry from which the following abstract is taken :—

The exports of tea from Formosa during 1906 amounted to 21,992,145 lbs., valued approximately at $3,500,000 of which the United States took 17,159,310 lbs. against 18,061,911 lbs. in 1905. In February, 1906, the Formosa local Government changed the tea manufacturers' tax so as to make it payable by the exporters instead of by the manufacturers, as was formerly the case. This tax amounts to $1·20 per 133⅓ lbs. In addition to this tax there is also imposed by the Government an export tax of 80 cents upon every 133⅓ lbs. During 1906 the manufacturers' tax and the export tax netted the Government $350,000.

A tea expert has been endeavouring to show the Chinese growers that the application of proper fertilizers to the cultivation of the plant will increase its productivity by at least 75 per cent without in the least injuring the flavour of the tea. As a further step toward decreasing the cost of production, the utilization of the inferior leaves, which at one time were almost a dead loss to the dealers, is recommended in the manufacture of pouchongs and black teas. This pouchong tea is an oolong, scented with the flowers of jasmine and gardinia, etc., and finds a market with the Chinese population in the Straits Settlements, the Philippines, Hawaii and also in some parts of the United States, where the Chinese are in considerable numbers. In 1906 as much as 4,300,000 lbs. of pouchong tea was exported from Formosa, about one-half the quantity being the product of the island. It is now the intention of the bureau of productive industries to secure a market in Turkey and Russia for brick and black teas of Formosan manufacture. In this manner it is hoped to utilize the tea dust which at present finds no market.

Efforts are being made by the bureau of productive industries to effect an organization on the part of the growers and manufacturers with the aim in view of offsetting the brokers' monopoly of profits. The present system is so deeply intrenched, involves such varying interests, and is so thoroughly Chinese, that it is not to be supposed that any substantial results toward effecting a change can be hoped for until conditions change sufficiently to warrant such action on the part of the growers and manufacturers, or at least to make such action upon their part a possibility.

—A Berlin correspondent states that the **Imperial German Railways** have a fund for providing premiums to officials and workmen who invent any appliance which may be useful in railway practice, and that during the last year £759 was paid on that account to 45 employés.

CACTUS AS A FOOD CROP.

An Expert's Experiments.

AN interesting pamphlet entitled *The New Agricultural-Horticultural Opuntias* has been issued by Mr. Luther Burbank, of Santa Rosa, California, an American naturalist and originator of new fruits and flowers. The varieties of cactus, he says, may be divided from the agricultural point of view into two groups : varieties with thorns, and varieties without thorns. Mr. Burbank, is the originator of an improved **thornless cactus** and as the thornless cactus is likely to play a great part as a fodder plant of value in arid regions, Mr. Burbank's work in developing an improved edible cactus possesses more than ordinary interest to those engaged in agriculture in India Just now.

We give below some extracts from the pamphlet. Speaking of the perfectly thornless rapid-growing varieties of cactus grown on his experimental farms, Mr. Burbank says :—

Some of the best growers among these will produce three or four times as much weight of food per acre as will the wild thorny ones under exactly the same conditions. But better yet, hardy ones are being produced which will already withstand 5 or 10 degrees more freezing than others of the wild type. This was not unexpected as the genus Opuntia is a surprisingly variable one even in the wild state. The best botanists—even those who have made the Opuntias a special study- declare it to be one of the most difficult genera to classify, as new forms are constantly appearing and the older ones so gradually and imperceptibly merge together. Having once been thornless, there is no reason why they should not sometime again revert to a state of partial thornlessness and this is exactly what they do. In the Hawaiian Islands a partially thornless Opuntia is sometimes found, always growing, however, in places absolutely inaccessible to browsing animals. In California, Mexico, Colorado, New Mexico and Texas small patches of half thornless ones are sometimes found almost always in inaccessible crevices among rocks. And on some of the South Sea Islands, where vegetation is abundant and browsing animals few, the Opuntias having no use for thorns have either reverted back to thornlessness or often the thorns have become hair-like, diminished and perfectly harmless.

Delicious Fruit.

Some twelve years ago, while testing the availibility of a great number of proposed forage plants from the various arid regions of the world with a view to the improvement of the most promising, I was greatly impressed with the apparent possibilities in this line among the Opuntias which from their well-known hardiness, remarkable vigour and rapidity of growth, easy multiplication and universal adaptability to conditions of drought, flood, heat, cold, rich or arid soil, place them as a class far ahead of all other members of the great cactus family, both as forage plants and for their most attractive, wholesome and delicious fruits which are produced abundantly and without fail each season. These fruits, which are borne on the different species and varieties, vary in size from that of a small peanut to the size of a large banana and in colours of crimson, scarlet, yellow and white, and have more various attractive flavours than are usually found in most other fruits except perhaps the apple and the pear, the product of a single plant being often from 50 to 200 pounds per annum, some bearing one crop, others two or more each season like the figs, the first or main crop ripening as the second comes into bloom on the same plants. All these were grown and their agricultural and horticultural values studied and compared with great care. Many so-called thornless or partly thornless ones were obtained, but not one among the thousands received from all these sources was absolutely free from thorns and spicules and, even worse, those which were the most promising in these respects often bore the poorest fruit, were the most unproductive of fruit or produced less fodder or were less hardy than the wild thornless species and varieties. The first work was to select the best of these, cross them, raise numerous seedlings, select the best of these and so continue hoping for improvement. One of the first and not unexpected facts of importance to be observed was that, by crossing, the thorns were often increased rather than diminished, but not so with all. Some very few still became even more thornless than their so-called thornless parents with greatly increased size and quality of leaves (raquettes or slabs) and among them a combination of the best qualities of both parents with surprising productiveness of slabs for feeding. The work is still in progress but on a still larger scale and now the improved Opuntias promise to be one of the most important food-producers of this age, some of these new creations grown from the same lot of seed yielding fully ten times as much feed as others under exactly the same conditions.

Among the very numerous wild seedling Opuntias partially thornless ones have appeared from time to time and these have been growing generally unnoticed here and there in every part of the earth where the thorny ones grew, and the seeds no doubt scattered by birds and other agencies. Some of these bore good fruits and have been locally cultivated, but so far as known have never received specific horticultural names or descriptions though the fruits of these and the thorny ones have long been used extensively as food and are the principal source of food for millions of human beings for about three months in each year. Systematic work for their improvement has shown how pliable and readily moulded is this unique, hardy denizen of rocky, drought-cursed, wind-swept, sun-blistered districts and how readily it adapts itself to more fertile soils and how rapidly it improves under cultivation and improved conditions.

Some people seem to think, continues Mr.

Burbank, that corn, wheat, oats, barley, cotton, rice, tobacco, melons and potatoes pay. How many tons of hay, beets or potatoes can be raised each season *on an acre of good soil?* Yes, well, by actual weight in the summer of 1906 *in the cool coast* climate of Sonoma County, Cal., on heavy, black "adobe" soil, generally thought wholly unsuited for cactus, my new Opuntias produced the first year, six months from single rooted leaves planted about June 1st, an average of 47½ lbs. per plant on one-fourth acre, yielding at the distance planted (2½ × 5 feet) at the rate of 180,230 lbs. (over ninety tons) of forage per acre. Some of the best varieties produced *very much above this average*, though planted much too closely for permanent field culture; yet these notes are of interest on a subject of which little has been known. These Opuntias are always expected to produce nearly or quite double as much feed the second and succeeding years as they do the first season of planting. These must of course be fenced from stock; the leaves to be fed to the stock when most needed, and in countries where great numbers of valuable stock are lost in times of unusual drought will be of inestimable value and will also, without doubt, prove of great value in less arid countries as a common farm or orchard crop even on the best agricultural soils but more especially on barren, rocky, hill and mountain sides and gravelly river beds which are now of no use whatever.

Value as Food.

For more than fifty years a method has been employed in Algiers which consists in feeding cattle, milch cows, goats, etc., with thornless cactus and chopped straw mixed in equal parts. It has been pointed out that 150 lbs. of cactus stocks added to 45 lbs. of ground carob beans slightly fermented and 25 lbs of grain or oil-cake make a good fattening and appetising food for the larger cattle. A stock raiser of Texas has shown that for the fattening of young steers he used, with good results, 60 lbs. of cactus and 6 lbs. of cotton seed meal per head each day. It has been stated that, mixed in equal weights with cactus stalks, the leaves of the strawberry tree, the twigs of the mastic tree and the branches of cyticus form a food superior to prairie grass. Opinion is divided on the point whether the fruits should not be used in preference to the stalks. It is admittedly very difficult to obtain a crop of stalks and also of fruit the same year. In the analysis of Wolf, the Indian fig is given the following composition: Dry material 21·60 per *cent*; *woody material* 3·70 per cent; protein 0·59 per cent; fatty matter 1·80 per *cent*; sugar 14·00 per cent. It should therefore be a very good forage plant.

Great Possibilities.

Mr. Burbank claims great possibilities for his new creations in Opuntias. He includes in his treatise analyses of the following varieties: "Santa Rosa," "Sonoma," "California," "Fresco," "Monterey," "Chico," "Guayaquil," hardy hybrids and thornless and spineless *Opuntia Vulgaris* seedlings. He enumerates the *wonderful developments* possible to these through the enterprise and skill of the horticulturist and feels confident that the Opuntias are destined to produce large crops of fruits as attractive to the educated palate as to the savage.

WIRE ROPEWAYS.

Their Scope and Utility.

THIS form of modern transport is one which is developing rapidly, and as it works absolutely mechanically, and at a comparatively small original cost, it provides a cheap and economical means of conveyance. The advantages of the system are fully recognised by experts, and it naturally follows that its employment is increasing in all parts of the world. To-day, ropeways of very great length come well within the region of possibilities, and neither the difficulties of the ground nor the influence of the weather offers any serious obstacle to their erection. It may, in fact, be safely said that in many cases—for instance, when it is a question of systematically opening up mineral treasures in steep and unapproachable mountain regions—this means of transport is absolutely without competition. The working of the enormous and rich lodes of copper in the South American Corderillas, which, on account of their inaccessibility, lay either untouched or were at least very inadequately worked with the inefficient means of transport available, could never have been entertained without recourse to the railway through the air, as a railway tract may be considered as an impossibility at heights ranging to 6,000 metres (metre=1·094 yds.).

The most perfect picture of the modern wire ropeway is no doubt the unique ropeway built some little time ago by a German firm in the Argentine Andes, and which, running from the town Chilecito to the Famatina Mines, at a height of some 4,600 metres above the level of the sea, may be said to form a continuation of the State railway. This wire ropeway, a masterpiece of engineering, is not only the most elevated railway plant in the world at its upper end, but nowhere else has a steam engine ever been erected at such an elevation as here. The track has a length of about 35 kilometres (kilometres=1,093·633 yards) with a difference in level between the two terminals of about 3,500 metres, and is in other respects the most difficult plant of this description which has ever been built and put in work. It must not be forgotten that this ropeway has to deal with general traffic. Not only is the ore brought down from the heights to the railway and the smelters, but all building material for the mines and the necessaries of life for the workmen must be carried up. It is also employed for carrying the mails, and the officials

even use it for passenger traffic. The introduction of this plant with a capacity of 40 tons down traffic, and about 20 tons up traffic, reduced the cost of transport from something like Rs. 37-8 per ton to about a tenth of this sum, and thus rendered it possible to compete on a large scale in the foreign market. The success which this plant has attained has led to the erection of further ropeways in the neighbouring mines in Argentina, as also in Chile. Very similar conditions rule in Japan, where the same firm has also built several important and difficult plants for working copper mines in mountainous regions. These are several kilometres long, with considerable differences in level, so that with their spans of from 400 to 600 metres they may well be ranked with the Argentine ropeway.

In conclusion, the employment of this transport system in connection with loading plants must not be forgotten, whereby landing stations on otherwise inaccessible coasts have been made possible. In such cases wire ropeways can again be said to be indispensable, as no suitable substitute can be found. The plants carried out by the firm in question on the coast of Spain, on the island of Elba, and in New Caledonia, which have capacities up to 250 tons per hour, prove conclusively that there are no limits to the employment of wire ropeways, and neither ground nor harbour conditions can offer insurmountable difficulties to the erection of such means of transport.

TRADE OF FIUME.

WE take the following extracts from Mr. Consul Faber's Report on the Trade of Fiume for the year 1906:—

Exports to the United Kingdom and its colonies, including India and Burma, stood at £1,794,000, showing a decrease of £258,000, and imports at £1,656,000, showing an increase of £244,000.

Shipping Trade with India under the British Flag.

	Value.
	£
Total entered	513,000
„ 1905	473,000

Shipping Trade with India under the Austro-Hungarian Flag.

	Value.
	£
Entered	607,000
Cleared	650,000
Total	1,257,000
„ 1905	1,068,000

Shipping Trade with India under the Italian Flag.

	Value.
	£
Entered	106,000
Cleared	154,000
Total	260,000
„ 1905	410,000

The shipping trade with India under the Austro-Hungarian flag has doubled within three years, whereas it has remained stationary under the British flag. This is owing to the fact that the tramp steamers hailing from this port are on the increase and carry rice from Burmese ports, a trade which was formerly in the hands of British steamers.

These figures comprise:—

Trade with India and Burma.

Year.	Value.	
	Imports.	Exports.
	£	£
1905	1,236,000	806,000
190	1,075,000	866,000

The principal imports from India and Burma were as follows:—

Articles.	Quantity.	Increase.
	Tons.	Tons.
Rice	92,000	5,000
Jute	12,000	...
Cotton	3,400	3,400
Oil seeds	5,000	3,200
Pepper	350	200
Hides	500	400
Palm and cocoanut oil	850	600
Jute yarns	350	350

The exports to India were as follows:—

Articles.	Quantity.	Increase or Decrease.
	Tons.	Tons.
Sugar	70,000	+ 3,000
Sawn timber	3,000	– 500
Hardware	420	– 480
Flour	700	– 100

with mineral waters, bent-wood furniture, spirits, wine, beer, starch, chemicals, paper, glue, etc.

FOREIGN MERCHANTS IN JAPAN.

The future of the foreign merchants in Japan has become a topic of considerable anxiety and conjecture. When the country was opened to the trade of the world just 50 years ago, her over-sea commerce fell entirely into the hands of a small community of enterprising Europeans and Americans who settled at Nagasaki, Yokohama, and, a little later, at Kobe. It could not have been otherwise. The Japanese, having no experience of trade with the West and being entirely without the necessary machinery for conducting it, had no choice but to accept the services of the foreign middlemen. Excellent services they were, too, for these merchants took on their own shoulders the entire risks of the business while conceding to the Japanese an equitable share of the profits. The native producer, carrying his goods to an open port, sold them direct to the foreign exporter, who paid for them over the counter, and the native distributor purchased, in the same manner, goods imported from Europe and America. How the latter merchandise had been procured or how the former would be disposed of—these were questions which did not then concern the Japanese.

Methods of the Foreign Community.

But the situation included other elements. The foreign community lived almost wholly isolated. They did not of deliberate choice segregate themselves from the people among whom they had cast their lot, but all the conditions of their existence combined to differentiate them, and that, too, in a manner eminently calculated to estrange Japanese sentiment. In the first place, they acknowledged no responsibility towards the laws of the land, this exemption being based on an assumption of superiority necessarily galling to a proud and patriotic nation like the Japanese. In the second, the imposing dimensions of their houses, the comparatively costly and ostentatious fashion of their lives, and the fact that they had virtually no social intercourse with the people of the country, all tended to create an impression, on the one hand, of deriving large profit from the trade they controlled, and, on the other, of despising and looking down on the nation whose hospitality they enjoyed.

Then into the manner of conducting the trade practices gradually obtruded themselves, which helped to accentuate the situation. Silk and tea were the two chief staples of export, and in the handling of both of these a system very irksome to the Japanese had to be adopted. As to silk, none but hand-reeled being originally procurable, and neither Japanese sericulturists nor Japanese middlemen having a due appreciation of uniformity of quality or faithfulness to sample, the foreign exporter found it necessary to take the various parcels of silk into his own warehouse and hold them for inspection, pending the completion of which process no bargain was concluded. On the whole, this system was honestly pursued by foreign local merchants, but some abuses undoubtedly disfigured it—as when silk was held not solely for inspection, but to suit the market—and these abuses, combined with the obviously objectionable character of such a method from the producer's point of view, gradually excited among the Japanese a strong ambition to get the export business into their own hands.

Japanese Struggle for Direct Export.

First, however, an attempt was made to modify the system itself by establishing a Japanese conditioning house at Yokohama, and claiming for its seals the same validity as that possessed by the marks of the foreign inspectors. This project, vehemently resisted by the foreign middlemen, led to a somewhat bitter contest, which ended in establishing the old system on a firmer basis than ever, and in strengthening the determination of the Japanese to establish themselves independently as silk exporters. In the case of tea, the conditions were even more striking. The Japanese producer's sun-fired leaf being unfit for export in that condition, had to be refired in Yokohama, and this in the refiring warehouses of the foreign middlemen. They took the various parcels of tea, practically without discrimination, and dumped them into pans, where they were manipulatedy a particularly dirty tribe of the commonest labourers of both sexes. A certain proportion of sulphate of copper having been added to impart the colour which alone appealed to American taste, the refired staple was made up into parcels and exported under the name of a foreign middleman. Such a system not only discouraged all individual effort on the part of the producer, but also added largely to the cost of the staple. Here again, then, the Japanese found a strong incentive to take the business out of foreign hands. The same story, though in less striking terms, might be told of almost every branch of the country's over-sea commerce, so that, on the one side, the Japanese struggled perpetually to organize a system of "direct export," on the other, the foreign middleman clung with tenacity to the business he had developed.

Success of Japanese Efforts.

The issue of the struggle, broadly stated, is that whereas the Japanese in 1893 had in their own hands only 17 per cent. of a total trade of 18 millions sterling, they now have 40 per cent. of a total trade of 81 millons. In the domain of silk, which constitutes Japan's chief staple of export, the foreign middleman has to contend against a very formidable organization. Not only have the Japanese succeeded in securing the confidence of American buyers for raw silk which has not previously undergone foreign expert examination, but also they obtain from their own banks more liberal accommodation than the average foreign exporter can get from Yokohama or Kobe banks. Thus the Japanese are able to command a longer interval of time for seeking a market on the United States, an advantage by no means inconsiderable. There is also a further weight on their side of the scale. They are in a position to lend money to the sericulturists against the security of the latter's crop, which thus comes into their hands at rates considerably lower than those charged to the foreign exporter. In fact, the day does not seem to be far distant when the Japanese exporter will control the whole supply of silk, so far, at any rate, as the American market is concerned, and will set what limits he pleases to the portion obtainable by his foreign competitors.

The case of tea promises to be somewhat similar. It no longer requires to be carried to a foreign settlement for refiring and packing. The Japanese themselves are now quite competent to carry out these operations, and they are forming organizations to export the leaf direct from the chief producing districts so that the foreign middleman will be entirely eliminated. They have not yet achieved much success in the matter of exporting the products of their spinning and weaving factories. These manufacture some 20 millions sterling of yarns and stuffs annually, and export about one-fourth of that amount. Thus far the export business has remained chiefly in foreign hands, but there are evidences of a strong resolve to alter that state of affairs. Little doubt can be entertained, too, that the export of silks to Europe in a raw state will gradually cease. The Japanese have all the qualities needed for successful weaving. Labour is exceptionally cheap; there is innate dexterity of hand and one of the nation's valuable assests is remarkable wealth of designing faculty. Some critics urge, indeed, that the caprices of silk-wearers' fashions in Europe being locally inspired, a country so remote as Japan could not keep in touch with these changes. Such a forecast does not seem to have much validity. The Japanese are quite as capable of leading fashion as of following it.

Foreign and Japanese Coalition.

Are we to assume, then, that the *rôle* of the foreign merchant in Japan must become by-and-by a thing of the past; that he will be excluded from the trade which he founded and has done so much to develop? In a measure the answer must be in the affirmative. But there is another Japanese field to be exploited—the industrial field. It has long been recognized that Japan's future is in manufactures. Already her export of manufactured or partially manufactured goods has risen from 12 millions sterling in 1898 to 23 millions in 1905, and the growth shows every sign of continuing. If she be left alone she will develop this branch of wealth-earning with comparative slowness, for her supplies of capital are small, and she lacks expert experience. But if foreign capitalists and foreign experts step in to assist her, a signal result will rapidly be attained. Her people seem to recognize fully the advantages of such coalition. But it must be coalition, not competition. He would be a very ill-advised occidental who carried his money to Japan and proceeded to set up a factory on his own account. Failure, partial or total, might be predicted. But in partnership with Japanese the conditions would be radically different. Associated with Japanese of the better classes, a foreign capitalist could not only count with confidence on the smooth working of his enterprise, but might also exercise whatever measure of control seemed wholesome. This is the field which now invites the foreign capitalist and expert. He must cease to make the distribution of Japanese products his chief business and must himself be a co-producer. In 1911 Japan will recover her tariff autonomy, and we may assume that she will exercise it in the sense of imposing protective duties, so far as such a policy can be made to consist with the collection of revenue. Already she has manipulated her statutory tariff in such a manner that it affords a considerable measure of protection to her own producers, and the conventional tariff will fare similarly when it becomes accessible. The present, therefore, is the time for foreign capitalists and experts to bid for a share in the industrial development now in progress as a natural sequel of the late war.

TRADE OF HAMBURG.

Imports and Exports.

We give below a few extracts from the Report on the Trade of Hamburg for 1906 of the British Consul-General (Sir William Ward) :—

With regard to the movements of **British Shipping** at Hamburg in 1906, there was last year an increase of 145 ships of together 203,317 tons register as compared with the figures for 1905.

Imports to Hamburg (by sea) during the year 1905-06 were as follows:—From United Kingdom 77,512,872 cwts. valued at £23,753,719 in 1905; and 80,498,920 cwts. valued at £26,773,392 in 1906; from British India 13,771,354 cwts. valued at £11,892,562 in 1905, and 14,373,862 cwts. valued at £14,095,041 in 1906; and from other parts of India 1,839,360 cwts. valued at £1,265,187 in 1905, and 1,640,160 cwts. valued at £1,319,450 in 1906.

Exports from Hamburg (by sea) during the years 1905-06 were as follows:—From United Kingdom 23,550,284 cwts. valued at £23,407,814 in 1905, and 26,613,512 cwts. valued at £24,097,839 in 1906; from British India 3,267,246 cwts. valued at £3,193,124 in 1905, and 5,675,280 cwts. valued at £4,607,461 in 1906; and from other parts of India 437,670 cwts. valued at £642,753 in 1905, and 623,158 cwts. valued at £870,887 in 1906.

India, Ceylon and the Straits.

The prospects of business with British India, which at the beginning of 1906, in consequence of the effects of the drought and famine not having yet disappeared in some parts of the country and in consequence also of the boycott of European manufactures by Indian customers, were not promising, improved considerably during the succeeding months of the year owing more especially to the favourable harvest in most kinds of agricultural produce. The

export trade from India of such produce, and in particular also of jute and hides, to Hamburg and other European markets experienced a considerable increase in 1906 as compared with the previous year; whilst, on the other hand, the total value of the exports from Hamburg and other parts of Germany to India was also in excess of the figures for 1905. The low rates of freight contributed towards the continued large exports of sugar from this country and from Austria-Hungary (*viâ* Hamburg) during the first part of 1906. Most prominent articles of export from Hamburg, *viz.*, woollen and cotton textiles, hosiery, aniline and other dyeing materials, alizarine, articles made of precious metals, copper alloys, iron manufactures, experienced likewise a certain increase last year.

The following figures show the total annual value of imports from and the exports to India and this port during each of the last five years:—

Year.	Value.	
	Imports from India to Hamburg.	Exports from Hamburg to India.
	£	£
1902	9,9 46,764	1,566,383
1903	11,610,673	2,226,188
1904	12,952,305	3,025,755
1905	11,892,562	3,193,124
1906	14,095,041	4,607,461

The sudden rise in the **rate of exchange at Singapore** in the first month of 1906 had, it is stated, the effect of depreciating the considerable stocks of goods held by native dealers in the Straits Settlements and obliged many of them to stop payment. Fortunately a rise in prices of the prominent articles of export such as **rice**, etc., took place in the course of the following months, and this had the effect of re-establishing the purchase power of producers and causing a greater activity in the import trade from Europe to the various parts of the Archipelago. Business results of firms at this port engaged in trade with the Straits Settlements for 1906 are stated to have been more satisfactory upon the whole than had been expected at the beginning of the year.

The Tea Duty.

It is considered that the reduction from 6*d.* to 1½*d.* per lb. in the **import duty upon tea** which came into force in 1906 will prove to be of the greatest importance to the tea trade in Germany and eventually to have a great effect upon the consumption. After the reduction in duty had taken effect, a brisk business was done throughout the remainder of the year. The better qualities of China tea of the 1906-07 crop were highly satisfactory and found a ready sale. The shortage in the new crop resulted in the remains of the 1905-06 stock selling well, and the demand for good teas of a moderate price was much felt and could not be satisfied. As regards **India and Ceylon teas**, the sales increase from year to year and in 1906 these teas had the advantage over China teas in that the ordinary qualities were good and very cheap in consequence of the stocks having exceeded the demand; but towards the end of the year there was a rise of about 25 per cent in the prices for ordinary sorts, due mainly to the shortness of the Ceylon crop. Fine teas were in good demand throughout the year, and the export business from Hamburg continued to develop.

Burma Rice.

The establishment at the beginning of 1906 of the Hamburg branch of the **General Rice Company, Ld.**, which is said to be supported by the Burma rice shippers in London, had considerable influence upon the Hamburg market. The chief object of this Company is the importation to Hamburg of **cleaned rice.** The Hamburg rice business was also seriously affected by the floods in Bengal, in consequence of which great quantities of rice were purchased in Rangoon and Saigon, which caused the price for raw rice to rise to such an extent that the Hamburg rice mills ceased buying and the price of cleaned rice went up by leaps and bounds. The market was, however, steadied by large orders from Brazil and Havannah. Although the trade suffered somewhat from the keen competition of rival firms, the total import of rice into Hamburg in 1906, *viz.*, 2,250,000 bags, exceeded the record hitherto attained. The stock on hand at the end of the year was 105,000 bags.

Business in bristles of **cocoanut fibre** was quiet but firm; on the other hand, there was a good demand for cocoanut yarn but little for mattress fibre. The Java and Sumatra qualities of **kapok** sold well, but there was little demand for the Indian variety. The home supply of **bones** appears to have been ample for the requirements of agriculture in Germany, for only 1,350 tons of bones were imported against 4,097 tons in 1905; but the imports of bone flour rose from 7,323 tons in 1905 to 9,028 tons in 1906 of which 6,428 tons came from India.

—The experimental work now being carried on with a view to the **production of camphor** in the **United States** was recently described by Mr. James G. Wilson, of the Department of Agriculture. Through the Department camphor seeds have been distributed for years past, and trees are growing in large numbers throughout the Southern and Western States. A large manufacturing concern, which uses camphor to the value of £100,000 every year, has planted a camphor grove of 2,000 acres in Florida, from which it hopes later to derive a good supply. It is stated that satisfactory results have attended the preliminary experiments in the extraction of the camphor.

IRON ORE SUPPLIES.

The World's Output.

Of all the problems with which the practical geologist has to deal, none is of greater importance at the present time than the discovery of fresh sources of iron ore supply. Every inhabitant of the United Kingdom, of the United States, and of Germany requires annually about a quarter of a ton of the iron of which the world last year produced 60,000,000 tons, the result of the smelting of over 120,000,000 tons of ore. Year by year the production and consumption are increasing, and many of the deposits of the richer ores are showing signs of depletion. The question of ascertaining how the demand for the vast supplies of iron ore that will in the future be needed will be met calls, therefore, for very serious consideration; and a few statistical notes may be useful as a contribution to a discussion of the subject.

During the past half century the development of the iron industry has been remarkable. In 1864, Mr. J. K. Blackwell showed that the world's production of pig-iron did not exceed 6,000,000 tons, of which the United Kingdom produced 50 per cent., France and the United States each 12½ per cent., and Germany 6·6 per cent. In 1905 the world's production had attained the enormous total of 56,000,000 tons, of which the United States produced 42·7 per cent, Germany and Luxemburg 20 per cent., the United Kingdom, 17·6 per cent., and France 5·5 per cent.

England's Share.

In Great Britain the principal iron ore producing districts are Cleveland, in North Yorkshire, which in 1905 yielded 41·0 per cent. of the total output of the kingdom; Lincolnshire (14·8 per cent.), Northamptonshire (13·9 per cent.), and Leicestershire (4·7 per cent.), together yielding 33·4 per cent. of the total output; Cumberland (8·6 per cent.) and North Lancashire (2·7 per cent.), Staffordshire (6·1 per cent.), and Scotland (5·7 per cent.). The Cleveland iron ore occurs in a 10-foot bed in the middle lias, and contains about 30 per cent. of iron. It is worked by underground mining. In Lincolnshire, Northamptonshire and Leicestershire the brown iron ore beds form part of the Inferior Oolite, and contain about 33 per cent. of iron, the workings being mostly opencast. In Cumberland and North Lancashire the red hematite occurs in irregular masses in carboniferous limestone. It contains more than 50 per cent. of iron, and is worked by underground mining. The ironstone in Staffordshire and in Scotland is mostly obtained from mines that also produce coal.

Such, in brief, are the home deposits from which the British supply of 14,590,703 tons of iron ore, valued at £3,482,184, was obtained in 1905. Even that enormous output did not meet the consumption, and 7,344,786 tons were imported. Of that amount, 78·5 per cent. was brought from Spain, 5·4 per cent. from Norway, 4·2 per cent. from Greece, 4·0 per cent. from Algeria, 2·6 per cent. from France, 2·6 per cent. from Sweden, 1·5 per cent. from Russia, and smaller quantities from Turkey, Germany, islands in the Pacific, Belgium, Newfoundland, India, Australia, Italy (Elba), Persia, Portugal and other countries. In fact, the world is being ransacked for fresh iron ore fields to supply ores for the British blast-furnaces. The port at which most of the ore was delivered was Middlesborough (1,789,639 tons), then followed Glasgow with 1,042,179 tons, and then Cardiff with 865,462 tons.

While it is probable that the **British ore fields will be exhausted in a century or two,** the outlook in other countries is similar. This is borne out by data relative to the available iron ore supplies of the world which have been collected by Törnebohm for the Swedish Parliament, and, although largely conjectural, these figures are of great interest.

America.

In the United States the iron ore production in 1905 exceeded 42½ million tons, the highest output ever recorded, the ore containing more iron than the ores raised in Germany, in the United Kingdom, and in Spain combined. The bulk of the production was obtained in the Lake Superior region, where the five iron ore belts, or ranges (Marquette, Menominee, Gogebic, Vermilion, and Mesaba), beds of pre-Silurian Age, furnished since the beginning of regular mining over 300,000,000 tons of iron ore. The average percentage of iron in the ore is 55, the 60 per cent. ores produced ten years ago having been exhausted by wasteful mining methods. The amount of ore atill available in the United States is estimated by Törnebohm at **1,100,000,000 tons.**

Germany.

In Germany and Luxemburg two-thirds of the iron ore raised (23½ million tons in 1905) is derived from the so-called minetic beds of Jurassic brown iron ore. The seams yield, on an average, 36 per cent. of iron, and 1·7 per cent. of phosphoric acid. Owing to the high percentage of phosphorus the ore was of little value until 1879, when the basic method of making steel was brought into practical use by Thomas and Gilchrist. The amount of ore still available in Germany is estimated at **2,200,000,000 tons.**

Spain.

In Spain the chief deposits are near Bilbao; the ores, which are of great purity, occurring in beds of Cretaceous age. Up to the present time the Bilbao district has yielded about 115,000,000 tons of ore, and for many years pessimistic estimates have been made of the quantity of ore remaining. Twenty years ago it was thought that by the year 1900 there would be no ore left. Nevertheless, in that year Bilbao exported 5,000,000 tons of ore, and Don Julian de Lazurtegui, the most competent authority, estimated that there were still over 57,000,000 tons left. The richest red hematite ores are, it is true, now exhausted, and brown hematites and spathic ores have taken their place, with the result that more attention has to be paid to calcination and to the washing of

ores to enable them to satisfy market requirements. Törnebohm's estimate of the quantity of ore still available in Spain is 500,000 tons.

Sweden and Norway.

In Sweden, deposits of magnetite of great purity occurring in gneiss supply material for the charcoal blast furnaces, and ores rich in phosphorus are mined for export at Grängesburg, in central Sweden, and within the Arctic Circle at Gellivare, Kirunavaara, and Luoszavara, where there are ample supplies to meet the increased demand that is likely to arise. These deposits have been described in great detail by Dr. Stutzer in a paper submitted at the last meeting of the Iron and Steel Institute. The export of iron ore from Swedenjin 1905 amounted to 3½ million tons. In Northern Norway important discoveries of similar iron ore deposits have of late been made. The amount of ore still available in Sweden is estimated **at 1,200,000,000 tons.**

France and Russia.

In France the most important deposits are the beds of oolitic iron ore in the department of the Meurthe-et-Moselle ; and in Russia the greater portion of the iron ore produced is obtained from the Ural region, where, on the western side, the ores are chiefly limonite and spathic ores of a stratified character, and, on the east, masses of magnetite associated with igneous rocks. The amount of ore available in France is estimated at 1,500,000,000 tons, and in Russia at the some amount. The available resources of other countries are estimated by Törnebohm at 1,200,000,000 tons. Including 1,000,000,000 tons for Great Britain, he estimates the known **available resources of the world at 10,000,000,000 tons.**

The Future.

The outlook for the British industry is not altogether a depressing one, for, whilst the rich ores of Bilbao and Elba are becoming scarce, there are still vast quantities of ore available in the north of Scandinavia, in the south of Spain, in Algeria, Canada, Cuba, Brazil, Venezuela, Chili, India, China (notably in the Shansi district), Australia, and South Africa. The high cost of carriage is, of course, an important factor ; but the great economies which have, and will be, effected in transport will reduce this item. The future of the home demand is likely to be affected by the development of the basic open-hearth process of steel-making which enables phosphoric ores to be utilised. In the course of time such phosphoric ores will doubtless occupy a very prominent place in the manufacture of high class steel. The development of magnetic concentrations and of the briquetting of pulverulent ores for furnace use will render possible greater utilisation of poorer ores while the development of the electric furnace will doubtless render it possible to utilise black sands and other titaniferous iron ores which, although met with in abundance, cannot at present be treated profitably in the blast-furnace. There need therefore be no immediate anxiety regarding the supply of the more impure ores, the application of which cannot fail rapidly to increase.

TRADE OF JAPAN.

Imports and Exports.

THE Report on the Trade of Japan for 1906 by Mr. Harrington, Acting Commercial Attaché to the British Embassy at Tokio, is a document which is likely to command a good deal of attention among British and other merchants engaged in the Far Eastern trade. We give below some interesting items bearing especially on Japan's trade with the United Kingdom and India :—

The total import and export trade of Japan during 1906 amounted to £86,009,190, an increase over the sum for the previous year (£82,694,811) of £3,314,379 or just above 4 per cent. The great importance of the annual **rice** crop to Japan always makes the import of that commodity a matter of particular interest. In 1906 the import diminished from £4,898,087 in the previous year to £2,671,733 ; this was due partly to the fact that 1905 had been a year of famine, and also that considerable stocks were carried over to 1906. There is a heavy duty of 1*s.* 1¼*d.* per cwt. levied on imported rice, which nevertheless is cheaper than that grown in the country. The average Tokio price of rice during 1906 was about 6*s.* per bushel, while imported rice including duty, averaged only about 5*s.* 3*d.* On the whole the price of rice, in common with so many other commodities, has shown an upward tendency during recent years which does not seem likely to disappear in the future.

The shares of the United Kingdom, India, the Straits Settlements and French India in the import and export trade of Japan during the year 1906 are given below, the figures for 1905 being introduced for the purpose of comparison :—United Kingdom, the imports in 1906 £10,342,202, and £11,778,385 in 1905 ; the exports in the year 1906 £2,302,307 and £1,331,105 in 1905 ; and the total in 1906 being £12,644,509, and £13,109,490 in 1905. India—the imports in 1906 £6,157,160 and £9,210,656 in 1905 ; the exports in 1906 £1,056,750 and £816,421 in 1905; the total being in 1906 £7,213,910 and £10,027,077 in 1905. Straits Settlements—imports £251,941 in 1906 ; £346,868 in 1905 ; the exports in 1906 £411,771 and in 1905 £451,624 ; the total being £663,712 in 1906 ; and £798,492 in 1905. French India—imports, £766,161 in 1906 and £1,035,937 in 1905 ; the exports in 1906 £15,296 and £41,545 in 1905 ; the total being £781,457 in 1906, and £1,077,482 in 1905.

It will thus be seen that the decrease in the imports fell most heavily on the British Empire (especially India). Imports from British sources fell off £4,793,540, or 21·6 per cent so that although the exports increased £1,958,943, or 36·2 per cent, the net decrease in the total trade was £2,834,597, or 10·3 per cent. In the case of the United Kingdom the decline in imports was mainly in articles affected by the war, such as blankets (which declined £445,000), coal (£542,000), steam vessels (£393,000), submarine cables (£245,000), canvas (£215, 000) ;

there were other large decreases, such as iron and steel, mainly tin plates and bar and sheet iron (£483,000), railway freight cars (£68,000), nickel (£35,000), zinc (£70,000), coke (£45,000), woollen and worsted yarns (£48,000), together with numerous smaller decreases. To counterbalance these there were considerable advances in machinery and tools (£212,000), cotton yarns (£300,000), manures, etc. The increase in the exports to the United Kingdom was mainly accounted for by the advance of £460,000 in refined copper and £346,000 in Habutai. The decline in the imports from India was almost entirely accounted for by the decreases in rice (£1,820,000), and raw cotton (1,245,000), while the principal increases in exports were cotton undershirts and drawers (£66,000), Habutai (£55,000) and matches (£24,000).

Principal Indian Imports.

The following tables show the position during recent years of three of the more important imports in which India is interested :—

Raw Cotton.

Year.	India.
	£
1906	4,222,000
1905	5,467,000
1904	2,940,000
1903	3,940,000

Raw Wool.

Year.	India.
	£
1906	21,000
1905	53,000
1904	63,000
1903	15,000

Rice.

Year.	India.	French India.
	£	£
1906	1,545,000	662,000
1905	5,367,000	867,000
1904	5,660,000	1,610,000
1903	2,800,000	1,450,000

The import of **flour** was £836,162, of which about 97 per cent came from the United States. The British share was, Canada, £16,700; Australia, £9,320 ; and India, £53. In 1905 nearly 70 per cent of the import of **rapeseeds** came from India ; in 1906 the Indian total was only £5,600 out of £53,380, the remainder being nearly all from China. **Wheat** imports decreased greatly during 1906, amounting to only £140,033, against nearly three times that sum in 1905. The British share, however, which had been considerably more than one-third in 1905, fell out of all proportion in the following year, being only £6,740 from Australia and £1,380 from India. The imports of **flax, hemp, jute** and **China grass** are of considerable magnitude, amounting in 1906 to the sum of £344,439. Of this the British share was £48,730 from India, £6,890 from Australia, and £6,770 from the United Kingdom. The Indian product is considerably cheaper than those from China and the Philippines which provide the majority of these substances.

There were considerable imports of **timber** amounting in 1906 to £80,080 (excludiug teak). The greater part of this came from the United States (£45,390); the British share was, Canada (£6,830), Australia (£2,980), India (£540), the Straits Settlements (£77) and the United Kingdom (£7,560).

Nagasaki and the British Empire.

The following return shows the total value of all articles **exported** from Nagasaki during the years 1905 and 1906 :—

Country.	VALUE.		Increase or Decrease in 1906 compared with 1905
	1906.	1905.	
	£	£	£
British Empire—			
United Kingdom	7,974	4,779	+ 3,195
Hong-Kong	108,432	107,448	+ 984
India	792	332	+ 460
Straits Settlements	2,999	1,782	+ 1,217
Canada	...	2	— 2
Australia	260	...	+ 260
TOTAL BRITISH TRADE	120,457	114,343	+ 6,114

The following return shows the total value of all articles **imported** into Nagasaki from foreign countries during the years 1905 and 1906 :—

Country.	VALUE.		Increase or Decrease in 1906 compared with 1905.
	1906.	1905.	
	£	£	£
British Empire—			
United Kingdom	574,192	1,101,359	— 527,167
Hong-Kong	7,702	4,732	+ 2,970
India	5,462	9,193	— 3,731
Straits Settlements	336	768	— 432
Canada	1,249	56	+ 1,193
Australia	2,915	7,976	— 5,061
TOTAL BRITISH TRADE	591,856	1,124,084	— 532,228

MINES OF THE WORLD.

Some Interesting Figures.

THE fourth part of the Home Office Report on Mines and Quarries for 1905, containing Colonial and foreign statistics, has lately been published. The particulars are compiled from various official and unofficial sources. Great difficulties in preparing this part of the volume arise either from want of adequate official statistics or from the lateness of their publication. In several cases the statistics for 1905 were not received until the present year was far advanced. The general results are summed up (1907), and though the figures are not complete, they are sufficient to give a fairly general idea of the relative importance of mining in each country. According to Table 284 the number of persons engaged in mining and quarrying at home and abroad in 1905 exceeded five millions. Of this total, roughly speaking, nearly one-fifth were employed in the United Kingdom and more than one-third in the British Empire. It should be noted, however, that no statistics are published by several countries, *e.g.*, Bolivia, Brazil, China, Persia, Roumania and Turkey, in which mining is carried on, or for the ore mines and quarries of the United States, and the figure in this Table probably falls considerably short of the real total.

More than half of the total number were employed in getting **coal** alone: Great Britain employing over 843,000; the United States, 625,000; Germany, 548,000; France 175,000, Belgium 135,000; Austria, 119,000; and India nearly 90,000. Table 285 summarises the world's output of the most important **minerals** in 1905. The total amount of **coal produced** was 941 million tons, the value of which is estimated at more than £305 million. The quantity and value compared with 1904 show an increase of more than 55 million tons and 10 million pounds sterling respectively.

Fuel Supply of the World.

The following figures show the main sources from which the fuel supply of the world is obtained :—

Country.	Quantity.		Value.	
	Metric Tons.	Increase or Decrease on 1904.	£	Increase or Decrease on 1904.
		Metric Tons.		£
United States . .	356,454,000	+37,283,000	97,897,000	+6,650,000
Great Britain . .	239,018,000	+3,760,000	82,039,000	−1,818,000
Germany . . .	173,811,000	+4,360,000	58,611,000	+1,313,000
Austria-Hungary .	42,454,000	+1,923,000	10,462,000	+387,000
France . . .	36,328,000	+1,760,000	13,562,000	+365,000
Belgium . . .	21,775,000	−936,000	11,007,000	−459,000

Gold shows an increase of 63,960 kilograms, the total output being 580,087 kilograms (18,650,217 ozs.) of which the value is estimated at over 79 millions sterling. The British Empire supplied nearly 59 per cent. of the output; Australia contributing 19½ per cent., the Transvaal 26½ per cent., and Canada 3¾ per cent. of the total. The United States contributed 22¾ per cent.

Various Minerals.

In the case of **iron**, the United States, with an output of 23½ million tons, is considerably ahead of any other country. The German Empire, with 6 million tons, and Great Britain, with about 4¾ million tons, come next. It is important to point out that the quantities of the other metals included in this Table are those which are considered obtainable from the ores raised in the countries in question, and must not necessarily be taken as a measure of their metallurgical industries.

The value of the world's output of **copper** is about equal to the combined value of the outputs of **silver, tin, and zinc.** The total value of the figures shown in the Table giving a summary of output of minerals and metals may be roughly taken as representing over 700 millions sterling.

The next Table shows the loss of life from **accidents in mines and quarries,** and the death-rates from accidents per 1,000 persons employed. Taking coal mines, for which the figures are fairly complete, it will be seen that the death-rate of the United Kingdom is 1·35, and for the British Empire 1·34; while for France it is 1·04, for Germany 2·05, and for the United States 3·45. The death-rate for foreign countries generally is 2·40. In the case of ***gold mines,*** complete figures are only available for the British Empire. They show a considerable increase in the death-rate from 2·55 in 1904 to 3·58 in 1905.

NEW REFERENCE BOOKS.

NOTES ON AGRICULTURE IN JAPAN.
By Sir F. A. NICHOLSON, K.C.I.E. On Deputation, Madras Fisheries Investigation. 9½ × 6, vi + 122 pp. . . . . 1*s.* 6*d.*
Government Press.

BOOK-KEEPING DOWN TO DATE.
By ANDREW MUNRO. Fourth Edition. 7½ × 4¾, 336 + xviii. pp. . . . . 2*s.* 6*d.* net.
E. Wilson.

CAPITAL. A CRITIQUE OF POLITICAL ECONOMY.
By KARL MARX. Volume II. The Process of Circulation of Capital. Edited by F. ENGLES. Translated from the second German Edition (1893). By E. UTTERMANN. 8¼ × 5¼, 618 pp. 10*s.* 6*d*
Chicago: C. H. Kerr, London: Sonnenschein.

STEAM AND OTHER ENGINES.
By J. DUNCAN. 7 × 4¼, ix + 471 pp. . . .
Macmillan.

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 (3*a.*)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2*a.*)
3. Annual Statement of the Sea-borne Trade and Navigation of British India :—
   Vol. I—Abstract and detailed Tables of Imports and Exports. R3. (15*a.*)
   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. (10*a.*)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (7*a.*)
5. Accounts of the trade of Aden. As. 10. (1*a.*)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6*a.*)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7*a.*)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3*a.*)
9. Prices and Wages in India. R1-2. (3*a.*)
10. Financial and Commercial Statistics of British India. R4. (12*a.*)
11. Judicial and Administrative Statistics of British India. R2. (10*a.*)
12. Agricultural Statistics of India. R3½. (12*a.*)
    Vol. I.—British India.
    Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2*a.*)
14. Production of Tea in India. As. 8. (2*a.*)
15. Note on the production of Coal in India. As. 10. (3*a.*)
16. Note on the production of Coffee in India. As. 4. (1*a.*)
17. List of Joint Stock Companies in British India for 1906. R2. (2*a.*)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (3*a.*)

MONTHLY.

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

MISCELLANEOUS.

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

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., 16, James Street, Hay Market, London, W.
Bernard Quaritch, 15, Piccadilly, London.
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., Charing Cross Road, W.C.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.

On the Continent.

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Mr. Rudolf Haupt, Halli-A-S., Germany.
Karl W. Hiersemann, Leipzig.
Ernest Leroux, 28, Rue Bonaparte, Paris.
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In India.

Thacker, Spink & Co., Calcutta and Simla.
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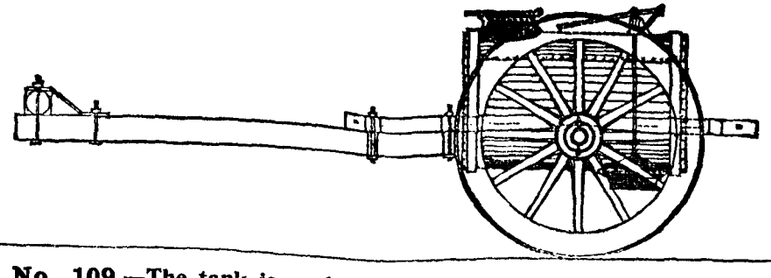
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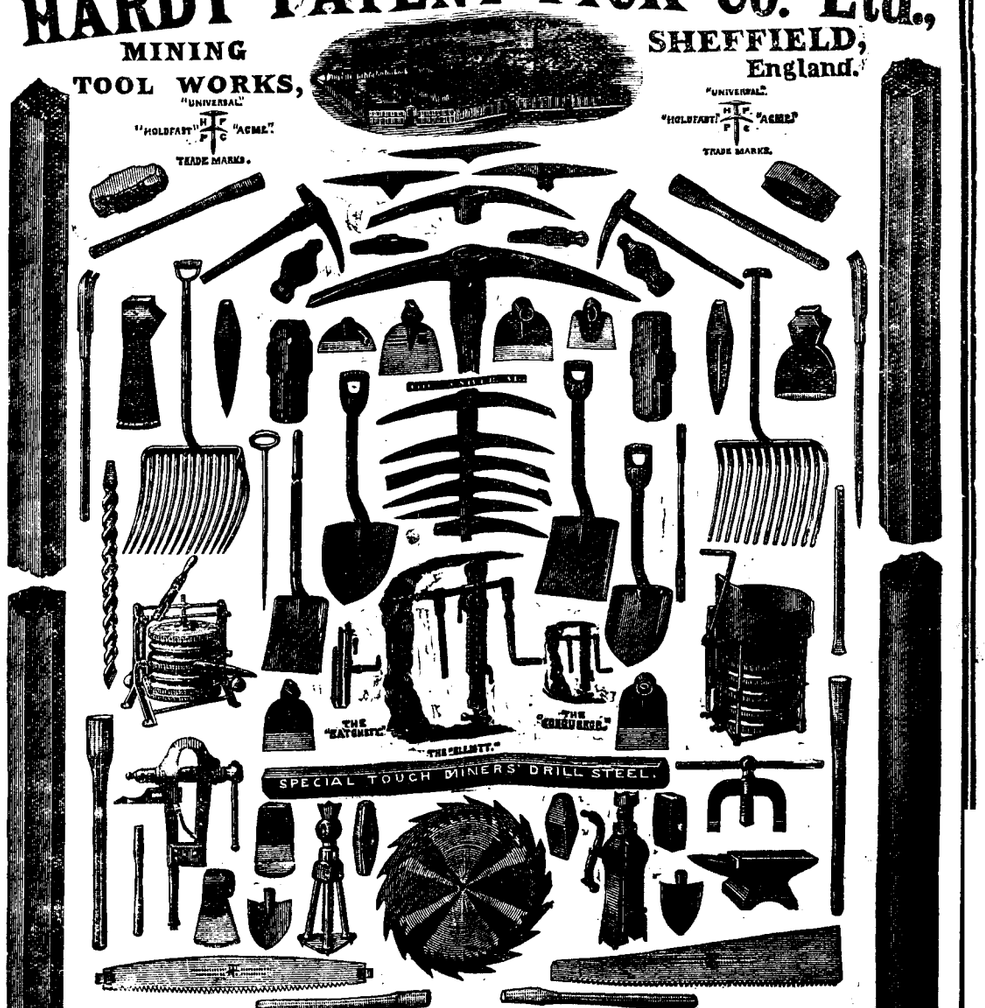
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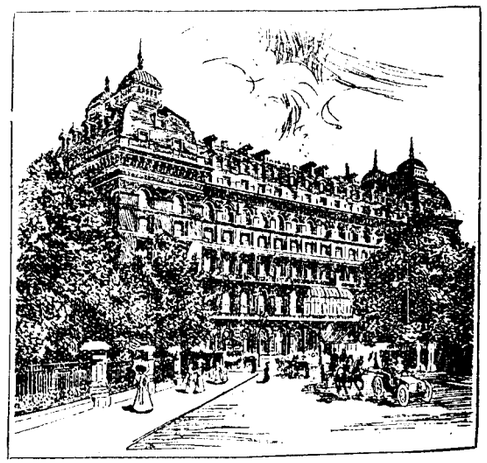
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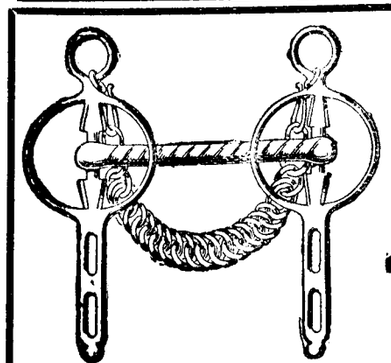


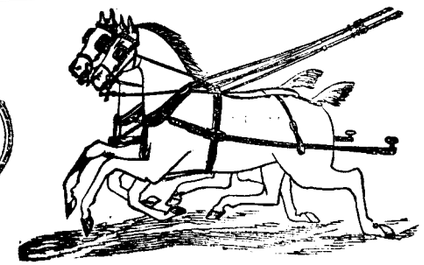
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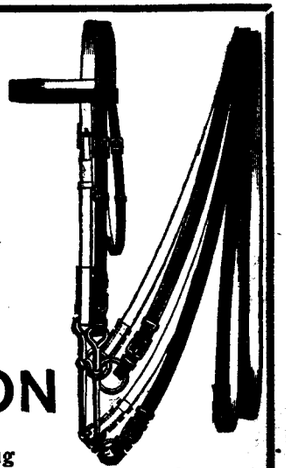
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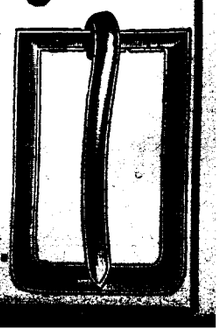
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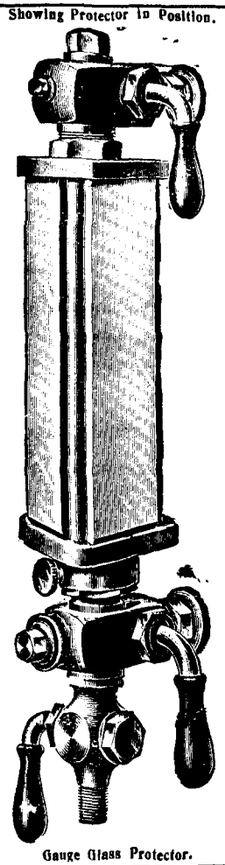




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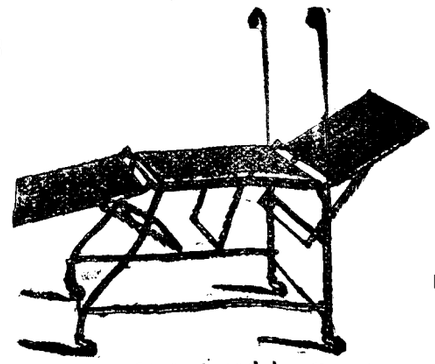
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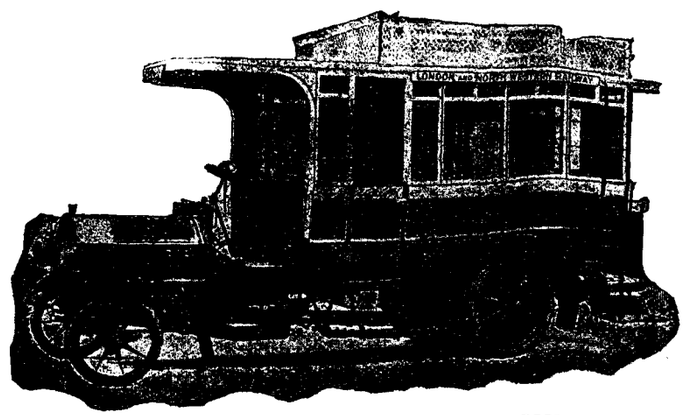
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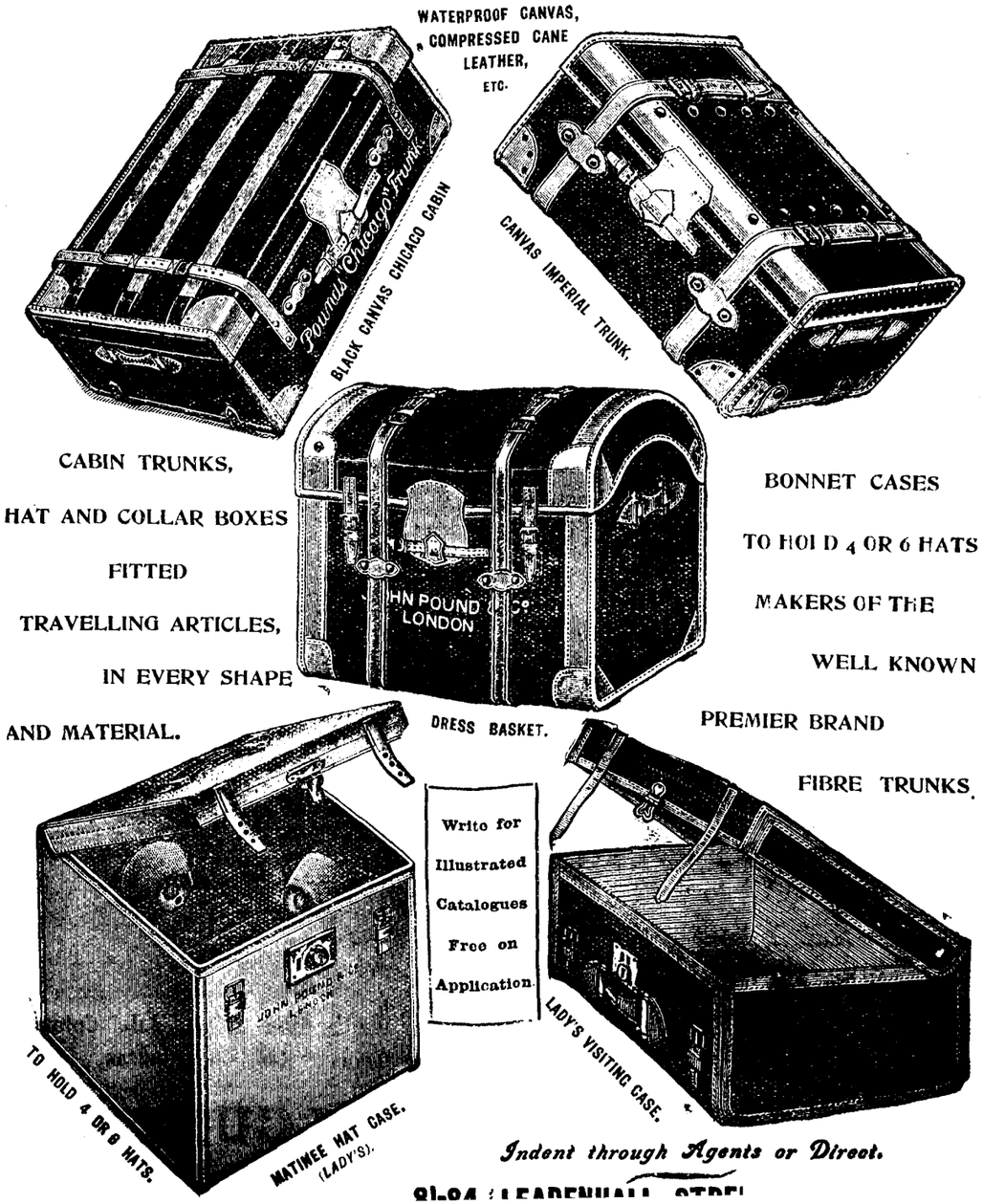
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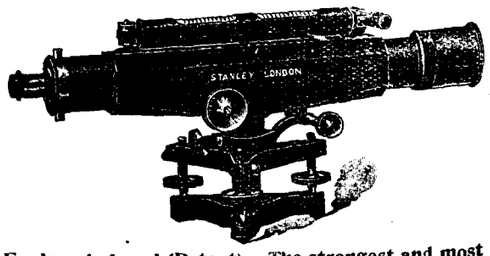
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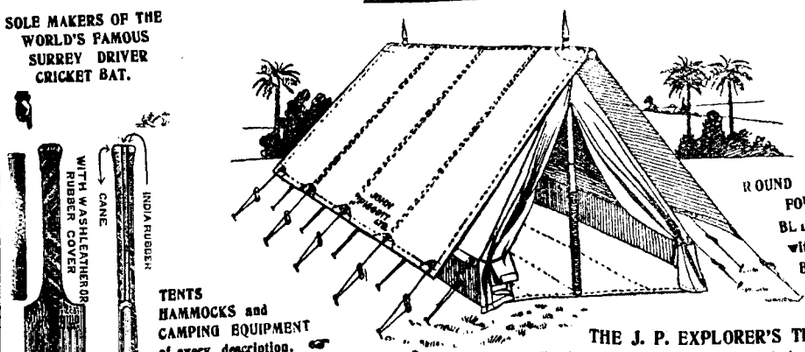
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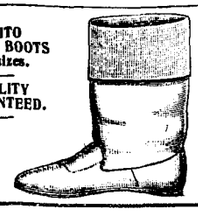
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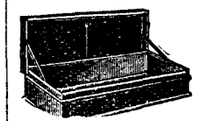
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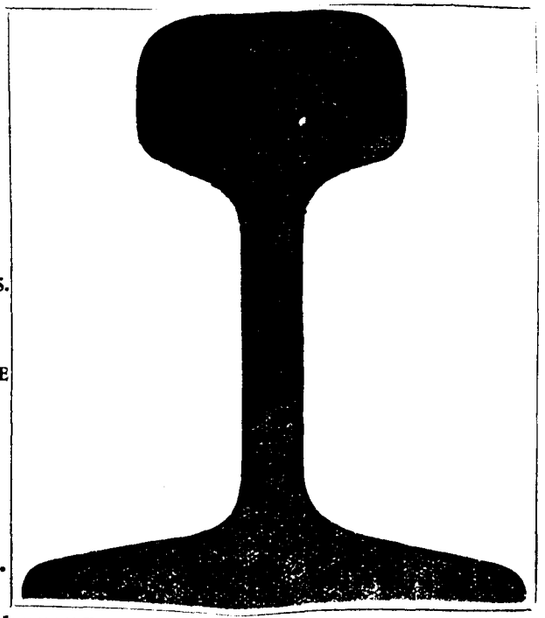
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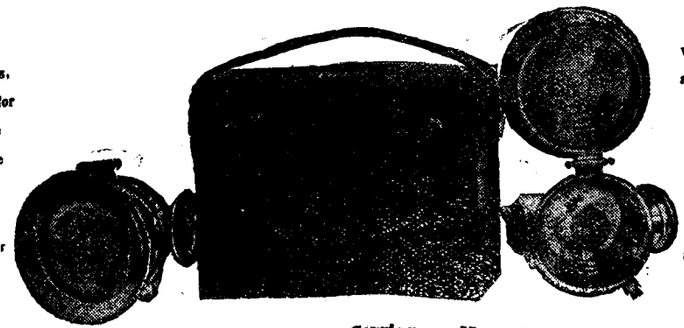
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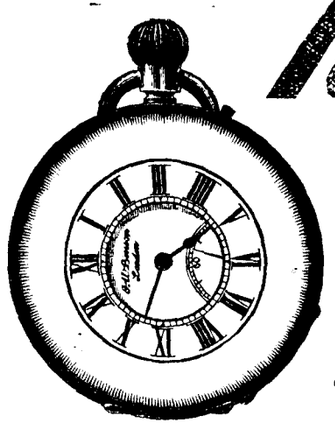
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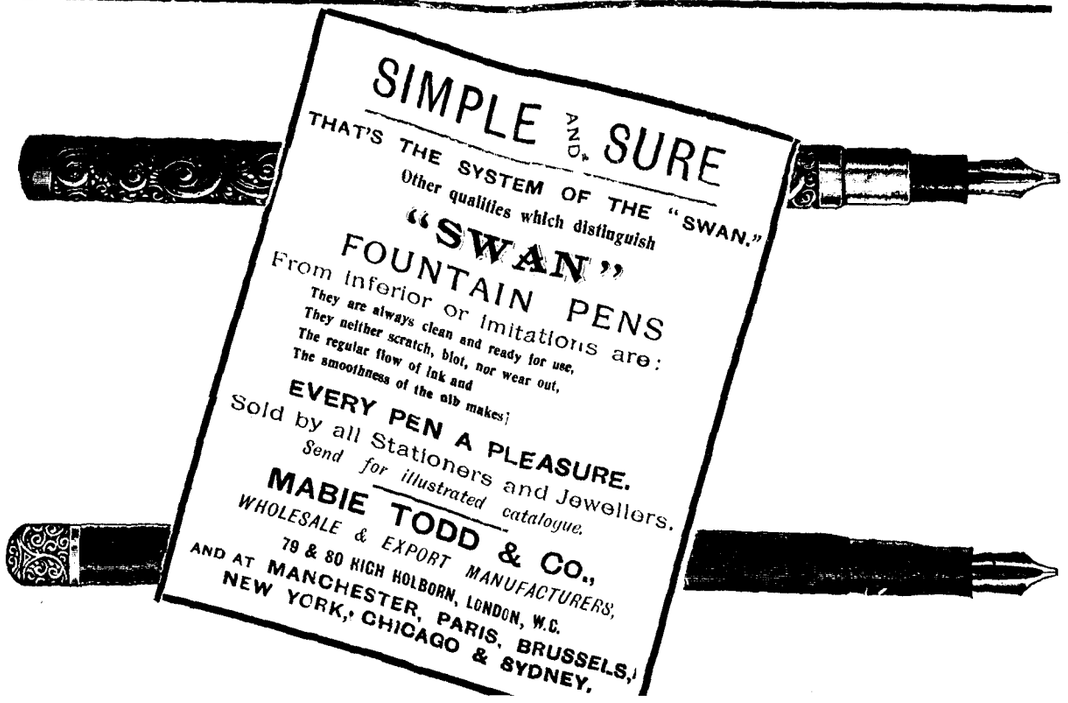
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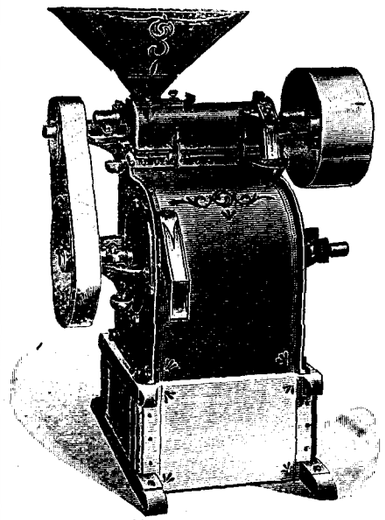


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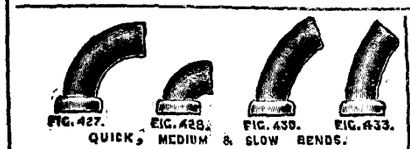


FIG. 427. FIG. 428. FIG. 430. FIG. 433.
QUICK, MEDIUM & SLOW BENDS.

TAPER PIPES WITH HORIZONTAL BASE

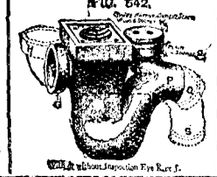


FIG. 420. HALF CHANNEL PIPE.



YARD GULLIES

FIG. 662.



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FIG. 459. SINGLE OBLIQUE JUNCTION.



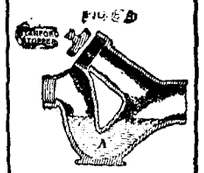
SADDLE JUNCTION.



FIG. 859

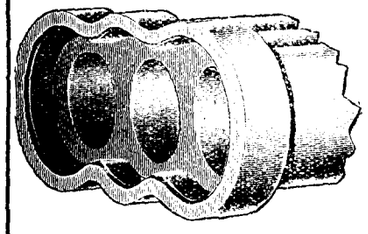
INTERCEPTORS.

FIG. 607





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SKETCH

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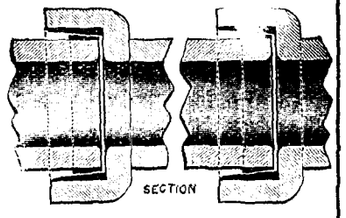
2 way 2" 2 way 2½" 2 way 3"
3 ,, 2" 3 ,, 2½" 3 ,, 3"
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NOTES.

A Lahore correspondent reports that a **hailstorm** of unprecedented severity and destructive effect burst over the **Kangra Valley** on the 13th instant, destroying the rice crop in the villages lying at the foot of the main range, and seriously damaging many tea gardens.

Mr. K. G. Gupta has returned from his tour of inspection of the American, Canadian, Australian, German, French, British and Japanese fisheries, and his recommendations as to what should be done to develop the **Bengal fisheries** will be embodied in a Report to be submitted to Government for consideration.

We learn from the Second Memorandum on the **Bombay groundnut crop** for the season 1907-08 that the area reported under that crop in the British districts of the Deccan, and Belgaum of the Karnatak, where it is principally grown, is reported at 57,531 acres—37 per cent. short of the last year's report and 22 per cent. in defect of the average. As compared with last year's acreage a decrease is noticeable in all the districts, the greatest being in Sholapur and the least in Nasik. The deficiency of the early rains caused diminution in area. In the western part of Satara the crop suffered through excess of rain. The recent rains have helped the unirrigated crop in some places, but the crop is not flourishing except where helped by irrigation. The crop in irrigated lands is reported to be good.

Native States have 20,647 acres, of which 13,490 acres are in Kolhapur. The condition of the crop is fair at present.

The District Magistrate of **Ganjam**, in the Madras Presidency, reports that 890 **coolies** (542 labourers and 348 dependents) were sent to **Assam** during the year ending 30th June last, as against 1,444 (765 labourers and 679 dependents) during 1905-06. This decrease is said to be due to the fact that the wages paid in Assam for a four years' contract of employment are not considered sufficiently attractive by labourers in the district. Some cases of illegal recruitment are reported by the Magistrate. The District Magistrate of Vizagapatam reports that 141 coolies for Assam were registered during the period under notice.

The Colonial Office have issued a Report by Professor Wyndham R. Dunstan, F.R.S., on the results of the **Mineral Survey of Ceylon in 1905-6.** The Report, which is in continuation of Cd. 3.190 of 1906, deals with the composition and value of the minerals collected by the officers of the Survey in Ceylon or forwarded to the Imperial Institute by commercial firms or residents in the island. Attention has again been given to the examination of localities in which minerals containing thorium may occur, especially the beds of streams and rivers, and preliminary results of much importance have been obtained. The river gravels have in many instances been proved to contain not only the valuable minerals **thorianite, monazite** and **thorite,** but **gold** in addition. The other minerals of commercial importance dealt with in the report are **tin-stone** (not yet found in large quantity), **galena,** and **molybdenite.** Of great interest also is the occurrence of **platinum,** found for the first time in Ceylon, near Karawita. The mineral survey of Ceylon has now been sanctioned by the Secretary of State for the Colonies, on the recommendation of the Government of Ceylon, for a further term of three years under the supervision of the Director of the Imperial Institute, and in collaboration with the Scientific and Technical Department of the Institute.

The Railway Board have sanctioned the following **railway surveys** being made by the agency of the Great Indian Peninsula Railway Company for 5′ 6″ gauge lines of railway in connection with the proposed Nagpur-Itarsi line by the western route with a branch to the Pench Valley coal field: (*i*) Nagpur to Katol, 37 miles, and examination and re-alignment between Katol and Bailana, 23 miles; (*ii*) Amla to Hardagarh, 30 miles. The surveys have been placed under the control of the Government of Bombay and will be known as the Nagpur-Itarsi western route connection surveys. The Railway Board have also sanctioned a detailed survey being made for a line of railway on the broad gauge from Viramgam, on the Bombay, Baroda and Central India Railway, to Badin on the North-Western Railway, *vid* Nagar-Parkar, a distance of about 209 miles. This survey will be known as the Bombay-Sind Connection Survey, and has been placed under the control of the Director of Railway Construction.

Further demonstrations were being carried on at Home when the last mail left with the model of the **Mono-rail Gyroscopic Railway** which Mr. Louis Brennan is to construct for the Government of India. The new experiments are chiefly directed to questions of whether the motor shall be electric, steam or petrol.

It is understood that the location survey of the **Bombay-Sind connecting railway** will be carried out during the coming weather by Mr. F. R. Tebbs, under the Director of Railway Construction, India. The route to be taken by the line is from Viangain on the Bombay-Baroda Railway by the northern route, to Nagar Parkar, and thence to Badin, on the N.-W. Railway.

The Report of Mr. O. C. Beale, of Sydney, appointed by the **Australian Government** to inquire in Europe and elsewhere into the manufacture, sale, and use of patent or **proprietary medicines and foods,** has issued his Report He recommends, *inter alia*, that every proprietary medicine, whether of simple substance or of compound substances, when issued for retail sale, shall be accompanied by a formula of its preparation, plainly and legitimately expressed upon the bottle or label of the package immediately containing the preparation; that no advertisement, recommendation, or testimonials shall be permitted, either on the article itself or upon the bottle, etc.; that no advertisement or announcement of proprietary or secret cure shall be permitted in any newspaper, pamphlet, etc., or by painting or otherwise, whereby it may be made known; that letters patent be granted as now for all approved and novel formulæ for the combination of drugs; that no patent granted for any single drug or agent in the patentable compound shall, however, give exclusive rights over that single drug or agent, apart from the patented compound; that there should be compulsory registration of every proprietary name which is applied to any combination; and that, for the purposes of effective control, to be conducted upon uniform lines in various parts of the Commonwealth, it is an urgent necessity to provide a Bureau of Chemistry. This question has already been before the Chemical Trade Section of the London Chamber of Commerce and is about to be considered by its Proprietary Articles Sub-Section.

At the opening of the **wool sales** for the season at **Adelaide** on the 26th ultimo there was a numerous attendance of buyers, and under considerable buying pressure practically the whole of the offerings, which covered 20,000 bales, were disposed of at prices showing an average advance compared with last season of 15 per cent. for all the better classes of greasy merinoes, while lamb's-wool has appreciated 10 per cent., and the finer grades of crossbreds are fully 5 per cent. higher. The quality and condition of the new clip are reported to be very satisfactory.

The **London wool auctions** are proceeding with great animation, says the *Manchester Guardian* of the 30th ultimo, and values are about as it was expected they would be, with perhaps rather higher prices for merinoes than some people anticipated. Very fortunate are those owners of Queensland clips who shipped their produce to London. Their wools, both scoured and greasy, being fine and soft, are just what the trade wants, and with extremely keen competition values are up fully 5 per cent., and in some cases more. A portion of one big clip grown in Queensland and owned by a wealthy South Australian has sold at prices which will make it cost about 32*d.* in the top. Other Queensland clips of greasy wool have been taken by France at prices which, it is estimated, will cost over half-a-crown in the top, whilst the United States are purchasing wools which when the duty has been paid will cost at least a dollar in the same state.

The latest Australian advices that have reached us are to the effect that the total production of **wool in Australia** and New Zealand for the season 1907-08 will not amount to more than 4,000 bales over that of last season. It has been found that in Victoria, Tasmania and New Zealand last year's production will barely be reached, while in New South Wales there will be a decrease of at least 40,000 bales. On the other hand, Queensland will show an increase of 25,000 bales, South Australia 15,000 bales, and West Australia 4,000 bales. In summarising these totals it will be found that the probable increase for Australasia will be 4,000 bales. The above estimate is of importance as representing the earliest close estimate of the new clip. Last year's clip in most cases represented thirteen months' growth of wool and this year's clip only eleven months. Returns from stations show that the clip is about 1 lb. per head less on the average, the shortage being particularly apparent in Riverina and Northern Victoria.

The **clearances of silk** at the **Lyons** Conditioning-house during the week ended September 25th amounted to 139,585 kilos. (kilo.=2·06 lbs.), as compared with 145,695 kilos. in the preceding week and 125,090 kilos. in the corresponding week of last year. The detailed comparison is as follows:—

Week ended Sept. 25th.	Thrown. Organsins. Kilos.	Trames. Kilos.	Raw. Kilos.	Total. Kilos.
1907 . .	19,888	24,421	95,276	139,585
1906 . .	12,562	19,320	93,208	125,090
1905 . .	21,489	20,507	94,013	136,009
1904 . .	19,659	20,925	81,003	121,587
1903 . .	19,159	20,265	92,754	132,178
1902 . .	20,653	26,301	94,757	141,711

Though trade had not been very brisk in raw silks, the tone of the market was fairly well maintained, and the state of stocks and rate of consumption of silk fabrics seem to promise well for the future.

An Alexandria correspondent, writing on September 23rd, says:—The Acting Adviser's report this week on the Nile flood notes little change in the state of the river. The levels, much below average as they are, continue to be well maintained. There is not as yet any material fall at Roseires, while the Khartoum gauge on the 16th was within 10 centimetres of the highest level recorded this year; the Atbara, however, has begun to fall. The slight shrinking in levels noted in Egypt during the week will probably be followed by a trifling rise, after which a more or less continuous fall must be expected. Irrigation in Egypt remains unaltered. A very considerable area of unwatered land is now unfortunately quite certain, but every day that the final fall is delayed means a slight improvement ultimately. This report, like its immediate predecessors, has a sustaining effect on the **Alexandria cotton market** which since its appearance has strengthened in tone.. The reason is, of course, easy to discover. While the last crop marks a record, the prediction of the official authorities with such absolute certainty that large areas of land must lie next year out of cultivation renders the next crop a very doubtful quantity. It is, of course, impossible to say how much of this area will be cotton-bearing land. All that present indications point to is a notable decline on the current season's cotton production.

The **Ladakh Trade Report** for the twelve months ending last April shows a prosperous year in Central Asian business, the trade passing through Ladakh having totalled Rs. 30 lakhs against Rs. 27 lakhs in the previous year. Trade with Tibet increased by Rs. 2 lakhs, of which Rs. 70,000 was due to the return of the triennial Lapchak Mission from Lhasa. Amongst the goods brought by this mission were 363 maunds of brick tea, and the Assistant Political Agent of Leh suggests that Calcutta merchants might do worse than turn their attention to Ladakh, where they still have an open market, especially for brick tea. In an appended statement upon Indo-Chinese and Turkestan trade *vid* Ladakh, Mr. George Maccartney points out that the market for **Indian tea in Chinese Turkestan is improving,**

adding that such is the demand for the commodity that not only is it used by the natives of Yarkand and Kashgarh, but it is carried as far as Ali Urumtchi and Karashahr in spite of the competition of Chinese tea which must necessarily be more acute in those regions than in Kashgarh itself.

The *Times* correspondent telegraphs from Pekin that the **Chinese Mining Regulations** under the Mackay treaty have been communicated to the Powers. Their nature precludes the prospect of foreign capital being forthcoming.

A telegram from New York states that Edison has announced that he has perfected an **electric storage battery** by which it is possible to store electricity in bulk without excessive weight. He expects the invention will revolutionise the systems of traction by cheapening motors.

A Sydney message, dated 4th instant, states that the spasmodic increase in prices which followed the promulgation of the **new Australian tariff** has stopped, and prices are sinking to their old level. Local manufacturers are engaging all available labour and buying sites for new factories.

The United States Post Office Department has taken up the question of making the **postal rate between the United States and Great Britain** two cents (one penny) per ounce for letters. If the negotiations with the British Post Office are successful it is proposed to seek to carry out the plan with other countries which are in direct steamship connection with the United States.

A Mohammerah correspondent states that the **currency difficulty**, referred to in the *Indian Trade Journal* of September 26th last, is increasing there owing to the demand for krans for date-packing expenses. Single krans are scarce. Turkish Liras and Indian rupees are the only coins plentiful; the former are current at 51 and the latter at 3·75 krans. Exchange is krans 3·5=£1; but if krans are stipulated for, only 52½ krans are given. Cherkhi krans are not obtainable.

With reference to the complaint of the Russian merchants at Ispahan as to the insecurity of the roads in Persia, a matter that was referred to in the last issue of the *Indian Trade Journal*, we now hear that all **trade at Ispahan** is more or less paralysed owing to the roads being in the hands of outlaws. It is alleged that everyone who passes is robbed, also the mails; and that the Governor declares that he is helpless in the matter.

It is stated that **Germany** is largely buying **wheat** in English eastern counties, which have hitherto imported German wheat.

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 September, 1907, were as follows:—Wheat, 31*s.* 8*d.*, Barley, 25*s.* 3*d.*, and Oats, 17*s.* 8*d.*

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

For the week ending 5th October, 1907—

In the Calcutta market—

Behar opium—Rs. 1,346; 1,357; 1,358; 1,358; (old) 1,358; 1,362; 1,358.

Benares opium—Rs. 1,320; 1,325; 1,325; 1,325; 1,335; 1,340; 1,335.

The prices in the time bargains for the Behar opium of the 10th and 11th sales of 1907 were, Rs. 1,348; 1,359; 1,360; (new) 1,394; 11th sale 1,397; 1,390.

In the China market—

At Hongkong (exchange Rs. 164½ to 165½ per $100).

Behar opium—$840; 832 and 855; 855; 852½; 835 and 855; 855; 852½.

Benares opium—On the 30th and 3rd instants $825 and 812½ respectively.

At Shanghai (exchange Rs. 225 per 100 taels).

Behar opium—On the 30th instant 612 and 616 taels; on the 2nd instant 613 taels; on the 4th instant 618 taels.

Benares opium—On the 30th and 4th instants 604, 608 and 610 taels respectively.

In the Bombay market—

On the 29th and 1st instants (new, 1906-07) Rs. 1,275 to 1,320 and Rs. 1,275 to 1,335 respectively; on the 30th and 4th instants (new, 1905-06) Rs. 1,350 to 1,390 and Rs. 1,350 to 1,375 respectively; on the 29th and 2nd instants (old, 1904-05) Rs. 1,400 to 1,463 and Rs. 1,400 to 1,460 respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,361; 1,401 and (old) Rs. 1,485; 1,503 respectively.

For the week ending 12th October, 1907—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,275 to 1,335; (new, 1905-06) Rs. 1,350 to 1,375; (old, 1904-05) Rs. 1,400 to 1,460; the latest prices at Hongkong and Shanghai were (new) Rs. 1,361 and 1,385; (old) Rs. 1,485 and 1,448 respectively.

According to statistics communicated to the *Courrier de Sophia* by the Chamber of Commerce at Plovdiv, the production of **essence of roses in Bulgaria** in 1907 amounted to 546,253 bottles as compared with 843,582 bottles in the preceding year. The principal producing districts were Karlovo, Kazanlik, and Plovdiv, producing 239,917, 129,411, and 68,428 bottles, respectively.

The German Consul-General in **Constantinople** reports that the unfavourable weather which has prevailed throughout the year caused the rose crop to be small last spring, and the distilling was also upset from the same cause. The figures of the total production are stated to lie between 450,000 and 600,000 metikals. If the former of these two be taken as correct the whole production is 40 per cent. less than last year—that is, 2,100 kgs. of **otto of roses** compared with 3,600 kgs. last year. The demand has in consequence become proportionately large with the result that the best Bulgarian otto of roses is sold at 750 marks per kilogram, and the price is steadily rising.

The *Journal Officiel* of 13th September contains statistics of the **production of sugar in France** during the period 1st September, 1906, to 31st August, 1907, from which it appears that the number of sugar factories in France was 273, as against 292 in 1905-6, the total amount of sugar despatched from the factories (expressed in terms of refined sugar) being 752,733 metric tons, as compared with 1,044,197 tons in 1905-6. The raw material supplied to the factories amounted to 65,004,263 hectolitres in 1906-7, as compared with 97,904,142 hectolitres in 1905-6.

After prolonged negotiations a three years' contract has just been made between the **German Steel Syndicate** and the Prussian railway authorities for the supply of rails, sleepers, and building material. The minimum price for rails has been fixed at 120 marks per ton, for sleepers 111 marks per ton, whilst the prices for building material have not yet been arranged. The minimum prices under the old agreement for rails and sleepers were respectively 112 marks and 105 marks per ton, and as the average prices obtained are about five marks for rails and four marks per ton for sleepers above the minimum, the prices which will actually be obtained may be estimated at 125 marks per ton for rails and 115 marks per ton for sleepers, against 117 marks and 109 marks previously. The quantities to be delivered have not been fixed, but will depend entirely on the requirements of the railways. The official estimates of the requirements for 1907 are 234,000 tons of rails and 129,700 tons of iron sleepers against 207,000 tons of rails and 115,900 tons of sleepers in 1906. The contract includes all deliveries made from July 1st, 1907. It is estimated that the total annual requirements of rails, sleepers, and building material will be about 800,000 tons, so that the total value for the three years will be about 300 million marks. It is expected that other contracts will shortly be made with other railway authorities.

The following memorandum regarding the use by some British and perhaps Indian manufacturers of **fancy names** for their **textile products** has been received from the British Commercial Attaché at **Yokohama** (Mr. E. F. Crowe):—"Certain British textile manufacturers are in the habit of giving fancy names to some of their productions which have no peculiarly novel characteristics as regards the actual material entering into their composition. This may be a useful way of attracting custom at home and in other countries, but it serves no particular purpose in Japan, where no attention is paid by customers to fancy names. On the other hand it has the grave disadvantage of causing trouble and delay at the Customs, as the appraisers who do not know the goods under their fancy names require time to analyse them, or, at any rate, to see what they look like. I have even heard of one extreme case where there was difficulty in persuading a Customs official that 'Corkscrews' were not always to be classed as hardware. Most of the big firms dealing with Japan are aware of this, and they are careful to avoid the use of fancy names when invoicing, confining their descriptions to generally recognised names. The foregoing is written for the benefit of those firms who only deal occasionally with Japan."

A Karachi correspondent reports that this year's crop of **Sind-Egyptian cotton** in the Jamrao tract is satisfactory, despite boll-worm ravages, and the yield, it is believed, will be double that of last year.

A telegram from **Chicago** says that Mr. Macara, speaking at a banquet given to the European delegates to the **Cotton Convention**, warned American growers that high prices would cripple the country's exports, and force England and France, and other countries, to develop cotton-growing in their Colonies.

The number of bales of **cotton imported into the United Kingdom** during the week ended the 26th September, 1907, was 34,627 (including 69 bales British West Indian and 335 bales British West African), and the number imported during the thirty-nine weeks ended the 26th September was 3,297,249 (including 5,629 bales British West Indian and 8,467 bales British West African). As regards exports, the figures are, for the week ended the 26th September, 10,864 bales, and, for the thirty-nine weeks, 392,718 bales.

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., Ld.; 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.

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

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The Indian Trade Journal.

THURSDAY, OCTOBER 24, 1907.

INDIAN COTTON SEED.

Its Industrial Possibilities.

V *

It has been estimated that **ghi** * is used by about one quarter of the entire population of India, and that these consume about 8 lbs. per head per annum, or in all about 267,000 tons, the total population being about 300 millions. We have been unable to ascertain the basis on which this estimate was made, and it would appear to be very low. It is equal to only 2·46 oz. per week, but the army ration of ghi is, we believe, 2 oz. per diem, which represents an aggregate of 45 lbs. per annum. On the other hand, if one quarter of the population use ghi and consume only one-half as much as the army ration, the total consumption must exceed 750,000 tons.

It is impossible to make a precise estimate for the country in general; but in Bombay city ghi is subject to octroi, so that fairly accurate figures are available. In that city, with a population of about 800,000, the consumption in the last statistical year was 4,889·4 tons which is equal to 13·7 lbs. per head of the whole population. There is no reason to doubt that in Calcutta, with a population of 1,000,000, the consumption per head is at least as great.

In addition to the internal production, a certain quantity of **ghi is imported**, but a much larger quantity is **exported**. The quantity and value of the imports in the last five years have been:—

	Quantity.	Value.
	lbs.	Rs.
1902-03 . . .	21,370	8,515
1903-04 . . .	127,868	50,722
1904-05 . . .	135,666	56,000
1905-06 . . .	419,398	1,79,483
1906-07 . . .	492,493	2,13,861

It will be seen that there has been a steady rise in the imports in recent years and that this has become very marked in the two last years. The statistics show also an increase of about 9 per cent. in the specific value of the imported article; but this increase is small as compared with the rise in the reported internal prices.

The chief source of the imported ghi is Mekran and Sonmiani, and in recent years British East Africa has made a bid for the trade. Formerly considerable quantities came from the Persian Gulf. It is interesting to note also—as indicating the seat of the strongest unsatisfied demand—the proportions in which the various provinces participate in the import trade. This is shown below:—

Quantity (lbs.)

	1902-3	1903-4	1904-5	1905-6	1906-7
Bengal .	5,004	8,317	7,990	8,244	1,721
Bombay .	7,603	29,694	22,682	43,807	144,091
Sind .	8,029	76,985	104,120	365,358	331,306
Madras .	734	429	874	1,989	12,095
Burma .	...	12,443	...	...	3,280

Value (Rs.)

Bengal .	1,750	3,296	3,448	3,840	786
Bombay .	3,069	11,256	7,137	18,691	62,532
Sind .	3,394	31,031	45,044	1,56,057	1,43,742
Madras .	302	167	371	895	5,201
Burma .	...	4,972	...	...	1,600

From these figures it appears that the strongest unsatisfied demand exists in the North-Western part of the Continent. It is found, on the other hand, that the East and South predominate in exports.

The extent to which the article continues to be exported in spite of the increased imports is suggestive and points to the desirability of comparing the specific value of the Indian ghi exported and of the foreign ghi re-exported. The quantities and values of the **re-exports of foreign ghi** have been as follows:—

	Quantity (lbs.)	Value (Rs.)	Specific value per lb. (in Rs.)
1901-2 . .	312,526	148,447	·47
1902-3 . .	55,978	25,079	·45
1903-4 . .	2,296	1,0 7	·45
1904-5 . .	3,360	1,200	·45
1905-6 . .	3,343	1,509	·45
1906-7 . .	3,963	1,791	·45

It is a suspicious fact that in the face of a very marked rise in the internal prices there should have been so little change in the specific value of a pound of foreign ghi exported and so minute an advance in the specific value of the **Indian ghi exported.** Taking all the circumstances together it is almost impossible to avoid the conclusion that something in the nature of substitution has been taking place:—

	Quantity (lbs.)	Value (Rs.)
1901-2 . . .	4,454,291	21,03,047
1902-3 . . .	6,418,045	27,26,750
1903-4 . . .	5,390,865	22,90,825
1904-5 . . .	6,097,917	26,67,250
1905-6 . . .	6,491,870	29,38,771
1906-7 . . .	4,884,252	23,65,443

The exports of ghi (Indian and foreign) in the last six years have averaged 5,622,873 lbs. (2,510 tons) per annum with a value Rs. 25,15,347. The average value per ton during that time has been Rs. 1,002 (say £67) and in the period of five years it has risen from Rs. 952 to Rs. 1,085, *i.e.*, by about 14%.

In the exports of Indian ghi Bengal has always predominated; and this predominance has become marked in recent years although Bombay has been and is a strong competitor. Sind, which imports more than any other Province, is, as might be expected, the smallest exporter, in India proper.

In the Indian *Dictionary of Economic Products* (Volume III, page 495), which quotes the estimate of total Indian consumption given in the opening sentence of this article, £45 per ton is stated as the **value of ghi.** The dictionary was published in 1890; but, as the date of the original authority is not given, it is impossible to make allowance for any difference in sterling exchange. In recent years and recent months the internal prices of ghi have advanced greatly. Taking the averages of the monthly wholesale prices recorded in 1906 at 47 stations in India, and calculating the mean of these without regard for the fact that the prices are usually highest where population and consumption are greatest, it is found that the actual figure was equivalent to £72 per ton in 1906. In Calcutta the price was £72-15., while in one district (Pabna) up-country it was £98-6-8 per ton. In 1907 there has been a further marked rise in general prices. Bombay's wholesale price of ghi was recently reported as Rs. 17 per Bombay maund of 28 lbs., and this is equal to £90-13-4 per ton. A letter which appeared in the *Times of India* in the beginning of August quoted the price as Rs. 20 per Bombay maund, equal to £106-13-4 per ton; and it was stated that a few years ago the price even in famine times was only Rs. 11 per maund or £58-13-4 per ton. It seems therefore reasonable to take £75 per ton (rather over 8*d.* per lb.) as a fair average quotation for the present time, and to compare this with the £45 in 1890, the rise proving to be one of 66·6 per cent. At £75 per ton the consumption of 267,000 tons estimated in the *Dictionary of Economic Products* represents a **total value** of 20 millions sterling per annum, while the alternative estimate given in the first paragraph would represent a total of some 56 millions. Bombay City's 4,890 tons at £90 represent £440,000. Calcutta's 6,000 tons at £75 would represent another £450,000. It is probable that in many back-country villages the value of ghi falls considerably short of £75 per ton; but, on the other hand, it is clear that, in the most populous centres, that price is largely exceeded.

These figures suffice to show that ghi is a very important article in the diet of the Indian people; but probably only persons who have lived some years in the country realise the enormous expansion of demand that would follow any abatement in price. There has been a palpable reduction in the indebtedness of the people in India in recent years, an increase in purchasing power and a marked **rise in general prices.** It is patent that the present rates for food-stuffs impose a very sensible burden on such of the people as receive a fixed money payment in return for services, and that a wholesome ghi substitute if made from Indian cotton seed by a process which the people knew to be inoffensive to their prejudices would appeal to a large proportion of the remaining 225,000,000 inhabitants who at present rates cannot afford to use ghi.

It was shown in our last article that if every ton of cotton seed in India were converted into oil and

* For earlier articles of this series, see *Journal* of August 15th, September 19th, and October 10th and 17th, 1907.

every gallon of that oil into **stearine**, the **total production** would give about ·295 of a lb. (say 4¾ oz.) per annum per head of the Indian population. If on the other hand persons who adopted the cheap substitute used it at the rate of only 8 lbs. per annum (2·46 oz. per week as compared with the army ration of 2 oz. per diem) the entire available supply would satisfy the requirements of only 11,060,000 of the possible buyers and would leave some 213·9 millions (or more than 71 per cent. of the population) unacquainted with either ghi or its substitutes. We think therefore that there can be no reasonable doubt as to the existence of a **latent demand**, insatiable as regards cotton oil, for a wholesome substance such as can be prepared in this country, or as to the profitable nature of its manufacture as compared with the production of crude oil.

Stearine is not extracted from the crude oil. The latter is first subjected to the various processes of **refining** which eliminate free fatty acids, albumen, colouring matter and foreign impurities. It is out of the question to give here a practical account of these processes; and it would be waste of time to give a merely popular and superficial account. One point essential to certain calculations is that prime crude oil according to age and quality **loses from 5 to 12 per cent.** in the process of being refined into prime summer yellow oil. Inferior oils may lose as much as 20 per cent. The impurities removed (with the exception of the actual sediment in the settling pans) are sold as **soap-stock**; and the steady growth in the imports of soap into this country leaves little doubt that they could be profitably worked up.

The term "summer yellow oil" used in the foregoing paragraph requires explanation. **Summer oils** are so called because they remain limpid only in the presence of a certain degree of warmth. They become cloudy when the temperature falls below 40 ° F. and solid when it reaches about 30° F. Yellow summer oil is converted into white summer oil by treatment with **fuller's earth**; and after such treatment and filtration the oil should be almost as colourless as water.

Winter oils are those that remain liquid and limpid at 32° F. These consist mainly of the olein alluded to in the 4th article of this series as remaining after the stearine has been congealed and separated by filtration. These winter oils are in great demand for cullinary purposes, for the reason that olein decomposes only at a high temperature and consequently does not give off a disagreeable smell when used for frying. For this reason it is probable that a portion of them could be used in the manufacture of ghi substitutes of a fluid kind, or might even be marketed in their natural condition.

The use of fuller's earth in sufficient quantities to give a clear summer white oil is apt to impart a certain earthy and acid taste, which must be corrected. The most important point is that this part of the operation should be performed quickly and the oil expeditiously separated from the fuller's earth by means of pressure filtration. Thereafter the acid is sometimes neutralised with carbonate of soda and the proper flavour is imparted by churning and washing with **milk** and by blending with milk, cream, or butter. In some qualities the proportion of milk used is very considerable. For this reason it would be desirable in India that a **dairy** should be attached to the refinery and mill. The refinery would probably be designed to work up not only the oil produced in the home mill, but also supplies of oil derived from other parts of the country, since it costs less to transport the oil alone than to transport the seed in bulk.

The dairy itself would afford a certain outlet for some of the cake and meal locally produced, for there is probably no less contested point connected with the use of cotton cake or meal than the increased yield of milk obtained by means of it. This side of the question will be dealt with in a subsequent article.

—For many years past the **copper trade** has been accustomed to rumours that **aluminium** was likely soon to compete with copper for a share in **electrical work.** Aluminium cables have been used in America for some time, and they are now being made in England. No doubt with copper near £100 per ton the new metal, taking into account its low specific gravity, can be employed to advantage; but the time is far off when it can be considered as a serious competitor with copper, simply because there is not nearly enough of it. The make of aluminium, which 20 years ago was less than 100 tons per annum, has of course increased wonderfully, but even at the present time the total output is less than 10,000 tons, whereas the quantity of copper used every year in the electrical industries alone is about half a million tons. Were the whole output of aluminium devoted to the making of electric cables, it could not displace more than about 25,000 tons of copper, and this is scarcely enough to affect the markets. That the time will come when a cheaper method of transmitting electric power will be discovered few experts doubt, and that such a disovery will play havoc with the interests of copper producers; but the fear of aluminium is probably groundless.

CROP FORECASTS.

RICE.

First General Memorandum on the RICE crop of the season 1907-08

The provinces dealt with in this memorandum represent over 78 per cent of the total area under rice in British India, calculated upon the averages of the quinquennium ending 1905-06. The areas reported from Lower Burma, for the **summer** crop of Eastern Bengal and Assam, and for the **summer** and **autumn** crops of Bengal show an aggregate increase of 423,900 acres as compared with the corresponding period of last year; but this is not sufficient to counterbalance the decrease in the areas reported from Madras, Eastern Bengal and Assam, and for the **winter** crop of Bengal. The **total figures** for the four reporting provinces show a net decrease of 607,900 acres or 1·2 per cent.

Estimate made in October of the acreage under rice:—

Provinces	1907-08	1906-07	1905-06
Bengal .	24,461,800	24,592,900	25,150,600
Eastern Bengal and Assam.	15,400,700	16,107,400	15,960,200
Madras . .	3,747,700	3,815,100	3,725,000
Lower Burma .	7,271,000	6,973,700	6,713,400
Total .	50,881,200	51,489,100	51,549,200

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.

Bengal *(34·8%)*.—The area sown with **autumn** (*aus*) rice is reported to be 4,442,600 acres compared with 4,385,900 acres last year—an increase of 1·3 per cent. Weather conditions at sowing time were on the whole favourable. In June and July the rainfall was ill-distributed. In August it was very heavy in Orissa and Chota Nagpur, and the crop on the low lands in Cuttack and Balasore was damaged by floods. Slight injury by floods and excessive rain is also reported from certain districts of Bihar. The average outturn is at present estimated to be 86 per cent of the normal as compared with 70 per cent last year.

The area under **winter** (*aman*) rice, which is the main crop, is estimated at 19,837,500 acres as compared with 20,043,400 acres of last year—a decrease of 1 per cent. The rainfall was excessive in April, but defective in May and the first half of June. The monsoon, however, set in with plenty of rain in the second half of June, but in July and August the fall was deficient in South-West Bengal and in Bihar, and transplantation was delayed in several districts. In Orissa, on the other hand, considerable damage was done in August by excessive rain and floods. Some injury from flood has also been reported from certain districts of Bengal and Bihar. In Chota Nagpur weather conditions have been favourable. The average outturn is at present estimated at about 90 per cent of the normal as against 78 per cent last year.

An area of 181,700 acres was reported in March last to be under **summer** (*boro*) rice, as compared with 163,600 acres in the preceding year.

Eastern Bengal and Assam (23·1%). — The area under **autumn** rice is reported to be 3,525,800 acres as against 3,629,600 acres reported for last year—a decrease of about 3 per cent. The weather at sowing time was highly encouraging, but undoubtedly jute has this year been grown on a large area which bore autumn rice twelve months ago, and though much land has been put under autumn rice which last year bore no autumn crop at all, the increase due to the latter cause is not sufficient to counterbalance the decrease due to the substitution of jute. The season on the whole has been more than usually favourable, though reports of damage by floods and insects have been received from certain districts. The average outturn is at present estimated at 87 per cent of the normal as against 68 or 69 per cent last year.

The area under **winter** rice is estimated at 11,593,600 acres against 12,248,300 acres last year—a decrease of 5·3 per cent. Weather conditions were excellent up to the middle of July. A period of scanty rainfall then set in and continued till the end of August; the preparation of land and transplanting were consequently delayed and the crop which had been planted made very poor growth. At the end of August prospects were gloomy. During September there was a succession of light falls of rain throughout the province, and the cultivators took advantage of this to plant out as much land as they possibly could, and the sowing continued at the date of report (2nd October), but time will not suffice for planting out a normal area. To obtain even a moderate yield somewhat more than the usual amount of rain is necessary during October. The average outturn per acre is at present roughly estimated at 81 per cent of the normal.

The area cultivated with **summer** rice was reported in May last to be 281,300 acres as compared with 229,500 acres in the preceding year—an increase of 22·6 per cent. Heavy rain damaged the crop at the time of harvest, and the average outturn was estimated at 80 per cent of the normal as against 88 per cent last year.

Madras *(10·6%)* reports the total area sown in raiyatwari villages up to the end of September to be 3,747,700 acres, which is 2 per cent less than the area at the corresponding date of last year and 4 per cent below the average of the preceding ten years. The total area reported from villages other than raiyatwari is 219,900 acres, which is about 79 per cent more than the area reported for the corresponding period of last year. The general condition of the crop is reported to be from fair to good, but rain is needed in places.

In **Lower Burma** *(9·8%)* the total area under rice in the fifteen chief rice-growing districts is estimated at 7,271,000 acres—an increase of 297,300 acres or 4·3 per cent as compared with the actuals of last year. Rainfall began somewhat late, but has been ample and well-distributed. Cultivation is now well advanced, the condition of the standing crop is generally very good, and prospects are most favourable.

SESAMUM.

Second General Memorandum on the SESAMUM (til or jinjili) crop of the season 1907-08

This memorandum deals with provinces containing areas under sesamum representing about 70 per cent of the total acreage under that crop in British India, calculated on the average of five years ending 1905-06. The first forecast on the Hyderabad crop will be received in January next, and from Bengal and Eastern Bengal and Assam in March.

The figures of acreage reported by the United Provinces, the Central Provinces and Berar, and Madras show increases amounting respectively to 3·5, 4·6, and 7·6 %; but against these must be set large decreases in the figures reported by Bombay (25 %), Sind (17 %) and the Panjab (19 %). The **total figures** for all the provinces dealt with in this memorandum show a net decrease of 8·4 per cent.

In the United Provinces, the Central Provinces, and in the northern parts of the Bombay Presidency, the crop is withering on account of prolonged drought. In Madras, Sind, and the southern parts of the Bombay Presidency, the crop is in fair to good condition. The irrigated crop of the Panjab is reported to be "fair to below average," but the state of the unirrigated crop is bad owing to the failure of the rains.

Estimate of the acreage under sesamum in October.—

Provinces.	1907-08	1906-07	1905-06
United Provinces (*a*) .	320,000	309,200	278,200
Central Provinces and Berar.	847,600	810,600	792,800
Madras (*b*) . . .	314,000	291,800	478,600
Bombay (*c*) . .	786,800	1,049,400	893,000
Panjab . . .	77,100	95,500	133,700
Sind (*c*) . . .	46,600	55,900	84,400
TOTAL .	2,392,100	2,612,400	2,660,700

(*a*) For "unmixed" crop only.
(*b*) For raiyatwari villages only up to end of September.
(*c*) Including Native States.

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 sesamum in British India is ordinarily cultivated in that province.

United Provinces (**20%**).—The area under 'unmixed' crop is at present estimated at 320,000 acres, which is slightly above last year's area. No estimate is now possible of the area under 'mixed' crop which usually constitutes more than two-thirds of the total area under sesamum in the province. The rainfall in August was favourable and sesamum was sown on a somewhat larger scale than last year. But the crop is now withering owing to the cessation of the rains at the close of August, and the final return is likely to show a reduction in the area now estimated. The outturn is at present estimated at 25 per cent of the normal in Bundelkhand (where more than three-fourths of the total sesamum area of the province is cultivated) and at 50 per cent in the rest of the province. This estimate also is liable to further reduction as the effects of the drought cannot be fully ascertained at present.

Central Provinces and Berar *(18·5%).*—The total area is now estimated to be 847,600 acres (755,800 in the Central Provinces and 91,800 in Berar) as compared with 810,600 acres (720,400 in the Central Provinces and 90,200 in Berar) for last year—an increase of 4·6 per cent. The good outturn and prices obtained last year combined with favourable conditions at sowing time induced the cultivators to extend the area under sesamum. In the August forecast the prospects of the crop were described as satisfactory. Since then, however, the seasonal conditions have not been favourable. The rainfall of August was heavy and continuous, and considerable damage was caused to the early sown crop. In the middle of that month the rain ceased suddenly and the

plants withered in several districts. The crop is now reported to be deteriorating for want of sufficient moisture, but a good shower of rain would improve it greatly. The state of the late sown crop is also disappointing except in two districts. The reports received from districts point to an outturn of 88 per cent of the normal in the Central Provinces and of 65 per cent in Berar. If, however, the drought continues, the outturn is sure to be reduced.

Madras *(17·2%)* now reports 314,000 acres under sesamum in raiyatwari villages up to the end of September—an increase of about 8 per cent (22,200 acres) as compared with the corresponding period of last year, but a decrease of 28 per cent as compared with the average of the preceding five years. Villages other than raiyatwari report a total area of 25,500 acres which is more than double the area reported for the corresponding period of last year. The condition of the crop is reported to be either fair or good.

The British districts of **Bombay** *(8%)* estimate the total area sown, so far as reported, to be 293,400 acres, which is 35·4 per cent less than the area at the corresponding date of last year. The Native States (including Baroda) report 493,400 acres as compared with 595,500 acres at this date last year—a decrease of 17 per cent. The decrease is attributed to the late commencement of the monsoon, to incessant rain in Gujarat and North Deccan, and to insufficiency of sowing rain elsewhere. The crop is now withering in most parts of Gujarat and North Deccan, and is expected to yield only a poor outturn. In South Deccan and East Karnatak the crop is fair where it has been helped by the recent rains. In the Konkan and West Karnatak it is good.

Panjab *(4%)* now estimates the area to be 77,100 acres as compared with 95,500 acres for last year—a decrease of 19·3 per cent. The condition of the irrigated crop is "fair to below average." The state of the unirrigated crop is bad and little yield can be expected owing to the failure of the rains.

Sind *(2%)* reports the total area to be 46,600 acres (3,900 in Native States) as compared with 55,900 acres (4,400 in Native States) at the corresponding date of last year—a decrease of about 17 per cent, attributed to low inundation. The condition of the crop is at present fair.

C. W. E. COTTON,
Assistant Director of Statistics,
for *Director-General of Commercial Intelligence.*

CHAMBERS OF COMMERCE.

BENGAL.

THE following is an abstract of the proceedings of the Bengal Chamber of Commerce for the month of September, 1907 :—

The proposed formation in London of an **East India Committee** was last referred to in the proceedings for July. The views of the Bombay Chamber of Commerce were then stated; and it was added that the Bengal Chamber were awaiting an expression of opinion by Mr. W. Parsons, their representative in England, upon the draft scheme which had been submitted to him. A communication was received from Mr. Parsons early in September, and it was to the effect that opinion in London was unfavourable to the suggested new organisation. He had consulted several leading members of the Chamber, who are now either permanently or temporarily resident in England; and he had ascertained that they foresaw many difficulties in the way. Their view was that, if an attempt were made to represent Indian mercantile opinion officially in England, the position of the Indian Chambers of Commerce might be weakened.

In these circumstances, and seeing also that the Bombay Chamber is opposed to the scheme, the Committee of this Chamber decided to abandon it. They regretted to have come to this conclusion, but it seemed to them that to proceed further would be clearly unwise. For to take any step which would be regarded in England as being likely to diminish the influence which is now exercised by the Indian Chambers would be a grave mistake. This decision was communicated to the different Indian Chambers on the 9th September.

On the 6th September the opinion of the Committee was invited by the Director-General of Commercial Intelligence on a proposal with reference to the list of articles specified in the **seaborne trade returns.** Some changes were made in the list in 1905, with the object of splitting up certain sub-heads, mainly "other sorts." But this process had not been, the Director-General considered, carried far enough. The heading "other sorts" had very little value for practical purposes and its use should be, he thought, reduced to a minimum. He had therefore made certain suggestions in this direction to the different Collectors of Customs, and upon these he asked the opinion of the Committee.

The matter was referred to the Committee of the Calcutta Import Trade Association, whose views are now awaited.

At a meeting of the Darjeeling Planters' Association held on the 31st August, it was resolved to ask the Chamber to draw the attention of the Government of India to the delay which is occurring in the settlement of the **Lower Ganges Bridge Project.**

On consideration, it did not seem to the Committee of the Chamber to be necessary for action to be taken. The papers were, they believed, forwarded to the Secretary of State by the Government of India as lately as July last. That being so, it seemed to be clear that sufficient time had hardly elapsed for a decision to be come to. They informed the Darjeeling Planters' Association that this was their opinion; but they promised to keep the question before them, with a view to moving further should it be necessary to do so.

In the *Abstract* for June reference was made to certain orders which had been passed by the Director-General of Telegraphs with respect to **signatures on telegrams.** These orders had resulted in the refusal of telegrams on which the name of a firm had been signed by a member of the firm duly authorised to sign it. That is to say, the signature of a firm, which was accepted on all other documents and papers, was refused on telegrams. The Committee presumed that this was not the intention of the Director-General when passing the orders in question; and they thought that the signature of a firm should not be taken exception to. But if a rubber stamp were used, they considered that the name of the person responsible for the message should be signed also.

The Committee made a suggestion to this effect to the Director-General on the 21st June; and on the 3rd September they were informed in reply that it had been accepted, and that the necessary changes would be made in the rules in the Indian Telegraph Guide.

During the month the Director-General of Telegraphs drew the attention of the Committee to the recent great increase in the number of **mutilated telegrams.** From enquiries which had been made, it had been ascertained that a large proportion of the mutilations were due (1) to the very complicated combinations of letters of which many code words are now composed; and (2) to the doubtful formation of certain letters in the handwriting of both senders of messages and of signallers at transit offices. The Director-General asked that the danger of using combinations differing but little from mere letter code should be brought before the notice of members of the Chamber. Simple and pronounceable combinations for code words were very desirable; and it was also advisable that all code messages should be typed or very clearly written.

The Committee have invited the attention of the members of the Chamber to the matter.

At their meeting of the 10th September the Committee had before them an inquiry as to whether steamer owners or agents can decline to accept **responsibility for shortages** as made up and shown by the Port Commissioners' outturn statement. It was the opinion of the Committee that the outturn statement is in no way legally binding on owners and agents of steamers. The statement has no legal authority; and when steamer owners or agents hold Port Commissioners' receipts, they are freed from all further responsibility.

MADRAS.

The following extracts are taken from the proceedings of the monthly meeting of the Madras Chamber of Commerce held in September, 1907:—

READ and recorded (1) letters, dated the 5th September, from the Government of India with enclosure, and from the Upper India Chamber of Commerce, dated the 10th September, in reply to the Chamber's letter of the 16th ultimo, protesting against the diversion of any portion of the profits of coining from the **Gold Standard Reserve** for Railway capital expenditure, (2) copy of a letter from the Bengal Chamber of Commerce to the Government of India, dated the 6th September, suggesting the appointment of another Currency Commission to reconsider the currency question.

READ a letter, dated the 21st August, together with a note on the subject of Customs duty on **material used in Electric power transmission plant.**

Resolved that the Government of India be addressed with a view to a special tariff being adopted for electrical machinery and appliances.

Bombay Yarn Imported into Singapore.—*Read* a letter, dated the 2nd September, from the Chamber of Commerce and Exchange, **Singapore,** enclosing copy of a report and tests made by a Sub-Committee upon samples of **Bombay Yarn** bought in that market.

Resolved to inform the Exchange that, in this Chamber's opinion, the best course for it to adopt, in order to prevent the importation of such yarn, would be to protect the port by the introduction of a Merchandise Marks Act.

PUNJAB.

At a meeting of the Punjab Chamber of Commerce on the 18th ultimo, the following matters came up for consideration:—

READ letter No. 2514-M. from the Manager, **Oudh and Rohilkhand Railway,** dated 2nd September, 1907, in which he states, in reply to this Chamber's letter of 29th June, 1907, that special rates for the **carriage of Jaggree** were granted to the Rosa Factory many years ago because Rosa is situated on his line and the whole of the manufactured article is carried on it, the railway being able to quote lower rates for the raw material which is manufactured and rebooked over their line than for similar raw material booked to a station on a foreign line. He further states that the whole question of rates on gur and molasses is being considered by the Railway Conference Association and promises that the rates referred to by the Chamber will be considered when the result of references made by the Secretary of the Association to the various administrations is known.

Resolution.—Letter to be filed. Copy to be sent to the Karnal Distillery for information.

READ letter from the Secretary, Madras Chamber of Commerce, dated 5th September, 1907. The

Secretary of the Madras Chamber referring to the test that the Customs Department in Calcutta recently proposed to apply in order to differentiate between **fast and fugitive colours in piece-goods,** states that his Committee, while not prepared to make definite suggestions as to the nature of the test that might be adopted, are of opinion that some action should be taken in the direction proposed. He invites an expression of this Chamber's views on this subject.

Resolution.—The Secretary, Madras Chamber of Commerce, to be informed that this Chamber, while of opinion that a fair test, if in force at all the ports, would no doubt prove beneficial, considers that it is for the interested parties at home, such as the Manchester and Glasgow Chambers of Commerce and the Calico Printers' Association, to decide what would constitute a fair test.

CAPETOWN.

We take the following extract from a return placed on the table at a meeting of the Capetown Chamber of Commerce on September 16th:—

Customs Returns of Cape Colony for the seven months ending July 31st, 1907, as compared with the same period of 1906.

	January to July.	
	1907.	1906.
Imports.	£	£
Merchandise oversea	8,612,051	10,129,553
Stores for other South Africa Governments	200,450	78,369
	8,812,501	10,207,922
Less exported to other South African Colonies	2,862,775	3,599,918
Retained for consumption in Cape Colony	5,949,726	6,608,004
For the Government of Cape Colony	296,967	273,902
Specie	325,038	193,976
Total value of imports	6,571,731	7,075,882
Exports.		
Oversea	25,913,963	22,141,204
Less imported from other South African Colonies.	19,483,907	16,238,543
Oversea exports of Cape Colony produce	6,430,056	5,902,661
To other Colonies in South Africa	1,659,869	1,643,411
Imported goods re-exported oversea	235,230	226,307
Specie	238,800	150,954
Total value of exports	8,563,955	7,923,333

—A company has just been registered at Manchester, with a capital of £20,000, to carry on the business of cultivators of **raw cotton in the Northern Transvaal.** The title of the company is the Zoutpansberg Cotton Syndicate, Ld.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 12th OCTOBER, 1907.

Burma.—The rainfall during the week was general; it was fair in the dry zone and good elsewhere. The recent rain has done considerable good everywhere and prospects have much improved all round. Reaping of hill side paddy has commenced in Katha; and has been completed in Akyab, Kyaukpyu and the Northern Shan States. Transplanting of wet weather paddy is completed in Myaungmya and Salween, and is progressing in several Upper Burma districts. Reaping of early wet weather paddy has commenced in Amherst; and is approaching completion in the Southern Shan States; harvesting is completed in the Arakan Hill Tracts and the Northern Shan States. Reaping of early sesamum is completed in the Northern Shan States; and sowing of late sesamum in the Thabeitkyin sub-division of the Ruby Mines district. Ploughing for peas has been completed in Lower Chindwin. Plucking of cotton is in progress in Lower Chindwin and Myingyan. Cultivation of miscellaneous crops in Upper Burma continues. Some more rain is wanted in the Yamethin sub-division of Yamethin where crops on highlands have withered for want of timely rain; cotton has failed in parts of Myingyan from the same cause. The condition of the standing crops is very good in Lower Burma and generally fair in Upper Burma; but poor in the northern parts of Meiktila and Yamethin. The price of paddy has risen considerably in Mandalay; it has fallen considerably in Henzada and slightly in Pyapon and Mergui; elsewhere it is unchanged.

Eastern Bengal and Assam.—The weather is seasonable. Slight to moderate rain has fallen in most districts. More rain is wanted in Eastern Bengal especially in Bogra, Rajshahi and Faridpur. Plucking and manufacture of tea are in progress and prospects are generally fair to good. Harvesting of jute is nearly finished and the outturn is fair to good. Harvesting of early rice still continues in Lower Assam. Transplantation of winter rice is finished; the crop has suffered to some extent from drought in East Bengal and Lower Assam, the districts most affected being Bogra and the northern part of Dacca. Sowing of pulses and ploughing for mustard continue. Prices:—common rice—Manipur 17; Rangamati and Kohima 10; Sibsagar 9; Dinajpur 8⅜; Chittagong 8⅛; Barisal, Noakhali, Nowgong and Comilla 7 1/16; Faridpur and Pabna 7¼; Dacca, Mymensing, Bogra, Malda, Sylhet, Dhubri and Gauhati 7⅛; Silchar 7¼; Rampur Boalia, Jalpaiguri, Tezpur and Dibrugarh 7; Rangpur 6¾; and Shillong and Aijal 5½ seers per rupee. Prices have risen in one; have fallen in eight; and have remained stationary in the remaining districts.

Bengal.—Light rain was received in Nadia, Jessore, Khulna, Purnea, Cuttack and Cooch Behar and also in parts of Burdwan, Hooghly

and the Sonthal Parganas; in the rest of the Province there was no rain at all. More rain is still urgently wanted in almost all districts for winter paddy. Crops are reported to be suffering from want of rain in Burdwan, Gaya, Shahabad, Monghyr, Angul, Puri, Sambalpur, Hazaribagh, Ranchi and Palamau. Prospects are unfavourable in Murshidabad, Jessore and Palamau. Sugarcane is doing well in most districts; it is reported however to be withering for want of rain in Puri. Harvesting of autumn crops is nearly completed. Fodder is insufficient in parts of Nadia, Balasore and Puri. Water is also insufficient in the last-named district. The price of common rice has risen in thirteen; and has fallen in four districts.

United Provinces.—The week was rainless. The standing crops are withering. Harvesting is in progress in places. Sowings have commenced in a few districts with the aid of earthen wells or where moisture is sufficient. Ploughings for the spring crops have generally either been stopped or retarded. Prospects are gloomy. If no rain falls test works will be required in Hamirpur next month; and probably in other districts also. Advances are being freely distributed. Slight damage by insects is reported from Jaunpur. The condition of agricultural stock is poor in the southern portion of the Bareilly district. Grass is drying up in Unao and Mirzapur; and fodder is scarce and dear in parts of fifteen districts. The water-supply in Lucknow and Fatehpur is becoming deficient. Markets are well stocked except in Garhwal and Lucknow where supplies are short. Grain is being imported mainly from the Punjab. Prices have reached or exceeded scarcity rates in a number of districts; and are still rising.

Punjab.—Slight rain has fallen in parts of Sialkot and Lyallpur. Wheat is selling at scarcity rates in Gurgaon, Amritsar, Mainwali and Lyallpur; above scarcity rates in Hissar, Rohtak, Ambala, Sialkot and Shahpur; and at warning rates in Rawalpindi and Multan. Prices of other food-grains are also generally at or above scarcity rates in all districts, except that of maize which is selling at normal rates in Shahpur; prices are unchanged in Delhi and Jullundur; and are rising high in Ferozepore and Lahore. Cotton-picking and rice-harvesting are in progress in some districts. Ploughings for and sowings of spring crops continue in certain districts; but no sowings are possible in Rawalpindi and on unirrigated lands. Autumn crops have totally failed in many districts; and in some districts irrigated crops have also suffered on account of strong westerly winds and early cessation of the rains. Rain is badly needed throughout the Province. The outturn of the autumn crops is generally expected to be below average. Boll-worm and moth-borer continue damaging cotton and sugarcane crops in Jullundur; rats and green-fly are also damaging crops in Ferozepore, Lahore and Sialkot. The condition of cattle is good, except in Sialkot where cattle are getting weak with overwork. Fodder is scarce in Delhi and Sialkot; in Lyallpur green fodder is insufficient. The canal water supply is insufficient in Delhi and in the Burala Branch of the Chenab canal in Lyallpur.

North-West Frontier Province.—No rain fell during the week. Rain is badly wanted all over the Province. The condition of the standing crops is satisfactory on irrigated lands; but on unirrigated lands standing crops are in need of rain. In Dera Ismail Khan the condition of crops is bad. Sowings of spring crops are in progress; also irrigation from the Paharpur canal. The water-supply is sufficient except in the Bannu district. Fodder is procurable. Cattle are in good condition. Prices are rising. Prices:—wheat $11\frac{1}{4}$ to $15\frac{1}{2}$; maize $15\frac{1}{16}$ to 22; gram $11\frac{15}{16}$ to 20; and *bajra* $15\frac{1}{4}$ to 22 seers per rupee.

Jammu.—There was no rain during the week. Prices are rising. Prices:—wheat from $9\frac{1}{2}$ to 16; and maize 14 to 29 seers per rupee. The standing crops are withering for want of rain. Scarcity of fodder is being complained of in the Akhnoor, Ramban and Kathua tahsils.

Kashmir.—The weather during the week was bright, except on two days when it was rainy. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.
CROP PROSPECTS.
(*By Telegram.*)

Shillong, October 22nd.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 21st instant:—

The weather is fine and seasonable. Very little rain has fallen in most districts; in others none at all. In practically all parts of the province more rain is wanted for winter rice and other growing crops.

Prospects of winter rice on the high land are poor; but on lower land are moderately good. The harvesting of early rice still continues in Lower Assam.

The sowing of pulses is nearly finished, and the sowing of mustard has commenced.

The harvesting and retting of jute are practically finished.

The plucking and manufacture of tea continue.

The prospects of jute and tea are fair to good.

The prices of common rice are:—Manipur, 20; Rangamati, 21; Kohima, 10; Nowgong and Sibsagar, 9; Chittagong, $8\frac{3}{4}$; Barisal, Noakhali, Malda and Sylhet, 8; Commilla, $7\frac{13}{16}$; Dinajpur, Pabna and Silchar, $7\frac{3}{4}$; Dacca, Mymensingh, Bogra, Dhubri, and Gauhati, $7\frac{1}{2}$; Faridpur, Jalpaiguri, Tezpur and Dibrugarh, 7; Rampur Boalia, $6\frac{3}{4}$; Rangpur, $6\frac{1}{2}$; Tura, 6; and Shillong and Aijal, $5\frac{1}{2}$ seers per rupee.

Prices have risen in three, fallen in six and have remained stationary in the remaining districts.

The stocks of food grains are generally sufficient for the immediate future and no relief works are necessary. Future prospects depend on the outturn of the winter rice harvest.

THE THREATENED SCARCITY.

Message to the Secretary of State.

THE following is a copy of telegram, dated the 21st instant, despatched to the Secretary of State by the Viceroy regarding weather and crop prospects:—

Except in the case of Burma, where prospects have improved by good rain, and in Southern India and Eastern Bengal and Assam, where there is not much change to report, the agricultural situation has become worse during the past week. There has been slight but insufficient rain in Bombay and Bengal, but in Northern and Central India the week has been practically rainless and in the north hot, dry winds have increased the damage.

Prospects are, as before, worst in the United Provinces, the Punjab, the North-West Frontier Province and Rajputana, where the autumn crop on unirrigated lands must now fail; while in Central India, in some of the Bombay districts, and in a large area of the Central Provinces, the outlook is becoming increasingly serious.

Good rain would even at this late date do much to relieve the situation by facilitating the sowing of the spring crops, and the people are reported to be still hopeful that rain will fall, and to be facing the adverse out look with confidence.

The local Governments are watching the situation with care and making preparations for action when relief becomes necessary. It will probably be advisable to open test works in the United Provinces at an early date.

Prices have continued to rise since our last telegram; they are far above normal and are still rising.

Labour has been in great demand this year, and wages are high. Should these conditions continue the problem of relieving distress will to some extent be simplified.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 3rd October, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

DOMINION OF CANADA.—Regulations under the "Inspection of Meats and Canned Foods Act, 1907."

SOUTH AUSTRALIA.—Plant Regulations.

EGYPT.—Revised Valuation Tariff for Black Pepper.

FRANCE.—Customs Treatment of Heliotropine. Customs Treatment of Cold-Pressed Steel Bars. Opening of a Bureau at Morteau for the Importation of Gold and Silver Wares.

UNITED STATES OF AMERICA.—Certificates of Disinfection for Hides from Great Britain dispensed with under certain conditions. Small Importations admitted without Formal entry. Customs Decisions

CHINA.—Periods for Returning Exemption Certificates.

SHIPPING TRADE OF CALCUTTA.

WRITING to his Government on the Calcutta shipping trade, the American Consul-General here says:—

Fifty-six vessels sailed from Calcutta destined for the United States during the calendar year 1906. They sailed for Boston, New York, and Philadelphia with general cargoes, consisting of hides and skins, raw jute, gunnies, hessian cloth, and tea. Not one of the fifty-six vessels loaded in the United States for direct return to India. Some of them brought commodities from the United States, but also carried articles for intermediate ports, and gathered up cargo wherever they could do so, thus requiring several months for the return voyage. Of course, this fact takes away the value of this channel as a trade connection between the United States and India when time enters into the calculation as an element of importance, and at once suggests that it is better to ship from some American port by direct vessel to Liverpool and tranship there direct for Calcutta.

One importer from the United States, an American, ordered goods shipped by a return steamer from New York, hoping to save money and the possibility of damage to his goods by rehandling at Liverpool. The vessel that recieved his goods at New York cruised round in the Mediterranean, the Red Sea, and thence to Karachi, Bombay, Madras, and finally to Calcutta. The result was his goods were three months behind the opening of the season when he needed them, and another class of goods included in the same consignment was so long behind promised delivery that he lost many sales and his business was greatly damaged. Since that experience this importer always accompanies his orders with specific instructions to send goods *vid* Liverpool, where they are transhipped to Calcutta. No merchant or importer of goods from America to India who desires his goods delivered promptly, or within a certain time, ships by return vessels from the United States. Of course it would be quite different if the vessels that take cargoes from India to America could get at one point full return cargoes. Then they would make as quick time as possible on the return trip, and the two countries would be connected by transportation that would be mutually beneficial; indeed, this would very soon bring about a large increase in importations into India from America.

—H. M. Minister at Athens has forwarded a despatch from the British Delegate on the International Financial Commission respecting the **Greek currant crop**, reporting that the crop for this season promised to be abundant and estimated at from 320 to 330 million Venetian pounds as against 280 to 300 million last year. During the drying period, however, torrential rains caused considerable damage and the quantity of currants in good condition is now put at 290 millions (136,000 tons).

to only about 25 per cent. of the imported cotton goods, and, as we have seen, a part of the production is exported. In Bombay there are four factories for hosiery, a branch of the trade that has fallen largely into the hands of Continental manufacturers.

The Outlook.

In 1905-06 there was booming prosperity in the Indian cotton industry, but in 1906-07 came reaction, chiefly owing to the troubles in the China market. The situation was alleviated by the enhanced home demand for yarns and cloth, arising partly from the cheapness and improved quality of these goods, partly from the influence of the *Swadeshi* movement, which finds favour with large numbers who do not countenance political agitation or sedition. The policy pursued by the best mills in the profitable year 1905-06 of applying large sums to depreciation, of building up reserves, and of extending plant and machinery proves that the financial side of the industry is not disregarded. With the home cultivation of better varieties of cotton, with the expansion of demand for yarns in China as railways are extended, with the exploitation of new markets for yarns and cloth, and with closer attention to the requirements of the Indian market, there is every porbability of steady development in both the spinning and the weaving branches of India's greatest manufacturing industry.

AMERICAN MANUFACTURERS' TOUR.

Joint Commercial Trip to Europe.

WITH a view to extending the export market for American manufactures, Consul Robert J. Thompson of Hanover, Germany, has outlined a plan to enable American manufacturers to make excursions to foreign commercial centres, following somewhat the practice of business men in certain cities of the United States, who, from time to time, organize extensive trips to different sections of the country in order to develop their domestic trade. The gist of the Consul's remarks on this subject is to the following effect:—

It is the practice in a number of chief American manufacturing cities to organize considerable parties or delegations of prominent manufacturers and merchants, generally under the auspices of manufacturing associations or boards of trade, which parties make tours of investigation into sections more or less remote from their distribution centres or bases of production. The visiting business men are entertained and sentiments of trade reciprocity are developed and exchanged. That these excursions are really productive of largely increased commercial relations between the sections of the country concerned is demonstrated by the fact that they are becoming more and more popular.

Benefits to be Gained.

It is my desire to suggest the promotion, on the part of the steamship lines, in conjunction with American manufacturing associations and boards of trade, of such excursions from America to foreign countries. To this end care and study should be given the tour to make it successful. It should be conducted by experts and accompanied by prominent merchants and officials. Some of the benefits that may be gained by such a trip are an interesting, valuable, and pleasant voyage, educational advantages in the way of broadening the view of the American manufacturers, direct business secured and acquaintances established, the study of markets, needs, methods, and processes of foreign manufacturers and merchants, and the awakening of sentiments favouring reciprocal trade relations generally.

A preliminary and tentative programme should be made up. This could, for example, give the date of arrival at the foreign port, and starting from there give a list of cities to be visited with their population, leading industries, financial importance, bank clearances and deposits, with illustrations of historic or unique features: also illustrations of large or important factories. If it were found advisable, after testing the sentiment of the American manufacturing and commercial world on the subject, the excursions could be divided into classes according to the several leading industries.

PRICES OF COMMODITIES.

THE following are the index-numbers of the prices of forty-five commodities, compiled by Mr. A. Sauerbeck, for August, 1907, the average of the eleven years 1867-1877 being 100:—

	Average.		Monthly Numbers.
1878-1887	=	79	
1887-1896	=	68	
1890-1899	=	66	
1897-1906	=	70	
		—	
1883	=	82	
1896	=	61	
1900	=	75	
1901	=	70	
1902	=	69	
1903	=	69	
1904	=	70	
1905	=	72	
1906	=	77	
			December, 1889 = 73·7
			February, 1895 = 60·0
			July, 1896 = 59·2
			July, 1900 = 76·2
			December, 1901 = 68·4
			August, 1906 = 76·7
			December, 1906 = 79·7
			March, 1907 = 80·0
			April, 1907 = 80·7
			May, 1907 = 82·4
			June, 1907 = 82·0
			July, 1907 = 81·1
			August, 1907 = 79·4

The decline in the general average index-number during the past month is rather important, though the fall of some articles was partly balanced by the rise of others. Wheat and maize were dearer, but barley, oats, and potatoes showed lower quotations, and the various kinds of meat were rather cheaper. Sugar ruled firm, but tea was weak. Among minerals we have to record slightly lower prices for iron and lead, a strong tendency for coal, but a considerable reduction for copper and tin. Copper, with a fall from £87 per ton to £76¼, has reached a more reasonable level, while tin at £165¾ per ton (against £182⅛ at the end of July) is still very dear. Cotton had a small advance, but jute and hemp were somewhat cheaper. In the group of "sundry materials" oils experienced a reduction.

The prices and index-numbers of **silver** compare thus (60·84*d.* per oz. being the parity of 1 gold to 15½ silver=100):—

	Price.		Index-Number.
Average, 1887-1896	38¾*d.*	=	63·8
Average, 1897-1906	27⅛*d.*	=	44·6
Average, 1893	35⅝*d.*	=	58·6
Average, 1902	24 1/16*d.*	=	39·6
Lowest, November, 1902	21 1/16*d.*	=	35·6
End, December, 1904	28⅜*d.*	=	46·6
End, March, 1905	25 13/16*d.*	=	42·4
End, December, 1906	32 5/16*d.*	=	53·1
End, July, 1907	31 11/16*d.*	=	52·5
End, August, 1907	31½*d.*	=	51·8

AMERICAN GOODS IN INDIA.

More Drills Required.

IN a Report to the U. S. A. Government, dated July 27th, Special Agent W. A. Graham Clark says:—

"The Indian textile market is a more difficult one for the American manufacturer than is the Chinese market. The basic reason is that America exports heavy, plain gray goods, while India requires light, ornamented gray goods. This is more the reason for small sales of American cloth so far than the fact that the English monopolize the selling agencies, the banks and the shipping. Great Britain cannot always monopolize this tremendous market in the face of America's increasing capacity for competition and India's increasing consumption. It is inevitable that within the next few years more American cloth will find an outlet in India. On the finer classes of white shirting, on nainsooks, mulls, muslins, lawns, jaconets and scarfs, all of which cloths are imported in great quantity, there is practically no possibility at present of American competition with Great Britain in India.

"In India as well as other ports of the world, the field that is opening out before American cotton mills lies mainly in gray goods and in prints. The goods that America should be shipping India are drills, jeans, sheeting, T-cloths, gray shirting, turkey red shirting and prints. The United States can, and certainly will before long, compete here on these lines. Besides these, there is a possibility of competing on chadars, gray dhooties and some grades of white shirting.

"At present practically the only American cloth sold in India is Pepperells 'Dragon' drills, but American drills are preferred to English, and there is a good opening for more American drills. The United States sells less than one-third of the drills imported into India, but by concerted effort could capture the foreign drill market here as completely as American manufacturers have already done in Manchuria. On jeans and sheeting there is a small market that should be cultivated. The gray shirting is preferred to the sheeting in India as being lighter and cheaper per yard. On T-cloths also there is no reason why America should not now be supplying this market, the simple coloured headings required not being much of a drawback.

"The T-cloth required is a 7-pound, 32-inch, 24-yard piece of goods. The practicability of American competition in gray shirting, I think, is clear, though it has to be remembered that American mills will have to size somewhat heavier than they now do.

Dyed Goods.

"Besides gray goods, America can compete in India in solid dyed goods, such as Turkey red shirtings and some others. There is also a good chance for competition on the ordinary shirting prints and possibly on other kinds of prints. There are some 24 to 25-inch prints, also some 27 to 28-inch prints used in India, but the great majority of prints are either 31 to 32 or 37 to 38. There are some split prints imported 23 to 24 inches, and some wide prints up to 48 inches, but the bulk of the prints are between 31 and 38 inches. Prices vary so that quotations here would be of no use without a sample for each quotation, but by writing to the Collector of Customs, Calcutta, for a sample copy of the 'Daily List of Imports' (5 annas per copy) the current range of prices at any time can be readily ascertained.

"In the Philippines on the regular 24 to 25-inch prints the American product is rapidly displacing the British, and this in spite of the fact that the present tariff applies alike to America and to foreign nations. The American prints have won the day there by being of better material and using faster colours. This shows that America can compete with Great Britain on narrow prints, and that there is a good chance for competition on the wider Indian prints.

"The greater quantity of cloth imported into India is light gray goods; so the market is much easier than it would be if the bleached or dyed goods controlled the field. Calcutta is the great piece goods import centre, and Bombay next, while Delhi and Amritsar are the two most important interior piece goods centres."

—According to a report from the Austro-Hungarian Consul at Johannesburg there is a very important **demand for graphite lubricants in the Transvaal.** A Company has just acquired two beds of graphite, situate in the Rustenburg district, one for a period of 99 years and the other for 25 years. The experimental working so far carried out have given very encouraging results, and indicate that there are about two million tons of graphite in the beds fully equal in quality to the imported graphites which are sold at very high prices. The Company proposes to export large quantities of graphite to Great Britain and to manufacture lubricating grease at Johannesburg. It is said that at prices 50 per cent. lower than those listed for foreign goods they will be able to make a good profit.

TRADE OF THE SEYCHELLES.

Imports.

THE following is extracted from the Governor's Report of the Seychelles for 1906 :—

In the following table is given the total value of imports and exports, with and without specie, for the last six years :—

Year.	Imports without specie.	Imports with specie.	Exports without specie.	Exports with specie.
	Rs.	Rs.	Rs.	Rs.
1901 . . .	11,49,646	12,16,646	14,17 515	14,83,245
1902 . . .	8,61,169	9,43,819	10,94,268	12,37,405
1903 . . .	9,66,641	10,4,641	8,25,525	9,68,325
1904 . . .	8,29,211	9,05,171	7,24,187	8,01,894
1905 . . .	7,89,785	8,23,452	8,08,032	8,46,744
1906 . . .	8,11,366	9,16,397	7,94,681	8,07,781

The declared value of imports in 1906 was Rs. 8,11,366 exclusive of specie to the value of Rs. 1,05,031. The volume and value of imports generally represent the credit of the previous year. The depression in the purchasing power of the community dates from 1902 when the high prices for vanilla were coming to an end but the credit which accompanied the "boom" lasted through 1903. Trade was slack throughout 1906 in so far as it depended on the earnings of the bulk of the residents; and, were it not for investments in new enterprises, the figures would have been still lower. The importation of the specie, however, to an amount unequalled since 1898 represents a portion of the capital which has again commenced to flow into the Colony; this money circulates among the labouring classes, and will reflect on the volume and value of the imports as soon as the enterprises on foot should become more thoroughly organised.

The imports, excluding specie, when classified according to countries of origin, present the following proportions :— From the United Kingdom, Rs. 2,57,315, or 32 per cent.; from British Possessions Rs. 3,86,482 or 47 per cent.; from foreign countries Rs. 1,67,569, or 21 per cent. These proportions very closely correspond with those of 1905. Of the total, 48 per cent. passed through the Suez Canal.

The following comparative table indicates the **movements in trade**, as regards imports from the United Kingdom, British Possessions, and foreign countries (specie excluded) :—

Comparative Table of Imports exclusive of specie.

	1905.	1906.	Increase.	Decrease.
	Rs.	Rs	Rs.	Rs.
United Kingdom .	2,59,702	2,57,315	...	2,387
India	2,75,122	3,04,912	29,790	...
Mauritius and its Dependencies.	73,701	61,546	...	12,155
Aden	13,301	16,268	2,967	...
Zanzibar and East Africa.	2,427	426	...	2,001
Other British Possessions.	869	4,030	3,161	...
France . . .	1,48,949	1,31,702	...	17,247
Madagascar and Dependencies.	6,771	10,429	3,658	...
Reunion . . .	3,434	1,636	...	1,798
Germany . . .	4,898	15,006	10,108	...
Other Countries . .	611	8,056	7,445	...
TOTAL .	7,89,785	8,11,366	57,129	35,588

British imports are of a very varied character; the most important are **cotton goods** (Rs. 61,451), coal and patent fuel (Rs. 44,137), iron ware (Rs. 33,542), clothing (Rs. 17,700), and caustic soda for soap making (Rs. 15,411). From **India**, **rice** (Rs. 1,79, 63) is the chief item, then cotton goods (Rs. 64,026) and wheat flour (Rs. 0,602). From Mauritius, sugar (Rs. 31,790) and rum (Rs. 8,437) are the principal entries; and from Aden, coffee (Rs. 12,850). From France, among a great variety of articles, the most prominent are wines and spirits (Rs. 32,342), clothing and articles *de mode* (Rs. 26,355), machinery (Rs. 15,695), and cotton goods (Rs. 9,059). The principal article of German origin is manufactured iron (Rs. 5,779).

Exports.

The declared value of exports in 1906 was Rs. 7,94,681, exclusive of specie. Although this total shows a slight decrease as compared with the total for 1905 (Rs. 8,08,032), yet on analysis the figures are much more satisfactory. There is a loss of Rs. 1,81,058 in the value of **vanilla** alone, the crop which from 1896 to 1903 represented more than half the value of the sum total of the exports. The proportion has fallen in 1906 to one-eighth of the whole; but the loss is practically made good by the development of other resources which are calculated to relieve the Colony from its dependence on one single product. In 1906, the relief has come from **coprah, guano,** and **tortoise-shell.** When, in the near future, the cocoanut properties and the guano deposits are more fully developed, and the mangrove-bark industry and rubber plantations reach the stage of yielding a profit, the prosperity of the Colony will rest on a wider and sounder foundation. The most important item consists of the products of the cocoanut palm—coprah, soap, cocoanut oil, and cocoanuts—declared at Rs. 4,32,474; particulars are recorded in a tabulated statement below. The second in value is phosphatic guano, of which 5,466 tons were exported, declared at Rs. 30 per ton, to the value of Rs. 1,63,979. Vanilla stands at kilos. 17,118, valued at Rs. 1,01,818. Tortoise shell, turtle oil, and calipee amount to Rs. 61,072. Other products are represented by Rs. 35,338. It is probable that cocoanut products and vanilla will show a large increase in quantity and value in 1907.

The deposits of phosphates—guano and phosphate rock—are extensive and the exploitation is now well organised; but owing to the difficulties of transport and the limited supply of labour, it is doubtful whether the exports will exceed 10,000 tons in any one year. The capture of carets or hawks-bill turtles (*chelonia imbricata*) in 1906 was unusually large; the productiveness of the fishery varies considerably from year to year, and there is no proof that the supply has been seriously affected in recent years. The harvesting of mangrove bark—represented in 1906 by trial samples declared at Rs. 2,402—is an industry capable of very considerable development. There is probably the equivalent of

100,000 tons of bark of the Brughiera, Ceriops, and Rhizophora varieties in the islands. The industry of preparing vacoa bags and mats (entered at Rs. 610) is likely to be developed largely for the transport of produce. And other industries, especially **Para rubber,** desiccated bananas, lemon grass oil, citrate of lime, and salted fish, are capable of expansion. The crops of coffee, cloves, and cacao are mainly absorbed for local consumption.

The total volume of **cocoanut exports** is, approximately, 2,050 tons. The volume of coprah (900 tons) has trebled since 1905, owing to a rapid increase in value, the bulk of the export going to Marseilles. There is a corresponding decrease in the quantity of oil exported which has fallen to figures (360 tons) which are the lowest of which there is certain record; one-half of the oil exported goes to Madagascar and the rest is sent to Mauritius, Bombay and neighbouring ports.

The production of **soap** (360 tons) has continued steadily to expand, the principal markets being Zanzibar and Madagascar, where it has established a strong position in the face of European competition; it is probable, however, that the production will be curtailed as long as the quotations for coprah remain at their present figure. The number of cocoanuts (exported to Mauritius and Aden) is much reduced owing to the high prices obtained in the local market for manufacture into coprah. The quantity of desiccated cocoanuts is included in the figures for coprah. There is no industry in the production of coir rope or fibre. Poonac, a by-product of cocoanut oil, is largely consumed locally for feeding stock, although not exported; and the scarcity, owing to the restricted quantity of oil prepared, is a serious inconvenience to the small farmer.

The following table shows the **annual variations in the products of the cocoanut palm** for 12 years. The total crop of nuts in 1906 is estimated at 24 *millions* :—

Exports of Products of the Cocoanut Palm.

Year.	Cocoanut oil.		Soap.		Cocoanuts.		Coprah.		Total value of cocoanut product.
	Hectolitres.	Rs.	Kilograms.	Rs.	No.	Rs.	Kilos.	Rs.	Rs.
1894 . .	13,939	3,38,784	12,398	3,480	1,525,532	30.510	—	—	3,72.744
1895 . .	14,048	3,75,908	2,196	724	1,632 860	32 647	—	—	4,09,279
1896 . .	15,122	4,41 882	68,388	18,015	1,293,136	26,237	—	—	4,86,134
1897 . .	13.521	3.62,968	72.705	21.810	1,492.475	29,849	—	—	4, 4,627
1898 . .	8,808	2,36,430	189.645	56,923	1,695,236	34,094	—	—	3,27,447
1899 . .	14.705	3,92,055	91,696	30,564	983,418	19,667	—	—	4.42.286
1900 . .	2,044	2,68,609	159,142	35,778	1.083,302	27,524	—	—	3,31,911
1901 . .	9,419	1,47,533	116,095	31,560	1,071.732	26,228	—	—	2,05,321
1902 . .	11,326	2,42.343	173,476	45,990	1,117,960	24.815	5,390	827	3,13,148
1903 . .	18,504	1,60,977	234,421	56.851	1,241,026	28,848	30,458	5,884	2,46 676
1904 . .	9,919	1,80,045	217,432	56,439	882 044	26,021	267,200	43,744	2,94,249
1905 . .	11,800	2,50,070	350,157	1,01,989	551.135	12,188	296 718	49,704	4,13,951
1906 . .	4,290	1,23,942	419,329	1,29,590	376,340	9,484	899,217	1,69,458	4,32,474

The **vanilla crop** of 1906 was the lowest since 1895. The actual exports in the year amount to 17,118 kilos., but this total includes over 7,000 kilos. of the crop of 1905 exported during the earlier months of 1906. Of the harvest in 1906, less than 10,000 kilos. were exported during the year, and local stocks are absolutely depleted. The price in January was Rs. 5·42 per kilo.—as compared with Rs. 8·66 in January, 1905, and Rs. 33 in 1900—but prices rapidly improved towards the end of the year when the average quotation of December was Rs. 8·30. The mean declared value for the whole year was Rs. 5·95. Vanilla is essentially a poor man's crop, as it needs little capital to produce, and the cultivation even on the larger estates is worked to a great extent on the moitie system. The failure, therefore, of this crop hits the Creole peasantry severely, for they had little compensation in the high price of cocoanuts. However, the renewed demand for labour on the islands caused the loss to be less severely felt than during the universal depression caused by the droughts in 1904 and 1905. The crop of 1907 will, granted fair weather, prove satisfactory in quantity, although the quality may be below the average. It is probable that the crop will reach 50,000 kilos.

Value, quantity, and average price of Seychelles vanilla for the last three years,

Year.	Total value of exports including specie.	Quantity of vanilla exported.	Declared value of vanilla.	Average price per kilo. of vanilla.
	Rs.	Kilos.	Rs.	Rs. cts.
1904 . .	8,01,894	41,072	3,00,026	7 30
1905 . .	8,46,744	48,208	2,82,876	5 87
1906 . .	8,07,781	17,118	1,01,818	5 95

SUGAR IMPORTS.

Imports of foreign sugar (excluding confectionery and molasses) into British India in the month of September, 1907, and in the six months ending September, 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 Sep., 1906.	Share of each country in the total imports in Sep., 1907.	Share in the six months ending Sep., 1906.	Share in the six months ending Sep., 1907.	Countries of production of total imports.	Share of each country in the total imports in Sep., 1906.	Share of each country in the total imports in Sep., 1907.	Share in the six months ending Sep., 1906.	Share in the six months ending Sep., 1907.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Austria-Hungary	50,005	12,804	1,142,192	379,627	South America	1,860	1	18,088	8,319
Belgium	2,607	106	93,014	579	China	2,039	1,709	3,811	2,960
France	2	2	23,611	9,427	India	...	60	...	66
Germany	60,168	7,042	1,597,358	42,359	Japan	...	...	4	...
Holland	119	23	339	157	Java	586,877	752,434	1,525,845	2,533,497
Italy	...	...	4	4	Philippines	...	400	...	400
Spain	..	...	3	...	Straits Settlements	689	225	2,066	10,298
Egypt	...	...	69	...	Australia	...	...	9	...
Mauritius	120,416	146,622	859,806	1,290,806	From non-producing countries. Origin unknown	14	41	236	154
Réunion	...	11,377	109,471	11,377					
West Indies	2,210	...	3,763	5,101	Total	827,006	932,846	5,379,689	4,295,131

Quantity of beet and cane sugar imported by sea from foreign countries into each province of British India for the month of September, 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	39,853	130	337,773	436,392	377,626	436,522
Eastern Bengal and Assam	...	..	...	...	...	...
Bombay	20,798	10,428	188,854	307,679	209,652	318,107
Sind	50,415	4,972	155,353	107,993	205,768	112,965
Madras	1,574	4,375	41	5,512	1,615	9,887
Burma	262	85	32,083	55,280	32,345	55,365
Total	112,902	19,990	714,104	912,856	827,006	932,846

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 September, 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	350,305	...	281,538	8,500	93,100	3,200	736,643
,, 41 to 50	79,000	...	53,142	1,000	50,700	...	183,842
,, above No. 50	196,135	...	54,255	1,900	77,400	...	329,690
Orange, red and other colours, Nos. 31 to 40.	306,185	...	175,883	80,015	333,900	33,000	928,983
Orange, red and other colours, Nos. 41 to 50.	850	...	32,810	...	1,500	5,600	40,760
Orange, red and other colours, above No. 50.	13,385	...	39,809	...	57,110	2,900	113,204
Total	945,860	...	637,437	91,415	613,710	44,700	2,333,122

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and **Exports** to, each country in the four months, April to July 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	1,93,055	1,97,793	3,08,964	65,829	64,873	56,009	2,58,884	2,62,666	3,64,973
Khelat—									
Sind and British Baluchistan	1,29,095	2,22,206	1,85,958	1,87,478	1,49,470	1,52,205	3,16,573	3,71,676	3,38,163
Persia—									
Sind and British Baluchistan	47,899	20,711	1,52,536	57,097	54,617	1,76,879	1,04,996	75,328	3,29,415
Afghanistan—									
Northern and Eastern (including Kabul and Ghazni)—									
North-West Frontier Province	5,82,189	3,25,486	3,08,811	50,18,080	49,98,130	47,43,468	56,00,269	53,23,616	50,52,279
Southern and Western (including Kandahar and Herat)—									
Sind and British Baluchistan	8,85,033	16,70,375	19,65,045	11,84,465	11,98,881	16,89,103	20,69,498	28,69,256	36,54,148
North-West Frontier Province	...	...	...	1,30,510	96,116	1,68,685	1,30,510	96,116	1,68,685
Panjab	...	...	...	26,458	1,07,447	...	26,458	1,07,447	...
Total	14,67,222	19,95,861	22,73,856	63,59,513	64,00,574	66,01,256	78,26,735	83,96,435	88,75,112
Tirah—									
North-West Frontier Province	1,34,750	1,49,927	1,68,581	1,38,612	1,82,324	1,58,977	2,73,362	3,32,251	3,27,558
Dir, Swat, and Bajaur—									
North-West Frontier Province	11,50,412	16,03,453	16,62,000	22,85,661	23,04,142	22,13,479	34,36,073	39,07,595	38,75,479
Buner—									
North-West Frontier Province	56,825	53,301	31,989	96,433	48,317	33,954	1,53,258	1,01,618	65,943
Kashmir—									
North-West Frontier Province	6,86,893	7,55,772	5,89,000	20,13,115	15,02,038	13,62,891	27,00,008	22,57,810	19,51,891
Panjab	34,94,553	42,56,300	31,84,686*	30,28,415	33,24,282	28,97,809*	65,22,968	75,80,582	60,82,495
Total	41,81,446	50,12,072	37,73,686	50,41,530	48,26,320	42,60,700	92,22,976	98,38,392	80,34,386
Ladakh—									
Panjab	980	...	3,100	1,18,558	1,91,387	1,19,776	1,19,538	1,91,387	1,22,876
Tibet—									
Panjab	10,000	8,766	4,930	55,459	47,604	30,064	65,459	56,370	34,994
United Provinces of Agra and Oudh	52,906	50,280	37,773	3,04,921	5,15,942	4,05,717	3,57,827	5,66,292	4,43,490
Bengal	3,99,944	5,07,806	5,80,917	5,86,535	4,82,246	4,44,602	9,86,479	9,90,052	10,25,519
Total	4,62,850	5,66,852	6,23,620	9,46,915	10,45,792	8,80,383	14,09,765	16,12,644	15,04,003
Nepal—									
United Provinces of Agra and Oudh	38,20,433	33,89,927	33,10,423	13,06,895	10,80,897	11,87,290	51,27,328	44,70,824	44,97,713
Bengal	58,90,794	64,36,584	67,86,306	37,33,088	36,13,867	31,05,032	96,23,882	1,00,50,451	98,91,338
Total	97,11,227	98,26,511	1,00,96,729	50,39,983	46,94,764	42,92,322	1,47,51,210	1,45,21,275	1,43,89,051

* 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 three months April to July 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	91,305	1,02,046	2,24,062	190,033	2,07,279	2,39,495	2,81,338	3,09,325	4,63,557
BHUTAN—									
Bengal	26,499	6,689*	4,436	31,572	4,560*	3,985	58,071	11,249*	8,421
Eastern Bengal and Assam	26,265	17,049†	17,115	63	12,081†	32,611	26,328	29,130†	49,726
TOTAL	52,764	23,738	21,551	31,635	16,641	36,596	84,399	40,379	58,147
TOWANG—									
Eastern Bengal and Assam	...	13,472	5,002	...	...	...	...	13,472	5,002
NÁGÁ AND MISHMI HILLS—									
Eastern Bengal and Assam	91,783	1,36,468	54,176	2,454	7,215	3,272	94,237	1,43,683	57,448
DUFFLA AND AKA HILLS—									
Eastern Bengal and Assam	17,340	25,085	36,991	...	...	...	17,340	25,085	36,991
WESTERN CHINA—									
Burma	7,75,494	7,51,063	7,09,961	12,87,051	13,69,738	14,70,339	20,62,545	21,20,801	21,80,300
NORTH SIAM—									
Burma	7,32,335	8,61,453	9,24,352	5,60,614	8,12,473	8,48,178	12,92,949	16,73,926	17,72,530
SOUTH SIAM—									
Burma	1,53,710	1,76,652	130,883	1,88,049	1,53,892	1,84,729	3,41,759	3,30,544	3,15,612
N. SHAN STATES—									
Burma	18,12,573	18,38,330	22,87,948	15,86,333	16,65,760	28,82,473	33,98,906	35,04,090	51,70,421
S. SHAN STATES—									
Burma	19,85,120	17,02,776	18,07,620	21,95,899	39,52,050	22,47,585	41,81,019	56,54,826	40,55,205
KARENNEE—									
Burma	5,87,944	8,12,455	7,04,161	3,85,707	6,47,099	9,18,306	9,73,651	14,59,554	16,22,467
GRAND TOTAL	2,38,36,129	2,60,92,225	2,61,87,726	2,67,65,384	2,87,94,727	2,77,76,913	5,06,01,513	5,48,86,952	5,39,64,639
Share of each Province in the total trade—									
Sind and British Baluchistan	12,55,082	21,11,085	26,12,503	14,94,869	14,67,841	20,74,196	27,49,951	35,78,926	46,86,699
North-West Frontier Province	26,11,069	28,87,939	27,60,381	96,82,411	91,31,067	86,81,454	122,93,480	1,20,19,006	1,14,41,835
Punjab	35,05,533	42,65,066	31,92,716	32,28,890	36,70,720	30,47,649	67,34,423	79,35,786	62,40,365
United Provinces of Agra and Oudh	33,73,339	34,40,207	33,48,196	16,11,816	15,96,839	15,93,007	54,85,155	50,37,046	49,41,203
Bengal	64,08,542	70,53,125	75,95,721	45,41,228	43,07,952	37,93,114	1,09,49,770	1,13,61,077	1,13,88,835
Eastern Bengal and Assam	1,35,388	1,92,074	1,13,284	2,517	19,296	35,883	1,37,905	2,11,370	1,49,167
Burma	60,47,176	61,42,729	65,64,925	62,03,653	86,01,012	85,51,610	1,22,50,829	1,47,43,741	1,51,16,535
GRAND TOTAL	2,38,36,129	2,60,92,225	2,61,87,726	2,67,65,384	2,87,94,727	2,77,76,913	5,06,01,513	5,48,86,952	5,39,64,639

* 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 FORTNIGHT ending 19th October, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign—Imports by sea into	Calcutta, lbs.		549,116
	Bombay "		470,684
	Madras "		231,895
Indian—Exports by sea from	Calcutta "		440,522
	Bombay "		10,352,880
	Madras "		...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.		27,388,949
	Bombay "		7,507,200
	Karachi "		1,204,576
	Madras "		2,031,001
	Rangoon "		256,273

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.		9,877,508
	Bombay "		7,852,230
	Karachi "		3,694,282
	Madras "		974,030
	Rangoon "		1,482,178

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.		5,494,985
	Bombay "		9,245,336
	Karachi "		4,579,483
	Madras "		1,835,508
	Rangoon "		1,510,124

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta*, cwt.		45,683
	Bombay "		11,768
	Karachi "		35,687
	Madras "		14,369

Raw Cotton.

Imports into Bombay	By sea cwt.		1,035
	Coastwise "		23,387
	By rail "		21,879
Imports into Karachi by rail			575
" " Calcutta by rail and river*			9,076

JUTE.

Arrivals by all routes in Calcutta,	cwt.*		1,203,476
Exports by sea from Calcutta	Gunny bags, No.		12,134,470
	" cloth, yds.		39,443,100
	Jute, cwt.		1,289,817
Chittagong	Jute "		115,611

TEA.

Arrivals by all routes in Calcutta*	lbs.		11,383,336
Exports by sea from Calcutta			12,766,266
Chittagong			4,002,571

WHEAT.

Imports into Calcutta by rail and river,*	cwt.		92,695
Karachi by rail	"		847,940
Bombay By sea	"		2,730
Coastwise	"		18,835
By rail	"		86,655
Exports by sea from Calcutta	"		4,921
Bombay	"		...
Karachi	"		807,822

RICE.

Arrivals by all routes in Calcutta,*	cwt.		344,904
Exports by sea from Calcutta	"		94,290
Chittagong	"		...
Bombay	"		12,507
Karachi	"		52,933
Madras	"		458
Rangoon	"		429,079

LINSEED.

Imports into Calcutta by rail and river,*	cwt.		80,261
Bombay By sea	"		230
Coastwise	"		2,407
By rail	"		28,985
Karachi	"		...
Exports by sea from Calcutta	"		185,479
Bombay	"		60,064
Karachi	"		...

RAPE AND MUSTARD SEED.

Imports into Calcutta by rail and river,*	cwt.		112,810
Bombay By sea	"		...
Coastwise	"		...
By rail	"		8,778
Karachi	"		39,381
Exports by sea from Calcutta	"		58,356
Bombay	"		38,230
Karachi	"		35,068

COTTON SEED.

Exports by sea from Bombay,* cwt. . . 96,464

* Figures in complete.

KEROSENE OIL, FORTNIGHT ENDING 19th OCTOBER, 1907.

Imports by sea into—	FROM Russia.	America.	All other foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	108,691	500,980	609,671
Bombay	59,664	11,582	2,816,529	2,887,775
Karachi	...	...	...	...
Madras	...	...	...	...

Exports by sea from Burma to	Bengal	galls.	...
	E. B. & Assam	"	...
	Bombay	"	1,003,500
	Sind	"	...
	Madras	"	...
	Indian Ports, Non-Br.	"	...
	Foreign Ports	"	...

IMPORTS OF SUGAR, FORTNIGHT ENDING 19th OCTOBER, 1907.

Country of Shipment.	Refined Sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	31	...	36	78	50	14	209
Germany	...	...	1,802	...	1,550	..	3,352
Austria-Hungary	...	...	...	1,054	500	...	1,554
Other European Countries	..	..	15	...	..	...	15
Java	175,249	...	45,301	145,010	...	39,843	405,403
Mauritius	15,908	..	74,823	6,155	...	...	96,886
Other Non-European Countries	...	...	459	...	...	375	834
Total refined							508,253
Total unrefined							71,739
Grand Total, cwt.							579,992

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 11th October.		Sold to 11th October.		Sold in sale of 12th October.		Sold to 12th October.	
	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	7,268	6 11·9	113,349	7 5·7	6,831	6 9·3	79,127	6 10·2
Cachar	5,465	6 3·3	93,484	5 11·9	5,.07	4 7·2	76,631	4 1·7
Sylhet	8,009	6 3·4	73,452	5 11·6	5,536	4 7·3	58,746	3 10·3
Darjeeling	2,280	8 2·8	43,829	8 11	2,357	7 8	37,081	8 9·5
Dooars	7,869	6 7·1	113,104	6 7·1	9,213	5 4·5	88,245	5 2·6
Terai	578	6 5·6	15,487	6 1·3	1,587	4 5·5	20,921	4 2
Chittagong	464	6 2·9	5,856	6 0·9	650	4 11·7	6,621	4 0
Chota-Nagpore	...	...	549	5 1·2	...	...	236	4 8·3
Kumaon and Kangra	125	6 7	3,212	5 10 3	...	...	120	5 0
Madras	..	...	242	6 0	...	...	116	4 5
Dehra Dun	...	...	204	6 3·3	...	...	...	...
Nepaul	...	...	136	6 7·1	...	...	...	...
Total	32,058	6 7·9	462,904	6 9·3	29,881	5 7	367,844	5 4·9

(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 22,748 packages Dust* sold to 11th October — As. 6 P. 10·2

* On account of gardens which sell only that grade on this market.

—It would seem from an estimate furnished by Mr. Pitaval in the *Journal de l'Electrolyse* that the **manufacture of calcium carbide in Europe** now attains a total of over 114,000 tons per annum. Of this quantity, Italy produces 28,314 tons; France, 22,500 tons; and Sweden and Norway 20,000 tons. All the other countries make less than 20,000 tons. The world's output is set down at 125,000 tons annually, having a value of not less than £1,400,000. This manufacture probably uses the bulk of the electricity yielded by hydraulic power in Europe.

—According to the Bulletin of the American Iron and Steel Association, the production of **pig iron** in the Dominion of **Canada** in the first half of 1907 amounted to 270,100 tons as compared with 282,010 tons in the corresponding period of 1906. Of the total, 265,253 tons was coke iron and 4,847 tons charcoal iron. The production of Bessemer pig iron in the first half of 1907 amounted to 73,023 tons as against 79,051 tons in the first half of 1906. The production of basic pig iron amounted to 161,403 tons, as compared with 135,298 tons. The production of malleable Bessemer, foundry, forge and miscellaneous grades was 35,674 tons, a considerable falling off from the record of 67,661 tons in the first half of 1906. Of the 30th June, 1907, Canada had 14 completed blast furnaces, of which 10 were in blast and four idle. Of this total twelve were equipped to use coke and two to use charcoal.

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 (3*a*.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2*a*.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
   - Vol. I—Abstract and detailed Tables of Imports and Exports. R3. (15*a*.)
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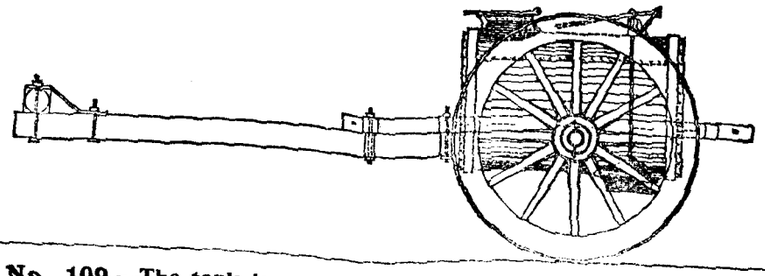
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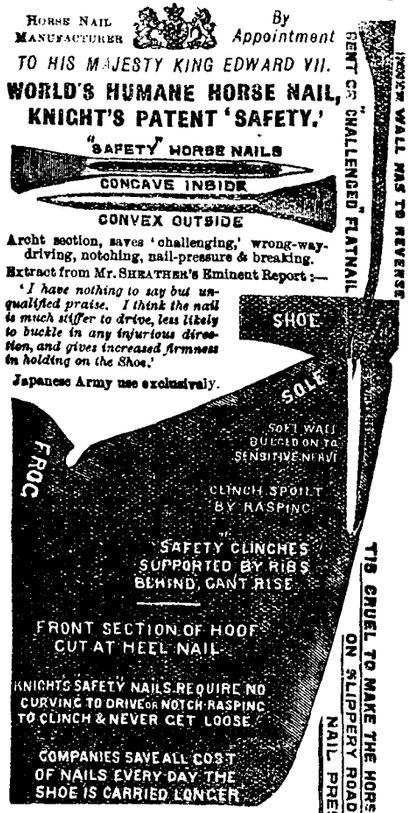
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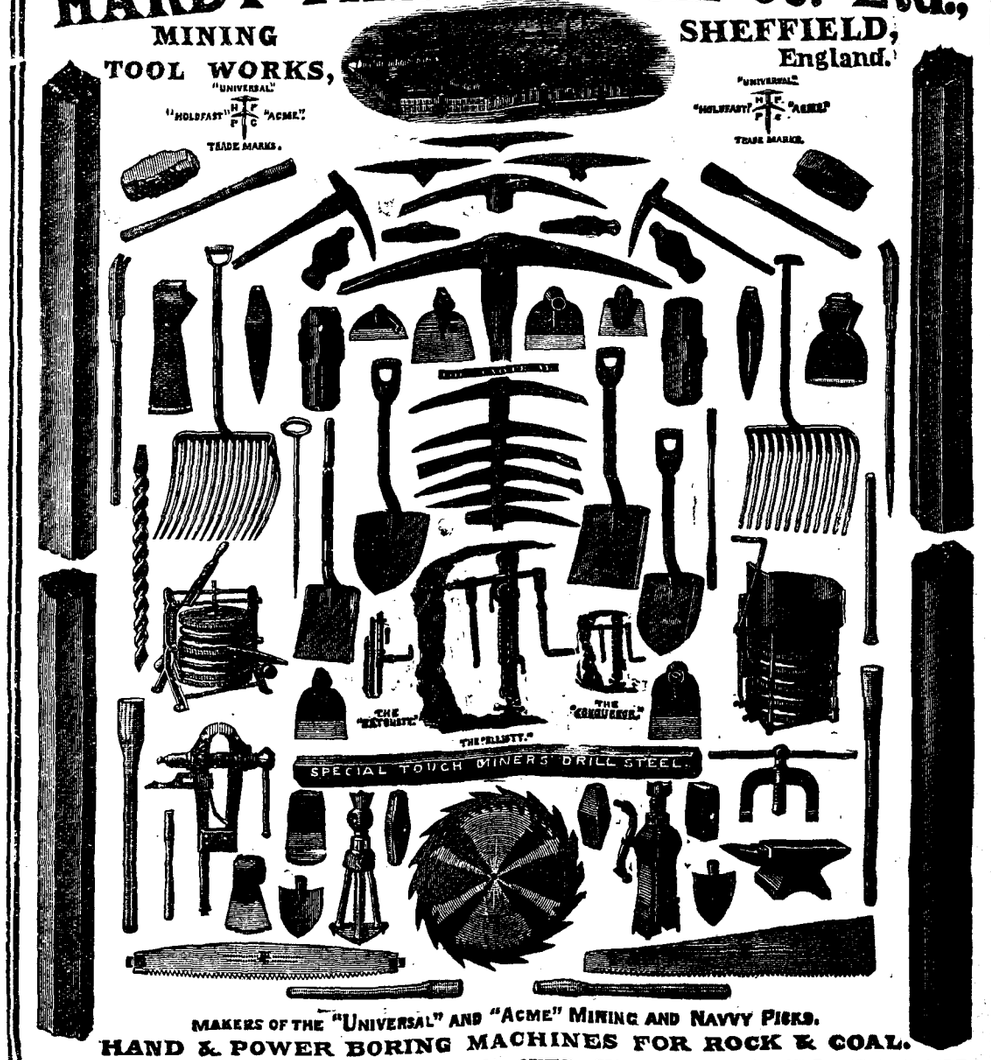
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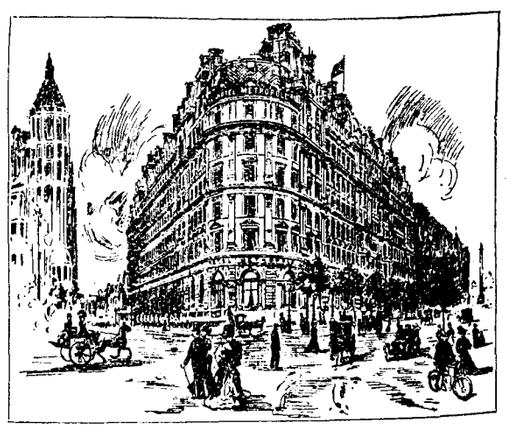
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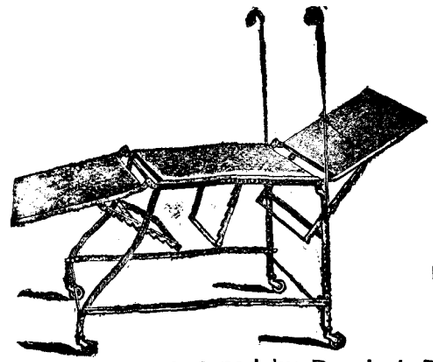
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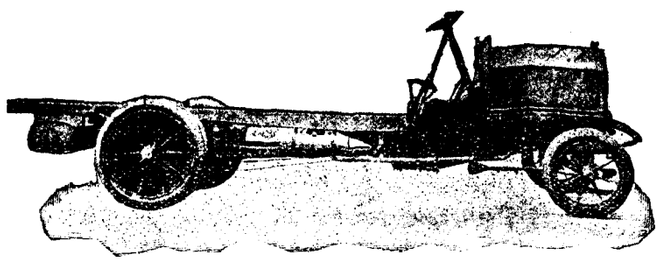
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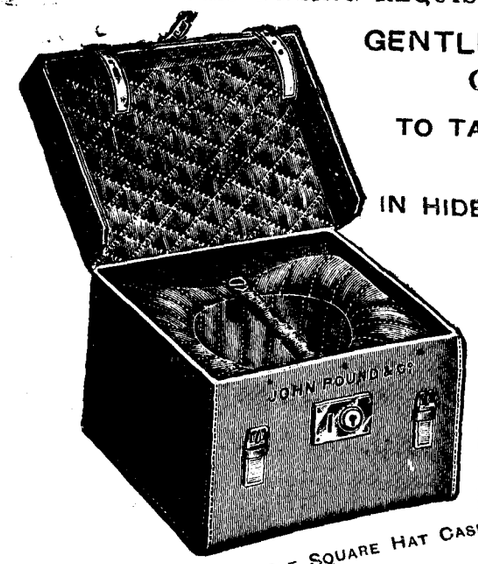
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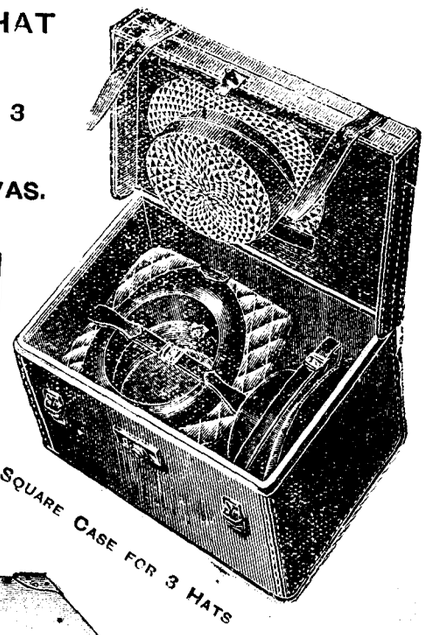
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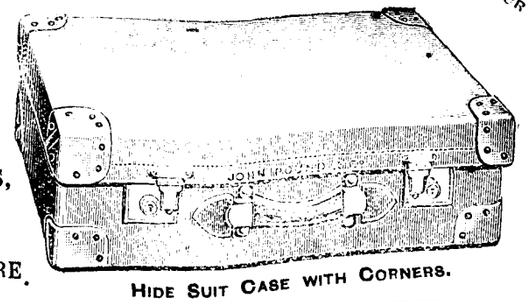
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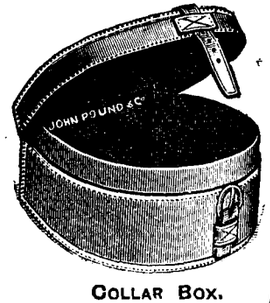
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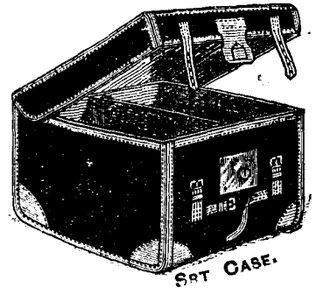
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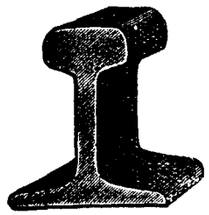

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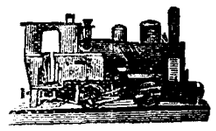
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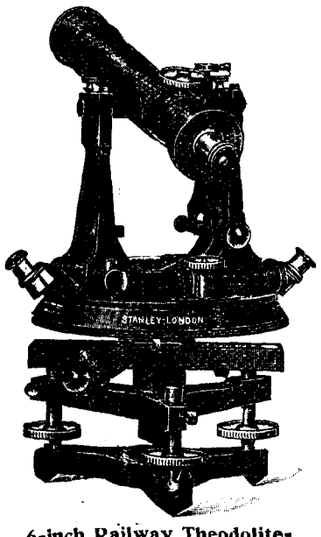
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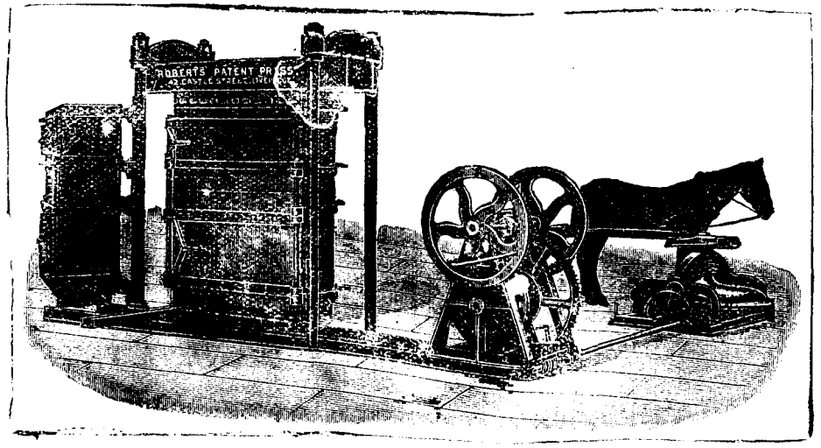
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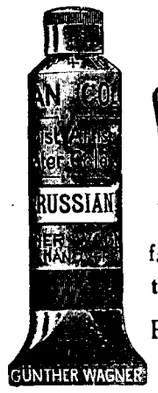
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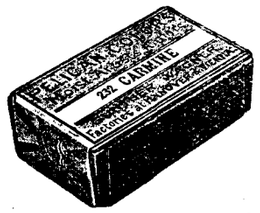
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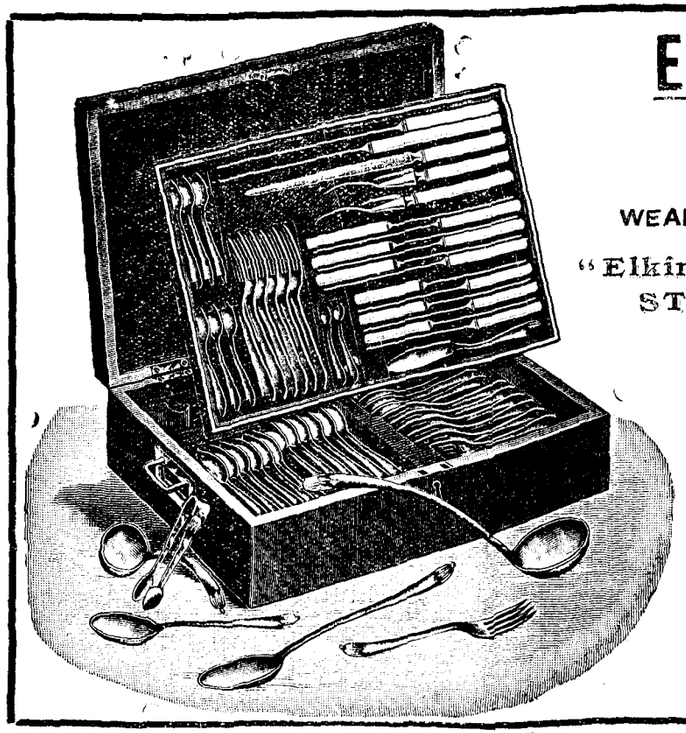
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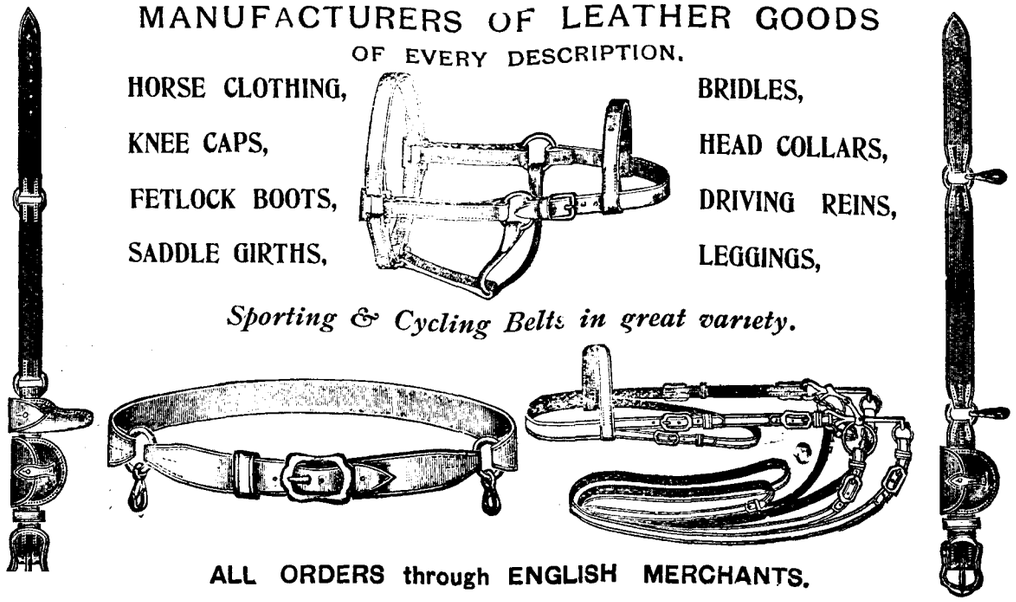
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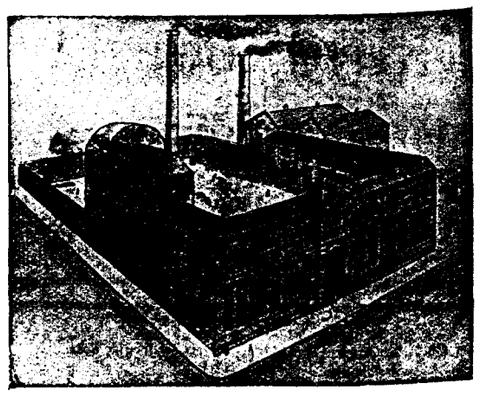
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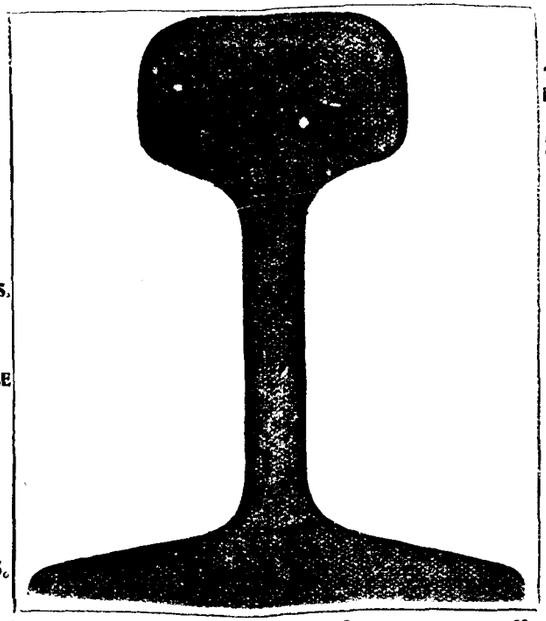
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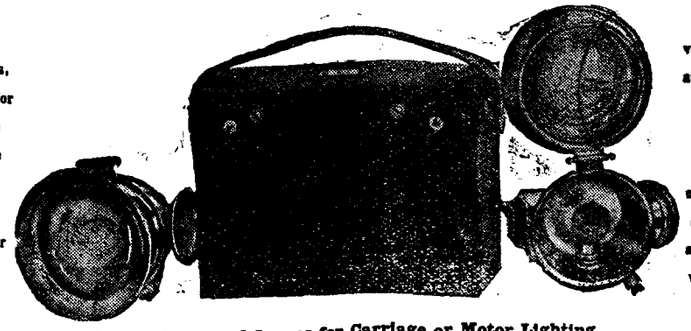
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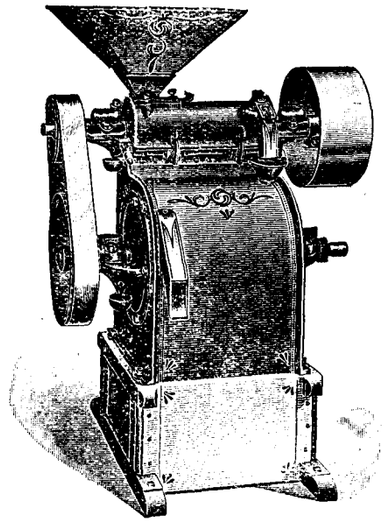


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A revised statement of **irrigation operations** in **Bengal** during the year 1906-07 shows that the total area irrigated amounted to 929,525 acres, as against 837,196 acres during the preceding year.

A statement of **irrigation operations** in the **Punjab** in connection with the **Rabi** (spring) crop of 1906-07 shows that the total area irrigated on Major Works was 3,467,776 acres, as compared with 3,868,911 acres for the preceding year. The total area on Minor Works was 507,419 acres, as against 452,788 acres for 1905-06.

We have received a copy of a pamphlet entitled *Sind Egyptian Cotton* by S. C. Shahani, M.A., Sind Arts College, published at the *Sind Gazette* Press, Karachi, at eight annas per copy. It gives a readable summary of the successful experiments in the cultivation, growth and yield of Egyptian cotton in Sind, and tables giving the cotton acreages and yields for the last three years for the cotton-growing provinces of India, America and Egypt, and the counts that can be made from the different kinds of cotton, the approximate strength of standard counts of yarns, and other details of interest.

An Alexandria correspondent, writing on September 30th, reports :—The turn in the Nile that last week the Acting Adviser to the Ministry of Public Works thought might be deferred, and so retrieve to some extent the poorness of the flood, has, contrary to expectation, just occurred. The fall of the flood has begun on both the Blue Nile and the Atbara. There is no improvement now to be expected, and the Acting Adviser reports that to all intents and purposes the flood is over. The basins are filling but slowly; the discharge should begin early in October, but, as is always the case in years of low flood, the manipulation of the basins will be a long and difficult operation. The area of fallow land ("sharaki") is likely to be the same as in 1902, and, as the present flood is so much inferior to that of 1902, this result may be considered highly satisfactory. Rumours of damage to the **Egyptian cotton crop** by mists troubled the market during the week, and to this cause, to the persistent reserve of spinners towards "futures," and to the fundamental weakness of the Egyptian situation at present may be attributed the net decline of 11-32 in price on the week's business. Reports on the crop from the plantations continue satisfactory, but there is not quite the same note of elation as before. The quality, in particular, appears hardly to be all that is desired. In fineness and silkiness of texture the average staple so far received seems inferior but it is fair to add that lower Egypt has hardly yet begun to send cotton to market. No one, however, would object to a short period of humidity; that is the chief requirement to improve the silkiness of the staple, which has suffered from the extreme dryness of the season.

Three **new mills** have been opened at **Ahmedabad**, namely, the Haripur Spinning and Manufacturing Co., Ahmedabad Swadeshi Spinning and Manufacturing Co., and the Ahmedabad Industrial Mills Co.

The number of bales of **cotton imported into the United Kingdom** during the week ended the 3rd October, 1907, was 36,398 and the number imported during the forty weeks ended the 3rd October was 3,333,647 (including 5,629 bales British West Indian and 8,467 bales British West African). As regards exports the figures are, for the week ended the 3rd October, 7,692 bales, and, for the forty weeks, 400,410 bales.

A Queensland newspaper states that Dr. Thomatis has received news of the sale of his bales of "**Caravonica**" **cotton** at Havre by the well-known firm of A. J. E. Fossat. The price realised is 165 francs per 50 kilos (equal to 1 cwt.), that is, 3,300 francs or £140 per ton, which means 15*d.* for our English pound. Dr. Thomatis is delighted with the price realised, and he says that thousands of bales of his "Caravonica" can be sold at that price to Belgian, Dutch and German spinners. Dr. Thomatis has also received a cable from Egypt enquiring how much seed he can supply, as it is to be grown most extensively in Egypt and the Soudan.

Advices that have reached us from **Shanghai**, dated the 3rd instant, are to the effect that there is an easier feeling in market for **Indian yarns**, caused by the action of the Native dealers, who, it appears, bought to a certain extent on speculation two weeks previously, when a large business was reported, and have now taken advantage of the subsequent advance and cleared out at a small profit, the prices they have accepted being about half a tael under previous quotations. This has naturally caused an easier tendency generally, and anxious sellers, amongst first-hand holders, have had to make small concessions. Otherwise business has continued on much the same lines, the chief demand being for No. 10's and mostly for the River markets, any enquiry for the North being met by the holdings of the dealers themselves.

A Persian correspondent estimates that one person at least is ill with **fever** in every house in **Kermanshah**. This would give a total of some 10,000 sufferers.

The opening of the caravan season in certain **Persian Gulf** ports seems to have had a depressing effect on **exchange**. For instance, at the end of last month the rate at Bunder Abbas had fallen to 335 krans per Rs. 100.

Owing to the holding up of stocks at Bushire the **transport charges to Shiraz** have fallen gradually during the past few months from tomans 12½ to tomans 8 (toman=10 Krans=Rs. 2-12) per 100 Bushire maunds (=775 lbs.).

A correspondent reports that **anthrax** has broken out among sheep in Burj-i-Afghan and in the vicinity of Daulalabad, **Persia**. The outbreak is said to be milder than that of last year. One human case is also reported—that of a butcher whose hand was infected.

It appears that a sort of **boycott of European goods** has been set up at **Ahwaz**, Persia, but with indifferent success. A local firm checkmated the boycotters by flooding the market with cheap European goods, which, however, were sold off at ruinous reductions.

A correspondent recently paid a visit to **Larab** (Persia) on the east side of the Tangi Darkash Warkashi pass, were there is supposed to be a **deposit of coal**. He found that the deposit consisted of broken strata, which looked like shale; and although this material is said to have been proved combustible by actual experiment, it cannot, it is thought, have any particular value as a fuel. The spot can only be reached on foot with considerable difficulty, owing to the precipitous character of the hills.

In the *Indian Trade Journal* of the 10th instant, attention was drawn to the important **post-chaise service between Baghdad and Aleppo**. We now learn that each carriage takes four passengers and the charge for each seat is T£4 (=Rs. 54) and T£2½ (= Rs. 33-12) in the second which carries six passengers. The journey occupies eight days, and steps are now being taken to make it more enjoyable by putting the roads in better repair. But for the use of those who value comfort more than money, the company has already provided four landaus; and for the use of these a charge of T£20 (=Rs. 260) is made for the journey. The company, which is called "Shurkat Arabat Baghdad wa Haleb," now owns some 200 mules and will add to that number. Under present conditions it runs two carriages each way every other day, but this number will be shortly augmented.

The **Fraserganj jute experiments** this year have not turned out well owing partly to the salty nature of the soil and partly to the effects of heavy floods caused by two cyclones. The experiments, however, will be continued next year.

Mr. C. K. Subha Rao, Acting Government Botanist, Madras, informs us that **senna** (*Cassia Angustifolia*) is cultivated to some extent in the **Tinnevelly district** for export. The outturn is about 75 lbs. per acre from the first picking, about 225 lbs. from the second, and 75 lbs. from the third picking. The leaf of the first picking is the best and fetches from Rs. 2 to Rs. 2-8 per Madras maund (Madras maund=25 lbs.). The value of the leaf of the second picking is usually Rs. 1-8 to Rs. 2; and the value of the third is from Re. 1 to Rs. 1-8 per maund. The market price of Senna grown on moist land is about 33 per cent. higher than when grown on dry land.

The Report for 1906 of the Director of the Royal Botanic Gardens in **Ceylon**, states that the most notable features in local agricultural progress during that year were :—(*a*) the continued boom in **rubber** planting, which now occupies about 115,000 acres; (*b*) the successful sale of the **cotton** crop from Moha-il-uppalama, which gives hope that, when a little more has been spent on the really good irrigable country of the North, agriculture may become a large and important industry there; (*c*) the extension of **camphor** cultivation, stimulated by the extraordinary high price of the drug. There are now about 900 acres under this product and, were seed available locally, there would soon be far more; (*d*) the holding of the Rubber Exhibition at Peradeniya, which was a great success. Already as a result of the Exhibition decided improvements are being made in the rubber industry.

Considerable interest is being taken in Melbourne over the invention of a local engineer, who claims to have perfected an entirely new and **inexpensive method for the preservation of fruit and other perishable produce**. Very satisfactory experiments have been conducted for nearly a year, and as a result patents are now in contemplation for all countries interested in the storage and export of fresh fruit. The inventor states that the deterioration in fruit is largely due to evaporation, and he has devised a simple process by which the evaporation is greatly retarded. The experiments have been conducted in a chamber formed of insulated walls and roof, the special feature of which is a ventilator that saturates the air which passes through, thus giving such a humid atmosphere that the fruit cannot throw off moisture.

The *Burma Gazette* of the 19th instant contains **rules for the levy of royalties** in respect of minerals quarried in the **Shan State** of Mong Mit and its dependency Mong Lang, **Burma.**

The depression in **hematite iron** is becoming more marked, says the *Manchester Guardian* of the 11th instant. While it has become necessary to curtail the make of iron by the blowing-out of several furnaces in order to bring the production of crude iron within the measure of the immediate and prospective demand, it is by no means certain that even the present reduction will suffice if stocks are to be kept down. Makers are not disposed to increase stocks, as they know that this would create a situation which would work against their interests when prices again begin to advance, and they also know that there is no prospect for some time to come of any increase in the needs of consumers either at home or abroad. Very small deliveries of crude iron are now required by makers of steel, but there are some hopes that the reduction in the price of iron will bring about a relative reduction in the market value of finished steel and elicit a better demand for rails and shipbuilding material.

We learn from advices from Australia which reached Calcutta this week that the regular **Australasian wool** selling season was inaugurated in Adelaide on the 26th ultimo, when 21,000 bales of wool were submitted to the largest attendance of buyers ever seen at the opening sale in that centre. Competition was general and animated, all wools being well competed for, brokers practically effecting a total clearance of their catalogues, which were composed almost exclusively of merino wool, for which prices were from 1½*d.* to 1½*d.* per lb. higher than at the corresponding sales of last year. As is generally the case, the maximum advance was obtained for the best wools. Immediately the Adelaide sales were over most of the buyers went straight on to Sydney, where large and representative catalogues were being submitted. On the 7th October the centre of operations was to have been shifted to Melbourne. Last year Australasia produced a record clip, which was sold at splendid prices. Trade has been so good that consumption has overtaken supply with the result that the clip of 1907 and 1908 will meet a market absolutely unhampered by any accumulation of stocks. Practically every mill in the world is to be represented at the Melbourne sales. If there is a shrinkage of supplies from Australasia there will certainly be a decrease in the world's output of wool, for the clips from both the United States of America and the Argentine show a falling-off as compared with last year. Merino sorts are now 3*d.* per lb. dearer than they were this time last year, while medium and coarse quality crossbreds are ½*d.* per lb. cheaper. Important conferences have recently been held between the Victorian Selling Brokers' Associations and the Wool-buyers' Association, at which some further alterations as regards the conduct of the sales have been mutually agreed upon. As regards the quantity of wool to be submitted weekly in Victoria, the expansion of the wool business in that state warrants an increase from 23,000 (last year's limit) to 28,000 bales in Melbourne, and that amount is likely to be mutually agreed upon, while it is also possible that the weekly limit in Geelong will be increased to 10,000 bales.

The fifth series of **London colonial wool auctions** is over and the sixth is fixed for November 26th, when, owing to the early season in Australia, it is expected there will be more wool available than at the corresponding sales last year. Prices during the series just ended were firm, with a hardening tendency from the opening to the close. It is surprising to learn that as many as 7,000 bales were taken in and are held over for next auction. Out of the 89,000 bales which found buyers no fewer than 54,000 bales were secured by the home trade, whilst the Continent took 33,000 and the United States only 2,000.

According to a London cablegram the **export of Indian tea** to the **United Kingdom** this season will be *from ten to fifteen million pounds* below the total of last year. This should have a steadying effect on the price of tea.

The **Shanghai** Municipality announces that at the request of Great Britain it has already ceased to issue fresh **opium licenses** and will restrict renewals.

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

For the week ending 12th October, 1907—

In the Calcutta market—

Behar opium—Rs. 1,360; 1,375; 1,370; 1,380; 1,370; 1,370; 1,365.

Benares opium—Rs. 1,350; 1,360; 1,355; 1,360; 1,355; 1,355; 1,350.

The prices in the time bargains for the Behar opium of the 11th sale of 1907 were, (new) Rs. 1,395; 1,409; 1,403; 1,417; 1,405; 1,405; 1,402.

In the China market—

At Hongkong (exchange Rs. 157½ to 163½ per $100).

Behar opium—$857½; 857½; 860; 862½; 865; 875; 875.

Benares opium—No quotations received.

At Shanghai—No quotations received.

For the week ending 19th October, 1907—

In the Calcutta market—

Behar opium—(old) Rs. 1,355; 1,360; 1,360; 1,370; 1,370; 1,385; 1,405.

Benares opium—Rs. 1,350; 1,350; 1,350; 1,370; 1,370; 1,390; 1,400.

The prices in the time bargains for the Behar opium of the 11th sale of 1907 were (new) Rs. 1,388; 1,392; 1,390; 1,412; 1,413; 1,421; 1,443.

In the China market—

At Hongkong (exchange Rs. 152½ to 155¾ per $100.

Behar opium—$882½; 882½ and 895; 875 and 895; 895; 895; 910; 920.

Benares opium—On the 15th instant $870.

At Shanghai (exchange Rs. 205 to 210 per 100 taels).

Behar opium—On the 13th and 18th instants 650 and 665 taels.

Benares opium—On the 13th and 18th instants 640 and 650 taels.

For the week ending 19th October, 1907—

In the Bombay market—

On the 13th and 15th instants (new, 1906-07) Rs. 1,275 to 1,355 and Rs. 1,304 to 1,371; on the 14th and 18th instants (new, 1905-06) Rs. 1,350 to 1,375 and Rs. 1,370 to 1,387; on the 14th and 16th instants (old, 1904-05) Rs. 1,400 to 1,460 and Rs. 1,440 to 1,465 respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,340 and 1,385; (old) Rs. 1,501 and 1,448 respectively.

The **clearances of silk** at the **Lyons** conditioning-house during the week ended October 2nd amounted to 168,132 kilogs., as compared with 139,585 kilos. in the preceding week and 142,886 in the corresponding week of last year. The details and comparisons with previous years are as follows:—

Week ended October 2nd.	Thrown. Organsins. Kilos.	Thrown. Trames. Kilos.	Raw. Kilos.	Total. Kilos.
1907 . .	18,551	25,328	122,253	166,132
1906 . .	15,479	22,831	104,576	142,886
1905 . .	19,603	19,946	109,532	149,081
1904 . .	16,512	24,687	80,453	121,652
1903 . .	17,053	28,254	101,002	139,309
1902 . .	19,505	21,514	118,023	159,042

There is little change in the situation of the Lyons market.

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 September, 1907:—The total imports of gold were 227,149 oz. valued at Rs. 1,41,89,686 of these 160,515 oz. valued at Rs. 1,02,76,445 represented bullion and 60,296 oz. valued at Rs. 35,48,006 represented sovereigns and other British gold coin and 6,338 oz. valued at Rs. 3,65,235 represented other coined gold. The total exports of gold were 48,468 oz. valued at Rs. 27,52,642 of these 48,451 oz. valued at Rs. 27 51,673 represented bullion and 4 oz. valued at Rs. 206 represented sovereigns and other British gold coin and 13 oz. valued at Rs. 763 represented other coined gold. The total imports of silver were 18 400.387 oz. valued at Rs. 3,90,68,709 of these 15,792.478 oz. valued at Rs. 3,33 35,017 represented bar and 309.074 oz. valued at Rs 8,26,755 represented Government of India rupees and 2,298.835 oz. valued at Rs. 49,06 937 represented other coin. The total exports of silver were 920,242* oz. valued at Rs. 24,48,042 of these 2,404* oz. valued at Rs. 6,118 represented bullion and 911,368 oz. valued at Rs. 24,30,318 represented Government of India rupees and 6,470* oz. valued at Rs. 11,606 represented other coin. In this month the net imports of gold amounted to 114 37 lakhs of rupees, and of silver to 366·2 lakhs. The figures marked with an asterisk are defective, the weight of certain postal parcels not being declared by Post Office.

The process employed in the **reconditioning of crude camphor** in Kumbakonam, in the **Madras** Presidency, which was briefly described in a note in our issue of July 25th last, has been reported on by Mr. G. H. B. Jackson, I.C.S., Sub-Collector, Kumbakonam, who has been good enough to favour us with the following details of an experiment conducted by him: A copper cauldron (dimensions about 3 ft. 3 in. in height, 2 ft. 8 in. in diameter, 8 ft. 4 in. in circumference) was placed over a slow wood fire. Into this cauldron 37 lbs. of Japanese camphor (value about Re.1-2 per lb.) was placed and enough water added to make it moist like wet sand. By puddling with the feet the camphor was finally heaped into a loose cone at the bottom of the cauldron. The lid was then put on and wet earth put round the edge to make it air-tight, bars fixing the lid down. The fire was lighted and as it burned cold water was thrown against the sides of the cauldron. In about three hours the process was complete. By tapping the cauldron underneath (through the furnace mouth) and also tapping its sides, the time to open the lid was discovered, the cauldron ringing dull at the bottom and clear at the sides at the commencement, and *vice versâ* at the end. When the lid was opened, the inside was found coated as with snow. Round the lid were flakes of crystallised camphor, the rest of the inner side being covered evenly with camphor about half-an-inch thick, which was prised off with an iron bar and broken into bits for sale. Owing to the amount of refuse with the crude camphor and the addition of weight by the water, about 40 lbs. were produced from the original 37 lbs. This is sold at 1 anna 9 pies per oz., or Re. 1-12 per lb., which represents a gross profit of Rs. 28-6 on the transaction. Mr. Jackson states that the trade is not flourishing owing to the preference shown for refined camphor flakes (100 to the ounce) imported from Japan and sold at Rs. 3 per lb. These flakes, it appears,

are mixed with wax, which makes them less liable to evaporation than the Kumbakonam product, but for that reason they are less acceptable to the orthodox Hindu. He thinks, however, that if the natives engaged in the trade could remove the camphor from the sides of the cauldron by a kind of paste cutter, which would keep the bits in neat squares, the Japanese article might be less in favour.

The Sixth International **Motor Exhibition, Olympia,** November 11th to 23rd, 1907, will be open three days longer than on former occasions; and although the French have advanced the date of the Paris Show, the British Exhibition is still in advance of them. In order to provide room for the numerous exhibits, it has again been found necessary to exclude Commercial motor vehicles and motor boats, a separate Exhibition will be held for them at Olympia in March, 1908.

One of the most practically interesting features of the **French manœurves** recently concluded was the use of large **motor carts and wagons for the conveyance of food.** Last year a trial was made on a small scale, only nine vehicles being employed. This year the Minister of War invited manufacturers to furnish suitable carts on payment per diem, and seventeen firms sent thirty-four trial wagons, all coming under the specification of "camions," which is best translated by "drays." With these thirty-four machines a whole army corps was provisioned during manœuvres week from Bordeaux as a centre. Every evening telegrams indicated the spot where they were wanted, and the drays started early next morning, each section having to do from 120 to 140 kilometres, or about 80 miles. Excepting a few delays at the start, the service worked admirably, and this is the more meritorious since every type was represented, using essence, alcohol, naphthaline, and steam.

The Secretary of State for India has sanctioned the construction by the Bengal and North-Western Railway Company of a **branch line from Madho Singh** station on the Benares-Allahabad Railway to the northern bank of the Ganges opposite Mirzapore—a length of 10·3 miles.

The **Railway Board** have sanctioned the following **surveys** being made by the Agency of the Oudh and Rohilkhand Railway Administration for lines of railway: (1) From Phaphamau to Rai Bareli *viâ* Mustafabad; (2) from Mustafabad to Unao or Cawnpur bridge; and (3) a link from Rai Bareli to Dalmau. The aggregate length of the lines to be surveyed is about 149 miles. These surveys have been placed under the control of the Manager, Oudh and Rohilkhand Railway, and will be known as the Allahabad-Rai Bareli-Cawnpore Survey.

The proposals of the Government of India with reference to the better **management of Indian railways,** published *in extenso* in our issue of the 17th instant, come into force on the 1st January next, and not on the 1st June, 1908, as previously stated. These proposals are:—(1) That certain powers of sanction and administration should be delegated to the Companies' Boards and that they should be requested to entrust their agents with a considerable portion of their own powers, Government reserving the right to re-impose more detailed control should the circumstances of any line require it; (2) that the appointment and duties of Consulting Engineers should be abolished; and (3) that Government Inspectors should be appointed to carry out the duties prescribed in chapter 4 of the Railway Act.

The following particulars concerning the **tobacco crops in Turkey** during 1906 and 1907 have been supplied by the British Vice-Consul at Smyrna (Mr. H. C. Venables):—The 1906 crop was somewhat below the average, amounting to about 1,500,000 kilos. The quality was good, and the average price ruling was 14½ piastres (119 piastres=£1 sterling). The crop for 1907 is calculated at 2,000,000 kilos. —a fair average crop—of which very little has as yet come in. Owing to heavy rains in the latter part of the summer, the quality is somewhat inferior. The price cannot be given, as the crop does not come in before another month or six weeks, but it is expected that there will be very little of superior quality. The stock held is about 600,000 kilos., which, it is stated, is below the average. Half of this will probably be shipped when the new crop comes in.

The Commonwealth House of Representatives has approved the Government's **British Preference proposals** without a division. The proposals are set forth in the new **Australian Tariff,** a copy of which may be inspected at this office.

The Directors of the **Great Indian Peninsula Railway Co.** have recommended that a dividend of 28*s.* per cent. for the year ended June 30th last be paid to holders of the three *per cent.* stock in addition to the guaranteed interest, making a total distribution of £2-18*s.* per cent. for the half-year, less tax. The Directors of the **Delhi-Umballa-Kalka Railway** have declared a final dividend at the rate of six per cent. per annum and a bonus of one per cent., making with the interim dividend a total payment of seven per cent. for the year ended June 30th last. The Directors of the **India General Navigation and Railway Co.,** Limited, have declared an ad-interim dividend of 2½ per cent. on preference shares and 2½ per cent. on the ordinary shares for the half-year ended 30th June last, payable to shareholders on the 21st proximo.

NOTICES.

CALLS FOR TENDERS.

Medical Stores.

The Medical Store-keeper to Government, Madras, is inviting tenders up to the 1st proximo for the supply of medicines, surgical appliances, sundries and field equipment, a schedule of which may be seen at this office.

Lac.

Tenders are invited for the purchase of about 900 maunds (maund=40 seers) of lac from the Raipur Forest Division of Central Provinces. Full particulars of the sale and places of delivery can be had on application to the Forest Divisional Officer, Raipur, C. P.

ENQUIRIES.

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

Lac.

(137)—An official at Dehra Dun requires the addresses of dealers in a position to purchase lac in quantities from the Central Provinces during December-January next.

Coffee.

(138)—A Montreal dealer wishes to represent Indian firms in that part of Canada for the sale of coffee.

Cotton Yarn.

(139)—A firm in Vienna desires to represent Calcutta spinners of cotton yarn.

Cotton Goods.

(140)—A New York firm desires to be placed in communication with cotton goods merchants in Calcutta and Bombay.

Cashew Nuts.

(141)—A firm in Marseilles desires to be placed in communication with firms in India who are in a position to export cashew nuts.

Machinery.

(142)—An English firm desires the addresses of firms in India who would be willing to act as agents for various kinds of machinery of British manufacture, such as gas and oil engines, steam engines and boilers, machine tools, pumps, fans, saw benches, etc.

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, 6th November, 1907:—

Parliamentary Publications.

Agricultural Statistics, Ireland, 1907. Convention signed on August 31st, 1907, between Great Britain and Russia, containing arrangements on the subject of Persia, Afghanistan, and Thibet. International Exhibitions Committee—Report of the Committee appointed by the Board of Trade. Merchant Shipping (Tonnage deduction for propelling power) Bill Report and Special Report from the Select Committee. New South Wales—Papers relating to the working of Taxation of the Unimproved Value of Land in.—Railway Returns—Returns of the Capital, Traffic, Receipts and Working Expenditure and Railway Companies of the U. K. for the year 1906. Shipping Casualties—Abstract of Returns, 1905-06. Servia—New Customs Tariff. Trustee Savings Banks—Returns, 1906. United Kingdom—Monthly Account, September, 1907.

Foreign and Colonial Publications.

Australia—New South Wales, Intelligence Department Bulletin, No. 18—The Angora Goat; Trade, Shipping, Oversea Migration, and Finance of the Commonwealth of Australia, July, 1907; A. B. C. of Queensland Statistics, 1907. Austria-Hungary—Monthly Account of Trade, August, 1907. Canada—Weekly Trade Report, 30th September, 1907. China—Native Customs Trade Returns, 1902-06. Mexico—Monthly Account of Trade, July, 1907; Boletin De Estadistica Fiscal, March, 1907. United States—(1) Special Reports of the Census Office—Statistics of Women at Work; (2) Crop Reporter, August 1907; (3) Quarterly Publications of the American Statistical Association, June, 1907; (4) Monthly Consular and Trade Report, September, 1907; (5) Report on Colours—The Solubility and Extraction of Colours and the Colour Reactions of Dyed Fibre and of Aquous and Sulphuric Acid Solutions; (6) Chemical Methods for Utilizing Wood; (7) Cassava: Its content of Hydrocyanic Acid and Starch and other Properties; (8) The Spring Grain-Aphis or so-called "Green Bug"; (9) The Cranberry Spanworm.—The Stripped Garden Caterpillar; (10) Irrigation and Drainage Laws of Italy; (11) Syllabus of Illustrated Lecture on Roads and Road Building; (12) Report of Committee on Extension Work, 1906-07.

Diplomatic and Consular Reports.

China—Trade of Swatow for 1906; Trade of Mengtzu 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., Ld.; 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.

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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. Nateson & 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, OCTOBER 31, 1907.

UNPRODUCTIVE SOILS.

Some Valuable Experiments.

FROM an Indian point of view perhaps one of the most important experiments recently conducted in the United States by the ever-progressive Bureau of Soils is that which tends to demonstrate that many soils are unproductive, not because proper nutrients are lacking, but because they contain substances actually deleterious to plant growth. It is shown, for instance, in *Bulletin No. 40*, by Oswald Schreiner and Howard S. Reed, that an extract of an unproductive soil, though containing nutrient substances, is often a poorer medium for the growth of plants than distilled water, although the latter contains no plant food whatever. Wheat seedlings, we are told, will grow about three weeks in good distilled water, but when grown in an unproductive soil soil give a much poorer growth in both top and root, and the plants often die within a fortnight. Why should this be? That is the problem the authors set themselves to solve. They found, at an early stage of their experiments, that when such poor soil extract, exhibiting toxic properties towards plant development, is treated with insoluble finely divided bodies which are good absorbing agents, the extract becomes a good medium for plant growth. They illustrated this by adding a small quantity of carbon black to some unproductive soil extract, shaking and filtering the carbon black off again. Now carbon black contains no nutritive substance whatever, but the soil to which it was added was greatly improved. In another experiment both carbon black and ferrohydrate were used as absorbents for the toxic substances, and the soils so treated were greatly improved. Several other experiments conducted under varying conditions gave similar results, all tending to show that while the absorbents had no value as nutrients, their power in neutralising the toxic property of the soil was very marked. Boiling the soil produced striking results in some cases; and in others incineration conferred marked benefit, while both methods indicated that the toxic substances are organic in their nature.

Another series of experiments was undertaken to prove that at least part of the toxic conditions of the soil were transmitted to it by growing plants. It is, of course, fairly well known that when one crop is continually grown upon the same soil the yields usually show a decline, and in course of time such soil may become unfit for the growth of that plant, but another plant will thrive where the former failed. In one case soil (Cecil clay) planted with four successive crops of wheat gave the following percentage of yields:—

1st planting	. . . .	100 per cent.
2nd „	. . . .	68 „ „
3rd „	. . . .	57 „ „
4th „	. . . .	44 „ „

Many, perhaps the majority, of agricultural students, would infer from such results that the soil had been depleted of plant nutrients by the first crop; but the authors show that the diminished yield is due to the presence in the soil of substances deleterious to plant growth; and it seems fairly certain from their experiments that these poisonous substances were largely imparted to the soil by the roots of the first crop. No evidence of root parasitism was detected in any case. Moreover, in support of their theory of toxic effects, they state that the washings from the bark and leaves of trees have been shown to be decidedly toxic to wheat plants and to grass; and assert that the retention of these washings by the soil is undoubtedly a factor in the infertility of the soil in the vicinity of such trees.

All the experiments go to show that the toxic substances, whatever their composition, are present in the soil in very small amounts, for no chemical analysis of the soil has ever given any indication of them, and yet their effects are easily demonstrable. For example, Messrs. Schreiner and Reed, by means of an elaborate set of experiments on the effects of root excreta from various sources upon wheat roots are able to show (1) that the excreta from no other roots are so deleterious to wheat as its own excreta; (2) that the excreta from oats are more harmful than those from more distantly related plants; and (3) that the plants which succeed best in a rotation of crops with wheat produce excreta which are least harmful to wheat. The same reasons may account for the fact that a soil becomes in time less suitable for the growth of its native vegetation than for adventitious plants from another region.

Finally, the authors are of opinion that their interesting and instructive experiments go to prove that proper aeration of the soil will do much to destroy the organic substances which exert toxic effects on crops; as aeration favours the decay of organic matter by promoting the activities of soil organisms and the processes of oxidation. Their experiments further show that pyrogallol, stable manure and green manure have a specific action upon deleterious products arising from the growth of plants; and they quote *Bulletin No. 36* as proving that the organic constituents of stable manure are more potent in overcoming the toxic action of an unproductive soil extract than all the inorganic plant food constituents of the manure. On the other hand, in some types of soil, influenced perhaps by certain climatic environments, there appear to exist conditions which are usually favourable to the rapid destruction of toxic excretions. Such soils when planted year after year with the same crop may not only maintain their original productive powers, but even increase with continued cultivation. We have instances of this sort in India, particularly in some of the jute fields that are flooded yearly by the waters of the Brahmaputra; and the exact reason why this is so is a fascinating problem that may commend itself to some agriculturist in India of an enquiring turn of mind.

—The Russian Budget for 1908 includes a credit of 7,732,000 roubles for famine relief.

CHAMBERS OF COMMERCE.

KARACHI.

AT a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on the 22nd October, 1907, the following matters were disposed of:—

READ report, dated 15th October, 1907, of the Piece-goods and Yarns Sub-Committee, on the letters of the Bengal Chamber of Commerce and the Bombay Chamber of Commerce, dated, respectively, 25th September and 9th October, 1907. The Sub-Committee agree with the view expressed in the former on the question of **late shipments of Piece-goods**, and also think the suggestion put forward in the latter in regard to each Chamber presenting to the Manchester Chamber, copies of its own communications to the other Chambers on this matter is a sound one. The Sub-Committee also suggest, that in forwarding this correspondence to Manchester, the desirability of emphasizing the remarks of the Bengal Chamber in regard to any penalty being such as to act as a deterrent and that to this end it be made cumulative, also that it should be a percentage on a cloth basis and not on raw cotton as a basis.

Resolution.—The suggestions of the Piece-goods and Yarns Sub-Committee should be given effect to, and a letter drafted to the Manchester Chamber of Commerce accordingly.

READ letter No. E-1606, dated 2nd October, 1907, from the Under Secretary to Government, Public Works Department, Bombay, forwarding copy of the Report of the Committee appointed by the Government of India to consider the question of amending the **Indian Electricity Act** III, 1903, and requesting the Chamber to express its opinion on the important point raised by the Committee in their recommendations under Section 3 of the existing Act, *viz.*, that the administration of the special law governing electrical enterprise should for the present be assumed by the Government of India.

Resolution.—The Under Secretary to Government, P. W. Department, should be informed that the Committee approve of the recommendations of the Committee appointed by the Government of India regarding the amendment of the Indian Electricity Act III of 1903, particularly with regard to Section 3 of the existing Act, *viz.*, that the administration of the special law governing electrical enterprise should for the present be assumed by the Government of India.

BOMBAY.

The following extracts are taken from the proceedings of the Committee of the Bombay Chamber of Commerce for the month of September, 1907:—

READ letter, dated 11th September, 1907, from the Bengal Chamber of Commerce regarding the suitability or otherwise of 2-39 P.M., Standard Time, as the **Hour of Departure of the English Mail Steamer under the new Mail Contract.** The Bengal Chamber explained that last year an arrangement

was made by the Post Office and the Railways, whereby the timing of the Mail train from Calcutta was revised as from February, 1907. Formerly, the Overland Mails were conveyed by the daily train from Calcutta as far as Naini, and thence to Bombay by a Special Train. They are now carried all the way by the ordinary Mail train, which is due at Bombay at 1 P.M., Standard Time, as against 12-5 P.M., Standard Time, the hour at which the Special formerly arrived. The Bengal Chamber added that it was found in practice that the interval between the arrival of the train and the departure of the steamer was far too short; that even for the Mails it was said to be insufficient, and that as regards passengers, the P. and O. S. N. Co. had issued a notice at the beginning of the hot weather warning such that they would run the risk of being left behind if they travelled by the Mail train. In these circumstances, the Bengal Chamber enquired whether any exception would be taken in Bombay to a later departure, say 3-30 P.M., Standard Time.

Resolution.—The Bengal Chamber to be informed that this is a matter on which very strong views have always been held in Bombay, and that as the mercantile and trading communities would strongly object to any further extension of working hours on Saturday afternoon, the Committee regret they cannot support a later departure. Add that the Committee would be compelled to vigourously protest against any change from the existing time in the direction indicated by the Bengal Chamber.

Read telegram, dated 20th August, 1907, from the Karachi Chamber of Commerce desiring to be informed as to what constitutes in Bombay **customary Day's Work** for a steamer of four hatches loading **Ore** in bulk in Dock and in the stream.

Resolution.—To be informed that five hundred tons of Ore per day for four hatches in Bombay Docks is regarded as a very fair minimum. Add that Ore is not loaded in the stream in Bombay.

Read letter, dated 6th September, 1907, from the Director-General of Telegraphs, stating that, with a view to improving the **transmission of Code messages,** he had been instituting special enquiries into the abnormal increase in the number of mutilations of late, and that as a result of his investigations, he had ascertained that a large proportion of the mutilations was due (1) to the very complicated combinations of letters of which many Code words were now composed, and (2) to the doubtful formation of certain letters in the handwriting of both senders of messages and of signallers at transit offices. The Director-General requested that the attention of Members of the Chamber be called, in the first place, to the danger of using combinations differing so little from mere letter Code, and the desirability of adopting more simple and pronounceable combinations for Code words; and, in the second place, the advisability of handing in all Code messages typed or very clearly written.

Resolution.—A copy of the letter from the Director-General of Telegraphs to be circulated to Members of Chamber, expressing a hope that they will assist the Telegraph Department in the direction indicated.

Read letter, dated 6th September, 1907, from the Secretary, Calcutta Liners' Conference, asking for detailed information as to the **measurement** in cubic feet per ton of **Linseed, Rapeseed, Poppyseed, Teelseed, Mustardseed, Gingellyseed, Mowraseed,** and any other seeds which are occasionally shipped from Bombay as cargo. The letter stated that the Conference were led to make this request as they believed that their measurements were in some cases obsolete and inaccurate, and they understood that the Bombay Chamber possessed some reliable apparatus for testing such measurements.

Resolution.—The Calcutta Liners' Conference to be furnished with a copy of the Bombay Chamber's Tonnage Schedule, and informed that the Committee regret that owing to this being the off season they are unable to make further tests at the present time. Explain that the apparatus referred to, is a wooden box measuring inside 10′ × 5′ × 4′, the cubic capacity being 200 feet, or 5 Bombay Steamer Tons. After being filled with bag cargo, the contents are taken out and weighed, the net weight being so many cwts. to the shipping ton of 40 cubic feet.

PUNJAB.

At a meeting of the Committee of the Punjab Chamber of Commerce held on the 2nd instant the following matter came up for consideration:—

Read letter No. 45, from the Secretary, Karachi Chamber of Commerce, dated 12th September, 1907, also letter from the Manchester Chambers of Commerce to the Karachi Chamber of Commerce, dated 26th July, 1907, enclosing provisional regulations agreed upon between the Manchester, Blackburn and Burnley Chambers of Commerce and the North and North-East Lancashire Cotton Spinners' and Manufacturers' Association **regarding time Contracts for India.** The provisional regulations, which are as follows, are submitted to the Karachi Chamber, that subject to the approval of the Committee, the opinion of native traders thereon may be ascertained:—

1. Whenever a seller in this country, who has sold cotton goods to a buyer for shipment to India, on a time contract, finds that he will be unable to fulfil such contract, or some definite part thereof, within the time specified, he shall inform the buyer at once. If the seller requires extension of time the buyer shall have the option of granting such extension as described in the following paragraphs or of cancelling the contract so far as the default extends.

2. In contracts for delivery to extend over two or more months each monthly instalment shall be deemed to be a separate contract, provided that the quantity to be delivered in each month be stated in the contract.

3. If extension be required, or if at the expiry of the extension already granted the goods are not delivered and a further extension be required, the buyer shall have the option of (1) granting such extension with or without an allowance, or (2) cancelling the contract or such portion of contract in default.

4. If the buyer elects to cancel and the market price of cotton has advanced since the order was accepted by the seller, the buyer shall be entitled to recover from the seller an allowance based on the difference between the price of cotton on the date when the order was accepted and its price on the final due date of the contract, or due date of any instalment thereof that is cancelled.

Such allowances to be adjusted as follows:—

The basis of price in the case of goods made of American cotton to be Spot Middling American, and in the case of goods made of Egyptian cotton fully-good-fair brown Egyptian. In the case of goods made of mixed cotton the basis of settlement shall be agreed upon between the parties at the time of placing the contract, but if no such prior agreement has been made the basis of settlement shall be Spot Middling American Cotton.

5. The scale of such allowances shall be for each one per cent. advance, 5*s.* per cent., on the value of the cancelled goods at contract prices, to be allowed to the buyer, *e.g.*:—

If cotton has risen 5	per cent.	allow	25*s.*	per cent.	
" " "	10	"	" 50*s.*	"	
" " "	15	"	" 75*s.*	"	
" " "	20	"	" 100*s.*	"	and so on.

6. Allowances shall not be claimed on goods whether cancelled or not, if the seller is able to prove that the default in delivery is caused by *force majeure* which shall include fires, floods, breakdowns of machinery, strikes and lock-outs.

The Karachi Chamber of Commerce, having carefully considered the proposed regulations, are of opinion that the proposals fall very short of any practical remedy for breaches of contract in respect of late shipments, that the compensation offered is altogether inadequate and in its proposed form would be so difficult of adjustment that it would be very undesirable to place the scheme before the native buyers.

Resolution.—The Secretrary, Karachi Chamber of Commerce, to be informed that this Chamber is thoroughly in accord with the decision arrived at by his Committee regarding the regulations proposed by the Manchester Chamber of Commerce and consider that no good purpose would be served by putting them before the native dealers.

UPPER INDIA.

The following is an abstract of the Proceedings of the Upper India Chamber of Commerce during September, 1907:—

The Madras Chamber was informed that the Committee did not see their way to support a protest against the application of a portion of the **Gold Reserve** to the purchase of railway rolling stock, in consideration of the assurance given by Government in connection with a similar representation from the Bombay Chamber that the stability of the reserve would be faithfully preserved.

The Government of India in the Foreign Department was informed that the Chamber did not agree with the opinion expressed by H. M.'s Consul at Kerman, that the Sample Depôt at Kerman had failed in its object and was only a useless expense, and it was pointed out that the scheme had not had a sufficiently long trial as yet. The Consul's view that catalogues of the goods represented by the samples in the Depôt, printed in the vernacular, would be of no use, was not accepted; it being maintained that by this and other means the sample room would serve the main purpose for which it was intended, *i.e.*, to introduce merchants in Persia to Indian products, and accustom them to western methods of business.

At a meeting arranged between the Committee of the Chamber and Mr. A. C. Chatterjee, who had been appointed by the Local Government to enquire into the general question of industrial development in this Province, it was decided that the Chamber should entrust Messrs. Begg, Sutherland & Co. with the necessary enquiries as to plant required in connection with **cotton-seed oil extraction** and to carry out the experiments connected therewith.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 10th October, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

Netherlands.—Proposed Reduction of Duty on Mutton, Pork and Bacon.

Australian Commonwealth.—Customs Decisions. Duties on Alcoholic and Spirituous Liquors.

South Africa.—Customs Decisions.

Grenada.—Free Importation of Official Uniforms, &c.

United States of America.—Drawback on Materials from the Philippine Islands. Customs Decisions.

Peru.—New Customs Regulations.

Argentine Republic.—Customs Decisions.

—According to a United States Consular report the **Japanese** Government, in addition to **nationalizing the railways,** has decided to carry out a thorough rearrangement and improvement thereof. The work is to be completed in five years at a cost of £15,000,000. Details of this expenditure are still under consideration, but the general estimates are reported to be as follows:—£830,000 for doubling lines, £2,250,000 for the construction of 900 locomotives, £1,900,000 for 19,000 goods wagons, £1,000,000 for 1,000 passenger cars, £1,500,000 for enlargement work and 30 stations, and £150,000 for five new steamers.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 19th OCTOBER, 1907.

Rajputana.—No rain fell anywhere in Rajputana during the week. Autumn crops are being harvested in some places; those on irrigated areas are doing well, but on dry lands they have practically failed owing to drought and are being cut for fodder in many places. No immediate distress is however apprehended. The abundant rains of August have given sufficient water and fodder and the agricultural classes owning cattle and irrigable land are free from anxiety. A large tract comprising Jaisalmer, Mewar and Bikaner depend largely on pasturage; fodder collection will afford employment for some time in the Bhil country. Beyond the high prices no signs of distress are yet reported anywhere. So far as can be estimated at present direct relief will probably be required later on only to certain classes of the population in the States of Eastern and Southern Rajputana, in parts of Marwar and Ajmer and in Kishangarh. Instructions are being issued for suspensions and remissions of land revenue and grant of agricultural advances in Ajmer-Merwara, and Native States are taking up these questions also. No anxiety on the score of grain supplies is reported but prices are generally very high owing doubtless to a sympathetic tendency with Upper India. Prices are steady with a tendency to fall, compared with the previous week, except in Marwar and Jhalawar where they have risen.

Central India.—No rain fell anywhere during the week. Sowing of spring crops is in progress in Indore, Malwa and Bhopawar; and restricted only to irrigated and alluvial lands in other Agencies. Irrigated autumn crops are in a satisfactory condition in Gwalior; *juar* is mostly in flower. In Indore unirrigated autumn crops are almost destroyed in Gwalior; and are withering in other Agencies. Prospects are bad everywhere; they are poor in Indore. The probable outturn will be 4 annas in the rupee. Crops have been damaged everywhere by continued drought; also by insects in parts of Bhopawar; and by rats in parts of Indore. The condition of the agricultural stock is fair to good, except in parts of Indore, Bhopal and Bhopawar. Pasturage is indifferent in Bhopal; and fair to good elsewhere. Prices are very high with a tendency to rise.

Central Provinces.—The days are warm and clear and the mornings and nights cool. The week was rainless. Deterioration of autumn crops is most pronounced in Saugor, Seoni, and the south of the Damoh districts. Harvesting is in progress in Jubbulpore, Mandla, Hoshangabad, Chanda, Bhandara, Balaghat and Raipur; but the outturn is expected to be poor in Jubbulpore and Mandla. Want of rain has caused damage to rice, *kodon*, *kutki*, and *til* in the hill tracts of Narsinghpur; to *juar* sown in poor soil in Wardhan; and to rice in parts of Balaghat. Locusts appeared in parts of Chhindwara, Betul, Nimar and Akola but did little d[illegible]. Sowing of spring crops continues in places. Rain is urgently required to improve prospects and to facilitate germination of spring crops. Fodder and water are adequate. The price of *juar* became cheaper by 2 seers in Amraoti; gram in Yeotmal and *juar* in Buldana rose by 2 and 4¾ seers respectively; in six districts prices of food-grains remained stationary; there is little change in prices elsewhere.

Native States.—No rain fell during the week. Autumn crops, except in Sarangarh, are deteriorating owing to continued drought. Harvesting of rice and other minor crops in progress. Rain is urgently required to improve the condition of the standing crops and to advance spring sowings. Fodder and water are sufficient. There are no marked variations in prices.

Bombay.—Slight rain fell during the week in parts of Colaba, Kanara and Dharwar. More rain is generally needed for standing autumn crops and spring sowings. The standing crops are withering in parts of Sind, Gujarat, Khandesh, Nasik, Sholapur Bijapur, Baroda, Mahi Kantha, Rewa Kantha and Palanpur; otherwise crops are in good condition except for slight damage by rats in parts of Karachi, Hyderabad and Thar and Parkar; by insects in parts of Karachi and Bijapur; and by locusts in parts of Hyderabad, Thar and Parkar, Nasik and Ahmednagar. Harvesting of autumn crops continues in parts of Sind, Gujarat, the Konkan, the Deccan, Belgaum, Baroda, Cutch and Kathiawar. Preparation of lands for spring sowings is in progress in parts of Sind and East Khandesh. Spring sowing continues in parts of the Upper Sind Frontier, Ahmedabad, Kaira, Broach, the Deccan, the Karnatak Kathiawar, Baroda, Cutch and Palanpur. The supply of fodder and drinking water are adequate, except in parts of Ahmednagar. Agricultural stock is generally in good condition. Water in irrigation tanks and canals is sufficient, except in parts of Sind, Nasik, Sholapur and Baroda. The quantity of food-grains purchasable per rupee is in the Karnatak 19 to 46 per cent.; in the Deccan 9 to 40 per cent.; in the Konkan 17 to 30 per cent.; in Gujarat 23 to 56 per cent.; and in Sind 30 to 41 per cent. less than the normal. During the week ending the 12th October, 1907, 27 persons were relieved gratuitously in Belgaum, in South Deccan, the Karnatak and the Konkan. The autumn outturn will be fair to good in Gujarat and North Deccan. Late sown autumn crops covering a very wide area will be almost a total failure if no more rain falls within this month. Rain next month will be beneficial to spring crops generally. Sufficient employment is available for labouring classes and there is no immediate necessity for relief measures; but the situation in north Gujarat and west Khandesh is being closely watched.

Hyderabad.—No rain fell during the week. The autumn harvest continues. The irrigated early rice crop is generally in fair to good condition. Spring crops are being sown in parts but have been suspended in many parts for want of rain. Unless rain falls soon the spring crop prospects will be bad. Prices are rising. Prices:—wheat 6¼; coarse rice 6¾; and *juar* 13¼ seers per rupee; *juar* is selling in Hyderabad City at 11⅓ seers per rupee. The highest price is 9¾ seers per rupee in two talukas.

Mysore.—Slight rain fell in all districts. The price of food-grains has slightly risen in Bangalore, Kadur and Chitaldrug; elsewhere prices are steady. The standing crops are in good condition. Prospects of the season are good. Cattle are generally healthy. Water and fodder are available.

Coorg.—Rainfall 1 inch 62 cents. Picking of cardamom continues. Prices of food-grains are normal. Water and fodder are sufficient. Agricultural prospects are good.

Madras.—The rainfall during the week was heavy in Ganjam; good in Malabar, Vizagapatam littoral, Nellore, Godavari, Cuddapah, Coimbatore, South Kanara, Guntur, Trichinopoly, Tinnevelly and the Nilgiris; *nil* in Madras; and light to fair elsewhere. Irrigation supplies are insufficient in parts of all districts except Chingleput, Coimbatore, Tanjore, Malabar, South Kanara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress. Standing crops are generally fair but some in parts of Ganjam are withering; and some in parts of Vizagapatam, Godavari, Kistna, Kurnool, Bellary, Salem and Coimbatore require more rain. Harvests continue with outturn poor to normal. Pasture is sufficient except in parts of Godavari, Kistna, he Deccan, Nellore, Madura and Tinnevelly. Fodder is scanty in parts of Ganjam, Godavari, Kistna, and Nellore. The condition of cattle is good. The price of rice is stationary in eleven districts; has fallen in six; and has slightly risen in six. Prices of millets have fluctuated as follows:—*Ragi* is stationary in seven districts; has fallen in two; and has slightly risen in twelve. *Cholam* is stationary in four districts; has fallen in two; and has slighly risen in eight. *Cumbu* is stationary in seven districts; has fallen in two; and has slightly risen in six. The public health is generally good. Prospects are fair but more rain is required in parts of some districts. The condition of the labouring classes is good and employment is available. Prices are generally high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

EASTERN BENGAL AND ASSAM.

CROP PROSPECTS.

(By Telegram.)

Shillong, October 29th.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 28th instant:—

The weather has been fine, but far too dry. There has been no rain at all, except in Upper Assam, the Khasia and Naga Hills, and part of Bogra, where there has only been a slight fall. More rain is greatly needed both for winter rice and for *rabi* (spring) crops.

The prospects of winter rice on high land are poor; on lower lands moderately good.

The harvesting of early rice still continues in Lower Assam and parts of Eastern Bengal.

The sowing of pulses is nearly finished, and the sowing of mustard has commenced.

The harvesting and retting of jute have practically finished.

The plucking and manufacture of tea continues. The prospects of jute and tea are fair to good.

Prices of common rice are:—Manipur, 22; Rangamati, 11; Kohima, 10; Chittagong, Nowgong and Sibsagar, 9; Dinajpur, 8-13; Barisal, Comilla, Noakhali, Rampur Boalia, Malda, Silchar and Tezpur, 8; Pabna and Dhubri, 7¾; Dacca, Mymensingh, Bogra and Sylhet, 7½; Dibrugarh, 7¼; Faridpur, Gauhati and Tura 7; Jalpaiguri and Rangpur, 6½; Shillong, 5¾; and Aijal, 5½ seers per rupee.

Prices have risen in four, fallen in nine and remained stationary in the remaining districts.

Stocks of food grains are generally sufficient for the immediate future, and no relief works are necessary. Future prospects depend on the outturn of the winter rice harvest.

THE THREATENED SCARCITY.

Message to the Secretary of State.

THE following is a copy of a telegram from the Viceroy to the Secretary of State, dated the 28th instant, regarding the crop prospects:—

Light to moderate rain has fallen during the week in Burma, Eastern Bengal and Assam, and Bengal. Good showers were received in some Madras districts. Except that in Bengal some anxiety is felt as to the prospects of the winter rice crops, which are suffering from want of rain, prospects are generally fair in these provinces, as they are also on the whole in Bombay, where, however, the situation requires careful watching in some of the Northern Districts.

Over the rest of India the week was practically rainless and the gravity of the situation is increasing in the tracts which we mentioned last week as causing us most anxiety. Labour is still in demand in the United Provinces, and no serious general distress has made its appearance yet, but test works will probably have to be opened in at least one district in the next fortnight.

Prices continue abnormally high, with a tendency to rise still further.

—A useful little **history of the Bombay Chamber of Commerce**, which was originally written for the Cyclopædia of India by Mr. C. I. Michael, the Assistant Secretary of the Chamber, has been reissued by the author in book form and presented to members. It affords some indication of the scope of the Chamber's activities since its foundation in 1836; and the publication of the brochure is an indication of a vitality that augurs well for the future. It includes a list of the statistical publications issued by the Chamber and this will have a very practical interest for business men.

DATA OF TEMPERATURE, HUMIDITY AND RAINFALL FOR THE WEEK ENDING TUESDAY, THE 29th OCTOBER, 1907.

STATION.	TEMPERATURE (MEAN OF MAXIMUM AND MINIMUM). Actual.	Departure from normal.	HUMIDITY (PERCENTAGE OF AMOUNT FOR SATURATION.) Actual.	Departure from normal.	RAINFALL. Total during week.	Total since 1st June.	Departure of latter from normal.
	°	°	%	%	"	"	"
BURMA.							
Lower Burma . Mergui	81	+1	91	+4	1·0	116·3	−15·7
Tavoy	81	0	92	+7	1·3	206·2	+31·1
Moulmein	82	0	92	+6	0·7	180·8	+22·4
Rangoon	82	+1	85	−6	0·6	76·2	−4·2
Bassein	82	+1	91	+4	0	94·4	−1·3
Akyab	81	0	91	+2	0·1	198·6	+27·2
Toungoo	82	0	92	+4	3·9	88·9	+20·3
Upper Burma . Thayetmyo	81	0	82	−2	0·1	21·6	−8·0
Yamethin	82	−1	87	+3	0	28·5	+1·8
Mandalay	84	+2	70	−13	0	16·8	−6·3
Bhamo	76	−1	86	−1	0	61·6	−0·1
EASTERN BENGAL AND ASSAM.							
Assam . . Dibrugarh	75	...	85	...	0·5	70·2	−9·2
Tezpur	77	...	88	...	0	50·2	−0·3
Dhubri	78	+1	87	−1	0	72·9	+2·9
Shillong	60	...	69	...	0	44·8	−16·2
Silchar	78	−1	83	−6	0	93·1	+12·5
Eastern Bengal . Chittagong	77	−2	83	−7	0	50·0	−25·6
Barisal	79	0	80	−4	0	47·4	−11·9
Narayanganj	80	0	81	−3	0	42·9	−6·9
Mymensingh	79	+2	85	−3	0	47·0	−17·9
Malda	77	−1	91	..	0	47·3	−0·7
Jalpaiguri	77	+1	84	−3	0	107·6	+2·7
BENGAL.							
Bengal . . Berhampore	79	+1	76	−9	0	28·1	−17·3
Calcutta	80	+2	84	+1	0	42·3	−6·7
Orissa . . Balasore	79	0	74	−10	0	37·2	−14·8
Cuttack	81	+1	74	−4	0	59·0	+8·6
Sambalpur	78	0	62	−16	0	50·6	−11·8
Chota Nagpur . Chaibassa	80	+3	69	−9	0	40·2	−2·9
Purulia	79	...	71	...	0	48·9	+1·6
Hazaribagh	75	+2	40	−25	0	54·0	+5·9
Bihar . . . Darjeeling	53	+1	83	−3	0	69·8	−37·6
Darbhanga	78	0	87	+5	0	34·7	−10·8
Patna	78	+1	56	−16	0	32·5	−11·5
Motihari	76	0	90	...	0	36·6	−11·0
Buxar	80	+2	51	...	0	21·4	−17·0
UNITED PROVINCES.							
United Provinces, East . . Allahabad	77	+1	42	−23	0	22·7	−15·6
Bahraich	77	+2	61	−12	0	14·2	−29·1
Lucknow	76	+2	50	−15	0	13·5	−22·1
United Provinces, West . . Jhansi	80	+2	36	−12	0	20·6	−15·7
Agra	75	−3	43	−10	0	18·9	−7·3
Bareilly	74	0	52	−17	0	21·7	−22·2
PUNJAB.							
Panjab, East and North . . Delhi	76	0	42	−2	0	7·5	−16·6
Sirsa	72	−4	49	−1	0	12·9	+1·3
Ambala	72	−2	55	−12	0	16·6	−9·7
Lahore	71	−2	55	−3	0	9·3	−6·2
Punjab, South-West . . Rawalpindi	68	+1	50	−13	0	13·1	−9·8
Multan	73	−3	47	−10	0	6·0	+0·6
Kashmir . . Srinagar	50	−1	81	−8	0·6	10·2	+1·6
North-West Frontier Province. Peshawar	68	−1	58	−2	0	2·8	−2·2
D. I. Khan	71	−2	45	−16	0	5·2	+0·2
Sind . . Jacobabad	72	−4	62	+12	0	3·2	+0·7
Karachee	75	−5	47	−22	0	5·7	−1·0
RAJPUTANA.							
Rajputana, West . Bikaner	75	−5	48	+2	0	18·8	+9·6
Jodhpur	76	...	25	...	0	9·9	−2·2
Rajputana, East . Udaipur	74	...	51	...	0	16·0	...
Ajmer	75	+1	55	−5	0	11·1	−8·7
Jaipur	75	−1	33	−15	0	13·4	−10·6
Kotah	79	...	34	...	0	15·3	...
BOMBAY.							
Gujarat . . Bhuj	78	−3	50	−9	0	14·5	+0·6
Deesa	79	−1	33	−11	0	52·3	+28·9
Ahmedabad	84	+2	38	−18	0	32·8	+0·3
Rajkot	79	−1	31	−31	0	19·3	−8·2
Veraval	79	−1	41	−17	0	19·5	+2·0
Konkan . . Bombay	83	+1	82	+1	0	100·3	+26·6
Karwar	82	+3	81	−8	0	94·0	−23·4
Bombay Deccan . Malegaon	83	+7	36	−25	0	21·7	−0·6
Ahmednagar	79	+4	33	−35	0	17·1	−2·3
Poona	79	+2	60	−6	0	39·4	+15·0
Bijapur	80	+3	42	−32	0	9·2	−10·7
Belgaum	75	+1	56	−21	0	52·8	+9·7
CENTRAL INDIA.							
Central India, West . . Neemuch	76	+1	37	−8	0	13·8	−9·9
Indore	78	+4	39	−19	0	27·1	−4·9
Central India, East . . Sutna	76	+2	52	−10	0	28·8	−13·8
CENTRAL PROVINCES.							
Berar . . Akola	82	+5	42	−20	0	17·3	−14·0
Central Provinces, West . . Saugor	78	+3	33	−21	0	34·0	−11·6
Jubbulpore	75	+2	51	−23	0	28·4	−27·5
Seoni	75	+2	46	−18	0	33·1	−17·9
Nagpur	80	+3	53	−10	0	42·7	−2·9
Central Provinces, East . . Chanda	78	+1	65	−8	0	40·2	−10·8
Raipur	77	0	59	−11	0	45·5	−1·6
HYDERABAD.							
Hyderabad, North . Nizamabad	80	...	61	...	0	27·1	...
Hyderabad, South . Gulbarga	79	+1	65	−4	0	28·5	+0·4
Hyderabad	78	+1	52	−22	0	17·9	−9·4
Raichur	82	+2	51	−21	0	18·1	−9·5
MYSORE . . Bangalore	73	+1	70	−13	0	21·2	−3·5
Mercara	70	+1	84	−2	0	118·4	+5·7
MADRAS.							
Malabar . . Cochin	82	+2	84	−1	2·2	96·7	+11·1
Trivandrum	78	+1	90	+5	6·4	59·2	−22·3
Madras, South-East . . Pamban	80	−2	92	...	11·2	14·3	+4·1
Negapatam	80	0	81	−1	3·2	15·9	−5·0
Coimbatore	79	0	79	−8	0·7	10·9	−0·1
Cuddalore	79	−1	88	−2	4·2	21·7	−6·4
Salem	80	+1	74	−8	0	19·0	−7·8
Madras	80	−1	84	−1	1·4	21·2	−5·7
Madras Deccan . Cuddapah	81	0	74	−4	0	10·9	−13·6
Bellary	82	+3	51	−17	0	9·7	−4·7
Madras Coast, North . . Nellore	81	−1	77	−7	0	14·0	−5·2
Masulipatam	82	+1	72	−11	0	18·2	−12·6
Waltair	81	−1	58	−16	0	18·6	−12·4
Gopalpur	79	0	70	−11	0	19·0	−18·8

Corrected data of Temperature, Humidity and Rainfall, for the week ending on Tuesday, the 22nd October, 1907.

STATION.	TEMPERATURE (MEAN OF MAXIMUM AND MINIMUM). Actual.	Departure from normal.	HUMIDITY (PERCENTAGE OF AMOUNT FOR SATURATION). Actual.	Departure from normal.	RAINFALL. Total during week.	Total since 1st June.	Departure of latter from normal.
	°	°	%	%	"	"	"
Deesa . .	80	+2	54	+8	...	...	...
Ahmedabad . .	84	0	53	+5	...	...	...
Rajkot . .	82	0	68	+5	...	...	...
Veraval . .	76	+5	79	+16	...	...	...
Bombay . .	82	0	85	+5	...	...	...
Karwar . .	82	+3	87	−3	...	...	...
Belgaum . .	76	0	...	...	0·3	52·78	+10·8

FLAX CULTIVATION IN BENGAL.

Various Experiments.

THE Director of Agriculture, Bengal, has issued a Note on the results of the cultivation of Russian (Riga) flax seed distributed in 1906, in which the following outturn is reported by the Pusa Agricultural Institute: (*a*) From seed sown at the rate of 200 lbs. per acre, 14 maunds of plant per acre; (*b*) from seed sown at the rate of 160 lbs., 7½ maunds; (*c*) from seed sown at the rate of 120 lbs., 7 maunds; (*d*) from seed sown at the rate of 24 lbs. per acre for seed purposes, 8 seers per acre of seed were obtained. Mr. Shearer, Imperial Agriculturist, states that the seed was sown late, the season was bad, and the soil poor; and hence the trial was not a reliable one.

In a preliminary note on flax cultivation in Bihar, M. Emil Vandekerkhove, flax expert to the Bihar Indigo Planters' Association, suggests that the most desirable length of flax is from 28 to 35 inches. The expert states that in Belgium from 300 to 370 lbs. per hectare (hectare = 2·4711 acres) of flax seed is sown, adding 50 lbs. of seed where the soil is poor. M. Vandekerkhove says that for retting daily pumping is required to supply the tanks with fresh water; and for scutching, apart from the boiler and engine, roughly 4 lbs. per scutching plank is calculated, which produces on an average 35 lbs. of fibre per day using at the rate of one h.-p. to every three planks. The expert is of opinion that compared with Belgian fibres, the average value per ton should be from £40 to £50.

A sample of flax, grown from Riga seed at the Bankipore Agricultural experiment station, was forwarded for examination to the Imperial Institute, London. The following is the report of the Director, Professor Wyndham R. Dunstan, F.R.S.:—

Imperial Institute Report.

The sample consisted of two bundles of flax straw weighing 4 lbs. 4 ozs. and 5 lbs. 2 ozs., respectively. The straw, which had not been retted, was straight and generally not branched except towards the upper parts. The colour varied from green to pale yellow. The fibre could be easily separated from the yellow portions by breaking the straw, thus indicating that the material had become partially over-ripe.

The following results were obtained on comparing the sample with a standard specimen of flax straw grown in Belgium:—

	Flax straw from Belgium.	Flax straw from Bengal.
Length of straw .	30 to 36 inches.	30 to 42 inches.
Diameter—maximum .	0·064 inch.	0·132 inch.
„ minimum .	0·032 „	0·041 „

It will be noticed that the flax from Bengal was longer and coarser than the standard sample of Belgium flax used for comparison. The clean fibre obtained from the Indian straw had an average diameter of 0·00094 inch, the diameter of the standard sample of Belgian flax being 0·00086 inch. The sample under examination was therefore generally coarser than the Belgian specimen. The straw was well grown, but it seems probable that insufficient seed had been sown, as a considerable amount of wood had developed in parts of the straw. The presence of woody tissue interferes with the process of retting and causes the fibre to be damaged in the subsequent breaking operation.

The quantity of seed usually employed in flax cultivation is from 2½ to 3 bushels per acre, but double this quantity is sometimes used, in which case the young plants require to be thinned out. In order to ensure the production of the best quality of fibre, the flax straw should be gathered when the lower half has turned brownish-yellow. If the plants are left in the ground until the whole stem is yellow or brown and the plant is fully ripe, the flax obtained will be coarse and of inferior quality. With greater care in cultivation it is highly probable that flax of excellent quality could be grown in that part of Bengal where the present sample was produced.

—Another step forward has been taken in the organisation of the **silk-dyeing industry on the Continent.** As is well known, this branch of the textile trade is already pretty well organised, and this latest movement will place it in quite a unique position as regards textile combinations. A union known as the International Union of Silk Dyers has been formed, with head-quarters at Frankfort, and practically all the silk-dyeing cartels of Rhenish Prussia, Southern Germany, Switzerland, France, Austria, and Italy are members of this central association. The chief object is the fixing of minimum prices for the various classes of work, both for home and foreign trade.

INDIAN COTTON INDUSTRY.

The China Market.

THE extraordinary development of the Indian jute trade in the last three years has tended to draw off attention from the still more important cotton industry, says the writer in the *Times* Financial and Commercial Supplement to whom we referred last week. The recent course of this industry has been somewhat chequered, in striking contrast to the experience of the Lancashire trade. Cotton holds a foremost position in Indian agriculture, in Indian manufactures, and in Indian imports and exports. Over 22 million acres are cultivated with the fibre, nearly a quarter of a million persons are employed in the mills, over 6,000,000 are supported by hand weaving and spinning, and while imports of cotton goods represent 38 per cent of all imports, exports of cotton yarn and piece-goods constitute 7 per cent. of all India's exports. The portion of the country directly interested in jute is limited, and the mills are mainly in Calcutta and its vicinity, but the cotton industry is everywhere, and though the Bombay Presidency and its capital city are in the forefront of the industry, there is an increasing number of mills up-country.

Supply of Raw Material.

Next to the United States India is the greatest producer of raw cotton, and great attention is being devoted to the improvement of the fibre as well as to the extension of the area under cultivation. An increase of no less than 1,272,000 acres took place last season, and the yield was 4,908,000 bales, or about 17,528,500 cwts. Out of the total production the requirements of the domestic industry and of the mills have to be met, and a large surplus is always available for export, the chief foreign customers being Japan and Western European countries such as Germany and Italy. The Indian mills consume a rather smaller quantity than is exported. Endeavours are being made to produce a longer stapled cotton in India, suitable for spinning higher counts. Thus, experiments with Egyptian cotton have taken place on irrigated land in Sind and with American cotton elsewhere, while tree cottons are being cultivated in Bihar. Some success has been achieved with Egyptian cotton, but last year the plants suffered from boll-worm, and both quality and yield fell short of anticipations. Owing to the liability of exotic varieties to deterioration and to attacks from insect pests, some prefer to rely on the improvement of indigenous cottons by hybridization and by careful selection of seed. Coarser Indian cottons can at present be spun only up to 20's and finer kinds up to 42's, but the cultivator is not easily persuaded to abandon these inferior descriptions, inasmuch as they provide a hardy and paying crop which is readily sold either in India or abroad. The Indian manufacturers at present require but little long-stapled cotton, though a small quantity is imported from America for special purposes. A great demand has sprung up in recent years for Indian cotton-seed, which is increasingly popular as a cattle food and as a substitute for linseed. In the five years to 1899-1900 the exports of this seed averaged only 36,000 cwts. In 1906-07 the exports had risen to 4,391,000 cwts.

The Domestic Industry.

The exact outturn of the hand-looms cannot be ascertained, but some authorities have estimated that it amounts to twice or thrice the output of the mills. The handicrafts, however, are undoubtedly decaying, though very slowly. The efforts that are being exerted to extend the use of the fly-shuttle may, if successful, alleviate the difficulties that are liable to ensue from too rapid a decline in the production.

Indian Mills.

The mill industry has made steady, but not remarkable, progress in the last 20 years, as the following figures show :—

	No. of Mills.	Capital.	Spindles.	Looms.
1885-6 .	89	Rs. 8,15,48,750 £330,000 . .	2,198,545	16,548
1895-6 .	148	Rs. 12,41,40,210 £568,216 . .	3,852,611	37,278
1905-6 .	204	Rs. 15,59,66,710 £1,067,245 . .	5,293,834	52,281

The actual capital is really larger, the precise amount not being ascertainable. One noticeable fact is the large proportion of rupee capital invested, the bulk of the mills being in the hands of Bhattias, Parsis, and other natives of India. On March 31st, 1907, the number of mills had risen to 210, of which 172 were joint-stock concerns. By that date there were 5,544,624 spindles and 59,467 looms in position. Nearly three-fourths of the spindles and four-fifths of the looms are in the Bombay Presidency, where Bombay City and Ahmedabad are the chief centres of production. For ten years or more the Indian mills have been subject to great vicissitudes, owing to scarcity of raw material and famine in India in the earlier years of that period, and owing to war, internal troubles, fluctuations of exchange, famines, and Japanese competition in the important China market.

Indian and Lancashire Mills.

The Indian mills have an advantage over those of Lancashire in that the raw material is produced at home, so that freights, commissions, and other charges are much diminished. But they have to pay more for machinery and stores, interest on capital is higher, fuel is dearer, and skilled labour is scarce. Moreover, the directors often lack technical and commercial experience, with the result that business is sometimes ill-organized. But, in spite of drawbacks such as these the industry is progressing, and more attention is being given to weaving. Mills are largely equipped with new and up-to-date machinery and electric light installations have been put into many of them. Complaints are sometimes made of the excise duty on cotton goods; but this duty yielded only £181,000 as compared with £886,000 produced from imported cotton goods in 1905-06, and the progress of the Indian weaving industry in spite of the duty shows that the burden is light.

Comparative Efficiency of Labour.

Some years ago the competition of "brown" labour was one of the bugbears of trade unionism in England, owing to the institution of crude comparisons between the wages payable and the hours worked in India and England, respectively. An expert who has recently written on this subject demonstrates that five or six times as many hands are needed in Indian spinning mills, and three times as many in weaving sheds, to produce the same result as in England. The following table, modified from a table in the recent report on factory labour in India, brings out very clearly and forcibly the relative productive capacity of English and Indian workers :—

	England.	India.
Operatives per 1,000 spindles.	4·2	28
Operatives per 100 looms .	43	125
Annual outturn of yarn per operative.	7,736 lbs.	4,000 lbs.
Weekly outturn of cloth per operative.	767 yds.	240 yds.
Indian weight to English per hour, per spindle.	1	2·2
Average approximate counts	40's	20's
Working hours per week .	55½	80
Working hours per year .	2,775	4,120
Monthly wages per operative (spinning).	Rs. 70	Rs. 13
Monthly wages per operative (weaving).	Rs. 72	Rs. 15

Neither wages alone nor hours alone can form a basis for comparing British and Indian labour cost. Indian labour is lacking in continuous application, punctuality, energy, and regularity. Men have often to be employed in India for work that women will do in England. The Indian workers are not specialized to factory work, and often exchange it temporarily for agricultural pursuits. They have little skill or education, consequently they make much waste, and, through want of cleanliness and proper handling, they not infrequently damage the machinery. Their sense of discipline is imperfect; their attendance is irregular; and they take long intervals for rest, smoking, &c. The fact that the Indian does not care to improve in skill or to work up to his full capacity is an important yet incommensurable factor in production. Complaints were recently made with good reason on humanitarian grounds as to the excessive hours of labour in some Indian mills, though apparently they did not reach the inordinate length of time worked in some Japanese mills. The Factory Labour Committee recommended that the actual period of employment of male adults should not exceed twelve hours in any one day, and it is only fair to add that this course has been favoured by many millowners.

Spinning Mills.

Now, as in the past, spinning is the most important branch of the Indian cotton mill industry, and the outturn is partly sold for power or hand looms in India, where there is competition with hand spun yarn and with imported English yarn, partly exported to foreign countries, China being by far the largest customer. It is said that yarns of 10's count are most remunerative, and after these come 20's, which are chiefly spun for China consumption. In recent years there has been a tendency to produce higher counts, and Bombay mills, where such counts are chiefly spun, have practically ousted foreign yarns up to 25's. The following table shows the increase in the production of yarns of both lower and higher counts (in millions of lbs.) :—

	Nos. 1 to 25.	Nos. above 25.	Total.
Average 1896-7 to 1900-1	42·39	20·1	444·0
„ 1901-2 to 1905-6	537·4	39·9	577·3
Year 1906-7 . .	581·4	49·2	630·6

In addition, about 23 million lbs. were produced in Native States and foreign territory. In 1906-7 the imported foreign yarns of Nos. 1 to 25 amounted to only 2·5 million lbs. and those above 25's to 32·1 million lbs. In recent years, and especially in 1905-06, the business in imported yarns has somewhat increased, but there can be little doubt that India will soon be able to supply her own needs in yarns up to 40's.

—According to the *Queensland Government Mining Journal*, a well-known prospector in **North Queensland** has lately written to the Under-Secretary for Mines from Alice River to the effect that he had recently discovered a very large **antimony lode**, traceable on the surface for a long distance. Since then he had found no less than ten other antimony lodes, all within a mile and a-half of the prospecting claim. When he was leaving he discovered still another lode—a very large one—two miles north-east of the prospecting claim. The ore on the surface, he states, was stibnite, and in places oxide of antimony, but on sinking a little on the lodes the sulphide ore always came in. He sent to Sydeny 21 cwt. of ore, three-fourths of which was oxide. The find is 16 miles nearer the Laura than the Alice Goldfield, and the cost of packing to the former place is £5 per ton. Railage thence to Cooktown is 9*s.* 6*d.* per ton, but for under 5 tons in quantity £1 per ton. He was convinced that this was one of the largest finds of antimony Australia has yet seen.

BUSHIRE AND ITS TRADE.

India's Share.

BUSHIRE continues to hold its own as one of the more important trade centre in the Persian Gulf. During the year 1906-07 the imports totalled £863,842 as against £761,930 in the previous year; while the exports aggregated £598,421 as against £469,940 in 1905. The total increase in the trade of the port is therefore £250,393. During the year there appeared to have been heavy speculations in opium, sugar and gum and in many cases the losses were so great that the bills were openly ignored. This latter fact led to the discovery of two forgotten Imperial decrees which require that bills once accepted must be met. Exchange fluctuated more or less violently during the year. The average for the year was Krans 55½=Rs. 15, showing a Kran appreciation of over seven per cent., due to the prevailing scarcity of money in Persia. The high prices of silver in Europe continued to tempt the export of Kran to India, but as compared with the export of 1905 there was a considerable reduction in value. The freight market was also disturbed to a considerable extent. The advent of a new steamship company in August led the English lines to lower their rates to the United Kingdom from Rs. 22-8 to Rs. 15 per ton; and Hamburg from Rs. 24 to Rs. 18-12. To New York the rate was Rs. 27-12 for carpets and Rs. 25-8 for general cargo. Rates of transport for goods in bales from Bushire to Shiraz opened in March, 1906, at 180 Krans (Rs. 40-14) per 100 Shiraz mans of 7⅜ pounds each; but heavy competition to get sugar up-country in May and June caused this rate to rise to 220 Krans (Rs.60). From August to March, 1907, rates averaged 140 Krans (Rs. 38-4) to 150 Krans. Rates for sugar or miscellaneous goods in cases are reckoned at 15 Krans (Rs. 4-1) dearer; and donkey higher to Shiraz is 15 Krans less. There is no lack of transport on the Bushire-Shiraz route.

Imports.

As regards imports, of the total value of £863,842, the United Kingdom and India in the year 1906-07 together showed a percentage of 70 per cent. as against 65 per cent. in the previous year. This increase may be ascribed in a large measure to a general advance in Indian enterprise. According to statistics published by the Persian authorities, German imports seem to have diminished by £805 to £24·559; but there is reason to believe that much of the merchandize credited to Germany comes from Sweden, Austria, and Belgium, and that if these items were relegated to their proper places in the tariff schedule, Germany's share would fall to less than one per cent. of the total. On the other hand much of the increase of £60,024 under Indian cottons is of English manufactures transhipped from Bombay. The imports of matches show a considerable rise from £3,701 to £10,526; but as might be expected the market was as heavily overstocked. The brands mostly in use are the 'Rupee', which sell at £3-6-8 per 50 gross; the 'Globe' which only command £2-15-6 per 50 gross; and the 'Ship' which are used by the well-to-do people and sell at £5 per 50 gross.

Indian Products.

As we have previously pointed out in the *Indian Trade Journal* (see Journal of 8th August, 1907), there is a large opening for **Indian timber** in Persia and particularly in the Persian Gulf. A certain amount of trade is already done in Indian wood with Bushire, where Malabar Teakwood in logs is much used for the building of native boats. These logs measure from 20 to 35 zars (1 zar=19 inches) with a breadth from 12 to 16 inches and sell at Bushire at Rs. 28-5 to Rs. 113-5 each. At present Siam Teakwood is preferred both at Bushire and Shiraz for the frame work of doors and windows. It is imported in planks 10 inches broad and 2 inches deep at a price of Re. 1-2 per plank of 19 inches. A Malabar wood known as "Minteg" is also in demand for various purposes, and a plank measuring 19 × 12 × 2 sells at the rate of Re. 1-2 to Re. 1-4 each. Other woods in use are Java, Mango-wood, and "Jungle-wood" from Calicut and other districts.

It is satisfactory to note that **Burma candles** continue to make head-way in various parts of Persia and seem to have a bright future before them. At present, however, the bulk of the candle trade is in the Dutch hands.

In **spices** of kinds India continues to hold the league and increased her trade during the year under report from £8,259 to £11,407. The kinds most in demand are tamarind, pepper, ginger, turmeric, cinnamon, cardamoms and cassia.

Cotton Yarn, Rice and Copper.

In the matter of **cotton yarns** India scored heavily owing to the dearness of cotton yarn in England, increasing her trade by £5,027 while the United Kingdom's export dwindled to £662. Bombay yarns known as 'gamti' now hold the market. There is, however, reason to believe that the consumption of native Persian cotton is increasing. With the greater use of woollen materials there has been a certain demand for woollen yarns. The demand for jute yarn was increasing. For three months not a reel was to be had in Bushire and prices rose to Rs. 4 per 7 lbs., but came down on the arrival of supplies to Rs. 2-4.

It seems that the coast district from Bunder Dilam to Tahiri relies more and more on Karachi for its **rice supplies**; and we believe that the poor rice crop of 1906 in India sent prices up from Rs. 6-4 per bag in March, 1906, to Rs. 12 in March, 1907. It is alleged that Kazerun rice is superior to Indian, and that the grains are larger and heavier, and some 15,000 bags of 1½ cwts. each were imported into Bushire last year.

The fluctuations in the **copper market** caused a decrease in the imports from £39,097 in 1904 to £7,660 in the year under review. Persian merchants now prefer to buy their stocks in Bombay as they require it, importing the metal in sheets weighing from 15 to 40 lbs. Prices of sugar in Bushire varied from Rs. 16-11 to Rs. 15 per case of about 138 lbs. Belgian, Austrian, and Hungarian sugars seemed to be most in demand. In the past there have been attempts to introduce English-made sugar into Persia, but the manufacturer did not accommodate himself to the market.

Piece-Goods.

There were large stocks of **cotton tissues** in the country throughout the year, and business was dull; but the rise in the price of cotton does not appear to have affected the constant flow of orders. There was an increase from £257,132 to £276,452 on English piece-goods and an increase of £63,798 on the total: the £60,000 increase to India is however largely English goods transhipped from Bombay. White shirtings, 40-41 yards, still hold the first place: in March, 1907, they stood at 35 Krans (about 13*s.* 2*d.*). They are followed by White Mulls, 20 and 22 yards, Chintz "Dubahrs"—White 65 yards and chocolate to 60 yards—and Turkey red Twills 50 yards. The Print market up-country is reported spoilt to a certain extent by Russian prints, but Shiraz to be still faithful to Manchester. Bushire and Shiraz are full of Indian grey shirtings which started in Bushire at Krans 70 (25*s.* 5*d.*) and went down to 50 Krans. India has gone ahead with Mexicans, which are still being dyed in Persia. It is estimated locally that as much as 60,000 pieces or 240 bales of dyed piece-goods have been imported during the past year into Bushire, three quarters of which amount being White Mull or 'Kasawari' (as it is termed when dyed with indigo). This material can be used both in summer and winter, whilst dyed shirtings are only suitable for wear in the cold months and in two months of mourning—Moharrem and Safar—when those months occur during the cold seasons. Instructions are usually given to dye in Bombay. The local consumption of Bushire for this class of goods extends as far north as Behhehan and on the east to Kazerun. Black Italians of good quality are coming into fashion for "chaddars" (the outer black garment worn by Persian women of all classes, which covers the head and descends to the skirts) in preference to Black Twills. This is an instance of the growing inclination of the better class Persian towards luxury: the poorer classes use dyed Mexicans. Cotton Tulles depend largely upon the heat of the year in question for a demand: at present the bazaars are well-stocked. Despite attempts to copy made on the Continent Manchester continues to hold its place in Southern Persia. The small German import of 1905 has shrunk and Russian piece-goods were declared at £4·366 instead of £11·072. The German and Russian agencies in Bushire have been busily employed in despatching samples to Europe for imitation.

Indigo, Tea and Woollens.

The imports of Indian **indigo** shows a decrease from £21,164 to £15,833, artificial indigo accounting for a good deal of deficit. There seems to be reason to believe that Indian indigo would continue to show a fall year by year as piece-goods are being more and more coloured in Bombay, whereas formerly nearly all the indigo dyeing necessary was done in Persia.

It may be well to point out that **woollens** for the Persian market should be smooth-faced and soft: wool socks should have no ribs. Cheap long comforters would probably sell inland at the beginning of the cold season amongst travellers.

It is curious to note that there was a heavy fall of £15,448 in the imports of Indian **teas**, while Lamsars increased from £9,613 to £19,899. One of the reasons for this is said to be that owing to the heavy demand for Indian tea in Europe in 1905 the Persian Gulf buyers could not obtain the quantities they required. Another reason may be that the Indian planter will not blend a pale tea for the Persian market, where the ordinary 4½ annas tea is considered to be too black and to contain too much dust and broken leaf. This matter seems to be worthy of attention.

The Export Trade.

The exports were valued at £598,421 as compared with £469,940; the largest portion of the increase of £128,481 went to the United Kingdom, namely, £81,948, and the percentage rose from 20 to 29. India took £1,365 less than in 1905 and lost 8 per cent. Together the United Kingdom and India were responsible for 54 per cent. of the total exports. The export of opium to China amounts to 19 per cent. more. For the rest, all European countries, except France, increased their imports from Persia: £10,482 went to Russia and £13,663 to Germany: and there was a noticeable extension of exports to the United States. The following produce was largely responsible for the increases: **Gum Tragacanth,** which reached an enormous figure of £97,082; **opium,** with an excess of £33,621, reached £157,777; **gum insoluble**; unmanufactured **tobacco, almonds, wool** and **spices**; and undressed **skins.**

Owing to the failure of the almond crop in Syria and other localities round the Mediterranean there was a record of exports of almonds in Bushire in 1906-07. The value of the trade done in this commodity being £53,246, which shows an increase of £9,518. Pistachio nuts are also largely grown in the neighbourhood of Ispahan and Shiraz, but are largely consumed locally.

Gum, Wheat and Opuim.

The trade in **gum tragacanth** is increasing early. Large numbers of Jewish women are employed in Shiraz in the sorting of some fourteen different classes, which range from the pure shell-white to a brown gum mixed with earth. The method of gathering it in Persia has been condemned

as destructive in the extreme: an incision is made in the stem, and the roots are burnt. During the year under report it is believed that shippers made a profit of Rs. 15 to 13 per case, and the latest reports from Europe indicate that the demand is likely to remain good for some time. On the other hand shippers of **gum insoluble** suffered a loss as prices in London in the beginning of the season averaged Rs. 16-8, but declined to Rs. 9-12 in March this year, and prospects are not at all increasing owing to the overstocked state of the London market. The heavy fall of prices is attributed to the large shipments to London from Soudan. It may be pointed out that the development of the Persian insoluble gum trade owes its origin to the first rising in the Mahdi and the closing of the Soudan.

The Persian **wheat** crop was a partial failure and exports showed a decline of £282.

Opium exports showed an increase of £33,621 on the previous year. The English market proved to be more tempting than the Chinese and the exports to London were £25,000 in excess of those in 1905. Prices in Bushire ranged from £67 to 77 per chest of 140 lbs. Opium figures so largely in the Persian export returns that the action taken by China to limit the use of the drug will, it is believed, hit many Persian cultivators and merchants very hard; at present Persian traders are incredulous as to the proposals on foot.

Miscellaneous Products.

The price of **wool** varied from Rs. 27-4 to Rs. 43-10 per Hashem man of 124 lbs.; the total exports showed an increase of £5,342, all taken by the United Kingdom.

Year by year **Persian carpets** increased in price, but at the same time European market is overstocked with them, enormous purchases having been made in Tehran by Constantinople fanciers. Inferior rugs which cost Rs. 3 to Rs. 5 a few years ago cannot now be had under Rs. 14-4 to Rs. 16-8 with a consequent improvement in the condition of the poorer classes who work the looms.

In March, 1906, the price of raw and undressed **skins** ranged from Rs. 23 to Rs. 27 per "Kruj" of 20 goatskins. These prices have gradually fallen to Rs. 12—16. The total exports during the year under report were valued at £22,555 and nearly all came to India.

Another important of import from Bushire is unmanufactured **tobacco**, exports of which last year increased from £20,451 to £29,474. Last year, moreover, shipments of the coarse Persian tobacco known as "Tambaku" were made to Liverpool and the United States, where it has been found to make an aromatic blend with Virginian tobacco for cigarette-smoking. The price of Ispahan "tambaku" ruled from $3\frac{1}{2}$ to 6 Krans (Re. 0-15 to Re. 1-10) per man of $7\frac{3}{4}$ lbs. The export duty is $4\frac{1}{2}$ annas per man of $6\frac{1}{2}$ lbs. The Persian tobacco crop promises to be very good this year.

The exports of **raw cotton** show an increase of £2,131 of which Moscow took nearly all. This cotton is of poor quality and is generally used for bedding; it could, however, be considerably improved. The price at Bushire is about Rs. 1-15-6 per man of $7\frac{3}{4}$ lbs.

FUTURE OF ALUMINIUM.

THE recent heavy reduction in the price of aluminium, says the *Manchester Guardian*, is no doubt intimately connected with the decline in copper, for which metal it is being largely substituted in the electrical industry. The fact that the Hall patent expired a short time ago, whilst the Bradley patent runs out in 1909, must also have had its effect. The extraordinary growth in the production of the metal must also tell on the price. Practically all the existing works have lately increased their output, and quite a number of new companies have been formed, whose influence will be felt more particularly during the coming year. The Aluminium Company of America, formerly the Pittsburg Reduction Company, have not only secured further rights over extensive bauxite deposits, but have increased the capacity of their works, both at Niagara Falls and at the Shawinigan Falls in Canada, and claim that they will be in a position to double their output. In America the total production in 1906 was over 6,500 tons against 5,000 tons in 1905, and in Canada 2,700 tons against 1,035 tons. The British Aluminium Company are making considerable extensions in Scotland, and have obtained further extensive water rights at Stangfjord in Norway and Oriseres in Switzerland. Two new English companies have also been recently formed—the Anglo-Norwegian Aluminium Company Limited, with a capital of £110,000, and the Aluminium Corporation, Limited, with a capital of £500,000. The Aluminium Industrie Aktiengesellaschaft, in addition to their works at Neuhausen and Lens, have just finished the erection of two large works at Wallis, where an additional 38,000 horsepower will be at their disposal. The two French companies Froges and Péchinery are at present engaged on the building of two new works, and expect to increase their output by 4,000 tons per year. The Société d'Electrochimie is about to devote 4,000 horsepower to the manufacture of aluminium and the Société des Forces Motrices de l'Arve 12,000 horsepower to the same purpose. A number of other projects concerned with the production of aluminium are also on foot in France and Belgium, whilst new works are being put up at Popoli and Bussi in Italy and are expected to be in working order during the coming year. Taking all this into consideration, it seems probable that the world's output of aluminium which was 3,000 tons in 1897 and 18,325 tons in 1906 will be very greatly increased—some say doubled—next year, and further reductions in price would therefore appear likely unless there is a very considerable increase in the demand.

PLANTAIN CULTIVATION IN BURMA.

Yield and Prices.

No fruit is so widely cultivated in Burma, says the *Rangoon Gazette*, as is the plantain, and the reason is obvious in view of the fact that even with the most primitive methods of cultivation the profits are considerable. There are several well-known varieties grown at present in Burma, the most highly prized being the long green kind known as the Toungoo plantain, the ordinary Indian table plantain, the thick large sweet red plantain, a yellow variety of the red, and the greyish yellow thick-skinned plantain known locally as the hpoongyi plantain. Other local varieties are the yakhine, hpigyan, and the shwe-nget-pyaw, all of which are grown very extensively in the Amherst and Thaton districts, the last named being grown only in the hill gardens. All these species, and others of less importance, are very largely grown throughout Burma, except perhaps in the Salween Hill Tracts, and this is not surprising considering the great demand for the product which invariably exceeds the supply and the high prices ruling even at the best of times. In Amherst plantains are largely grown by natives of India, but Karens, Burmans, Shans, Chinese and Talaings are also engaged in the cultivation. On the east bank of the Salween and in the adjoining islands the Talaings of the villages on the river practically make their living out of plantain gardens. Though the area devoted to the cultivation is very large it is a curious feature that gardens devoted purely to the cultivation of this fruit are extremely rare. In the majority of cases plantains are grown mixed with custard apples or more generally with betelnuts. Further, the plantain clumps are not grown on any system and it is therefore difficult to say what an average outturn per acre of any given garden is, but as a general rule in each clump there is an average of about eight bunches, and as from 600 to 1,000 trees are usually planted on an acre, the outturn is really considerable. The prices fluctuate according o the varieties, but the average rate seems to be from four annas to six annas a comb, which is a subdivision of a bunch; the combs are ranged transversely to the axis of the bunch, and a comb ordinarily contains about a dozen plantains, while an average sized bunch often has as many as eight or ten combs, so that the price realised by the sale of a bunch ranges between Rs. 2 to Rs. 3-12.

As in India, the cultural operations in Burma are still primitive and consequently not productive of adequate returns. In spite of this, however, the culture has been known to yield as much as Rs. 500 per acre. With approved methods it is undoubted, contends the *Rangoon Gazette*, that the yield would be anything from **Rs. 1,200 to Rs. 2,000 the acre.**

Methods of Cultivation.

The usual method of raising the plantain in the hills and plains is to dig a hole at the beginning of the rains into which is put a section of the stem or a young shoot detached from a mature clump. The land is previously cleared of forest and burnt and otherwise rendered hospitable. The stump or shoot, as the case may be, strikes root in a week, and, thereafter, except protecting the young plant from fire and cattle depredations, it is left alone until it commences to fruit. This stage is reached in the cold weather following the early rains in which it is planted out, *i.e.*, the trees fruit in about ten months after planting. After the fruit has been plucked the tree is cut down, only a stump eight or nine inches high being left which sprouts again during the rains. In regard to the spacing of the young plants there is no recognised distance apart at which the trees should be put out and depends entirely upon the whim of the cultivator. As is invariably the case trees are put at even less than six feet apart which, coupled with the fact that the crop is neither manured nor watered, effects the productiveness considerably. As each tree throws out from 2 to 6 shoots, so that a plantation which originally contained say 600 trees would in the second year contain anything from 900 to 3,000 trees, it is best that plants should be put out at distances of ten feet apart at least. The average cost of the up-keep of a plantation from its establishment to the age of its exploitability amounts to about Rs. 30 per acre, while the proceeds, calculating at an average yield per acre in the tenth month, from planting of about 500 bunches, valued at from twelve annas to a rupee each, would be between Rs. 375 and Rs. 500 even with the existing primitive methods.

Plantain Meal, Fruit and Fibre.

The genus Musa to which the plantain and its varieties belong luxuriates only in those warm moist countries which possess a mild equable temperature. In regard to the soil it thrives in silt or sand which are mellow and moist and in the tropics can be grown from sea-level up to a thousand feet above it. The most suitable materials for propagation are the shoots that spring up from the mature plant after the fruit has ripened. The shoots are ordinarily about two or three inches high about this time, and only the healthiest and best formed shoots after careful severance from the parent clump should be used for planting. These shoots are available in the middle of the cold season, and as they cannot be put out until the ensuing rains in April or May, they should, after being cut, have their roots pared flush with the rounded tuberous under-ground stem, the spurious aerial one being cut back to about an inch or two of its base. The stump should then be repeatedly immersed in a dense mixture of clay and cow-dung and dried in the sun till it is thickly coated over with the mixture. If this operation is carefully done the stump will keep well in storage until the rains. The best time for planting them is that which succeeds the first showers in April. If the weather is dry water must be liberally applied to the shoots after they are set out and the operation repeated, if

necessary, until the regular monsoon sets in. At about the end of the fourth or fifth month from sprouting the plants should be heavily manured with cattle manure, sweepings, burnt earth, vegetable mould, ash, dry leaves, etc. Earthing up the shoots after manuring with one or two deep ploughings between the plants towards the close of the rains in October will be found beneficial to the vigour of the crop.

The systematic cultivation of plantains on recognised principles is of the utmost importance if any appreciable increase in profits and in the quality of the fruit is to be expected. Other remunerative uses, besides the sale of the ripe fruit, are the reduction of the unripe fruit to meal and the drying of the ripe for home consumption or the export trade. Besides, the fibre from the mature plant can be utilised for conversion into twine or rope of a fair quality.

AN AMERICAN MODEL FARM FOR INDIA.

THE American Consul-General in Calcutta, has furnished the following information to his Government as to efforts to promote improved agriculture in India :—

Recently I made an automobile trip into the estate of the Maharaja of Burdwan for the purpose of examining a piece of land to be used in exploiting American manufactured agricultural implements. An American company had requested me to secure a desirable piece of land, and to give an estimate of the cost of conducting a "model farm" and carrying out a scheme for the exploitation of American farming machinery and implements. I found the land free from rocks or other obstacles, and in fairly good condition for crops. The Maharaja was anxious to have the experiment tried, and endeavoured to persuade the ryots, or farmers, having leases on the land, to give up their contracts for the purposes of the experiment. The land I looked at, and all of the tillable land of the estate, is held under contracts or leases by the ryots. Their individual holdings, as a rule, amount to 1 bigah, or about one-third of an acre. On this small patch of land the ryot raises a crop of jute, a crop of paddy, or rice, and one other crop of his selecting. From these crops he realizes about 125 rupees, or a little over $45. The rent he pays for the bigah of land is from 2 to 4 rupees, or 67 cents to $1·33, which would be from $1·98 to $3·99 per acre. The ryot is able to live on this income and save some money. He uses the crudest implements, and does his work, from the preparation of the soil to the last handling of the product, just as his forbears did more than a thousand years ago.

Not Easy to Get Land.

My proposition was explained to the ryots, but they shook their heads and were quite in doubt as to the wisdom of giving up their leases even for three years, notwithstanding they were assured that they would be given as much jute and paddy and other products of the land as if they farmed it themselves; and would also have the land returned to them in better condition for crops at the end of the experiment than when the "Sahib" took it. As an inducement for them to surrender their leases for the time required, the Maharaja told them that they might have other land near by that needed clearing, but which would be brought under cultivation within a few weeks. Still they hesitated, and finally said that they could not decide until they had had a "baithak" or "powwow" of all the Indian ryots concerned. The agent of the Maharaja, however, was inclined to believe that the proposition would be rejected.

Thus it will be seen that it is not so easy a thing as might at first be supposed to start an "American model farm" in India. I am still trying nevertheless and am of the opinion that I shall succeed if the company interested, or any other firm, will back up the effort. The Maharaja of Burdwan and the Maharaja of Cooch Behar are both anxious to see such experiment made as suggested, and are both convinced that it would result in opening a trade for American agricultural implements and also would open to India a new era in farming methods which, they say, is greatly to be desired.

TRADE OF BUENOS AYRES.

Exports.

THE following extract is taken from the Report of the British Consul on the Trade of Buenos Ayres and District for 1906 :—

With the exception of 1905 the **exports** are the largest on record. They are still in excess of the imports, as has been the case since the year 1894. There has been a **decrease** in the export of **horses** owing to the lessened demand in South Africa and Uruguay, and a **large decrease in the export of live cattle** owing to a decree published in April prohibiting the export in consequence of the existence of foot-and-mouth disease in the country. The export of **sheep**, too, has suffered a considerable diminution. **Mules** have not been so largely exported this year. The supply has shrunk so far that prices have risen and the possibilities of a profitable trade are not now so good. There has been an increase in the export of **frozen** and chilled **beef** of 100,000 quarters; the **United Kingdom** and **South Africa** practically take the whole of this trade. 500,000 fewer **frozen sheep** were exported in 1906. **The United Kingdom has the whole of this trade.** The **cold storage** business was not profitable in 1906.

The decreased output of **wool** is very noticeable. It is due to the increase of agriculture and of cattle rearing, the diminution of the sheep stock of the country and the fact that the clip this year was late owing to the weather. In some parts of the country sheep have been so long grazed over the same ground that they cannot now be brought up in good condition there. There seems to be a

movement towards the taking up of the country south of the province of Buenos Ayres and Patagonia. This is specially suited for sheep, but so far has not, as a rule, been thought suitable for farming or cattle as the climate is too cold and the soil is light.

The **butter** export has again declined and shows a heavy falling-off as compared with 1905. The **United Kingdom is practically the only market.** In **caseine** there has been an increase of 61 tons, and an increase in **tallow.** In **wheat** and **flour** the export has very much diminished. The **United Kingdom** takes the larger part of the wheat and **Brazil** that of the flour. **Linseed** shows a considerable reduction; **maize** a substantial increase; **oats** appear in quantity for the first time this year; **bran** shows a considerable increase; the export of **sugar** has practically ceased. The export of **quebracho extract** has gone up, whilst that of the **logs** has decreased. No doubt it is found more economical to export the prepared material than the rough logs which contain much useless material.

The export of **oats** has increased rapidly. The areas planted in the last three years are as follows :—

Year.	Hectares.	Acres.
1903-04 . .	48,000	118,615*
1904-05 . .	50,000	123,557*
1905-06 . .	76,600	188,630*

*About.

The **sugar output** of the province of **Tucuman** was 101,000 tons and that of **Salta, Jujuy, Santiago del Esterro** and the **Chaco** 13,000 tons, giving a total of 114,000 tons. There was a large crop of cane, but owing to frost more cane had to be crushed to the ton of sugar than last year. All the sugar produced is used in the country.

There has been a considerable development of **sheep farming** in the south with most satisfactory results. Wool produced in Patagonia has fetched the same price as the finest Australian.

The **grain elevators**, to which reference was made in last year's report, have not been erected and the concession granted has lapsed. It is reported, however, that a new concession has been granted on much the same conditions to one of the largest grain exporters. A North American firm has been successful in supplying to all the large sugar factories and most of the small ones a **new crane for loading and unloading** cane. The work hitherto had been done by hand. The new apparatus is said to work very well and to have effected a substantial economy in men and money. The **gunnies** are now brought direct from **India.**

The area cultivated in the year 1906-07 has been estimated at:—**Wheat**, 5,692,171 hectares (14,067,000 acres), increase over 1905-06, 300 000 hectares (741,340 acres). **Linseed**, 1,020,216 hectares (2,520,560 acres), increase, 70,000 hectares (172,980 acres). **Maize**, 2,851,000 hectares (7,042,760 acres), increase, 290,000 hectares (717,180 acres.)

The harvest of 1906 was a bountiful one; money has been plentiful, liberal credits from the banks have been the rule up to the last month of the year.

Prices.

The following table gives the market prices of a number of important commodities:—

ARTICLES.	Per	PRICE. Currency From	Currency To	Sterling From £	s.	d.	Sterling To £	s.	d.
		Dol. paper.	Dol. paper.						
Wheat	100 kilos*	6·30	6·40	0	10	11	0	11	1
Maize	100 "	4·40	4·45	0	7	8	0	7	9
Linseed	100 "	10·30	10·50	0	17	11	0	18	5
Barley	100 "	4·30	5	0	7	6	0	8	3
Oats	100 "	4·80	5·20	0	8	4	0	9	0
Flour	10 "	1·12	1·13	0	1	11½	0	1	11½
Wool—									
Lincoln	10 "	8	12·50	0	13	11	1	1	9
Rambouillet	10 "	6	10·50	0	10	5	0	18	3
Alfalfa hay	Ton	25	50	2	3	7	4	7	2
Welsh coal	"	...	...	1	17	0		...	
		Dol. gold.							
Pitch pine	100 sq. ft.	5·40	...	1	1	7		...	
Spruce pine	100 "	4·50	...	0	18	0		...	
Pig iron	Ton	26	...	5	4	0		...	
Galvanised iron, 24 B. W. G.	100 kilos	10	...	2	0	0		...	
Iron, bar and flat	100 "	5·25	...	1	1	0		...	
Fencing wire, black	Coil	1·80	...	0	7	2		...	
Plain, No. 8, galvanised	88 lb. coil	2·35	...	0	9	5		...	
Barbed wire, galvanised (Belgian)	88 "	2·60	...	0	10	5		...	
No. 12½, British	88 "	2·75	...	0	11	0		...	
Live-stock—		Dol. paper.	Dol. paper.						
Lincoln wethers for freezing	...	8·50	9·70	0	14	9	0	16	10
Merino wethers	...	7·80	8·50	0	13	6	0	14	9
Steers for freezing	...	95	100	8	6	0	8	14	3

* 220 lbs.

The average rates of **freight** homeward from Buenos Ayres to Europe were 10s. 6¾d. per ton on charter; from Bahia Blanca 11s. 1¾d. on charter. Freights from Europe during 1906 were higher than they have been for some years.

Santa Cruz.

The average production of **sugar** in Santa Cruz is 12,000 tons: 3,000 tons are used locally. The remainder is sent south. The labour employed is brought annually from Bolivia and the Chaco.

Cattle breeding is a most important industry, as a large portion of these two provinces, having a six months' dry season, is not suited for anything else. Those estates alone can be cultivated all the year round that have water rights or are flat enough for irrigation. The best market is in **Chile**, which takes some 10,000 bullocks a year from these provinces.

Cotton of good quality can be grown, but the Indians will not work at it, and at present no other labour is available.

Bahia Blanca.

Land business during 1906 was not so good as in 1905, and the high prices offered and paid for land seem to have reached their limit at least for the present; the **wheat crop** did not turn out as good as was expected, but 747,000 tons were shipped to Europe in ocean-going steamers. The crop to be shipped in 1907 is expected to be about equal to 1906; the area under cultivation is larger, but the yield in many places has been very much smaller, showing the precarious nature of this important branch of export.

La Plata.

The total **exports** from this port during 1906 were approximately 205,000 tons of wheat, 144,000 tons of maize, 28,000 tons of frozen beef, 15,500 tons of frozen mutton, 10,000 tons of linseed, 4,500 tons of oats, 2,600 tons of bran, 1,800 tons of tallow, 1,416 tons of guano, 934 tons of salted hides, 790 tons of butter, 690 tons of wool, 363 tons of dried blood, 155 tons of bones, 128 tons of flour, 78 tons of preserved meat, 54 tons of dry hay, 50 tons of foot oil, 50 tons of canary seed, 46 tons of salted tripes, 34 tons of hoofs, 21 tons of meat extract, 15 tons of hide cuttings, 14 tons of turnip seed, 12 tons of horns, 10 tons of hair, 10 tons of potatoes, 5 tons of pig iron, 3 tons of dried sheep-skins, 2 tons of tanned sheep-skins and 187 horses.

POSTAL FACILITIES.

International Reply Coupons.

With effect from the 15th November, 1907, an arrangement will be introduced under which it will be possible for the sender of a letter from any of the countries (including India) mentioned below to the address of a person residing in any other of those countries to prepay the postage for a reply. In order to do this, the writer of the letter should purchase from the post office what is technically called a "reply-coupon", and enclose it in his letter. The addressee will then be entitled, on presenting this coupon at any post office in the country of destination to obtain in exchange for it a postage stamp, or stamps, of the value of 25 centimes or the equivalent of that value in the currency of the country concerned.

2. In India, reply-coupons will be available for purchase at all head post offices and at those sub and branch offices at which there is likely to be any demand for them, and will be sold at the price of 3 annas for each coupon. Other sub and branch offices at which application is made for reply-coupons will obtain them for the applicants.

3. The holder of a reply-coupon received from another country is entitled, on presenting it at any Indian post office, to receive in exchange for it an Indian postage stamp, or stamps (as may be desired), of the value of 2½ annas.

Names of Countries.

AUSTRIA.
Austrian Agencies in the Levent.
BELGIUM.
BOSNIA-HERZEGOVINA.
BRAZIL.
BULGARIA.
CHILI.
COREA.
COSTARICA.
CRETE.
DENMARK.
(Including Greenland and Faro Isles).
Danish West Indies.
EGYPT.
FRANCE.
French Colonies:—
Algeria.
Dahomey.
Guiana.
Guinea.
Ivory Coast.
Martinique.
Mauritania.
New Caledonia.
Oceania.
Senegal and Nigar.
Somali Coast.
St. Pierre and Miquelon.
French offices in China.
French offices in Morocco
GERMANY.
German offices in China.
German offices in Morocco.
German Protectorates:—
Cameroons.
Caroline an Palaos Island
German East Africa.
German New Guinea.
German South-West Africa.
Kiaochow or Kiautschou.
Marian Islands (except Gum).
Marshall Islands.
Samoa.
Togo.
GREAT BRITAIN.
British Colonies and Possessions:—
Bahamas.
Bechuanaland.
Canada.
Cape of Good Hope.
Ceylon.
Gibraltar.
Gold Coast.
Hong Kong and its agencies in China.
New Zealand (including Cook Islands).
Rhodesia (Southern).
Seychelles.
Straits Settlements and Labuan.
Transvaal.
British post offices in Turkey.
GREECE.
HAYTI.
HUNGARY.
INDIA (including the Indian post offices at Aden, and in the Persian Gulf and Turkish Arabia).
ITALY.
Italian Colonies:—
Benadir.
Erithrea.
Italian post offices in foreign countries:—
Benghazi.
Canea.
Durazzo.
Janina.
Scutari d'Albanie.
Tripoli(Barbary).
JAPAN (including Formosa and Japanese Saghalien).
Japanese offices in China (including Manchuria).
LUXEMBURG.
MEXICO.
NETHERLANDS.
Netherlands Colonies:—
Dutch East Indies.
Dutch Guiana.
NORWAY (including Norwegian offices in Spitzbergen).
ROUMANIA.
SIAM.
SWEDEN.
SWITZERLAND.
TUNIS.
UNITED STATES OF AMERICA:
United States Colonies and Possessions:—
Guam (Marian Islands).
Philippine Islands.
Porto Rico.

CAUSES OF STRENGTH IN WHEATEN FLOUR.

An Important Inquiry.

The Home-grown Wheat Committee of the National Association of British and Irish Millers has for several years been engaged in producing wheats in England which shall yield maximum crops of grain and straw, the wheat to be equal in strength, and therefore in commercial value, to the best imported varieties. The field of inquiry has been a wide one, and among other things the Committee has sought to ascertain "the ultimate cause of strength in wheat, the nature and source of those constituents which confer on some varieties of wheat the inherent quality of strength, and the power of transmitting it to succeeding generations." It has been proved that though **climate and soil** influence quality they are **not the determining factors in the production of strength,** for though the strongest wheats are ordinarily produced in districts where the winters are cold, the summers hot, and the summer rainfall high, certain varieties possess and retain the inherent quality of strength when grown in England. Manuring or early cutting at harvest time has no beneficial effect on quality. Quick growth or rapid maturation is not correlated with strength, nor does the percentage of natural moisture in well-harvested wheat indicate it; indeed in certain cases the addition of water to wheat materially increases its effective baking strength.

The term "strength" has been loosely applied to cover several characteristics. In the view of the Committee it should not be measured by the quantity of water required to make doughs of a standard consistency, nor by the quantity of bread produced per sack of flour used, nor by the way a flour behalves in the dough, but by its capacity for making big, shapely, and therefore well aerated loaves. This definition covers two characteristics: one, a flour's capacity for making gas in yeast fermentation; the other, its capacity when made into dough for retaining the gas so generated. The gas-making power will depend largely on the percentage of natural sugar any given wheat contains and its diastatic capacity. These characteristics vary substantially in different wheats. The baker can, and does, influence the quantity of gas generated in baking. The retention of gas when made involves complex problems.

The percentage of total nitrogen, gluten, gliadin and amyloids do not correctly indicate the relative strengths of various flours. The theory that strength depends on a correct ratio between gliadin and gluten is untenable. Professor Wood's suggestion that the gas-retaining power of a dough depends on its ratio of protein to salts is worthy of the closest attention in view of the fact that the physical, as distinct from the chemical, properties of proteins are profoundly affected by small quantities of acids, alkalis, and salts.

A NEW FERTILISER.

Nitrate of Lime.

The American Consul at Lyons, France, supplies the following information concerning nitrate of lime:—

The agricultural papers of France are manifesting considerable interest in nitrate de chaux (nitrate of lime), the new fertilizer which was not long since given to the public by a Norwegian chemist. It is believed that it is destined to fill an important place in agriculture. A member of the French Institute recently read a paper on this new fertilizer before the French National Society of Agriculture, from a report of which I make a brief resumé:—

The only azoted fertilizer of quick assimilation which has been in use up to the present time is nitrate of soda, imported from Chile. The air contains immense quantities of nitrate, offering an inexhaustible source to draw upon. The progress of electrical science has afforded us a means of capturing this useful element. Azote is captured from the air by means of an electrical furnace heated to a very high temperature. The azote in the air is oxidized and converted into azotic or nitric acid. Various ingenious applications take place in a number of granite chimneys, accomplishing a gradual concentration of this acid, which is finally received into a wooden chimney filled with quick lime. This lime absorbs the nitric acid and is converted into nitrate of lime. This is in turn concentrated in basins heated to about 145. The matter in fusion is afterwards poured into cylinders, then pulverized, when it is ready for use. The nitrate of lime thus produced contains an average of 13 per cent. of assimilable azote. This powder is very hydroscopic—that is to say, it readily takes up the dampness in the atmosphere and gradually assumes a doughy consistency. The factory puts the article on the market in closely made barrels containing 220 pounds each. The nitrate is thus delivered to the consumer in good condition and is kept close in the barrels until used.

Many experiments have proved that nitrate of lime is as good a fertilizer as nitrate of soda. 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 sometimes detrimental to a perfect development of the plant.

Although the raw material for the manufacture of nitrate of lime is in the air and is cheap and inexhaustible in quantity, its conversion into an article for use is costly. An expensive element in its manufacture is the motor power which is necessary to obtain the high temperature of the electrical furnace. Waterfalls, carefully controlled, are indispensable, and Norway is exceedingly rich in this form of power. In France the cost of production will be much greater than in Norway.

FOOD-GRAINS AND SALT.

Retail Prices of certain food-grains and salt at selected stations for the second half of September, 1907. (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 0	...	...	...	...	...	...	0 10
Toungoo	1 10	...	...	...	...	...	...	1 5
Eastern Bengal and Assam—								
Rangpur	2 6	2 0	...	...	...	...	...	1 4
Backerganj	2 2	...	...	...	...	...	...	1 0
Bengal—								
Calcutta	2 0	1 10	...	...	...	...	...	0 10
Patna	2 0	1 6	1 2	...	...	...	...	0 11
United Provinces—								
Cawnpore	...	1 8	1 2	1 2	1 2	..	1 2	0 9
Fyzabad	...	1 9	1 3	...	...	...	1 3	0 11
Meerut	...	1 7	1 2	1 1	1 1	...	1 3	0 8
Punjab—								
Delhi	..	1 8	1 1	1 1	1 3	...	1 2	0 9
Amritsar	...	1 5	0 10	0 11	0 11	...	1 1	0 7
Ráwalpindi	...	1 5	1 0	0 11	1 2	...	1 2	0 7
Sind—								
Karáchi	...	1 9	...	1 2	1 2	...	1 3	0 7
Bombay—								
Belgaum	...	1 8	...	1 0	1 0	...	...	0 10
Ahmadnagar	...	1 10	...	0 11	0 11	...	...	0 9
Bombay	...	1 8	...	1 4	1 2	...	...	0 11
Ahmadabad	...	1 11	...	1 2	1 5	...	...	0 7
Central Provinces—								
Jubbulpore	...	1 7	...	...	...	...	1 3	1 0
Nagpur	1 9	1 6	...	1 3	...	...	1 5	1 1
Raipur	1 6	1 5	...	...	...	...	1 2	1 2
Madras—								
Bellary	2 1	...	...	1 1	...	1 0	...	0 11
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 0	...	...	1 4	1 6	1 2	...	0 10

—The Pekin correspondent of the *Times* reports that an Imperial Edict issued on the 9th instant orders the Board of Revenue and Commerce forthwith to introduce a uniform system of **weights and measures** throughout China, the standards to be fixed within six months. Public opinion will welcome this much-needed reform.

—The Inter-State Commerce Commission of the United States has published an abstract of their statistics of **American railways** for the year ended June 30th, 1906, which contains a summary of the mileage of the railways and other statistics. The abstract shows that for the year named the total single-track railway mileage in the United States was 224,363·17 miles, or 6,262·13 miles more than at the end of the previous year. The operated mileage for which substantially complete returns were rendered to the Commission was 222,340·30 miles, including 7,865·97 miles of that used under trackage rights. The aggregate length of railway mileage, including tracks of all kinds, was 317,083·19 miles. This mileage was thus classified:—Single track, 222,340·30 miles, as just mentioned; second track, 17,936·25 miles; third track, 1,766·07 miles; fourth track, 1,279·66 miles, and yard track and sidings, 73,760·91 miles. These figures indicate that there was an increase of 10,286·45 miles in the aggregate length of all tracks, of which 3,819·24 miles, or 37·13 per cent., represented the extension of yard track and sidings.

WEEKLY TRADE MOVEMENTS.

For the week ending 26th October, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign—Imports by sea into	Calcutta, lbs.	391,323
	Bombay „	344,604
	Madras „	43,000
Indian—Exports by sea from	Calcutta „	266,248
	Bombay „	6,392,431
	Madras „	123

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	25,648,503
	Bombay „	4,969,259
	Karachi „	102,020
	Madras „	204,243
	Rangoon „	93,768

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	8,529,034
	Bombay „	5,675,008
	Karachi „	815,984
	Madras „	113,985
	Rangoon „	551,643

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	3,080,994
	Bombay „	6,802,126
	Karachi „	893,977
	Madras „	198,298
	Rangoon „	607,878

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	24,946
	Bombay* „	5,165
	Karachi „	20,679
	Madras „	12,057

Raw Cotton.

Imports into Bombay	By sea cwt.	71
	Coastwise „	9,808
	By rail „	26,194
Imports into Karachi by rail	„	182
„ „ Calcutta by rail and river	„	3,430

Jute.

Arrivals by all routes in	Calcutta, cwt.	893,739
Exports by sea from Calcutta	Gunny bags, No.	16,255,811
	„ cloth, yds.	41,462,876
	Jute, cwt.	621,570
Chittagong	—Jute „	105,553

Tea.

Arrivals by all routes in	Calcutta lbs.	5,794,058
Exports by sea from	Calcutta „	5,925,470
	Chittagong „	56,500

Wheat.

Imports into	Calcutta by rail and river, cwt.	32,116
	Karachi by rail „	679,105
Bombay	By sea „	1,463
	Coastwise „	24,983
	By rail „	35,243
Exports by sea from	Calcutta „	2,253
	Bombay „	521
	Karachi „	421,804

Rice.

Arrivals by all routes in	Calcutta, cwt.	217,944
Exports by sea from	Calcutta „	27,100
	Chittagong „	...
	Bombay „	3,049
	Karachi „	35,014
	Madras „	151
	Rangoon „	137,599

Linseed.

Imports into	Calcutta by rail and river, cwt.	38,647
Bombay	By sea „	145
	Coastwise „	975
	By rail „	12,965
Karachi	„	...
Exports by sea from	Calcutta „	70,239
	Bombay „	49,150
	Karachi „	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river, cwt.	31,783
Bombay	By sea „	...
	Coastwise „	10
	By rail „	4,070
Karachi	„	18,346
Exports by sea from	Calcutta „	4,005
	Bombay „	21,987
	Karachi „	15,556

Cotton Seed.

Exports by sea from Bombay,*	cwt.	17,907

* B. B. and C. I. Ry. figures only.

KEROSENE OIL, WEEK ENDING 26th OCTOBER, 1907.

Imports by sea into—	From Russia.	From America.	From All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	208	...	208
Karachi	...	157,515	114,230	271,745
Madras	...	...	...	...

Exports by sea from Burma to	Bengal galls.	558,460
	E. B. & Assam „	...
	Bombay „	...
	Sind „	...
	Madras „	...
	Indian Ports, Non-Br. „	...
	Foreign Ports „	...

IMPORTS OF SUGAR, WEEK ENDING 26th OCTOBER, 1907.

Country of Shipment.	Refined sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	20	...	21	29	29	2	101
Germany	...	...	...	...	300	...	300
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	6	...	49	...	...	...	55
Java	214,393	...	6,374	72,232	819	...	293,818
Mauritius	...	...	692	3,439	...	...	4,131
Other Non-European Countries	...	...	299	...	...	147	446
						Total refined	298,851
						Total unrefined	29,396
						Grand Total, cwt.	328,247

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 25th October.		Sold to 25th October.		Sold in sale of 26th October.		Sold to 26th October.	
	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	6,457	7 4·4	119,863	7 5·6	6,221	6 8·9	91,412	6 10
Cachar	6,191	6 6·4	99,675	6 0·3	5,035	4 5·3	88,234	4 2·1
Sylhet	5,561	6 6	79,013	6 0	4,189	4 1·9	66,450	3 10·7
Darjeeling	1,778	9 1·4	45,607	8 11·1	3,428	7 11·3	42,476	8 7·9
Dooars	6,657	7 0	119,761	6 7·4	7,740	5 4·1	104,139	5 2·9
Terai	430	6 10·5	15,917	6 1·5	1,070	4 3·1	23,512	4 2·3
Chittagong	375	6 8	6,231	6 1·3	858	4 6·6	8,108	4 1
Chota-Nagpore	60	6 3	609	5 2·5	...	...	236	4 8·3
Kumaon and Kangra	53	6 9	3,265	5 10·5	...	...	120	5 0
Madras	..	...	242	6 0	...	...	146	4 8·8
Dehra Dun	...	...	204	6 3·3	...	...	...	...
Nepaul	111	7 0	247	6 9·3	...	...	...	...
Total	27,673	7 0	490,634	6 9·5*	28,541	5 6·8	424,833	5 5

(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 25,064 packages Dust* sold to 25th October — As. 6 P. 9·7

* On account of gardens which sell only that grade on this market.

—The *Bulletin* of the French Chamber of Commerce at Milan announces that important beds of polychrome **marble** have been **discovered on Lake Iseo,** in the territory of Avatico in the Bergamo Province, Italy.

—**Chinese enterprise** is beginning to show itself in the production of the **iron and steel needed** for the extensive railway systems in that country, and it is predicted that, before the end of 1908, the home industry will be competing with Western nations in neutral markets. This development of the iron industry has been most prominent on the Yang-tsze River, and the rails provided for the Han-Kau-Peking Railroad are reported to suit the requirements of railway practice. The Government encouraged the industry by a decree that, as far as possible, all materials required for the railways must be purchased from these works, which are located close to an abundant supply of ore and coal. With the cheapness of labour and the excellent quality of the coal at hand, iron smelting ought to be especially profitable, as the home demand alone is enormous and is likely to extend as the railway system grows. A large plant for the manufacture of rolling stock and structural steel is to be erected next year at Han-yang, which indicates that the Chinese are becoming alive to the saving that will be effected by the complete equipment of their railways by home industries.

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 (3*a.*)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2*a.*)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
   - Vol. I—Abstract and detailed Tables of Imports and Exports. R3. (15*a.*)
   - 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. (10*a.*)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (7*a.*)
5. Accounts of the trade of Aden. As. 10. (1*a.*)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6*a.*)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7*a.*)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3*a.*)
9. Prices and Wages in India. R1-2. (3*a.*)
10. Financial and Commercial Statistics of British India. R4. (12*a.*)
11. Judicial and Administrative Statistics of British India. R2. (10*a.*)
12. Agricultural Statistics of India. R3½. (12*a.*)
    - Vol. I.—British India.
    - Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2*a.*)
14. Production of Tea in India. As. 8. (2*a.*)
15. Note on the production of Coal in India. As. 10. (3*a.*).
16. Note on the production of Coffee in India. As. 4. (1*a.*).
17. List of Joint Stock Companies in British India for 1906. R2. (2*a.*)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (3*a.*)

MONTHLY.

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

MISCELLANEOUS.

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

AGENTS.

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

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Kegan Paul, Trench, Trübner & Co., Charing Cross Road, W.C.
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One copy of either per annum	65	0
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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.

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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
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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,
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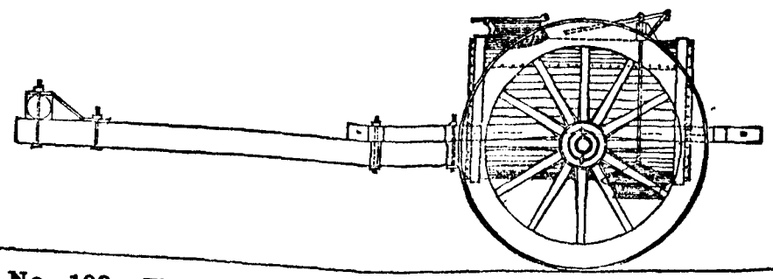
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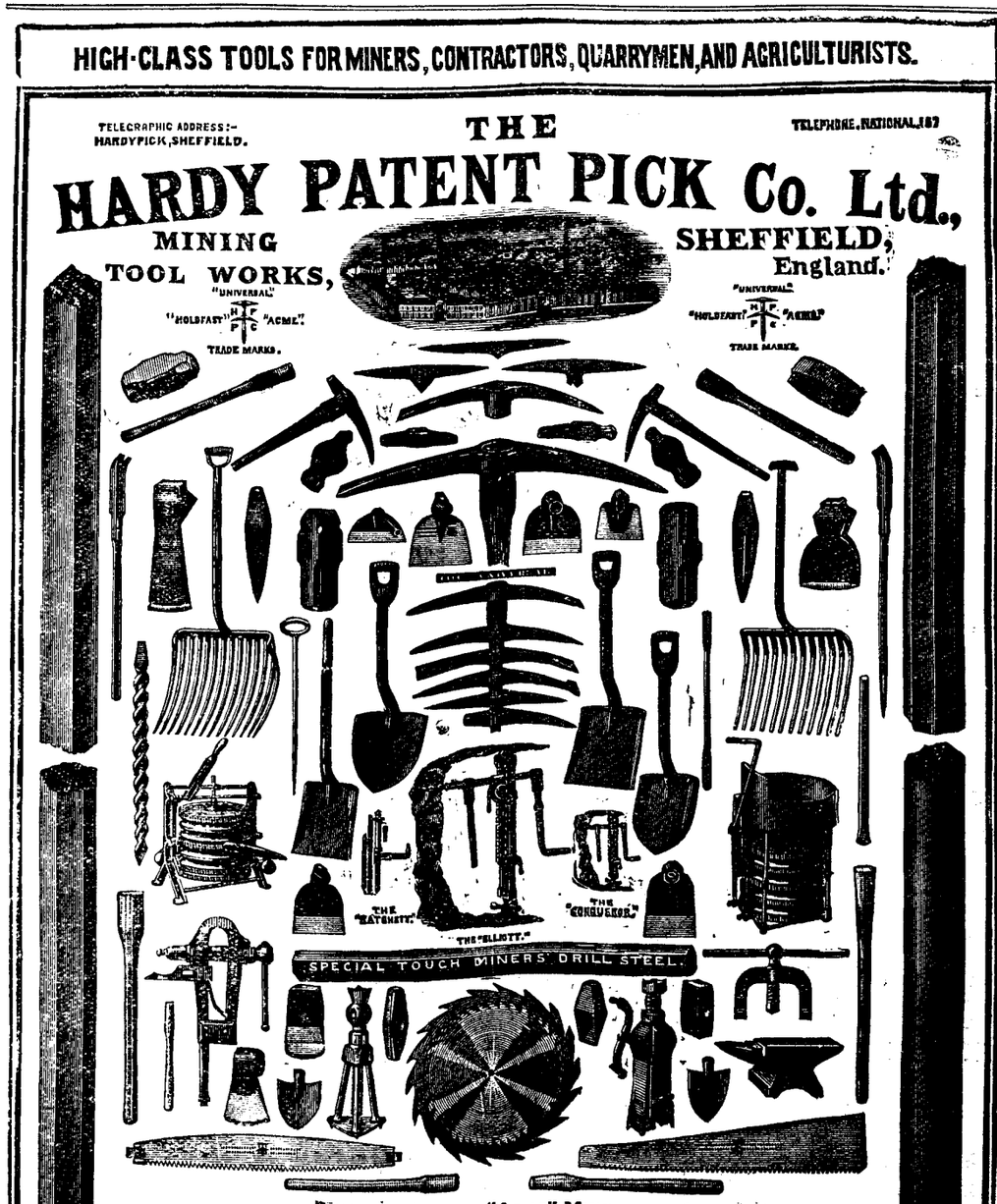
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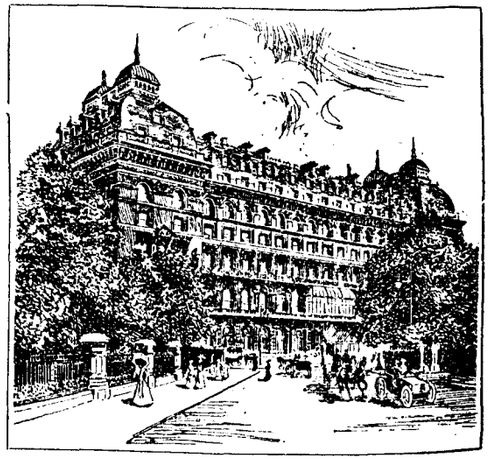
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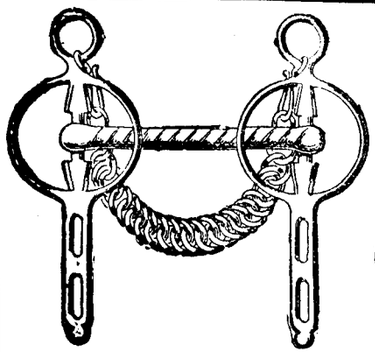


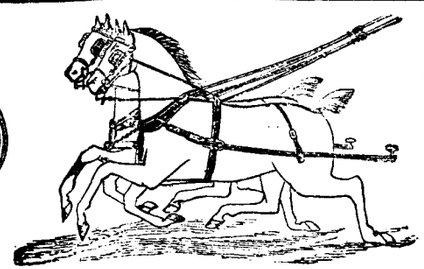
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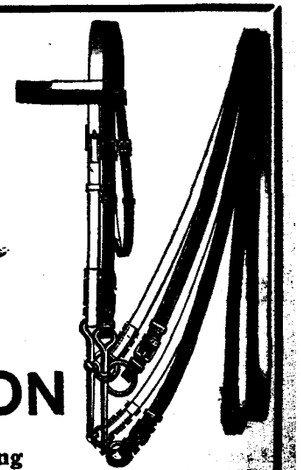
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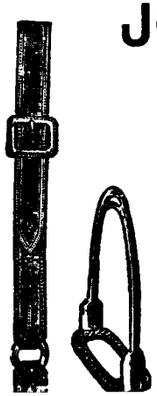
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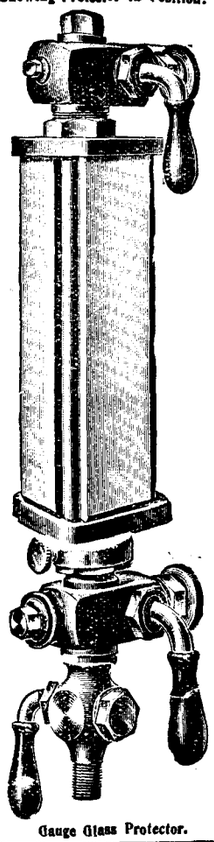
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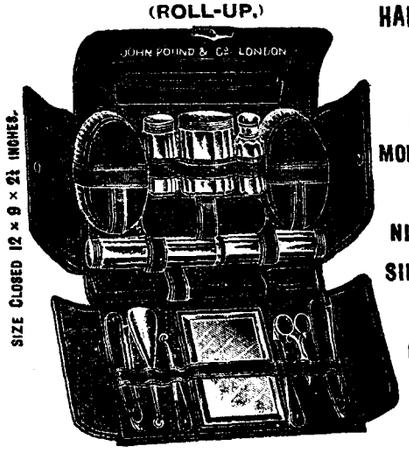
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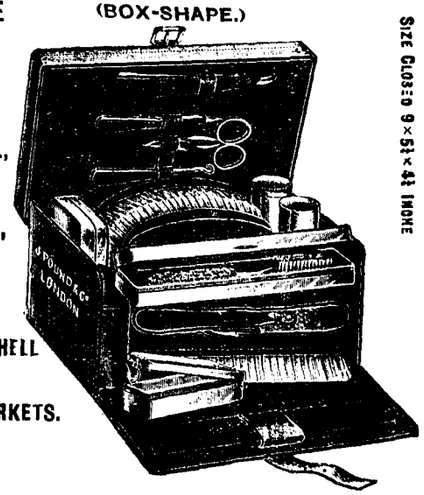


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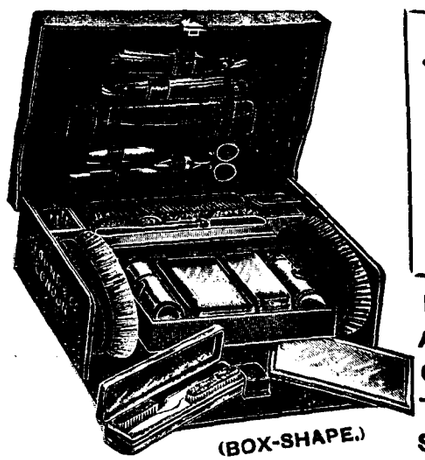
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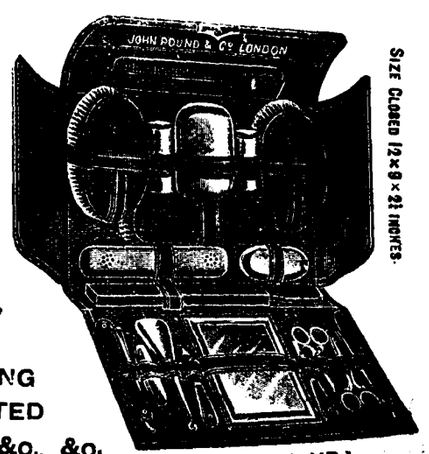
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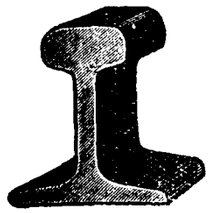


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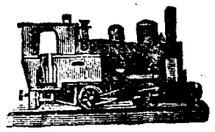
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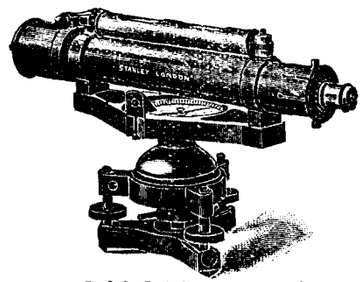
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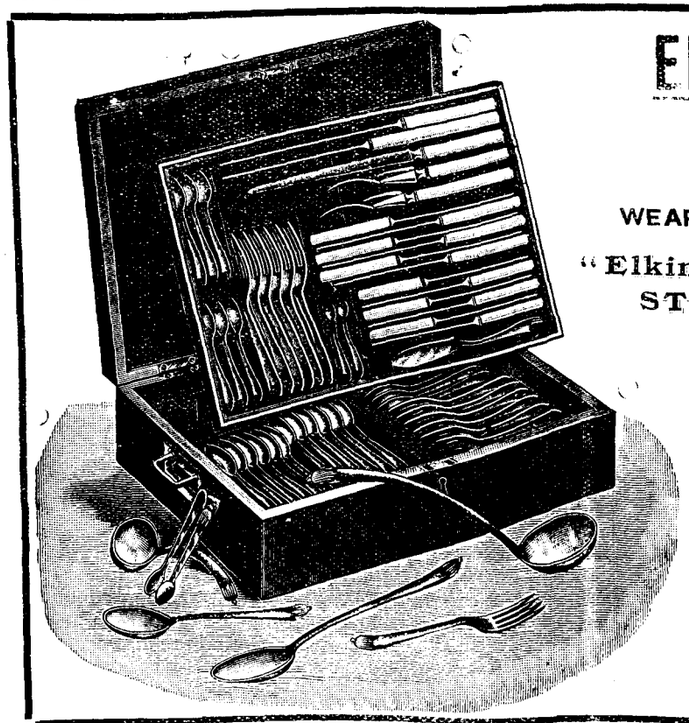
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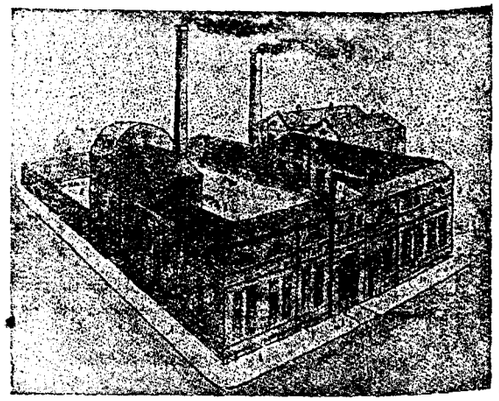
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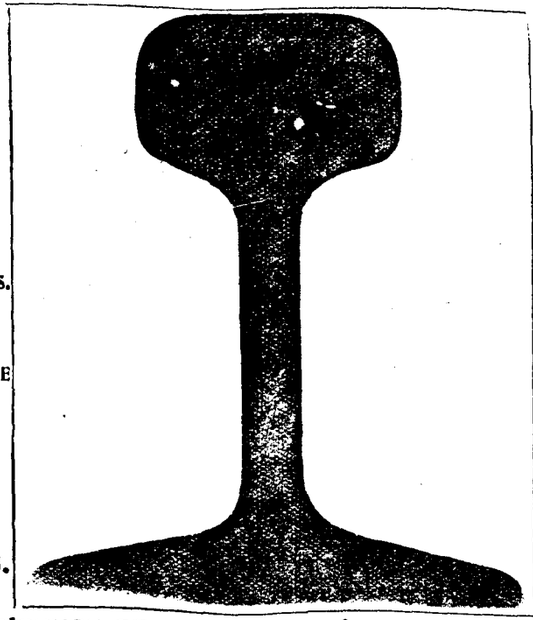
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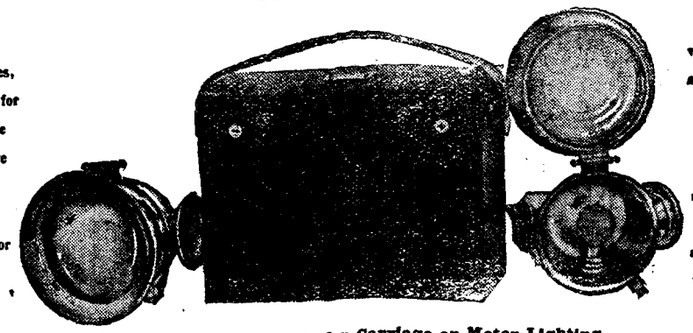
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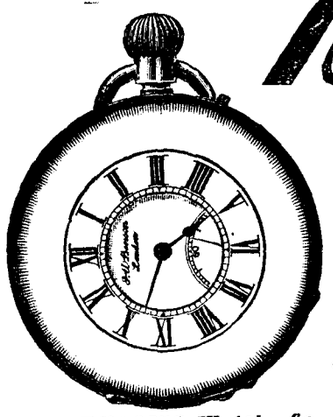
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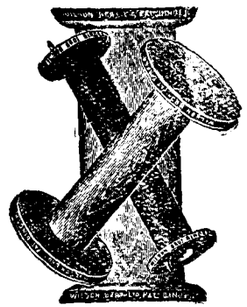
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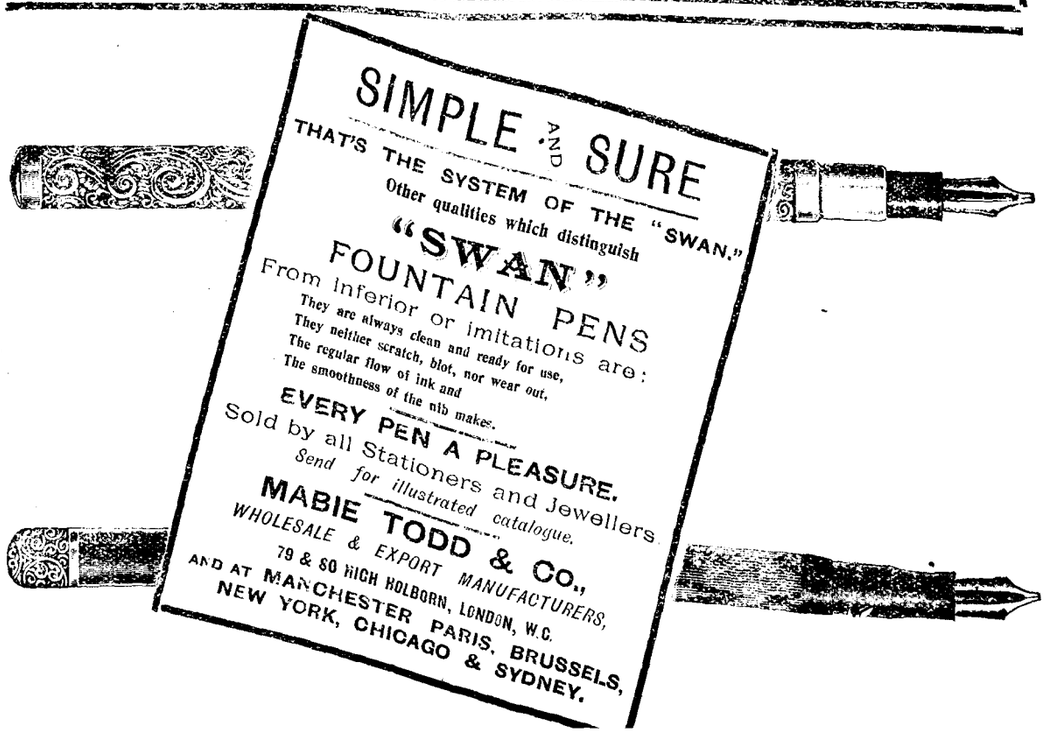
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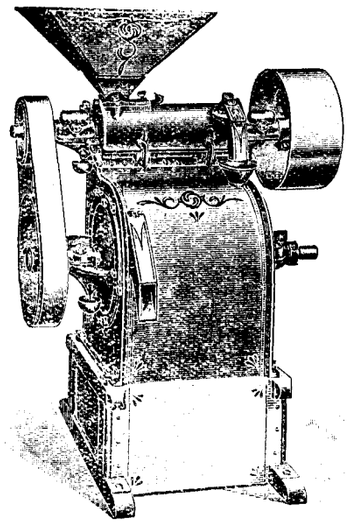


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PERFECTION IN ASPIRATING, HULLING AND POLISHING.



Type "A" Huller and Polisher—Capacity 8,000 lbs. per day of 10 hours,
Price £60-0-0.

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Type "C" Huller and Polisher—Capacity 3,000 lbs. per day of 10 hours,
Price £35-0-0.

Power required to drive type "A" 8-10 B.H.P. Shipping weight 800 lbs.

Power required to drive type "B" 10-12 B.H.P. Shipping weight 1,750 lbs.

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FIG. 427. FIG. 428. FIG. 430. FIG. 433.
QUICK, MEDIUM & SLOW BENDS.

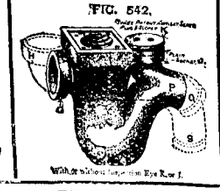
TAPER PIPES WITH HORIZONTAL BASE



FIG. 420. HALF CHANNEL PIPE.

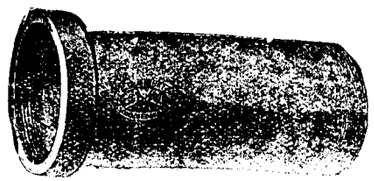
YARD GULLIES

FIG. 542.



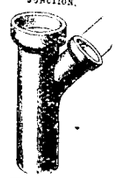
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FIG. 429. SINGLE OBLIQUE JUNCTION.



SADDLE JUNCTION.



INTERCEPTORS.

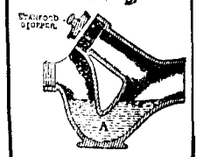
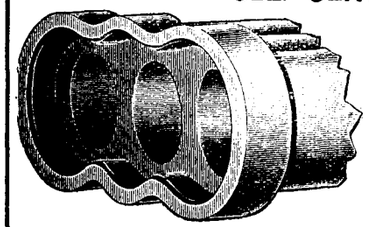


FIG. 607



SYKES' PATENT STONEWARE CONDUITS FITTED WITH BITUMENOUS SELF-CENTREING JOINTS FOR ELECTRIC CABLES.



SKETCH

Made in following sizes :—

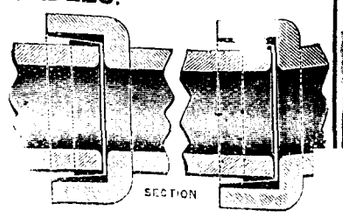
2 way 2″	2 way 2½″	2 way 3″
3 ,, 2″	3 ,, 2½″	3 ,, 3″
4 ,, 2″	4 ,, 2½″	4 ,, 3″
		6 ,, 3″
2 way 4″		
3 ,, 4″		4 way 3½
4 ,, 4″		

Large Stocks kept for prompt shipment.

50,000 yards all sizes in stock



LAYING SYKES' CONDUITS AT SALFORD.



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Duct yards supplied.

No Mandrels required as the join are self-centreing.

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The spigot is simply inserted in th socket and pushed home.

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SYKES' PATENT SANITARY SPECIALITIES.

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The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 84.] CALCUTTA, THURSDAY, 7th NOVEMBER, 1907. [ANNAS 4.

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NOTES.

The Government of **Madras** have sanctioned the rate of **harbour dues** proposed by the Port Trust Board for **oil cases.** This rate is Re. 1 per hundred 8-gallon oil empties, the rate to be altered proportionally for sizes other than 8 gallon, the cases being porteraged by the consignee and not the Port Trust.

An **International Automobile Exhibition** will be held by the Motor Union of Western India **at Bombay** on February 24th to 29th, 1908, and will include a Motor Gymkhana, extending over three days. Copies of the Rules and Regulations may be obtained from J. B. King, Manager, Trade Information Department, Society of Motor Manufacturers and Traders, Ld., Hastings House, Norfolk Street, Strand, London, W.C.

The Government of **Madras** have sanctioned a grant of Rs. 2,500 towards a **weaving contest and exhibition** to be organised by the National Fund and Industrial Association, Madras, in February, 1908, the Association itself contributing Rs. 1,000. The contest is to be held in the sheds attached to the Madras School of Arts, and prizes will be awarded amounting to Rs. 3,000 for ten different competitions, the larger prizes to be given for looms and smaller prizes of Rs. 25 each to weavers. A special prize of Rs. 500 will be given for the best loom entered, provided it is suitable for the requirements of hand-weavers, and is capable of doing satisfactory work on both fine and coarse counts.

A statement of **irrigation operations** in the **Punjab** for the year 1906-07 shows that the total area irrigated was 6,706,312 acres, as against 6,914,438 acres during the previous year. Another statement gives the total area irrigated in the **North-West Frontier Province** during 1906-07 as 186,855 acres.

Messrs. Hoare, Miller and Co., Calcutta, have obtained from the Government of Bengal a license for the purposes of general supply to the public and for electric traction in respect of portions of the Burdwan and Manbhum Districts comprising the Govindpur Sub-division and parts of the Purulia Sub-division and Raniganj Sub-division. The license, which is cited as "**The Coal Fields Electric license, 1907,**" provides, among other conditions, that the system to be adopted for the generation of electrical energy shall be the alternating current system; that the pressure of generation shall not exceed 10,000 volts; that the frequency shall not be less than 25 nor more than 50 periods per second; and that the pressure of distribution shall not exceed 500 volts for general supply and 600 volts for electric traction. The Government of Bengal reserves to itself the option of purchasing the undertaking at the end of forty-two years and at the end of every subsequent period of ten years.

H. M. Consul at Trieste (Mr. J.B. Spence) reports that the production of **olive oil in Istria** amounted during 1905 to 845 tons, and during 1906 to 526 tons. Regarding this year's crop, the information received at the Consulate is that it is not a prolific one - the olive trees having suffered through the persistent drought.

Under the provisions of the **Indian Petroleum Act,** 1899, the Governor-General in Council has been pleased to limit the powers conferred on Municipal Committees in the Punjab, the North-West Frontier Province, and the Hyderabad Assigned Districts, in so far as they relate to the possession and transport of petroleum, to quantities of dangerous petroleum not exceeding three gallons if contained in proper receptacles, and to quantities of ordinary petroleum not exceeding 500 gallons.

The Commercial Attache to H. M. Embassy at Tokio (Mr. E. F. Crowe) reports that the **oil well in Gotsu Bay**, near Naoetsu in Echigo, belonging to the Japan Petroleum Company, which began to spout on the 30th August last, is now producing oil at the rate of over 7 koku (1 koku=39·7 gallons) per hour, making an average of 160 koku per day. Trial boring was begun four years ago and up to the date mentioned the amount produced had not exceeded 5 koku a day. The quality of the oil is said to be good and it should fetch about 8·30 yen per koku (say 17*s.* for 40 gallons).

It is no longer a secret, says the *Times*, that considerable preparations are being made by the Government authorities to introduce the **use of oil** for steam-raising purposes in the **Royal Navy** upon a very large scale. In order to effect this, oil stores are being created in several localities, which entail the use of metallic oil-holders or reservoirs, and the provision of sea-going vessels to convey the oil to warships will most probably have to form part of the scheme. A most essential factor in securing the best results will be the use of flexible tubes of large calibre, capable of conducting the oil from the storeships to the cruisers on the open sea and it is satisfactory to learn that tubes of this kind constructed of coiled metal have been tested and have given excellent results so far. No doubt, for such a purpose as this, tubes formed of indiarubber would seem to be indispensable; but, in consequence of the corrosive action of mineral oil upon rubber tubes, it has been found necessary in the storage and conveyance of oil to seek for some other substance, and it is now possible to prepare an oil-tight tube from corrugated steel strip, possessed of a considerable degree of flexibility and not liable to the rapid wear and deterioration which has proved so fatal to vulcanized indiarubber, when employed for this purpose. Among liquid fuels which may be employed, that known as "masut" will help to supply the increasing demand. This fuel, which is one of the by-products of the distillation of raw petroleum, is, we learn, now used by the Russian, German, and Italian navies. As it appears to have a high calorific value, and is said to produce but little smoke, it has some of the chief requisites for a fuel to take the place of coal. This substance is also extracted from oleiferous tertiary coal, and a correspondent states that in Victoria there are beds of this mineral the great extent of which have been disclosed by borings. The estimated production of masut from these seams is 35,000,000 tons, so that we have a supply of fuel for many years to come from this source alone. The relative cost of production of masut and of coal would probably be disadvantageous to the former, but this would be offset by the decreased cost of transportation and the conveniences attending the use of fuel in a liquid form. If fuel in a liquid form is to supply stokeholds in the future to the exclusion of solid fuel, such rich deposits as these will form a valuable asset to the nation.

The number of bales of **cotton imported into the United Kingdom** during the week ended the 10th October, 1907, was 53,419 (including 103 bales British West Indian and 322 bales British West African) and the number imported during the forty-one weeks ended the 10th October was 3 387,066 (including 5,732 bales British West Indian and 8,789 bales British West African). As regards exports, the figures are, for the week ended the 10th October, 5,137 bales, and, for the forty-one weeks, 405,547 bales.

Advices that have reached us from **Shanghai,** dated the 10th ultimo, are to the effect that the exchange conditions which have recently favoured large imports of **Indian yarn,** are giving way, and, consequently, trade in the yarn market for Indian yarn is slack. Japanese products are coming in for more attention, while local yarns command slightly better prices.

Cotton spinners have been constantly fighting against the frequent occurrence of "**snarls**" **in yarn,** and any device which would eliminate this source of trouble or even greatly reduce it would be heartily welcomed. The *Manchester Guardian* learns that an invention to meet the case has just been brought out which promises to be of distinct practical value. It has been applied to several mules at a Kirkham mill, and well tested, with results which are described as very satisfactory. The apparatus is simple in construction, and is being made by Messrs. Asa Lees and Co., of Oldham.

The *Bollettino della Societa Africana d'Italia* for July, 1907, contains a notice stating that experiments have been made by Signor Carpanetti in the **cultivation of cotton** in the district of Goscia, a valley below the Juba river, **Italian East Africa,** which indicate that the district is well suited for this purpose. Several varieties such as "Mit afifi," "Abassi" and "Cavaroni" have given splendid results both as regards the quality and the quantity produced. The yield of the plants is in no way inferior to that obtained in Egypt, and the special conditions of the district admit of the cultivation of all the most varied and valuable species.

The **cultivation of cotton** in the **Danish West Indies** appears to be in course of extensive development. In 1906 there was a crop of 377,000 *lbs.*, which was sold for £7,650. The result of this new cotton industry is that, while the Danish Plantation Company's accounts for 1904 and 1905 revealed a very considerable deficit, those for 1906 showed a balance This is a very favourable outcome, when it is borne in mind that the working and undertakings of the Company were to a great degree experimental. The present year's crop, it is estimated, will be double that of 1906. Many other estate-owners, besides the Plantation Company, have gone in for cotton cultivation.

That the British Cotton-Growing Association is now being taken more seriously in America may be gathered from the fact that the New York *Sun* has devoted a leading article to the discussion of the question—"**Will Nigeria** become a large exporter of **cotton**?" The decision of the British Government last session to push forward the construction of the Nigerian railway is regarded by the *Sun* as deeply interesting to the United States, "because eventually it may exercise considerable influence on the cotton market of the world." After a short review of what has already been done by the British Cotton-Growing Association in Nigeria and the measures which are being taken to solve the transport problem, the *Sun* remarks:—"It may as well be taken for granted by our cotton growers that they may not be able for ever to possess a monopoly of the world's cotton markets, even so far as the short fibre is concerned. If Great Britain is really disposed to apply the tremendous resources of her Treasury to the development of the cotton industry in a promising and extensive region there is no doubt that she might in time become a formidable competitor. That Northern Nigeria is such a region seems now to have been demonstrated."

A favourable account of the progress of the **American cotton crop** during the month of September is published by Messrs. Bashinsky and Co. of Troy. They write:—"We have had variable weather, with a sufficiency of rain and moderate temperatures. There are no complaints of shedding, nor any more complaints of rust than usual at this time of the year. Good deal of the late crop is still green, and while farmers report that this cotton has stopped producing, we are inclined to the opinion that with a favourable and prolonged Indian summer an addition to the yield is probable. There are the usual complaints of disappointing yield that we hear every year; but we are as yet not willing to give to these reports full credence. While it is true that the light lands may not be up to the yield of last year, the stiff lands in this section show up so much better, that on the whole the total yield will be satisfactory. It should be remembered that comparisons this year are made with conditions previous to last year's storm. That the storm destroyed a great percentage of last year's crop cannot be questioned. But with the storm period fairly out of the way, there is nothing to apprehend at present except frost and not until the frost period has passed will it be possible to place a reliable estimate on the outturn of the crop. Picking has been much interfered with by rains recently, and marketing has been retarded. The demand has not been very eager, but there is a considerable short interest in spot cotton, which takes care of all the offerings, and tends to keep spot prices steady."

An Alexandria correspondent, writing on October 7th, says:—"Predictions of an unprecedentedly large **Egyptian cotton crop are much less confident** now than they were a week and more ago. The Produce Association's monthly report states that 'everything considered, and on the whole, the probabilities point to a crop exceeding last year's.' These are very guarded and non-committal terms; and the Association further observes that the crop

does not present now so brilliant an aspect as early in September. A sudden spell of cool weather is alleged to be the cause in great part, but those who follow attentively the course of Egyptian agriculture are under no delusion regarding the strain to which the soil of Egypt is now subjected by the native farmer. The summer crops are now almost as heavy as the winter; the supplies of that rich 'debris' manure known as confri are nearing exhaustion, yet the soil is far more heavily cropped than before. In future, therefore, the acreage sown in cotton will be less and less reliable as the index to the probable quantity of the produce; the patchiness of the cotton fields in many places is clear evidence of their diminished fecundity. To remedy this chemical fertilisers will have to be largely employed in Egypt before many years have passed, and this will naturally increase the cost of cultivation."

The outlook for the **cotton industry in Australia,** and *particularly in the State of Queensland*, is regarded by a Melbourne correspondent as promising. "One of the signs of the times," he writes, "is the purchase by Messrs. Joyce Brothers, who have large bag-manufacturing businesses at Brisbane, Sydney, and London, of the cotton-spinning mill erected some years back at Ipswich by the defunct Queensland Cotton Company. Spinning is to be started almost immediately, as new machinery has been purchased, and at the time of writing only awaits trans-hipment. Another encouraging event is the formation at Charter's Towers of a Planters' Association for the development of co-operative cotton production in the Northern State. The Association has already very favourably impressed the local woollen manufacturers with the suitability of Australian cotton for blending purposes, and only a fortnight ago three bales which it consigned to Messrs. Collins's mills at Geelong, Victoria, were very favourably reported upon. The Association is seeking the aid of the British Cotton-Growing Association, and has already induced the Queensland Government to place at its disposal Mr. Howard Newport, Instructor in Tropical Agriculture at Cairns, who is to give advice to planters as to the *planting of suitable areas*. In the meantime both German and French spinners have been purchasing 'Caravanica' cotton, grown at Cairns. The result of the sale of the last consignment at Havre was 156 francs per 50 kilos, or about 13*d.* per lb."

"The actual position in the **copper trade,**" says the *Manchester Guardian* of the *14th* ultimo, "does *not* appear to have improved during the past week. The fall in price as compared with the close of the previous week is only 30*s.* per ton, but there has been no progress towards a solution of the difficulty as to the disposal of accumulated stocks. The *Ironmonger* states that unsold copper is now being shipped from America to Liverpool, and there would seem to be only one reason for this, *viz.*, to endeavour to obtain from English bankers better financial accommodation than can be obtained in America. The prospect of success in this direction cannot, however, be very good, for English banks are proverbial for their caution in dealing with business of this kind. It is possible, therefore, that this metal will have to be disposed of by forced sales, and forced sales of any quantity of copper just now are disastrous to the market. It appears that during the week some large proportion of the bear account in copper has been covered; but this may merely be the prelude to the opening of a still larger bear raid upon prices. Of course everyone recognises that we are getting towards the bottom, but the general relief is that this has not yet been reached, and that when it is reached prices will stay there for a considerable time."

The Paris correspondent of *Commercial Intelligence* writes:—A question of great importance to all interested in **automobiles** appears to have been at last solved. I allude to an **automatic speed register.** The *appliance*, which has been tried *over here*, weighs about two kilogrammes, and works like an ordinary clock. In consequence of the rotation of the wheels of the auto it registers on a band of paper, similar to that used for telegrams, the exact speed at which the vehicle has been driven. In a *case of dispute* with a policeman the chauffeur has but to open the appliance and show the band of paper on which the speed of his vehicle has been registered. But this is not all; the appliance is so constructed that the speed may be *seen* both by day and by night. For instance, by means of a disc which moves according to the speed, a policeman at a distance may see the speed at which the vehicle is moving. By night the speed is indicated by coloured lights, which vary according to the rate at which the vehicle is being driven. Suppose an auto has been driven a distance of a hundred miles, the various speeds at which it has been driven are registered on a band of paper which revolves at the rate of four millimètres per minute, and it is asserted that these speeds are marked in such a manner as to avoid all possibility of fraud. The inventors of this appliance are M. M. Douret et Kohien, of the Central Telegraph and Telephone Offices of Brussels.

The annual statement of the **world's production of pig iron** issued by Messrs. James Watson & Co., Glasgow, shows that the total make of pig iron throughout the world in 1906 was 58,742,322 tons, an increase of 4,744,357 tons over the *output* of 1905, and an increase, compared with the production of 1904, of 13,515,701 tons. In 1906 the United States manufactured by far the greatest quantity, the output there reaching 25,307,191 tons, an increase, as compared with the previous year, of 2,314,811 tons, and 8,810,158 tons more than in 1904. Germany, with 12,422,177 tons,

was the second largest producer last year; the make was 1,434,554 more than in 1905 and 2,318,236 tons more than the output of 1904. Great Britain was the third largest, with an output of 10,149,388 tons, or 55,651 tons *more than* in the previous year, an increase, as compared with the production of 1904, of 1,586,730 tons. France last year produced 3,319,032 tons, Russia 2,619,000 tons, Austria and Hungary 1,596,342 tons, Belgium 1,431,460 tons, and other countries 1,897,732 tons. In Great Britain, Cleveland was, as usual, the largest maker, with 2,639,964 tons, or 132,249 tons more than in 1905, and 405,619 tons above the output of 1904. Scotland produced last year 1,451,068 tons, being an increase of 72,677 tons over the previous year's make and 111,328 tons larger than the output of 1904.

In his Report on the **Gold-bearing Deposits of Loi Twang Shan States,** Burma, Mr. T. H. D. LaTouche, officiating Director, Geological Survey of India, states that as the result of his investigations coarse gold was found only in three streams, namely, the Namkham in Mong Tung, the Hwe Aw in Keshi-Mansam, and the Nam Ka in Mong Kung, and that it is confined to a very small area in each case. Mr. La Touche adds that it is possible that further prospecting might reveal the presence of gold in larger quantities in the lower portion of the gravel deposits; but even if the value of the deposits were proved to be greater than it appears to be, a serious *objection to* their being worked on a large scale is the fact that the gold-bearing gravels are in all cases covered by a fertile soil which is terraced and cultivated and that practically the whole of the cultivation would be destroyed by the operations. It is suggested that the villagers might be given permission to extract what gold they can from the gravel by their own methods.

In the Tanjore district, especially in the Kumbakonam Taluk, Mr. C. K. Subba Rao, Acting Government Botanist, Madras, tells us, *Morinda Citrifolia* or the **Indian mulberry** (Tamil: *Nunachedi*) *is* cultivated as a **dye crop.** While this crop occupies the land for three to four years in the United and Central Provinces, *it is only* a one-year crop in the Tanjore district. The longer the plant is allowed to grow, the thicker will the roots be and the worse the dye from the root-bark. Before the aniline and alizarin dyes came into extensive use in India, the cultivation of the crop was very profitable and extensive. The bulk of the crop is grown in the Kumbakonam Taluk. In 1905-06 the total area cultivated with the crop in that Taluk was 149·07 acres. Small areas are cultivated also in the other delta taluks. Alizarin dyes are mixed with a small proportion of the dye yielded by the root-bark of the Indian mulberry. A year after planting, the roots are cut off, sliced and dried, about 150 men being required per acre. In the old days a *sumai*, or 10½ Madras maunds (Madras maund=25 lbs.) of the sliced root used to sell for Rs. 80; but now the price is reduced to about Rs. 24. The cost of cultivation per acre is Rs. 160, and the outturn about Rs. 296, leaving a profit of Rs. 136. The dye is obtained by simply steeping the bark in water, and is chiefly used for dying expensive articles of clothing. As a rule the thinner the root is, the better is the dye. From the Kumbakonam railway station and others between Tanjore and Shigali, a good deal of root bark is still exported every year, chiefly to the ceded districts.

The **"floating exhibition"** idea has found favour in Austria, for the steamer *Argentina* which was to sail from Trieste on October 31st inaugurating the new "Austro-Americana" line to South America has a special room fitted with samples of Austrian products. With a view to increasing the Austrian export trade, lectures and the like will be given during the voyage at all ports of call, and finally the exhibition will be landed at Buenos Ayres, where it will remain for five or six weeks, returning by the next steamer *vid* Monte Video. This scheme, which is being carried out by the Austrian Handels Museum, in conjunction with the Trieste Commercial Museum, will, if successful, be repeated, and perhaps become a regular feature on the steamers leaving Trieste. About 100 firms are exhibiting, and their exhibits comprise Austrian leather and leather goods, bronzes, textiles, metal goods, gloves, ties and cravats, clothing, perfumery, stationery, tobacco, cigars, etc. A linguist and salesman will take charge of the show and bring home orders and any goods unsold. It is believed that the venture will prove successful.

We learn from advices from **Australia** which reached Calcutta this week, that the **wool** arrivals in Melbourne *up to the 15th ultimo* showed an increase of 132,500 bales. From a few stations which have finished shearing complete returns of the wool produced have been obtained, and these show that stations in New South Wales and Queensland, *which cut 23,800 bales in 1906, cut only* 19,800 bales in 1907, and this in spite of more sheep having been shorn in 1907. This shows a reduction of 17 per cent. If this be applied to the total quantity of wool produced last season in New South Wales and Queensland together, *viz.*, about 1,160,000 bales, *it gives a* large decrease for those two states. It is not, however, intended to suggest that there will be a decrease of 17 per cent. The arrivals for the first week of last month in New South Wales amounted to 42,600 bales, and in Victoria to 19,000 bales, or a total of 61,600 bales. *As compared with* the previous week, this shows an increase of 13,700 bales. For the corresponding week of last year the arrivals only amounted to 26,000 bales, so that this year's figures for the weekare 35,600 bales ahead of last year's.

Advices received from **Adelaide** state that buyers were again well represented at the continuation of the **wool auctions** there on October 13th, and the demand ruled quite equal to that witnessed at the opening sale. The offerings were practically all cleared, and the full initial advance of 10 per cent. for greasy, medium-conditioned merinos, pieces, and lamb's-wool has been firmly maintained while the values obtained for greasy super parcels are also fully on a par with the opening improvement of 15 per cent.

The following notice, issued by the Board of Agriculture and Fisheries, London, is published for general information :—

No horse, ass, or mule, brought to Great Britain from any other country, except Ireland, the Channel Islands or the Isle of Man, shall be landed in Great Britain unless it is accompanied by a certificate of a veterinary surgeon to the effect that he examined the animal immediately before it was embarked or whilst it was on board the vessel, as the case may be, and that he found that the animal did not show symptoms of glanders or farcy.

The penalty for a breach of these orders is a fine of £20.

The total **exports of rice from Saigon,** during the quarter ending 30th September, 1907, was 265,560 tons, as compared with 132,297 tons during the same period in 1906 and 59,250 tons in 1905. The total exports for the nine months ending 30th September last amounted to 875,126 tons against 417,160 tons in 1906 and 322,536 tons in 1905.

Major Ramsay, Political Resident, Baghdad, informs us that **pumps for irrigation,** driven by oil engines, have recently been introduced into **Mesopotamia**, and he thinks that the number in use is likely to increase largely in the near future. One of the most important questions is, of course, the supply of cheap fuel. At present, lamp oil, of both Russian and American origin is used; but he considers that if something cheaper could be found the sale of pumps would receive a great impetus. Mesopotamia, he adds, offers a promising field for a cheap liquid, fuel; and, if any firms inclined to take up the matter will apply to Major Ramsay, giving a general outline of the terms on which they are willing to do business, he will do what he can to put them in touch with local dealers and those interested in the introduction of machinery driven by oil engines.

The next **sale of opium,** consisting of 2,000 chests of Patna and 2,000 chests of Ghazipur opium, will be held at the Government Opium Sale Room, Calcutta, on the 3rd of next month.

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

For the week ending 26th October, 1907—

In the Calcutta market—

Behar opium—(old) Rs. 1,400; 1,390; 1,400; 1,390; 1,370; 1,380; 1,385.

Benares opium—Rs. 1,400; 1,380; 1,390; 1,380; 1,360; 1,370; 1,375.

The prices in the time bargains for the Behar opium of the 11th sale of 1907 were, (new) Rs. 1,439; 1,422; 1,432; 1,421; 1,402; 1,410; 1,414.

In the China market—

At Hongkong (exchange Rs. 152¾ to 155 per $100).

Behar opium—$920; 925; 910; 907½; 910; 910, 915 and 930 (new); 910.

Benares opium—On the 25th instant $890.

At Shanghai—(exchange Rs. 207 per 100 taels.)

Behar opium—On the 21st instant 708 taels; on the 22nd instant 695 and 710 taels; on the 25th instant 680 and 700 taels.

Benares opium—On the 21st instant 680 taels; on the 22nd instant 680 taels; on the 25th instant 668 taels.

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,304 to 1,371; (new, 1905-06) Rs. 1,370 to 1,387; (old, 1904-05) Rs. 1,440 to 1,465; the latest prices at Hongkong and Shanghai were (new) Rs. 1,340 and 1,432; (old) Rs. 1,501 and 1,525; respectively.

The Directors of the **South Indian Railway Co.**, Limited, have declared a dividend of 6½ per cen per annum for this year. The **Bengal and North-Western Railway Co.** have declared the payment, subject to audit, of a dividend of 3½ per cent., free of Indian but subject to English income-tax, for the second half of this year. An interim dividend, tax free, of 4*s.* 6*d.* per share, payable on the 12th instant, is declared by the **Mysore Gold Mining Co.** This dividend, with the first interim dividend, will make a distribution of 85 per cent. for the first eight months of the current year. The Directors of the **Gold Fields of Mysore and General Exploration Co.** propose to increase the capital of the present company and that the company be reconstructed upon the following lines, namely, that a new company be formed, to be called the "Gold Fields of Mysore and General Exploration, Limited," with a capital of £275,000, divided into shares of £1 each; that the 275,000 shares be issued to the present shareholders share for share, with the sum of 15*s.* per share credited as paid, and a liability of 5*s.* per share, to be called up as to 1*s.* per share on application and the balance in calls not exceeding 1*s.* per share. The report of the **Ceylon Company of Pearl Fishers,** Limited, states that the company, starting with a paid-up capital of £90,000, had already paid £51,000 in dividends, and had available £113,000.

In 1907 the catch was 14,000,000 oysters, and the company realised £69,000. It is believed there will be a fishery for 1908 and the result of the inspection which is to take place this month, is awaited. The yield of tea of the **Associated Tea Estates of Ceylon** for the past year amounted to 768,256 lbs., a decrease of 67,525 lbs. on that of the previous year. The Associated Tea Estates have 1,265 acres under rubber cultivation, and the estimate for the present season is 840,000 lbs. A dividend of 6 per cent. on the preference shares has been declared.

The quantity of **salt** of every description **cleared in Eastern Bengal and Assam** during the quarter ending June 30th, 1907, amounted to 564,288 maunds, as compared with 445,195 maunds in the previous quarter and 506,800 maunds in the corresponding quarter of the previous year. The net amount of duty levied thereon was Rs. 5,64,352, against Rs. 6,16,272 in the previous quarter and Rs. 7,60,206 in the corresponding quarter of the previous year.

An **Index to the Proceedings of the Bombay Chamber of Commerce since 1836,** when the Chamber was founded, up to 1905, has just been issued by that body; and a copy has been kindly furnished to this office in complement of the set of old reports presented in 1905. The volume comprises 668 pages, with something like ten thousand entries, which indicate not only the subject dealt with, but the particular aspect of that subject. It will be most useful to the members of the Chamber who have access to a complete set of the old Proceedings; but it also forms an invaluable synopsis of Indian commercial and economic history since it entered on the phase of higher organisation. Bombay was the first centre in India to establish a Chamber of Commerce; and, since 1836, the body has participated in the discussion of the most important questions relating to the material development of the country. In the preface to the volume before us it is modestly suggested that the index will be useful to any future historian of the Chamber. We believe that it will be found indispensable by future historians of India. It must add very greatly to the monetary value of such spare sets of the Chamber's past reports as may be in existence. By itself it is full of historical suggestion. It is a more than worthy sequel to the recently published compendium of the Bombay Chamber's rulings on various customs of trade, and the Committee and staff are to be congratulated on bringing to completion a really important task which not only places on record the useful work that has been done in the past, but in itself constitutes a fresh service to trade and to history. Copies may be obtained from the Bombay Chamber of Commerce at Rs. 5 each.

The **prices of British corn** per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 12th October, 1907, were as follows:—Wheat 33*s.* 3*d.*; Barley 25*s.* 9*d.*; Oats 17*s.* 11*d.*

The Board of Trade's correspondent at Cape Town (Mr. E. J. Cattell) reports that the **maize and millet harvest in Rhodesia** has been a record one. In the Mazoe district the locusts have done very little damage to the summer crop, but the majority of the winter white straw crops have been destroyed, and little will be harvested.

A London cablegram states that owing to the **unsatisfactory wheat crops** in India and America, prices in Russia are approaching the level of the great famine of 1891, and the Russian Government has convened a conference, representative of various interests, to consider measures to check the rise. A telegram from Melbourne announces that, owing to the anticipated shortage in the harvest, exporters are actually proposing to reimport consignments of wheat which are now *en route* for England. Since then, however, good rain has fallen in several parts of Australia and the harvest prospects have somewhat improved.

The **British Post Office Agency at Tientsin** in China having been closed, it is notified that the rates of postage on Indian letters for Tientsin will be in future the rates applicable to China, *viz.*, 2½ annas for the first ounce, and 1½ annas for every additional ounce, or fraction of that weight.

Complete **insurance to destination** is now available, up to a maximum limit of £20, for postal parcels addressed to **Guayaquil and Quito,** in the Republic of Ecuador. The charges for insurance to destination are as follows:—When the amount to be insured does not exceed £ 5, three annas; and three annas for every additional £ 5, or fraction thereof.

The De Beers and Premier Diamond Companies have concluded an agreement for regulating the sale of diamonds.

NOTICE.

CALL FOR TENDERS.

Army Rations.

The Divisional Contract Officer, **Poona,** will receive tenders up to the 11th proximo for the supply of meat at various stations for the use of troops.

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., Ld.; 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. Nateson & 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, NOVEMBER 7, 1907.

INDIAN COTTON SEED.
Its Industrial Possibilities.
VI *

The importance of the part played by real dairy produce in the constitution of such substances as oleomargarine may be gathered from the facts that 17 per cent. of the materials used in the manufacture of the cheap grades consists of milk, that the constituents of the medium grade include 19 per cent. of cream and 19 per cent. of milk, and that 26 per cent. of the highest grade of oleomargarine is pure butter. These quantities are found necessary to give the proper flavour.

Indian milk, and especially the milk of the buffalo, is considerably richer in butter fat than the milk of an English cow. The constitution of these several descriptions of milk may be seen from the appended statement taken from the Indian Agricultural Ledger No. 5 of 1895, *Milk and Milk Products*, by Mr. James Mollison :—

Average Composition of Milk.

	Indian cow.	Indian buffalo.	English cow.
Water . .	86·13	82·05	87·20
Solids—			
Butter fat .	4·80	7·98	3·70
Casein and albumen	3·03	4·00	4·00
Milk-sugar . .	5·34	5·18	4·40
Ash . . .	0·70	0·79	0·70

On the other hand, the weight of milk obtained daily from the ordinary Indian cow, under average conditions, is much less than that obtained from a cow in Europe. Mr. Mollison, in the pamphlet already referred to, gives particulars regarding the best results obtained at the Poona Government farm as follows :—

	No. of days in milk.	Total yield of milk.	No. of days dry.
		Lbs.	
Buffalo .	459	6,669	127
Cow . .	471	5,024	44

Reckoning the number of days dry with the number of days "in milk," this gives an average yield of 11·38 lbs. for the buffalo and 9·75 lbs. for the ordinary cow. It is, however, expressly stated that these are exceptional results, and this is emphasised by the brevity of the dry period in the case of the cow.

In his text-book of Indian Agriculture Mr. Mollison gives the average periods in milk and dry, and the average period between births as follows :—

	In milk.	Dry.	Total.
Buffaloes .	364	160	524
Cow . .	360	115	475

Colonel Ewart, Assistant Quarter-Master General, has kindly lent us reports on certain military dairy farms; and from these it has been possible to collate figures relating to supervised herds aggregating 635 cows and 559 buffaloes. Of the cows 287, or 45·2 per cent., were in milk at the dates of report; and 348, or 54·8 per cent., were dry, while the average yield of milk was 8·728 lbs. Of the buffaloes 328, or 58·7 per cent., were in milk, and 231, or 41·3 per cent., were dry, and the average daily yield was 10·252 lbs. of milk. The average yield of butter was 1 lb. from 12·95 lbs. of milk, or, in other words, 7·72 per cent. This percentage is too high for ordinary Indian cows, but tallies approximately with that for buffaloes and is probably to be accounted for by a general use of the buffaloes' milk for butter production. Meagher and Vaughan in their *Dairy Farming in India* (p. 94) give figures from which an average butter yield of 6·66 per cent. may be deduced. From the terms of the reports on the herds in question it does not appear that they were greatly superior to others about them, except in so far as they received a regular and full diet. So, for the purpose of our calculations, it is probably permissible to take the **average daily yield of milk** obtainable from selected dairy cattle in India as follows :—

Cow	8 lbs.
Buffalo	10 „

Fresh butter consists of—

Butter fat .	94·4%	93·0%	87·5%	86·5%
Casein, Milk Sugar, extracted constituents	0·3	0·3	1·0	0·3
Water . .	5·3	6·7	11·5	13·2
	100·0	100·0	100·0	100·0

The average elementary composition of butter fat and of stearine is as follows :—

	Butter fat.	Stearine.
Carbon .	75·63%	76·85%
Hydrogen .	11·87	12·36
Oxygen .	12·50	10·79
	100·00	100·00

From this it will be seen how sound a substitute the one is for the other so far as alimentary properties are concerned.

From certain tests made by the Superintendent of the Government Farm, Cawnpore, the Editor of the Indian Dictionary of Economic Products gives certain figures as representing the average **yields of ghi** from the milk of various animals. But having regard to the average percentage of butter in the respective descriptions of milk and the fact that butter is said on all hands to lose about $\frac{1}{4}$ of its weight in reduction to ghi, these percentages seem very considerably too small. We prefer, therefore, to base our calculations on the butter contents shown above, allowing for a wastage of 25 per cent.; and it may be taken that the daily yield of ghi from the quantities of milk shown above would be 3·2 per cent. (0·61 oz.) in the case of cows and 5·32 per cent. (0·86 oz.) in the case of buffaloes.

The reduction of butter to ghi necessarily impairs milky aroma which is a desideratum for the purpose under consideration. It might very possibly be found admissible to dispense with such reduction of the butter before combination with the cotton stearine; and in that case the butter fat available from a given number of cattle would be larger by one-third. In other words, the numbers of cattle required, and hereafter discussed, would be less by one-quarter.

On the basis of such figures as we have been able to bring together here, it is useful to arrive at some sort of idea of the probable quantities of milk and of ghi (actual or potential) now available in this country, the number of cows probably required to yield sufficient milk for the treatment and blending of, say, one ton of cotton stearine, the approximate off-take of cake or meal for feeding such cattle, and the total value of the manure conserved.

In making these estimates we encounter certain difficulties. There are no returns of **numbers of cattle** in Bengal or in Eastern Bengal, and we are unable to regard the enumeration for the other provinces as exact.

The total number of cows reported from those provinces that make returns is as follows :—

Cows (say, 70 per cent. of total) . .	22,049,100
Buffaloes (say 30 per cent. „) . .	9,665,900
Total (including Bengal and E. B.) .	31,715,000

There is, as might be expected, a general relation between the number of cattle in a province and the area of cultivation. Considering the great wealth of Bengal and Eastern Bengal, it is quite permissible to assume that the proportion of cattle to the cultivated acreage is not less than in the other provinces. The above 31,715,000 cows, then, in relation to the 155,272,582 cultivated acres in the provinces that number their cows, represents 0·204 cows per acre. If we assume the same ratio for the combined cultivated acreage of Bengal and Eastern Bengal (52,231,746 acres) there would be a further 10,655,300 cows, making a grand total of, say, 42,370,000 composed as follows :—

Cows (70 per cent. of total) . .	29,659,000
Buffaloes (30 per cent. of total) . .	12,711,000
Total for all British India .	42,370,000

It would be safe to assume that the average production from ordinary cattle would be some 25 per cent. less than that deduced from the dairy records discussed above.

The following statement shows the total quantities of milk and ghi produced per diem and per annum on that reduced basis, and the quantity available per head of a population of 300 millions :—

	Milk			Ghi		
Description of cattle.	Tons per diem.	Tons per annum.	lbs. per head per annum.	Tons per diem.	Tons per annum.	lbs. per head per annum.
Cows .	79,457	28,996,914		2,542·5	927,902	
Buffaloes .	42,559	15,533,944		2,263·5	826,405	
		44,530,858	332·49		1,754,307	13·1

* Other articles in this series appeared in our issues of August 15th, September 19th, and October 10th, 17th and 24th, 1907.

In reality it would be necessary to make considerable further allowance on the above figures for the large number of cows allowed to survive in India after they have ceased to bear calves or to yield milk; but there are no grounds whatever on which to estimate their number.

In attempting to arrive at some idea of the number of **dairy cattle requisite** to supply sufficient milk to treat and blend a daily output unit of one ton of cotton stearine, we can only hope to attain a rough approximation. Having regard to the already low melting point of cotton stearine, it may be found necessary to use only the solid milk products for blending and to confine the use of milk itself to washing. Nothing but experience can show what percentage of butter will be needed in a substance intended to replace *ghi*. But assuming the proportion of butter in the various grades to grow by successive increments of five per cent, we may profitably ascertain the number of cattle that would be requisite for each such increment. In this connection we may bear in mind that the highest grades of oleomargarine contain 26 per cent. of butter; that is to say, the butter is to the stearine as 26 to 74 or as 35 to 100.

The analyses of the milk of cows and of buffaloes show that the latter give the better yield of butter. But it remains to be seen whether the superior flavour of cow's milk would not afford special advantages for the purpose in view. It is, therefore, necessary to take out the figures for both.

Five per cent. of one ton is of course one hundredweight, and to produce one hundredweight of butter per diem at the rates of 7·7 per cent. for buffaloes and 4·6 per cent. for cows would require the maintenance of—

304 cows producing 2,435 lbs. milk, or
146 buffaloes „ 1,455 „ „

It would perhaps not be found expedient to maintain on the establishment of a refinery more than the number of cattle absolutely necessary, seeing that it is usually possible to contract for supplementary supplies of milk.

For every increment of five per cent. in the proportion of butter added to one ton of stearine, it would be necessary to maintain a further quota of dairy cattle as shown in the foregoing paragraph. To make an addition of 35 per cent. as in the case of the best oleomargarine, it would be necessary to control a herd of 2,128 cows or 1,022 buffaloes.

At this point it becomes necessary to tabulate **the various products handled** for the production and treatment of the unit of one ton cotton stearine, which, with the postulated addition of 35 per cent. butter, makes 1 ton 7 cwts. of butter substitute. We distinguish with italics those products that remain for disposal:—

Cotton seed 725·6 cwts. (*36 tons 5 cwts. 2 qrs. 1 st.) which* with loss of 2 % gives—
Cake & meal 622·2 cwts. (31 tons 2 cwts. 1 st. 8 lbs.), and
Crude oil 88·8 cwt. (4 tons 8 cwts. 6 st. 5 lbs.). Of this crude oil 90 % becomes—
Refined oil 80 cwts. (4 tons) and this yields—
Stearine 20 „ (1 ton) which is blended with—
Butter 7 „
Winter white oil 60 cwts. (*3 tons*).

There remain also the by-products, soap stock, and skimmed milk for sale, utilization or further process.

The quantity of skimmed milk left from the production of 1 cwt. of butter will vary as follows when cow's milk or buffalo's milk has been used:—

From cow's milk 2,323 lbs. containing *casein* 3·18 %, or 73·87 lbs.

From buffalo's milk 1,343 lbs. containing *casein* 4·33 %, or 58·15 lbs.

Casein is the fibre and albumen of milk. The skimmed milk is coagulated with acid or a very active rennet. The curd is then separated from the whey by straining and freed of the acid by washing. It is thereafter thoroughly pressed, powdered, and dried. The substance so produced is hard with a yellowish white colour and a slightly cheesy odour. It is treated with repeated washings, dissolutions, and precipitations, until it becomes of translucent whiteness and almost inodorous. It is highly nutritious, and particular grades of the product are sold as a baker's supply as a substitute for eggs and for other alimentary purposes. It is the essential constituent in various foods, such as plasmon and the biscuits etc., prepared from them.

It is now most largely used in the manufacture of an imitation ivory called **galalith or milk-stone**, which affords an excellent substitute for celluloid. This is made by hardening the casein with formaldehyde in accordance with a German process. Galalith, though a little heavier than celluloid, is also more solid and more brilliant in colour and surface while it costs less and has the great advantage of being non-inflammable. It is therefore increasingly used in the manufacture of *knife-handles* penholders, combs, buttons, piano keys, and many other articles in general use; and, being a non-conductor of electricity, is required in all industries related to electricity.

Casein is also used in the manufacture and sizing of superior papers and cards, in the sizing and stiffening of textiles, as a filler for wood and as a binder for fine marble plasters, and for paints compounded of hydrate of lime and colouring matter.

The importance of the industry may be gathered from the fact that one factory in France produces daily about 40 cwts. of casein; and, since the industrial yield of casein from the milk is only about 2½ per cent., this represents a daily consumption of some 80 tons of skimmed milk. In India this would represent the casein extractable from the milk of a herd consisting of 17,920 buffalo cows.

A dairy industry of anything like this size would naturally afford a large **off-take of the cake** and meal produced by the crushing mills, but it remains to be seen how far the cattle required for the production of a daily 7 cwts. of butter could consume the cake resulting from a production of a ton of cotton stearine. This point will be discussed in the next article.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 17th October, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

British East Africa Protectorate.—Proposed Consolidated Customs Ordinance. Export of Ostriches, etc.

Norway.—Proposed new Export Duties on Fish.

Australian Commonwealth.—Customs Duties on Tobacco. Excise Duties on Tobacco. Duty on Wire Netting and Glucose.

Cape of Good Hope.—Customs Amendment respecting Ship's Stores.

Dominion of Canada.—Customs Decisions.

Germany.—Importation, etc., of Certain Articles under "Improvement" Trade Conditions.

Egypt.—Revised Valuation Tariff for certain Oils, Colours, etc.

Spain.—Modification of Requirements as to Certificates of Origin.

Roumania.—Prohibition of Importation of Fire-producing Apparatus.

Venezuela.—Customs Treatment of Goods at Pampatar.

Argentine Republic.—Method of Assessing Import Duty on Sample Bottles of Beverages.

Colombia.—Tariff Classification of Printing Material, Carriages and Automobiles.

San Salvador.—Imposition of Import Duty on Roman Cement and of Additional Duty on other Goods.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 26th OCTOBER, 1907.

Burma.—The rainfall during the week was mostly light and confined chiefly to coast districts; with none in the dry zone, except in Pakokku, where the rainfall recorded was ⅘ inch, Sagaing nearly ½ inch, Meiktila about $\frac{1}{10}$ inch, and Yamethin nearly 2 inches. Reaping of early wet weather paddy has commenced in Magwe, and has been completed in the Southern Shan States. Reaping of early sesamum has been completed in the Saw township of Pakokku. Ploughing of wheat has commenced in Sagaing. Plucking of cotton is in progress in Lower Chindwin and Myingyan. Cultivation of miscellaneous crops continues in Upper Burma. Slight damage has been done to crops by rats in Bassein and the Toungoo hillside; unirrigated paddy is withering in the Saw township of Pakokku. Crops are poor in the north of Meiktila and in the uplands of Yamethin. Rain is again much required in the unirrigated tracts of Mandalay. The condition of the standing crops on the whole is good in Lower Burma; and fair in Upper Burma. The price of paddy has risen considerably in Toungoo and vary slightly in Mandalay; it has fallen considerably in Mergui and slightly in Myaungmya; elsewhere it is stationary.

Eastern Bengal and Assam.—The weather during the week was fine but far too dry. There has been no rain at all, except in Upper Assam, the Khasi and Naga Hills and part of Bogra, where there has only been a slight fall. More rain is greatly needed both for winter rice and for spring crops. Prospects of winter rice on high lands are poor; on lower lands they are moderately good. Harvesting of early rice still continues in Lower Assam and parts of Eastern Bengal. Sowing of pulses is nearly finished, and sowing of mustard has commenced. Harvesting and retting of jute are practically finished. Plucking and manufacture of tea continue. Prospects of jute and tea are fair to good. Prices:—common rice—Manipur 22; Rangamati 11; Kohima 10; Chittagong, Nowgong and Sibsagar 9; Dinajpur $8\frac{1}{8}$; Barisal, Comilla, Noakhali, Rampur Boalia, Malda, Silchar and Tezpur 8; Pabna and Dhubri $7\frac{3}{4}$; Dacca, Mymensingh, Bogra and Sylhet $7\frac{1}{2}$; Dibrugarh $7\frac{1}{4}$; Faridpur, Gauhati and Tura 7; Jalpaiguri and Rangpur $6\frac{1}{2}$; Shillong $5\frac{5}{8}$; and Aijal $5\frac{1}{2}$ seers per rupee. Prices have risen in four; have fallen in nine; and have remained stationary in the remaining districts. Stocks of food-grains are generally sufficient for the immediate future and no relief works are necessary. Future prospects depend on the outturn of the winter rice harvest.

Bengal.—Their was no rain in the Province during the week. Prospects of winter rice are getting worse in most districts owing to the continued absence of rain; the crop is withering on high lands and in unirrigated tracts. Rain is also needed for sugarcane and other standing crops. Spring sowings are being seriously retarded for want of moisture in the soil. Fodder is insufficient in Nadia, Balasore

and Puri. The water-supply is generally sufficient. The price of common rice has risen in seventeen, and has fallen in five districts. Prices of all staple food-grains show a tendency to rise. Stocks of food-grains are reported to be on the whole sufficient at present, and are expected to last till the next harvest, although there is anxiety in some districts as to future prospects. There is no immediate apprehension of general scarcity. Prospects will no doubt improve if good rain be received now.

United Provinces.—The week has been rainless. Apart from cotton, *arhar* and cane, the autumn crop is being or has been harvested. It is too late for rain to affect the harvest, except in the case of sugarcane in a few districts. Cotton is being picked. Carrots and other quick-growing crops are being sown. Spring sowings, apart from those mentioned above, have been begun in places where irrigation is possible or moisture is sufficient; elsewhere fields are being prepared and people are waiting for rain though in some districts operations are suspended or delayed for want of it. Earthen wells are being dug from advances. Food stocks are sufficient for the present or are being replenished by imports chiefly from the Punjab. Fodder is reported scarce in the western submontane and parts of Upper, and Central Doars and North, Central and South Oudh, but it is generally sufficient for the present, though later shortage will be serious over a large area. Consignments of hay from forests have been received in Hardoi and Sitapur. The water level is low in several districts. Prices of staples are generally at or above scarcity rates. Labourers have generally no difficulty in finding employment. There is no wandering of the people, except in parts of Bahraich; and, except in a few districts, there is no increase of crime. So far the condition of the people is on the whole good; they are hopeful of rain and heartened by the large advances made; but labourers and others are beginning to feel the pinch of high prices. Except in a few districts, the condition of cattle is fair. In the Fyzabad division, except in the Partabgarh district, the autumn crop will not be over four annas; and in the Lucknow division, except in two districts, it has generally failed. In Bahraich a poor-house is being opened, and relief operations may be needed in Bara Banki and Hardoi in November. In Bundelkhand the autumn harvest is from two to four annnas; in Fatehpur four annas; and in Allahabad slightly more. Test works will be opened in South Allahabad; and possibly in Banda early in November; and probably elsewhere later. In the Rohilkhand division, except in the Budaun and Moradabad districts where it is better, the autumn crop is estimated at from four to six annas; and in the Agra division from five to nine annas. Relief measures may be needed later in parts of both Divisions if there is no rain. In the Gorakhpur division the late rice has failed in the Basti district, and relief may be needed later. In the protected parts of the Meerut division, apart from Jaunsar Bawar, the chief trouble will be the scarcity of fodder. In the Benares division test works may be needed in the Jaunpur and Kumaon districts. For the present no special measures are needed, except possibly in the Terai district.

Punjab.—There was no rain during the week. Wheat is selling above scarcity rates in Hissar, Gurgaon, Ambala Gujranwala and Shahpur; at scarcity rates in Rohtak, Lahore, Amritsar, Sialkot, and Lyallpur; and at warning rates in other districts. Prices of other food-grains are also at or above scarcity rates, except bulrush millet and maize which are at warning rates in Ambala, Amritsar, Shahpur, Rawalpindi, Mianwali and Multan. High prices are due to large exports and the failure of the autumn crop; to the early cessation of the monsoon rains; and the consequent gloomy outlook of the next spring crops. In Hissar the rise in the prices is due principally to the heavy exports to the United Provinces; in Gurgaon to the failure of the autumn crop following on a number of bad harvests during the last five years; and in Multan and Lyallpur the rise is also partly due to the damage to the last spring harvest by the late rains. In Gurgaon the resources of the people have been much reduced, and an actual shortage of grain locally is apprehended; in Gujranwala, should the winter rains fail the condition in the unirrigated tracts will be serious; in Jhang the failure of the rains will not only affect cultivation dependent on the rainfall, but also the riverain and irrigated tracts. Stocks of grain in this district are sufficient for the present, although scarcity rates prevail in Hissar. Grain is stored in certain quantities, and fodder is sufficient for at least five months or more. The people will not feel the pinch of hard circumstances at present. In Delhi it is not anticipated that there will be any influx of famine stricken foreigners to embarass the people; and there is as well a plentiful supply of work for cooly labour at good rates, but should no rain fall the situation is bound to be serious; in Sialkot the upward tendency of prices has stopped, and it is not anticipated that famine conditions will be actually reached; in Lyallpur stocks of grain are smaller this year though enough for food and seed grains; in Karnal, Ambala, Simla, Montgomery, Jullundur, Gurdaspur, Attock, Jhelum, Muzafargarh and Dera Ghazi Khan there is no cause for anxiety at present, while in Multan famine conditions are not expected owing to a good cotton crop and to the riverain crops not having suffered from floods. Picking of cotton and harvesting of other autumn crops are in progress. Ploughings for and sowings of spring crops continue on irrigated lands. In Rohtak there are no sowings; and in Sialkot the time for sowing gram and rape has gone, and wheat can only be shown if rain falls up to 15th November; otherwise barley will be the only crop to be sown; in Gujranwala the early failure of the monsoon rains has delayed the sowing of the coming spring crops. Unirrigated crops are a general failure, and irrigated crops have also suffered for want of rain and in parts owing to the insufficiency of canal water. The outturn of irrigated crops is below average. Field rat continue damaging crops in Ferozepore, Shahpur and Lyallpur; slight damage is also reported by locusts in parts of Multan. The condition of cattle is good, except in Sialkot and Gujranwala, where they are getting weak owing to overwork and insufficiency of fodder. Fodder is scarce in Delhi, Sialkot and Gujranwala and parts of Lahore and Shahpur; sugarcane is being used as fodder in Sialkot and Gujranwala; in Gurgaon a fodder famine seems assured, and there will also be a scarcity of water in parts of that district; in Delhi, if no rain falls, the situation for cattle will specially become serious, in which case there is little which can be done to help them beyond making the road and canal-side trees available as fodder. Water and fodder are daily decreasing in Ambala. The canal water-supply is insufficient in Hissar and Delhi, and some complaints are being received of a shortage in Lyallpur.

North-West Frontier Province.—There was no rain during the week; rain is badly wanted all over the Province. The condition of standing crops is fair on irrigated and in want of rain on unirrigated lands, but poor in Dera Ismail Khan. In Peshawar crops on unirrigated areas are withering. Autumn crops have been damaged by insects in one village of the Kulachi tehsil in the Dera Ismail Khan district. Sowings of spring crops are in progress, but have been retarded on unirrigated areas for want of rain. Irrigation from the Paharpur canal continues. The water-supply and fodder are sufficient. The condition of cattle is generally good. Prices, except of *bajra*, are rising. Prices:—Wheat 10 $\frac{9}{16}$ to 14, gram 12 $\frac{1}{16}$ to 17, maize 16 $\frac{9}{16}$ to 29 and *bajra* 15 to 22 seers per rupee.

Jammu.—No rain fell during the week. Prices are rising. Prices:—Wheat from 9$\frac{1}{2}$ to 18 and maize from 12$\frac{1}{2}$ to 29 seers per rupee. The condition of the standing crops is bad for want of rain. Scarcity of fodder is being complained of in the Kathua and Ramban tehsils. Harvesting of autumn crops is in progress.

Kashmir.—The weather during the week was somewhat cloudy with some rain. Prices are almost stationary.

—In their **indigo** circular Messrs. H. S. Willcocks & Co. say that there was a fair attendance of buyers at the **quarterly sales in London** on the 14th ultimo, when 650 chests were declared and 200 sold, as compared with 570 declared and 110 sold in October, 1906. The stock is 2,401 chests, against 2,247 a year ago. For desirable parcels the competition of buyers was better than usual, and fine Bengals fetched up to 3*s.* 7*d.* per lb., but many parcels were withdrawn for more money, 3*s.* 9*d.* to 4*s.* being named as planters' ideas of value. Inferior descriptions were not in demand at all. Messrs. Willcocks say that the latest reports from Calcutta indicate a much smaller crop than was anticipated, and with a continuance of the present demand they expect a firm market with advancing prices.

THE THREATENED SCARCITY.

The Viceroy's Report.

The following is a copy of a telegram regarding crop prospects, dated the 2nd instant, despatched to the Secretary of State:—

Good rain has fallen in Madras and Mysore. There has been light rain on the Burma coast. Elsewhere the week has been practically rainless.

Prospects have not materially changed, except that the continued absence of rain is increasing the anxiety as to the winter rice crops in Bengal, and is retarding the spring sowing operations in most of the provinces.

The unirrigated autumn crops have almost entirely failed in the United Provinces, Punjab, Gwalior, Gujarat and the North Deccan.

The situation, as before, is worst in the United Provinces, but labour is still in demand, and the condition of the people is good on the whole.

Test works will be opened in several districts shortly.

A NEW FUEL FROM REFUSE.

There are at present three modes of disposing of ashbin refuse:—(*a*) Consumption by fire in refuse destructors; (*b*) in dressing land, either with crude or pulverised refuse; (*c*) by tipping at refuse heaps. Mr. H. G. Coales, A.M.I.C.E., the Town Surveyor of Market Harborough, has, says *Commercial Intelligence*, invented a fourth method, *viz.*, its consumption in ordinary boilers (or other manufacturing purpose) after undergoing a new process. On the face of it this may seem difficult and insanitary, but when the crude ashbin refuse has been converted into "Coalesine Fuel,"—as Mr Coales has named the neat-looking briquettes,—one forms a different opinion. The new fuel is made of pulverised ashbin refuse mixed with tar or tar and pitch, and pressed into briquettes or cakes. The process converts the offensive and untidy ashbin refuse into a deodorised, marketable, and cheap fuel, which may be stored in confined situations without nuisance, and consumed in ordinary boilers.

The cost of putting up a plant to make "Coalesine Fuel" would be very much less than the installation of a refuse destructor, and quite within the reach of the smaller local authorities, who at present generally dump down their refuse in pestilential heaps outside the town.

It would be a great advance in sanitary practice if all ashbin refuse could be consumed by fire; but the idea is, perhaps, not likely to be realised, unless it can be done without loss. There seems little doubt, however, that it would be a profitable process. The best refuse destructors in large towns, burning crude refuse, show satisfactory results; from which it is evident that by the addition of so good a fuel as tar the results could not be less favourable in the case of the new fuel.

FAMAGUSTA HARBOUR.

WE see from the Annual Report on Cyprus for 1906-07 that the new harbour was completed early in the year. It has now been properly buoyed and lighted, and may now be considered as ranking with the principal ports of the Island. "It is but natural," says the Report, "that those whose interests are centred in other parts of the Island should view with some apprehension the advantages offered to shipping and trade by the new harbour and by the railway connecting the quay side with the capital town of the Island, and it is not perhaps to be wondered at that misrepresentations as to the capacity and accessibility of Famagusta Harbour should continue to be diligently circulated by those to whom a diversion of trade from that port may appear to affect their fortunes. It is to be hoped that this apprehension and this anxiety may prove to be ill-founded, as although it is inevitable that, sooner or later, the new harbour, with its manifest advantages, must engage more and more the attention of shipping and attract a fair share of the trade of the Island, yet there must always remain a considerable volume of trade which for obvious reasons can never be diverted from the other ports.

Prejudice and Antagonism.

"But while local prejudice and antagonism is to be expected, it is certainly amazing that a year after the new harbour has been completed and after due and official information concerning it has been published abroad and made known to the commercial world in the Levant through the efforts and agency of the British Board of Trade, the French Commercial Intelligence Office at Alexandria should gravely, and doubtless in all good faith, inform a correspondent that there is no port at Famagusta, or rather that it is full of sand and has been unused for centuries.

"In spite, however, of the difficulty in obtaining local support or foreign recognition, the new harbour of Famagusta is steadily, if slowly, attracting a portion of the Island trade, and the revenue obtained during 1906 from import duties and port charges, the latter being fixed at a moderate scale, was £3,778 12*s.* 3*c.p.*, as against £1,548 during the previous year. Should it eventually be found possible to constitute Famagusta an entrépot for the trade of the Levant and to make the place a free port in that respect, the success and the prosperity of the harbour would be speedily assured.

The Railway Project.

"By the establishment of a Custom House at Nicosia and by carrying on the railway, in bond, free from Customs inspection and interference, goods intended for the capital town, the advantages of the harbour and railway are being enhanced in the eyes of the Nicosia merchants, who are taking action to have their goods consigned to Famagusta.

"The second section of the railway was completed during the year, and the line now extends throughout the Messaoria plain from Famagusta to *Morphou, a distance of 61 miles. A service of four* trains per day is provided, and the line is increasing in popularity, the total receipts from goods and passengers totalling £7,647 against an expenditure of £9,947. *For the previous year the receipts* from August to 31st March amounted to £2,504, against an expenditure of £7,085. The number of passengers carried during the year was 98,286, of which number 90,612 *travelled third class;* the tonnage of goods carried was 15,588 tons. The average length of line worked during the year was *about 48 miles.*"

TRADE OF KERMANSHAH.

DURING the year 1906-07 imports into Kermanshah increased by £268,662 over those of 1905-06, and exports by £129,571, but the year under notice, from a trade point of view, may be considered as somewhat above the average.

Exchange on London (calculation being made at the rate of krans 55 to the £) was krans 59 per lb. on March 20th, 1906, and krans 52½ per lb. on March 20th, 1907, for 3 months, Bills.

The rates began to fall in October, up to which period they were more or less steady, with a fluctuation of krans 2½ per lb. Business in exchange was slacker than in previous years, the scarcity of cash causing a good deal of inconvenience to merchants and bankers. The market, however, was somewhat relieved by the return of krans, on the fall of the rates from Baghdad.

The following were the rates for the hire of **transport:—**

Baghdad to Kermanshah	. 8 to 11 mejedichs= about 72 to 90 krans per 70 Tabrizi maunds. (Tabrizi maund=6½ lbs.)
Kermanshah to Baghdad	. about krans 30.
Resht to Kermanshah	. Krans 1½ to 2 per Tabrizi maund.
Kermanshah to Resht	. Do.

Features of Indian Trade.

The total value of imports from India into Kermanshah amounted to £86,262, of which teas (all kinds) were responsible for £30,795 (an increase over the previous year of £1,311); and pepper and curry powder for £22,538 (a decrease over the previous year of £418). Colours and varnish, indigo and kermis were responsible for £9,092, an increase over the previous year of £4,046, and varnish, undenominated, for £1,248, an increase over the previous year of £871.

The principal feature of the tea trade was that India supplied the whole of the imports except a quantity valued at £100; with regard to the imports of pepper, curry powder and other spices India was responsible for the whole except a quantity valued at £180.

ENSILAGE FOR FODDER IN INDIA.

Methods of Preparation.

The text of Leaflet No. 8 of 1907, issued by the *Bengal Agricultural Department*, is as follows:—

Ensilage is the name given to the process of preserving green fodder; a **silo** is the place in which the process is carried out: **silage** is the preserved fodder. It is observed that when a crop is cut green and heaped together, chemical changes take place in the plant-tissue and heat is developed. These changes can be summed up in the one word "fermentation." In the fermentation that goes on, the starch, etc., in the cells of the plant give rise to sugars, alcohols, and ultimately volatile organic acids. The sugars impart a sweet taste to the silage, the alcohols a sweet aroma, and the acids a sour taste and smell. Now the fermentation which gives rise only to sugars and alcohols produces **sweet silage,** while that which goes further, giving rise to much acid produces **sour silage.** This fermentation can be regulated by controlling the amount of air in the interstices of the mass of fodder. If a green crop be cut at such a time when it is nearly mature and contains about 75 per cent. of water, and then stacked in a silo, small quantities being spread out uniformly over the surface and trampled down, the entire mass is consolidated and fermentation starts. But owing to the fact that the mass is so consolidated, there is little air in the interstices, the changes are slow and the temperature does not rise very high or rapidly. If kept below 120° F., acids will be freely formed, and the silage will be "sour." If, on the other hand, the crop be cut and left out in the air to dry a little and then put in the silo, the fermentation will be more rapid, especially if the mass be not so much trampled and consolidated. The result of this is that a high temperature will rapidly be attained, and the cells of the plant-tissue will die.

If when the temperature is about 140° F. the mass is thoroughly pressed, the air will be driven out, more or less, and the fermentation will be checked and a sweet silage containing sugars and alcohols will be formed. It will not be acid or sour. It is important to **watch the temperature,** as if it gets too high, the mass may become charred or burnt, with the result that much of the nutritive constituents will have been dissipated. Although special temperatures have been mentioned above, in actual practice, experience and not a thermometer will serve as a guide in the process of making silage.

Sour silage is of a light green colour with sour taste and smell. Sweet silage is of a dark brown colour with a pleasant aroma and a sweet taste. Probably the most **useful silage** is neither sweet nor sour, and is produced when the temperature ranges from 110° F. to 130° F. In silos the lower and more consolidated part of the mass will approximate to the sour, while the upper and less consolidated will be sweet silage, unless precautions are taken to get a uniform product. If the crop to be made into silage be chaffed to 1-inch lengths previously, it will help to make the mass *more uniform, air will* be more easily excluded, because the material will pack tighter, and it will prevent the outer portions round the sides of the silo becoming mouldy. It will also save *the stock some trouble* in mastication. The conversion of green fodder into silage is accompanied by some of the indigestible substances becoming digestible.

Simple Silos.

Silage supplies succulent food at a time when succulent crops are not obtainable. Therefore, if a eprson can make silage for use in such times, his beasts are at an advantage.

(1) A very inexpensive form of silo is the "stack silo." This is made by selecting a dry sheltered spot, not exposed to the prevailing wind. Next, the foundation must be well drained so that no water can soak into the place. If a wooden floor can be arranged, so much the better. The fodder is packed on this foundation in the form of a stack: square, oblong or circular stacks may be made. The fodder is pressed down in stacking as much as possible and a uniformly level surface is maintained. As the stack reaches a certain height, it will be found difficult to prevent the sides slipping off. This slipping can be prevented by driving upright poles in the ground around the stack. The fodder should be put on in such quantities as prevent the temperature of the lower bulk becoming too high. If a thermometer is available, a few pieces of wood can be left in the centre in an upright position so that a hole remains open down the centre, into which the thermometer can be lowered and the temperature taken. Finally, heap up the crown so as to run off any rain water, and press down tightly, and water. If any heavy planks or stones are available, place these on the top.

(2) Another inexpensive form of silo is made by selecting a dry place and digging a hole of sufficient size to contain the required amount of silage. Around the top of this silo, to prevent the earth falling in, etc., place slabs of stone or any other suitable material, and, as it were, build up a wall for a foot or two. Around the outside of this "wall" put quantities of mud and earth, thus reducing to a minimum the passage of air and water, from the outside through it. Fill the silo, press down tightly by tramping, and water the surface to finish it off and prevent the upper part becoming too hot. The walls of the silo should be as upright and smooth as possible. The structure around the top will serve to keep out flood-water. The silo may either be protected from rain by a tent-roof, or else the silage may be heaped up above ground level, sloping in two directions from the middle, and then covered to a depth of about six inches with soil, so that if rain falls it will run off and not sink into the pit. Silage when opened becomes mouldy and bad for food after several hours, therefore it **must be fed to stock at once.** The silage should be taken out of the silo in layers so that none of it thus exposed to the air has time to go mouldy before being used.

Maize and Juwar.

These are good all-round crops, both bulky and nutritious, but there are many others, *e.g.*, barley, oats, rye, beans, peas, vetches, grasses, etc. **Maize** should be cut for silage when nearing maturity. The yield of dry matter is then greater and the percentage of water is less; and the silage produced is sweeter. It is best to cut it when the grains in the heads are "glazed." A good maize crop yields at least 12 tons to silage per acre. **Juwar** yields a more acid and less digestible silage than maize, but still it is quite good. It is best cut when maturity has been attained and the seeds formed, but before they show any signs of ripening. **Young juwar** should not be employed, as **cases of poisoning** have been traced to the use of this plant when young.

TOURMALINE MINES IN BURMA.

An Interesting Industry.

Mr. E. C. S. George, I.C.S., Deputy Commissioner, Ruby Mines District, Burma, has compiled a useful memorandum on the tourmaline mines of **Maingnin**, from which we learn that the mines at present worked are situated all round the small Palaung hamlet of Sanka, about a mile east of Maingnin, which is said to be eighteen miles to the north-east of Momeit in the direction of the high hill Loi Tôk from which flows the Namlang, an affluent of the Nammeit, which marks the boundary between the Kodaung and Momeit Townships. Maingnin itself is a long straggling village of 93 houses at the head of a long narrow valley terraced with lateral offshoots for over a mile for paddy cultivation. The mines are situated on the top and sides of the ridge hemming in Maingnin from the east.

History of Operations.

The original **discoverers and workers** of these mines were Chinese who, according to local tradition, worked there some 150 to 200 years ago, but whose occupation appears to have been discouraged. However, after having extensively worked the mines on the hill side at Hpaibaing or Milaung-gôn about a mile from Sanka (still bearing traces of their channels), the Chinese disappeared and apparently the place was left deserted until about the year 1867-68 when the Kachin *Taung-gyop* of Loiya, the most powerful Kachin of these parts, collected a large number of Kachins and restarted the mines. Later, a Shan adventurer from Namkam, known as Kyi San Pi, in 1882-83 collected some 50 followers, overawed the local Kachins and worked for one season. This was about the time that Kan Hlaing was making things uncomfortable for the then *Sawbwa* of Momeit Kan U, who called Kyi San Pi and his band to his aid. Kyi San Pi attacked Kan Hlaing's adherents at Sagadaung, but was killed. Thereafter, in 1885-86, Pu Seinda still living at Maingnin, a Palaung from Manhè came with four companions and re-established the village of Maingnin in the valley below the traditionary Chinese village Wen-Chow, since which time the industry has been systematically conducted to date though with considerable periods of depression, the village having at times dwindled to six or seven huts. Its present size is due to the discoveries of the year 1905 having had a stimulating effect. Seinda and his comrades spent the first year in the construction of a long water channel from Lai Manhè on the west to work the mines on the *Myaw* system used by the Chinese, the Kachins having contented themselves with digging shallow holes and therefore obtaining only poor specimens of the gem. Seeing his success, the Kachins turned up next year and the mines attracted the attention of the *Sawbwa* Kan U with the result that in 1887-88, with the breaking down of the power of the Kachins, the *Sawbwa* instructed Seinda to collect a tax of 5 per cent. from the buyer and 2½ per cent. from the seller on all sales of stones extracted. This was further enhanced next year, when the Nyaungywe *Sawbwa* ruled Momeit, to a cess of 5 per cent. each from the seller and from the buyer. In 1889-90, a revised system was introduced when each man at work in a *Myaw* was made to pay two rupees a month and each *Twinlôn* worker one rupee.

The amounts recovered under the head "Tourmaline Licenses" appear to have been as follows:—

Year from 1st January to 31st December.	Amount. Rs.
1899	190 for ten months.
1900	1,516
1901	948
1902	328
1903	2,935
1904	3,090
1905	2,010

Methods of the Native Miner.

Tourmaline is found in separate crystals in the interstices of hard granitic looking rock. As a consequence men with no means find it occasionally profitable when they have leisure to dig down 8 or 10 feet on the off chance of finding some not very valuable bits. (*a*) This system is called "Kathè taik" or "Kathè system" after the idea of the original ruby diggings at Kathè. It is regarded much in the same light as the *Kanese* method at Mogôk and no tax appears to have been hitherto collectedon workers by this system though there appears to be no valid authority for the omission to tax them. (*b*) The next method is the ordinary *Twinlôn* method of sinking a vertical shaft about 4 or 5 feet square. By custom the owner of the shaft is entitled to extend his workings underground anywhere to a radius of five fathoms from the centre of the shaft. In this way the vein or *Kyaw* in which the tourmaline is found embedded in irregular crystals, for the most part sexagonal with a flattish base, is usually of a dark colour varying from brown to black, while the upper portion which is of the light transparent pink which

is the most highly prized colour, terminates usually in the intersection of three planes the extreme apex of which is usually found flattened making a small triangle. In the most valuable variety which is found in a matrix of white the area of this triangle at the apex is so extensive that it covers nearly the whole surface of the upper end of the crystal so that it appears to have been sliced off. For some reason it appears from what the local people say, that crystals with this flattened top are practically always without much of the lower badly discoloured portion and present an even transparent colour. (*c*) The last system is the *Myaw*, hydraulic washing away of the hill side till a vein is met with. There are only two *Myaws*, one owned by Seinda, noted above, and the other by one Maung Peik, to whom Seinda sold the lower of two water channels made by him for Rs. 175. Naturally this system cannot extend much as Seinda had to bring his water for miles from Manhè hill to the west of the head of the Maingnin valley, while operations can only be conducted in the rains when there is water. *Myaw Gaungs* are said to pay Rs. 2 per month for each cooly employed by them.

Constitution of the "Vein."

The "vein" is formed by a vein of white hard granitic rock in the interstices of which the tourmaline is found at times adhering loosely to the rock, at others lying separate in the loose yellowish earth that is found with the granite. When a vein is once found it is followed up as far as possible subject to the five-fathom limit alluded to above. What, however, makes the mining so exciting and at the same time keeps the industry fluctuating is that the tourmaline crystals are only found intermittently in the vein. One may get several in the length of one yard and then they will unaccountably cease. Directly one man strikes a vein yielding crystals every one who can commences digging along the lie of the vein, but it is all a toss up as to whether, when the vein is reached, there wil be tourmaline therein. Adjoining *Twinlôns* give absolutely different results and it is calculated that at least two-thirds of the shafts sunk yield nothing at all, while only an occasional one is at all rich. Of the 62 *Twinlôns* at the time of Mr. George's visit only three were yielding and of these only one had traces of the best quality stone. The "veins" are fairly deep down, none having ever been reached at a lesser depth than nine fathoms, while an ordinary depth is 40 or 50 cubits; when the "vein" takes a downward direction it is followed as far as possible, but that is rarely over about 60 cubits, for at that depth the foulness of the air puts the lamps out. Work in the *Twinlôns* ceases in the rains from *Kasôn* to *Thadingyut*, because of the difficulty of working in dim light and of the liability to flooding of the pits. Ordinarily the condition of the industry is depressed; and, except for Kathè workings, which have hitherto escaped taxation, nothing much is one unless and until some one strikes a rich ein, when there is a rush to the spot.

Some Rare Finds.

The vein is said rarely, if ever, to show an outcrop and it is a matter of pure speculation where to dig. As the whole place is covered with jungle, prospecting any way would be laborious. There have been three finds, each causing a rush. The first was some seven years ago at Hpai Baing (Milaunggôn) about a mile to the south of the present place and near where the Chinese had worked formerly. The next was a year or two later at Htaukat between Milaunggôn and Sanka. Then there were three or four lean years and then early in 1905, one Konhkan struck a vein near Sanka village which has attracted the present growth of population to Maingnin, but as explained above though the area within 100 yards of Konhkan's original shaft is honey-combed with pits, only three are yielding and Konhkan's *twin* has ceased to yield. All the the material dug out from inside the *Twinlôn* is pulled up to the surface in small buckets all worked by enormously long pivotted bamboos worked with a counterpoise and the tourmaline is sorted out by hand, the granitic fragments being piled in a wall round the mouth of the shaft. The *Twin Gaung* or owner employs, as a rule, three men per shaft to do all the work of digging. He pays the license fees and all expenses except hutting and clothing. The cost of food of a cooly per month is estimated at Rs. 10, rice being sometimes as much as Rs. 7 a basket.

Three Varieties of the Stone.

All tourmaline found is sorted into three sorts. (1) *Ahtet yay*, the best light pink coloured, of which the sort most estimated is—(*a*) *Hteik Ti* or flattened at the top as noted above; (*b*) *Bé Yan* is the usual kind with a conical top formed by the meeting of three planes. (2) *Ahka* (waist or side). This is of a darker colour generally and has the lower portion of the crystal's length discoloured brown to black. (3) *Sinzi or Amyi* (tail) which includes all fragmentary crystals of whatever colour or water which are imperfect or of a small size less than about an inch. The purchaser bids for only the two better kinds and the "*sinzi*" is thrown in for nothing. The stones are sold by weight, *ahtet yay* fetching from Rs. 1,200 to Rs. 1,500 per viss, while *ahka* fetches about Rs. 500 for that quantity.

System of Trade.

It is said to be impossible to give any average time as to how long it takes to collect a viss, as the finding of the gem is so uncertain. Any way, whatever the stones out of each *Twinlôn* fetch in the aggregate is divided in half between the *Twin Gaung* on the one hand and the coolies jointly on the other. All purchases made locally are made by brokers, usually Shans or Shan Burmans, who reside at Momeit or on the spot. They in turn resell at Mandalay to the Chinese who make a market for the gem. The

brokers are said, owing to the restricted market, by no means to always make on the transaction. Apparently the Chinese merchants do not themselves come up to buy direct at the locality as they do at the jade mines. No one could give Mr. George any approximate estimate of the total outturn annually.

MANGEL WURZEL IN INDIA.

In Great Britain the mangel wurzel crop, under favourable conditions, is one of the most valuable that a farmer can grow. The roots are largely fed to milch cattle. In this country mangels have been grown for many years in certain of the Bengal jails, and the seed has been sown at different times in the cold season up to the end of February, when with good manuring and irrigation it has produced a crop of roots in the hot weather months, when wholesome vegetables are ordinarily not obtainable. In 1906 mangel wurzel seed was distributed by the Agricultural Department to different parts of Bengal, and they grew successfully in most places.

Mangel wurzel roots do best in a rich loam or clayey loam soil. They will not do well in poor or light soil, unless heavily manured. The ground must be thoroughly and deeply cultivated, and the soil reduced to a fine state of tilth, that is, a clean and fine seed bed must be prepared. The **yield** of the crop depends very largely on the manuring given. A heavy application of well-rotted cowdung is recommended, and the addition of 2 to 4 maunds (maund=82⅔ lbs.) of common salt per acre may also be tried. If farmyard manure is not available, artificial manures to supply nitrogen, phosphates and potash should be applied.

Methods of Cultivation.

From 2 seers to 5 seers (seer=2·05 lbs.) of seed are sown per acre according to the nature of the soil and the system of sowing. The seed may be sown from the end of October till February. It should be sown in lines about 2 feet apart and about 1 foot apart in the rows, 2 or 3 seeds being sown in each spot. The seed should not be sown deeper than from 1 to 1½ inch. After the seed has been sown, it is desirable to run a ladder or harrow over the ground so as to make a firm seed bed. The seed will germinate quicker if soaked in warm water for 6 to 8 hours before planting. As soon as the plants are a few inches high, the ground should be thoroughly weeded and the surface soil hoed or loosened with a *khurpi*. When the plants are well up, the crop should be thinned out, the healthiest and best formed plants being left in each spot, and the weakly plants pulled out. In this way the field should consist of rows of plants, the rows being about 2 feet apart and the plants about 1 foot apart in each row. The crop is harvested after the leaves turn yellow. The roots may be pulled up by the hand, and the leaves twisted off. For feeding cattle, the roots should be cut into thin slices.

THE SUGAR SUPPLY.

Prospects and Yield.

We extract the following particulars from C. Czarnikow's "Weekly Price Current," dated London, October 17th, 1907:—

The weather during the last four weeks, according to Licht's Magdeburg averages, has been exceptionally fine, *viz.*:—

	Centigrade.			
	1907.	1906.	1905.	1904.
3rd week, September	14·5	11·8	15·7	13·9
4th „ „	12·9	11·0	10·1	14·4
1st „ October	14·8	12·8	8·7	11·5
2nd „ „	14·1	12·8	6·7	6·3
3rd „ „	...	11·0	4·2	10·3
4th „ „	...	11·9	2·9	9·2
	Rainfall, Millimetres.			
	1907.	1906.	1905.	1904.
3rd week, September	8·7	62·1	18·8	8·3
4th „ „	1·0	17·9	0·4	0·0
1st „ October	0·6	7·5	18·0	13·4
2nd „ „	15·9	0·2	19·4	13·6
3rd „ „	...	0·1	23·5	2·3
4th „ „	..	12·1	3·2	4·8

We thought a repetition of last year's fine autumn was beyond the range of probabilities, yet this autumn has surpassed anything experienced before. This late summer weather must have had an unexpected effect on the crop, and it is hardly surprising that growers and holders were influenced by it in the same ratio as buyers became reluctant to operate, the consequence being a decline of over 3*d.* per cwt., May having moved from 9*s.* 11½*d.* to 9*s.* 7½*d.* to 9*s.* 9*d.* Some estimates were issued by Licht and Gieseker, which compare to average trade ideas as follows, in thousands of tons:—

	Otto Licht.	Gieseker.	Trade figures.	Against 1906.	Sowings 1907.
Germany	2,100	2,080	2,175	2,238	+0·5%
Austria	1,300	1,280	1,375	1,344	−3·8%
France	820	740	780	756	+ 5%
Belgium	240	250	250	283	− 3%
Holland	175	160	170	181	+4·5%
Convention	4,635	4,510	4,750	4,802	...
Russia	1 440	1,270	...	1,470	...
Others	445	460	..	445	...
Total	6,520	6,240	...	6,717	...

These figures are, however, not based on any reliable data, which can only be supplied by the factory estimates expected on the 27th instant. It is pointed out that the weather has been more favourable for quality than for quantity, that the roots remain smaller, though better than last year, and that the weather is too warm for the keeping of same. But the roots remain fully a week longer in the fields, and it seems certain that returns will again be above the average, whilst some weeks ago an average crop only could be expected. Therefore we may have to wait for Cuban estimates to ascertain whether a return to 10*s.* basis 88 per cent. for summer delivery, with present prices of grain, is necessary to secure sufficient supplies. The fine quality and consequently lower cost of production will stimulate bids for roots by fabricants, whilst the lower weight harvested, the higher cost of labour and competition for cereals, will make growers more reserved. Anyhow, the present lower level should be fairly safe if above estimates are approximately correct; of course, we generally overshoot the mark in both directions; people who can not get enough sugar at 10*s.* 6*d.* when the weathercock points East, are afraid of 9*s.* 7½*d.* when it points West.

The monthly statistics, as anticipated, are not favourable, because stocks in Europe decreased 70,000 tons less than last year owing to 30,000 tons less consumption 45,000 tons less exported to America and elsewhere. Cane imports being 16,000 more and production 13,000 tons less. America melted 26,000 tons less, and comparisons there will show very badly in October, whilst in Europe the absence of Beet exports and reduction elsewhere will be felt. But altogether we have consumed during the season as much as during the previous one, and notwithstanding a very large falling-off (340,000 tons) in shipments elsewhere, we have 100,000 tons less in statistical Europe than last year. Besides, invisibles are in all probability considerably less than even last year. If we now produce less in the world, and find foreign trade reviving, it seems unnecesary to get unduly frightened at the present price of 9*s.* 4½*d.*

Floating Cargoes.

We quote to-day for cargoes off Coast for United Kingdom compared with four previous years, as follows, but these figures are in most cases quite nominal:—

—	1907.	1906.	1905.	1904.	1903.
Strong Java, No. 15 D. S.	10*s.* 10½*d.*	11*s.* 0*d.*	9*s.* 9*d.*	12*s.* 6*d.*	10*s.* 0*d.*
Java, 96 per cent. polarization	10*s.* 7½*d.*	10*s.* 9*d.*	9*s.* 6*d.*	12*s.* 3*d.*	9*s.* 9*d.*
Java Black Stroops	7*s.* 9*d.* to 8*s.* 0*d*	7*s.* 6*d.*	7*s.* 0*d.*	8*s.* 6*d.*	6*s.* 9*d.*
Madras Jaggery, Cane	8*s.* 0*d.* to 8*s.* 3*d.*	8*s.* 0*d.*	8*s.* 0*d.*	9*s.* 0*d.*	7*s.* 3*d.*
„ „ Palmyra	7*s.* 9*d.*	7*s.* 6*d.* to 7*s.* 9*d.*	7*s.* 3*d.* to 7*s.* 6*d.*	8*s.* 6*d.*	6*s.* 9*d.*
Mauritius Syrups, Nos. 8 to 10	8*s.* 6*d.* to 8*s.* 9*d.*	8*s.* 9*d.* to 9*s.* 3*d.*	7*s.* 9*d.* to 8*s.* 0*d.*	10*s.* 0*d.* to 10*s.* 6*d.*	7*s.* 6*d.* to 8*s.* 0*d.*
Cuba Centrifugals, 96/97 per cent. polarization	10*s.* 10½*d.*	10*s.* 9*d.* to 11*s.* 0*d.*	9*s.* 9*d.*	12*s.* 3*d.*	9*s.* 9*d.*
Crystallised grocery, West India, London landed terms, duty paid—					
Good to fine	18*s.* 3*d.* to 19*s.* 0*d.*	16*s.* 6*d.* to 18*s.* 0*d.*	17*s.* 3*d.* to 19*s.* 0*d.*	...	...
Low to medium	17*s.* 3*d.* to 18*s.* 0*d.*	15*s.* 9*d.* to 16*s.* 3*d.*	16*s.* 0*d.* to 17*s.* 0*d.*	...	...
Beetroot, German-Belgian 88°/° f. o. b.	9*s.* 4½*d.* (Refiners' terms.)	9*s.* 4½*d.*	8*s.* 4½*d.* 8*s.* 3*d.* to 8*s.* 2½*d.*	11*s.* 0½*d.*	8*s.* 5*d.*
Beetroot, French—Belgian, 8 8°/° f.o.b.					
Beetroot, Ganulated 88°/° f. o. b.	11*s.* 6*d.* to 11*s.* 4½*d.* (ready / prompt.)	11*s.* 6*d.*	10*s.* 1½*d.*	12*s.* 9¾*d.*	10*s.* 1½*d.*
Beetroot Crystals, No. 3 French and Belgian, f. o. b.	11*s.* 1½*d.*	11*s.* 3*d.*	9*s.* 9*d.*	12*s.* 4½*d.* to 12*s.* 6*d.*	9*s.* 9*d.* to 9*s.* 10½*d.*
Beetroot 80°/° Seconds, basis 75°/° f. o. b. fair qual.	7*s.* 10½*d.* to 8*s.* 0*d.*	8*s.* 0*d.*	6*s.* 9*d.* to 7*s.* 0*d.*	9*s.* 6*d.* to 9*s.* 8½*d.*	7*s.* 0*d.* to 7*s.* 1½*d.*

TRADE OF SALONICA.

We give below some interesting extracts from the Report on the Trade of Salonica for 1906 by the British Acting Vice-Consul (Mr. E. H. Mulock) :—

Trade was better in 1906 than in 1905, both **imports and exports showing an increase** of about £300,000. The total imports for 1906 amounted to about £2,600 000 as against £2,300.000 in 1905, and the exports to £1,600,000, as compared with £1,250,000. Of the two **cotton mills** at Salonica one has not been worked for some years past, but the other produced during 1906 about 1,500,000lbs. of cotton twist. At Niausta there are three mills producing a total of about 1,700,000 lbs. of cotton yarn. The mill at Caraferia, which produced 500,000 lbs. of yarn, is increasing the number of its spindles by half as many again. The Vodena mill produced some 600,000lbs. of yarn. The **raw cotton used in these mills is chiefly home-grown**, though a little American is also used.

The **widening of the quay,** which has made but desultory progress for the last three years, now shows promise of completion in the near future. A concession has been granted for the **construction of an electric power station,** of which the tramways will probably take advantage by the substitution of electric for horse traction.

Grain Exports.

The following is a table of the comparative **exports of grain** during the years 1905-06 :—

Articles.	Quantity. 1905.	Quantity. 1906.	Average price per 100 kil s. in 1906. s.	d.	Destination.
	Tons.	Tons.			
Barley . .	17,000	19,400	9	10	United Kingdom and Belgium, Italy, Austria-Hungary France, Belgium and Egypt,
Maize . .	20,400	21,930		0	United Kingdom, Germany, France, Belgium and Italy
Oats . .	15,500	23,680	9	8	Germany, Netherlands and Belgium.
Rye . .	13,500	7,390	10	0	

Principal Features.

The crop of **opium,** though more than twice that of 1905, was sold out in a few weeks, being exported chiefly to the United Kingdom and the United States. The total amount was about 168,000 lbs., prices rising from 9*s.* 1*d.* per lb. in July to 10*s.* 6*d.* in November. The **poppy seed crop** amounted to 3,000 000 lbs., slightly inferior to that of 1905, but although prices rose the stock was almost entirely disposed of. The yield of **cocoons** in 1906 was about the same as in 1905, but of slightly inferior quality. About 900,000 lbs. were exported almost exclusively to Italy. The **cotton crop** was 10 per cent. less than in 1905, but of better quality. Cotton was also imported from Smyrna, Adana, Aleppo and America. The yield of **sesame,** all consumed locally, amounted to 4,800,000 lbs. This was 25 per cent. less than in 1905, so that some had to be imported from Adalia and Syria. The **wool clip,** amounting to 400,000 lbs., was inferior to that of 1905. It was all exported to the United States and the United Kingdom.

From Salonica 3,600 tons of **manganese,** valued at £8 800, were exported to Servola, Liverpool, Marseilles and Rotterdam, also 5 600 tons of chrome, valued at £18,000. The Cassandra Mining Company exported from Stratoni 16,300 tons of manganese, worth £32,000, and 35,000 tons of iron pyrites, valued at £22,400. The quality of **skins** exported was, with the exception of goat-skins, satisfactory. Lamb-skins were in great demand, but kid and sheep-skins largely failed to find buyers. Large orders from the United States disposed of the goat-skins, in spite of their being more mangy than usual. **Sacks** to the value of £15,200 and 25,000 bags of **rice** worth £40,000 were imported during 1906, chiefly from British **India** and **Burma** ; 58,000 **cow and buffalo-hides,** valued at £38,700, were also imported from the same countries.

Uskub.

The **total exports** amounted roughly to £850,000, being an increase of £80,000 on the previous year. The quantity of **cereals** exported was slightly less than last year : the crop itself, however, was larger, and higher prices were obtained as the quality had improved ; but Servia, debarred from sending her cereals across the Austrian frontier, found a ready outlet at Salonica, thereby spoiling the market for Kossovo (Uskub) cereals. The **opium crop** was good and, in comparison with last year, excellent ; both opium and poppy seed increased in quantity and price.

The **total imports** showed an advance of £140,000 on the previous year, equalling those of 1904 and amounting to £1,200,000. **Yarns** and **textiles** form by far the most important item among the goods brought into the province of Uskub. Here **British goods** have held their own, especially in grey cotton goods, but Italy, by cheap imitations of British manufactures, is driving us out in British dyed cottons.

Opportunities for British Trade.

All dealings with firms here should be through one of the local agents who understands the languages of the country, and knows his customers, for personal relationship is a great factor towards concluding a bargain. No Western European language other than **French** is understood, and that not universally. Price lists should be in that language and, if possible, illustrated. The articles in which the **United Kingdom should be able to increase her market,** or establish one, are cotton goods, machinery (especially plant for steam mills and agricultural machines), paper (blue packing), matches, soap, medicines, boot-blackings and polishes, groceries (especially tea), and good waterproofs.

At Uskub British wares have the reputation of being reliable and superior, but not—in the eyes of local traders, the most essential quality—cheap. The big merchants are mostly Bulgarians, Jews and Turks, and they work almost exclusively through Salonica, where a big commission is charged.

THE FUTURE OF WHEAT.

In the October number of *World's Work* Professor Silvanus Thompson publishes what some people may consider an alarmist article on the wheat supply. He says :—"Unless something can be done to alter the conditions . . a shortage of wheat is actually imminent. For if the entire available territory is only sufficient to raise wheat for 666 million persons (which number will be attained by the natural increase in the wheat-eating populations about the end of the year 1910), then either the consumption per head must thenceforward be lessened, or else some means must be found to increase the average yield per acre. Now the action of nitrate of soda in improving the yield of wheat has been studied practically by Sir John Lawes and Sir Henry Gilbert on their experimental field at Rothamstead, and they have shown that 22·86 pounds of nitrate of soda produce an increase of one bushel of wheat." But the reserve of Chili nitrate, vast as it is, cannot possibly meet the gigantic demand. The output of these mines has grown from about 25,000 tons per annum in 1850 to over 1½ million tons in 1906 ; and at the present rate the mines will be exhausted in a period estimated by various authorities at from sixteen to forty-eight years from the present time. Clearly, though the wheat-famine may be staved off for a time by drawing on the saltpetre beds of Chili, it is but for a time. And then the world must find some other source of nitrogen for fertiliser, or starve.

But in nine years much may be achieved. Chemist, electrician and engineer, working in collaboration with modern appliances and with an adequate natural supply of water-power, may accomplish much—have accomplished much, indeed—though the achievement is still in its infancy. For while various skilled inventors have been at work in various parts of the world, and various processes have been announced as more or less successful for fixing atmospheric nitrogen, three are actually at work on a commercial scale. In Scotland a company is manufacturing cyanide of soda for treating auriferous quartz in the gold-mining industry. In Berlin Professor Frank is absorbing nitrogen by means of carbide of calcium (itself a product of the electric furnace) to form cyanide. In Norway a fully equipped factory has been at work for two whole years turning out Norwegian saltpetre, the nitrate of lime, by the direct process of burning nitrogen in a special electric furnace, absorbing the nitrous fumes in water as nitric acid, and combining the acid with lime to furnish a marketable product.

TRADE OF CANTON.

The continued growth of Canton as an international trading centre has been attracting increased attention of late, and our readers will doubtless be interested in the details below which have been extracted from the Report of Mr. Acting Consul-General Sly for the year 1906 :—

The value of the trade of the port for the year 1906 was as follows :—

	Value. Currency. Taels.	Value. Sterling. £
Total	96,641,252	15,905,539
Gross	95,374,974	15,697,132
Net	94,108,696	15,488,723

Compared with the year 1905 the net trade shows an increase of nearly 2,000,000 taels, while, in sterling, owing to high rates of exchange, it surpasses that of 1903, which, as explained in Mr. Consul-General Scott's report for 1905, was an abnormal year. No less than £2,500.000 have been spent in the two Kwang provinces in the purchase of foodstuffs to meet the deficiency in the local rice crops.

Imports.

The chief articles of import are cotton manufactures, woollen goods, metals, opium, kerosene oil, white sugar and flour. The figures, compared with the previous year, are as follows :—

Articles.	Value. 1905. Taels.	Value. 1906. Taels.
Cotton manufactures . .	4,769,943	4,459,461
„ umbrellas . .	36,335	44,400
Woollen goods . . .	420,213	255,752
Metals	3,023,686	1,064,663
Opium	6,206,951	6,561,936
Kerosene oil . . .	1,903,317	1,240,663
Flour	1,017,427	1,227,204
Sugar, white . . .	655,716	1,250,708
Total .	18,033,588	16,104,787

Grey shirtings again show a decrease, but the fall is considerably less than that of the previous year, as compared with 1904, though exchange ruled considerably higher in 1906 than in 1905. **White shirtings** advanced 10,000 pieces, being 19,459 pieces in excess of the average for the quinquennial period 1900-04. **Towels** and **handkerchiefs both** exhibit a considerable increase, the former exceeding 1905 by 37,166 dozen and the latter by 11,775 dozen, an increase respectively over the five years' average 1900—04 of 119,331 and 42,437 dozen. Fully 90 per cent. of this piece-goods trade consists of British manufactures, the only other country supplying Canton with cotton manufactures being Japan, which sends a mixture of cotton, flannel and towels, covering an import estimated at some £59,999. The total **cotton yarn import** amounted to 84,741 piculs, of which Indian yarns accounted for 84,493 piculs and British yarns for 295 piculs.

There was a fall in the former of 18,786 piculs, or 22,364 cwts.; the import, however, exceeded the average for the five years 1900—04 by 21,000 cwts. **Cotton umbrellas** were imported to the number of 66,871, being an increase over 1905 and the quinquennial period 1900—04 of 21,000 and 56,000, respectively.

The tropical climate of Canton is unfavourable to a large import of **woollen goods**. Alpacas again show a considerable advance, namely, 82,828 yards, and, under woollen goods proper, the largest items are camlets, 5,138 pieces; Spanish stripes, 75,669 yards; and lastings, 1,814 pieces. In the two former there is a decrease, compared with 1905, of 705 pieces and 13,680 yards, respectively.

Opium.

In value **opium** again occupies the first place, and accounts for one-fourth of the total import of foreign goods. Benares, Malwa, and Patna show an increase respectively of 244, 91, and 767 cwts., the total import of Indian raw opium being 13,229 cwts., as against 12,127 cwt. in 1905. In value the difference in favour of the year under review is 345,777 taels, while in quantity the excess over the average for the five years 1900—04 is 3,182 cwts. It is estimated that the average annual import of foreign opium into Canton is 12,000 chests, and that an equal quantity of the native-grown article from the provinces of Szechuan, Yunnan and Kueichow is introduced into Canton every year. During 1906 a new tax, called "T'ung Chuan," assessed at 115 taels per picul plus 10 per cent., or 11·50 taels, to bring payments to the equivalent of the Government standard of pure silver, was placed on native raw opium, thus freeing it from all further taxation throughout the country wherever it should go and whatever its ultimate destination. Most of the native commodity for Canton emanates from Yunnan and Szechuan, the tax being generally paid at Talifu and Chungking, respectively. The price of native raw opium in Canton rose after the sixth Chinese moon, subsequent to the imposition of the new tax, to 28·50 taels per 100 taels weight. These figures increased in the tenth moon to 32·50 and 33·10 taels, and later on to 36·10 taels. A ball (50 taels weight) of the foreign article sold during the sixth moon for 29 dol., the price afterwards advancing to 32 dol. 10 c. It is said that the consumption of foreign and native opium in these parts has fallen 20 and 40 per cent., respectively.

The figures for the import of foreign opium during past years are as follows:—

Year.	Quantity.
	Piculs.
1900	6,914
1901	8,009
1902	8,497
1903	9,460
1904	9,457
1905	10,209
1906	11,145

Compared with 1905, the figures are as follows:—

	1905.		1906.	
	Quantity.	Value.	Quantity.	Value.
	Piculs.	Taels.	Piculs.	Taels.
Benares	1,590	917,568	1,795	996,231
Malwa	755	610,379	832	536,466
Patna	7,842	4,666,168	8,486	5,006,795
Persian	18	9,355	1	600
Turkey	2	1,288	4	2,631
Boiled	2	2,193	7	7,292
Other kinds	...	...	20	11,921
Total	10,209	6,206,951	11,145	6,561,936

NEW REFERENCE BOOKS.

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Edited by S. TOZER. Second Year. 7½ × 5, 376 pp. 5s.
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By W. G. BLIGH, M.INST.C.E. 10¼ × 7, xxii + 390 pp. 21s. net.
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THIRTY-FIVE YEARS OF OIL TRANSPORT.
The Evolution of the Tank Steamer. By J. D. HENRY, Editor of the *Petroleum World*. 12 × 9½, xiii + 175 pp. 21s. net.
Printed by Bradbury, Agnew, and published at 22-23, Great Tower-street, E.C.

STRENGTH OF MATERIALS.
A Manual for Students of Engineering. By W. C. POPPLEWEL. 9 × 5½. 180 pp. 5s. net.
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THE CHEMISTRY OF COMMERCE.
By R. K. DUNCAN. 8½ × 5½, 263 pp. 7s. 6d.
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THE COMMERCIAL POSSIBILITIES OF WEST AFRICA.
By VISCOUNT MOUNT-MORRES, F.L.S., F.R.G.S. (Liverpool University Institute of Commercial Research in the Tropics). (A paper read at the Royal Colonial Institute, March 19, 1907) . 6d. net.
Liverpool: The Institute. London: Williams and Norgate.

PITMAN'S BILLS, CHEQUES, AND NOTES.
A Handbook for Business Men and Commercial Students. Part I. 8½ × 5½, 16 pp. 2d.
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By C. G. WARNFORD-LOCK. 8½ × 5½, 195 pp.
50 Plates. Crowther and Goodman.

THE SLAVERY OF LABOUR.
A Scientific Demonstration of the Identity of Free and Slave Labour. By W. BELL ROBERTSON, AUTHOR of "Foundations of Political Economy," etc. Second Edition. (Altered and Enlarged.) 8¼ × 5½, 63 pp. 1s. net.
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THE LAND PROBLEM.
Considered from various Standpoints and in Relation to other interest. By B. A. LOND. With a Preface by the LADY SALTOUN. (Containing a good many criticisms of the Government's proposals.) 6d.
Leyton: Era Press.

A MANIFESTO ON INTERNATIONAL, FINANCIAL AND COMMERCIAL GAMBLING IN "OPTIONS AND FUTURES" (Marches à Terme) THE WORLD'S GREATEST PERILS.
An Imperative Demand for International Legislation. By C. W. SMITH. P. S. KING. 6d.

JOINT STOCK COMPANIES.

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

No.	Class and Name.	Situation of Registered Office.	Object.	Capital. Nominal.	Capital. Paid-up.
	I.—BANKING, LOAN AND INSURANCE.			Rs.	Rs.
	(a) *Banking and Loan.*				
1	Bengal National Bank	Bengal	Banking and Loan	50,00,000	...
2	Srima Nanda Gopala Sahaya Sasvatha Nidhi.	Tinnevelly, Madras	Money-lending (mutual)	84,000	...
3	Malvalli Kasaba Sri Lakshminarasinghaswami Bank.	Fort Malvath, Mysore	Banking	30,000	...
	Total, Banking and Loan	.....	.....	51,14,000	...
	(b) *Insurance.*				
4	Bengal Marriage Provision Fund	Chittagong, Eastern Bengal and Assam.	Provision for marriages	10,000	...
5	Swadeshi Assurance and Wedding Co.	Bengal	Insurance	10,000	...
6	Model Insurance Co.	Tanjore, Madras	Life Insurance and Trading	20,000	...
7	Great Indian Insurance Co.	" "	" " "	20,000	...
	Total, Insurance	.....	.....	60,000	...
	Total, Banking, Loan and Insurance	.....	.....	51,74,000	...
	II.—TRADING.				
	(a) *Printing, Publishing and Stationery.*				
8	Indian Newspaper Co.	Bombay	Printing and Publishing	7,00,000	...
	(b) *Others.*				
9	Rangoon Rickshaw Co.	Rangoon, Burma	Business of Jinrickshaw, proprietors and carrying passengers and goods.	1,00,000	...
10	Chittagong Ice Supply Co.	Chittagong, Eastern Bengal and Assam.	Manufacturing and trading in Ice.	1,00,000	...
11	Rangpur Tobacco Co.	Rangpur, Eastern Bengal and Assam.	Manufacturing cigarettes, cigars, snuffs and other products of tobacco.	1,00,000	...
12	Ananda Bhandar	Do. do.	Trading and Banking	20,000	...
13	Property Dealing Co.	Lahore, Punjab	Dealing in immoveable property.	1,00,000	...
14	Swadeshi Lala Co.	Ahmedabad, Bombay	Trading in hand looms	1,00,000	...
15	Bombay Milk Supply Co.	" "	Trading in milk, butter, etc.	20,000	...
16	Universal Works	Bombay	Business of Iron Founders	1,00,000	...
17	Peninsular Iron Works	"	" " "	2,00,000	...
18	Saidapet Industrial Co.	Chingleput, Madras	Encouragement of industries and trade.	10,000	...
	Total, Others	.....	.....	8,50 000	...
	Total, Trading	.....	.....	15,50,000	...

JOINT STOCK COMPANIES—*contd.*

No.	Class and Name.	Situation of Registered Office.	Object.	Capital. Nominal.	Capital. Paid-up.
	III.—Mills and Presses.			Rs.	Rs.
	(*a*) *Cotton Mills.*				
19	Sir Rasulkhan Mills Co.	Bombay	Spinning and weaving cotton, etc.	10,00,000	...
20	Guntur Hosiery Mills Co.	Guntur, Madras	Do. do.	50,000	...
	Total, Cotton Mills	.....	.....	10,50,000	...
	(*b*) *Rice Mills.*				
21	Zayathree Rice Mills Co.	Sagaing, Burma	Rice-milling	50,000	...
	(*c*) *Others.*				
22	National Trading Co.	Rangoon, Burma	Oil-milling	1,00,000	...
	Total, Mills and Presses	.....	.....	12,00,000	...
	IV.—Planting.				
23	Barrah Estates	Bengal	Indigo planting, etc.	3,20,000	...
	V.—Mining and Quarrying.				
	(*a*) *Coal.*				
24	Imperial Coal Co.	Bengal	Coal-mining	4,50,000	...
25	Kessurgurah Coal Co.	,,	,, ,,	6,00,000	...
	Total, Coal	.....	.....	10,50,000	...
	(*b*) *Gold.*				
26	Banganapalli Minerals Syndicate	Madras	Gold-mining	99,990	...
	Total, Mining and Quarrying	.....	.....	11,49,990	...
	VI.—Others.				
27	Guntur District Athmakuru Lift Irrigation Co.	Guntur, Madras	Construction of Irrigation channels for watering fields from the Kistna canal.	12,200	...
	GRAND TOTAL	.....	.....	94,06,190	...

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

	Capital (Rs.) Nominal.	Capital (Rs.) Paid-up.
3 Banking and Loan Companies	51,14,000	...
4 Insurance Companies	60,000	...
1 Printing and Publishing Company	7,00,000	...
10 Trading Companies (other than Printing)	8,50,000	...
2 Cotton Mills	10,50,000	...
1 Rice Mill	50,000	...
1 Oil Mill	1,00,000	...
1 Indigo Planting Company	3,20,000	...
2 Coal-mining Companies	10,50,000	...
1 Gold-mining Company	99,990	...
1 Company (other than those specified)	12,200	...
27 Total	94,06,190	...

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 September, 1907, and for the six months, 1st April to 30th September, 1907, compared with the corresponding period of the years 1905 and 1906 :—

	Month of September 1905	Month of September 1906	Month of September 1907	Six months, 1st April to 30th Sept. 1905	Six months, 1st April to 30th Sept. 1906	Six months, 1st April to 30th Sept. 1907
IMPORTS—	R	R	R	R	R	R
Merchandise, Private—						
Bengal	3,84,16,764	3,31,46,892	4,92,52,591	20,20,62,857	20,79,98,462	26,17,34,512
Eastern Bengal and Assam	(*a*)	3,82,471	7,19,116	(*a*)	24,09,867	24,39,325
Bombay	2,89,91,163	2,86,07,264	3,58,78,548	15,72,28,869	16,47,00,695	19,52,39,795
Sind	72,19,427	84,75,794	65,06,877	3,86,97,802	4,58,18,011	4,21,87,136
Madras	60,45,945	80,33,713	76,97,127	4,05,75,836	4,46,24,230	4,89,45,266
Burma	65,19,560	74,09,380	94,26,893	3,77,16,248	4,56,15,159	4,90,04,626
Total	8,71,92,859	8,60,55,514	10,94,81,152	47,62,81,612	51,11,66,724	59,95,50,620
Ditto, Government Stores	42,13,470	48,85,288	47,78,694	4,64,95,667	4,57,36,097	3,14,50,516
Total Merchandise	9,14,06,329	9,09,40,802	11,42,59,846	52,27,77,279	55,69,02,821	63,10,01,136
Treasure, Private—						
Bengal	43,69,684	1,86,39,474	51,43,944	3,15,49,259	3,45,87,873	4,67,04,433
Eastern Bengal and Assam	(*a*)	...	...	(*a*)	36,475	60,928
Bombay	80,17,104	1,79,66,378	1,82,70,021	6,55,33,353	8,45,18,128	14,02,89,328
Sind	2,27,118	1,99,568	9,44,811	21,26,742	21,39,388	38,97,874
Madras	2,04,148	6,31,020	6,73,034	21,25,134	28,36,484	46,79,779
Burma	16,806	64,046	17,240	3,45,364	6,35,452	6,55,272
Total	1,28,34,860	3,75,00,486	2,50,49,050	10,16,79,852	12,47,53,800	19,62,87,614
Ditto, Government	19,47,495	87,84,410	2,82,09,345	1,36,96,410	8,46,50,177	8,42,32,705
Total Treasure	1,47,82,355	4,62,84,896	5,32,58,395	11,53,76,262	20,94,03,977	28,05,20,319
Grand Total of Imports	10,61,88,684	13,72,25,698	16,75,18,241	63,81,53,541	76,63,06,798	91,15,21,455
EXPORTS—						
Merchandise, Private—						
(*Foreign Merchandise*)—						
Bengal	1,23,969	1,33,021	1,27,923	10,88,022	9,43,603	12,28,423
Eastern Bengal and Assam	(*a*)	...	...	(*a*)	...	50
Bombay	19,78,853	17,98,913	23,12,130	1,26,35,606	1,17,21,317	1,46,73,669
Sind	3,65,077	3,28,617	5,75,846	16,57,618	24,10,238	23,43,953
Madras	71,711	1,04,213	1,32,116	4,38,203	10,13,318	6,72,042
Burma	32,509	65,988	54,303	2,15,095	3,70,148	3,93,185
Total	25,72,119	29,30,752	32,02,318	1,60,34,544	1,64,58,624	1,93,11,327
(*Indian Merchandise*)—						
Bengal	6,89,84,816	7,01,94,764	6,78,90,457	30,04,78,077	31,37,08,006	35,84,48,516
Eastern Bengal and Assam	(*a*)	34,31,036	51,85,264	(*a*)	99,89,609	1,10,11,331
Bombay	2,53,86,925	2,79,57,115	3,31,51,007	21,25,99,609	19,62,53,500	26,94,91,494
Sind	39,76,521	74,94,110	2,05,43,104	6,95,93,025	8,05,65,734	11,56,33,985
Madras	1,02,05,872	1,22,40,896	1,59,35,961	7,63,20,172	8,52,92,515	10,56,49,962
Burma	1,15,80,527	50,61,663	61,35,999	7,12,29,598	7,10,32,883	7,89,82,431
Total	12,41,34,661	12,63,79,584	14,88,41,792	73,32,20,481	75,68,42,247	98,92,17,769
Total Foreign and Indian Merchandise exported—						
Bengal	6,91,08,785	7,03,27,785	6,80,18,380	30,15,66,099	31,46,51,609	35,96,76,939
Eastern Bengal and Assam	(*a*)	34,31,036	51,85,264	(*a*)	99,89,609	1,10,11,431
Bombay	3,13,65,778	2,97,56,028	3,54,63,137	22,82,35,215	20,29,74,817	28,41,65,163
Sind	43,41,598	83,22,727	2,11,18,950	7,12,50,643	8,29,75,972	11,79,77,943
Madras	1,02,77,583	1,23,45,109	1,60,68,977	7,67,58,375	8,63,05,833	10,68,22,004
Burma	1,16,13,036	51,27,651	61,90,302	7,14,44,693	7,14,03,031	7,93,75,616
Total	12,67,06,780	12,93,10,336	15,20,44,110	74,92,55,025	77,33,00,871	95,85,29,096
Ditto, Government Stores	1,23,057	44,300	1,03,771	6,54,271	4,38,951	7,53,407
Total Merchandise	12,68,29,837	12,93,54,636	15,21,47,881	74,99,09,296	77,37,39,822	95,92,82,503
Treasure, Private—						
Bengal	2,32,500	3,07,356	5,26,704	7,54,483	40,17,639	19,58,459
Eastern Bengal and Assam	(*a*)	...	...	(*a*)	...	...
Bombay	38,45,527	33,90,773	43,65,649	2,36,89,636	3,12,55,770	2,03,35,989
Sind	1,87,470	63,600	3,08,078	8,83,071	8,10,406	8,92,527
Madras	...	3,00,209	253	180	6,02,209	25,11,513
Burma	1,65,000	19,000	...	3,45,750	1,71,140	93,250
Total	44,30,497	40,80,938	52,00,684	2,56,73,120	3,68,57,164	2,57,91,738
Ditto, Government	1,50,05,000	...	...	4,50,74,500	37,450	...
Total Treasure	1,94,35,497	40,80,938	52,00,684	7,07,47,620	3,68,94,614	2,57,91,738
Grand Total of Exports	14,62,65,334	13,34,35,574	15,73,48,565	82,06,56,916	81,06,34,436	98,50,74,241
Gross Amount of Import Duty Collected, *including Salt*	56,92,343	59,48,194	63,50,202	3,21,61,420	3,30,36,708	3,49,00,138
Ditto, Export Duty Collected	8,48,207	2,88,649	4,20,907	53,10,725	48,85,575	45,89,136

(*a*) Included with Bengal.

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 seven months, April to October, of									
	1898-99	899-1900	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	1,73	1,60	1	1,69	1,84	1,70	2,32	2,08	2,13	3,00
Liquors—										
Ale, beer, porter, cider and other fermented liquors	1,06	1,11	1,04	1,17	1,27	1,47	1,59	1,54	1,66	1,60
Spirits and liqueurs	35,41	37,35	36,34	36,17	38,52	42,21	42,23	44,64	40,59	52,36
Wines	1,95	1,88	1,80	1,81	2,09	2,02	1,86	2,04	1,93	2,11
Opium	2	2	1	2	2	2	2	2	2	2
Petroleum	25,90	22,29	23,94	29,84	31,68	25,45	26,59	22,81	20,07	26,44
Sugar (countervailing duties, 1899)	—	2,47	10,39	16,68	15,65	1,96	9	1	1	...
Sugar (countervailing duties, 1902)	—	—	—	—	3,17	13	6	...	...	...
General Import Duties.										
Articles of food and drink (excluding sugar)	6,65	7,12	8,04	7,65	7,06	7,64	8,72	9,85	10,17	12,76
Sugar (ordinary duties)	8,24	7,76	15,07	15,53	14,66	15,35	17,09	17,30	28,88	24,71
Chemicals, drugs, medicines and narcotics, and dyeing and tanning materials	5,80	6,18	5,75	6,53	6,48	7,69	7,41	7,85	8,21	10,39
Cotton manufactures—										
Piece goods, grey	25,59	29,07	26,17	29,13	31,40	27,35	31,57	35,87	37,95	39,52
„ white	9,91	11,08	10,39	16,78	9,72	11,15	15,79	16,17	13,92	21,96
„ coloured	10,63	14,60	11,17	13,99	12,96	16,18	18,56	18,64	18,97	21,87
Other goods	92	1,62	1,42	1,77	1,31	2,20	3,18	3,48	3,81	3,96
Metals and manufactures of—										
Silver bullion and coin	20,72	15,42	7,42	17,11	24,50	21,40	24,27	17,02	25,10	30,38
Other metals and manufactures of metals	11,12	9,07	11,70	13,03	17,55	17,51	21,11	17,52	18,87	22,66
Oils (excluding petroleum)	1,05	75	87	1,11	97	54	52	64	1,27	1,63
Manufactured articles	26,81	32,08	31,99	35,78	33,99	39,96	47,06	47,46	46,96	55,27
Raw materials and unmanufactured articles	4,68	3,47	5,58	5,61	4,99	5,08	5,86	6,89	6,19	7,87
Total Imports	1,98,19	2,04,95	2,10,51	2,51,31	2,59,83	2,47,01	2,75,90	2,71,83	2,86,71	3,38,51
Excise duty on cotton goods	7,71	7,36	6,21	9,31	9,34	10,69	11,35	13,79	13,71	16,13
Export Duties—										
Rice and Rice-flour	55,40	47,41	43,77	44,49	61,50	58,25	66,97	61,15	51,53	50,46
Land Customs and Miscellaneous	3,78	4,05	4,65	4,57	4,81	5,46	5,91	4,80	5,28	5,98
GRAND TOTAL	2,65,08	2,63,77	2,65,14	3,09,68	3,35,48	3,21,41	3,60,13	2,51,47	3,57,23	4,11,08

—Advices from Seattle announce that all through the lumber districts of **Puget Sound** heavy losses have this year been caused by the **ravages of timber worms.** Millions of feet of logs are now floating in Puget Sound, and from investigations already made it would seem that the teredes or timber worms in the water have ruined whole booms of timber. One company reports the loss of 16,000,000 feet of timber from this cause. So serious is the trouble that in some places logging operations have been suspended for the present until something has been done to prevent further losses.

—Although the lower qualities of leather are now slightly easier in price, bends and superior sole leathers are as dear as ever, says the *Manchester Guardian*. The **boot trade** seems to be undergoing further transition, new machinery is constantly being introduced with the inevitable result that workmen are displaced and thrown out of employment. This leads to friction and the demand on the part of the men for the eight-hour day, which it is thought would mean more employment. The new methods are tending towards cheaper production, but the transition period not doubt involves a temporary displacement of labour and considerable hardship for old and middle-aged workmen. Further changes are threatened, and it is even said that the boot of the near future will be innocent of sewings or tackings. All the parts will be cut out and fastened together by machinery.

WEEKLY TRADE MOVEMENTS.

For the week ending 2nd November, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta lbs.	496,984
	Bombay* „	...
	Madras „	276,600
Indian— Exports by sea from	Calcutta „	276,867
	Bombay* „	...
	Madras „	4,113

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta yds.	12,961,826
	Bombay* „	...
	Karachi „	403,215
	Madras „	2,137,499
	Rangoon „	128,982

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta yds.	3,900,993
	Bombay* „	...
	Karachi „	2,319,421
	Madras „	788,064
	Rangoon „	1,168,838

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	2,022,329
	Bombay* „	...
	Karachi „	1,425,860
	Madras „	1,883,867
	Rangoon „	1,425,789

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	35,387
	Bombay* „	...
	Karachi „	20,856
	Madras „	4,582

Raw Cotton.

Imports into Bombay*	By sea cwt.	...
	Coastwise „	...
	By rail „	...
Imports into Karachi by rail	„	591
„ „ Calcutta by rail and river	„	5,015

JUTE.

Arrivals by all routes in	Calcutta. cwt.	915,630
Exports by sea from Calcutta	Gunny bags, No.	7,152,255
	„ cloth, yds.	19,649,275
	Jute, cwt.	440,595
Exports by sea from Chittagong	—Jute „	25,366

TEA.

Arrivals by all routes in	Calcutta lbs.	7,143,375
Exports by sea from	Calcutta „	6,236,676
	Chittagong „	1,462,313

WHEAT.

Imports into	Calcutta by rail and river, cwt.	42,867
	Karachi by rail „	241,116
Bombay*	By sea „	...
	Coastwise „	...
	By rail „	...
Exports by sea from	Calcutta „	765
	Bombay* „	...
	Karachi „	448,639

RICE.

Arrivals by all routes in	Calcutta cwt.	188,866
Exports by sea from	Calcutta „	44,687
	Chittagong „	...
	Bombay* „	...
	Karachi „	9,082
	Madras „	...
	Rangoon „	403,020

LINSEED.

Imports into Bombay	Calcutta by rail and river cwt.	55,993
	By sea „	...
	Coastwise „	...
	By rail „	...
Karachi by rail	„	...
Exports by sea from	Calcutta „	46,863
	Bombay* „	...
	Karachi „	...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river cwt.	23,809
Bombay*	By sea „	...
	Coastwise „	...
	By rail „	...
Karachi by rail	„	47,989
Exports by sea from	Calcutta „	2,766
	Bombay „	...
	Karachi „	29,585

COTTON SEED.

Exports by sea from Bombay,*	cwt.	...

* Figures incomplete. † Incomplete.

KEROSENE OIL, WEEK ENDING 2nd NOVEMBER, 1907.

Imports by sea into—	From Russia.	America.	All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	1,076,438	1,584,089	2,660,527
Bombay *	...	..	...	...
Karachi	...	...	...	...
Madras	...	...	49,753	49,753

Exports by sea from Burma to	Bengal galls.	1,052,340
	E. B. & Assam „	304,500
	Bombay „	928,400
	Sind „	...
	Madras „	574,200
	Indian Ports, Non-Br. „	...
	Foreign Ports „	...

IMPORTS OF SUGAR, WEEK ENDING 2nd NOVEMBER, 1907.

Country of Shipment.	Refined sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	32	...	*	30	16	9	87
Germany	...	...		...	...	...	...
Austria-Hungary	...	...		...	...	...	...
Other European Countries	...	...		...	...	...	...
Java	108,130	...		...	...	...	...
Mauritius	...	...		52,539	...	4,140	164,809
Other Non-European Countries	...	...		3,743	...	...	3,743
				...	...	...	...
						Total refined	168,639
						Total unrefined	18,982
						Grand Total, cwt.	187,621

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 1st November.		Sold to 1st November.		Sold in sale of 2nd November.		Sold to 2nd November.	
	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	8,026	7 7·9	127,889	7 5·7	8,139	6 5·3	99,551	6 9·6
Cachar	4,650	6 9·5	104,325	6 0·7	4,449	4 4·9	92,683	4 2·2
Sylhet	4,704	6 8·8	83,717	6 0·5	3,162	4 5·6	69,612	3 11
Darjeeling	998	10 6·8	46,605	8 11·5	1,505	9 2·1	43,981	8 8·1
Dooars	7,548	7 3·8	127,309	6 7·9	6,445	5 4·7	110,584	5 3
Terai	818	7 1·5	16,735	6 2·1	1,166	4 5·1	24,678	4 2·5
Chittagong	427	6 9·5	6,658	6 1·9	133	4 1·8	8,241	4 1·1
Chota-Nagpore	...	...	609	5 2·5	...	...	236	4 8·3
Kumaon and Kangra	125	6 11	3,390	5 10·9	...	...	120	5 0
Madras	43	6 8	285	6 1·2	...	...	146	4 8·8
Dehra Dun	...	...	204	6 3·3	50	5 0	50	5 0
Nepaul	..	...	247	6 9·3	...	...	...	...
Total	27,339	7 4	517,973	6 9·8	25,049	5 7·3	449,882	5 5·1

(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 27,028 packages Dust* sold to 1st November As. P. 6 9·5

* On account of gardens which sell only that grade on this market.

—**Exports of rice from Rangoon** from 1st January to 31st October were 1,721,734 tons as against 1,655,944 tons during the corresponding period of last year. Europe took 614,004 tons against 668,438, India 623,874 tons against 526,576, the Straits and China 464,694 tons against 432,172, and America 19,162 tons against 29,758.

—In the course of his report on the **Trade of Madagascar** for the year 1906 we notice that Mr. Consul Sauzier states that the **commercial depression** of the last few years was felt again that year. There was, however, an increase both in imports and exports in 1906 as compared with 1905. Imports have risen by £213,169 and exports by £225,393, the total trade of the island being £2,588,658 as against £2,150,096 for 1905, giving an excess of £438,562 in favour of 1906. The following passage in the Report is perhaps illustrative of the commercial depression referred to:—"In two years 747 Europeans have left Tamatave—this can be explained by the strained state of general business and the very small number of vacant posts—and 4,000 natives have gone away. Consequently there is a large number of houses unoccupied and therefore rent has fallen off 50 per cent. at least for a moderate size house and 60 per cent. for large ones. There have been five bankruptcies and four arrangements under the control of the court during 1906."

COMMERCIAL INTELLIGENCE DEPARTMENT, INDIA.

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[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 (3*a*.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2*a*.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
   - Vol. I—Abstract and detailed Tables of Imports and Exports. R3. (15*a*.)
   - 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. (10*a*.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (7*a*.)
5. Accounts of the trade of Aden. As. 10. (1*a*.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6*a*.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7*a*.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3*a*.)
9. Prices and Wages in India. R1-2. (3*a*.)
10. Financial and Commercial Statistics of British India. R4. (12*a*.)
11. Judicial and Administrative Statistics of British India. R2. (10*a*.)
12. Agricultural Statistics of India. R3½. (12*a*.)
    - Vol. I.—British India.
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13. Area and Yield of certain principal Crops in India. As. 5. (2*a*.)
14. Production of Tea in India. As. 8. (2*a*.)
15. Note on the production of Coal in India. As. 10. (3*a*).
16. Note on the production of Coffee in India. As. 4. (1*a*).
17. List of Joint Stock Companies in British India for 1906. R2. (2*a*.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (3*a*.)

MONTHLY.

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

MISCELLANEOUS.

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

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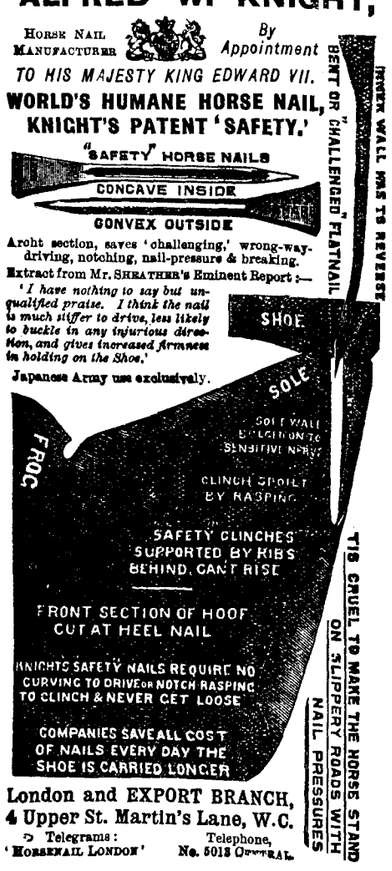
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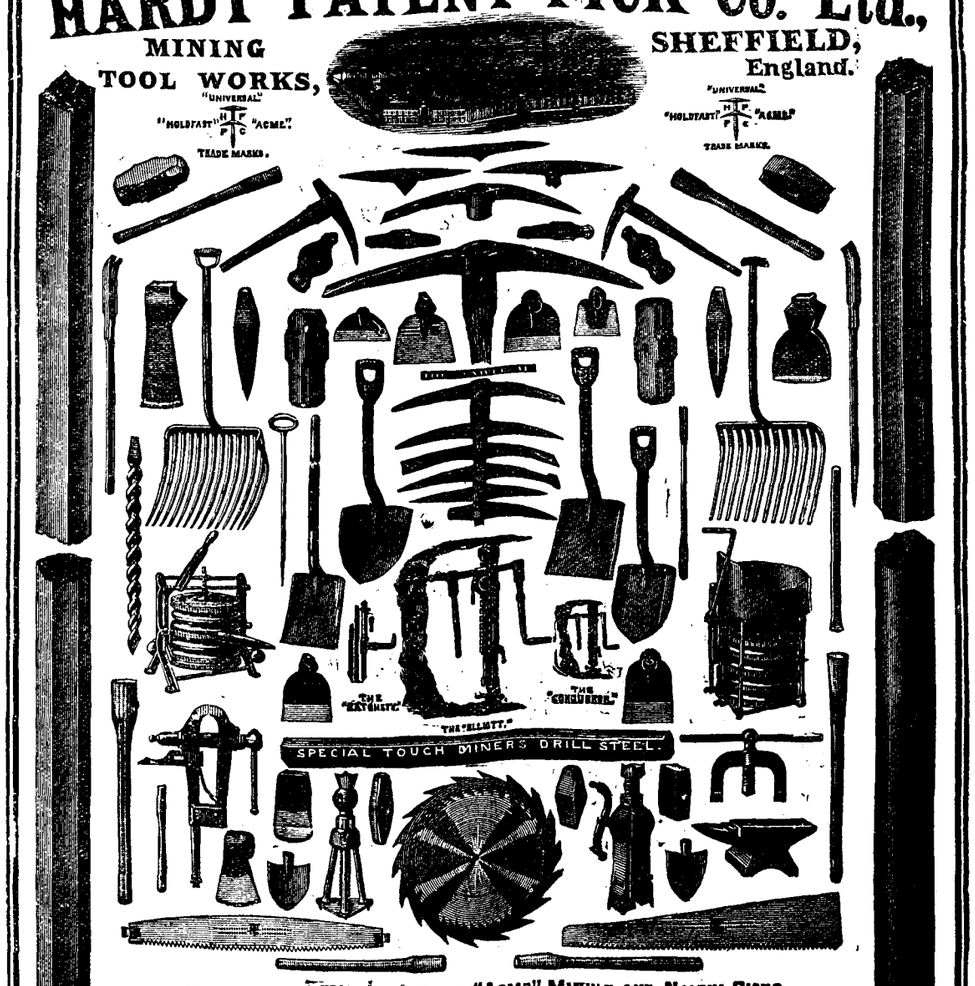
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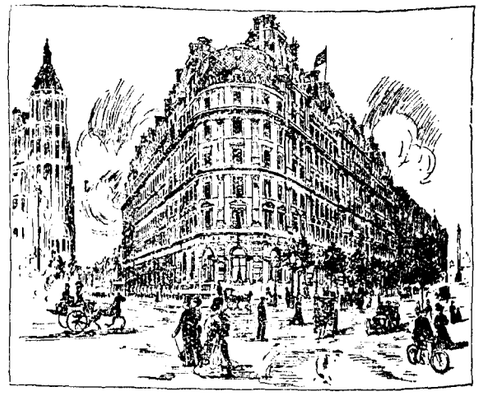
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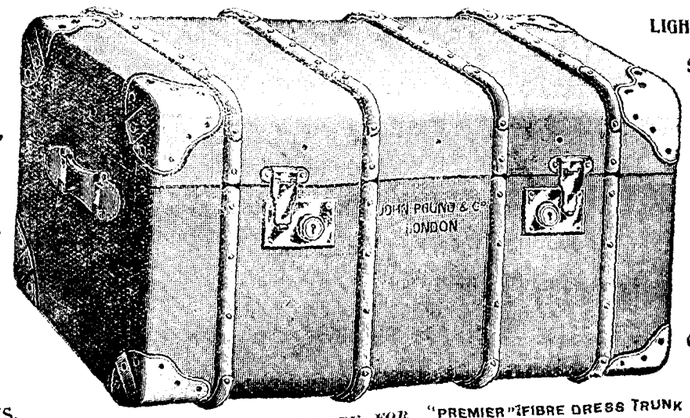
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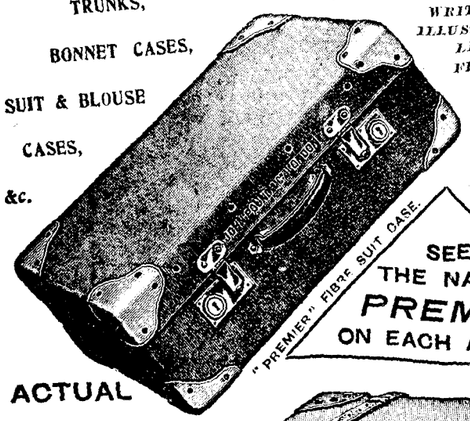
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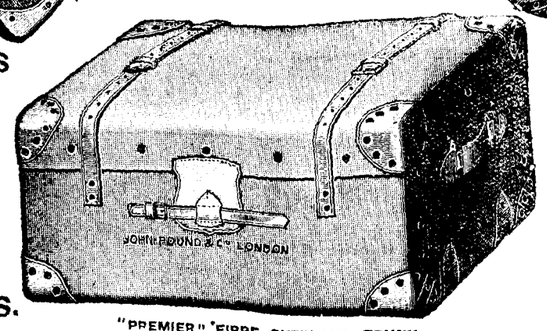


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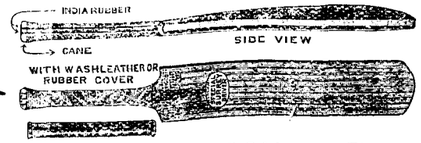
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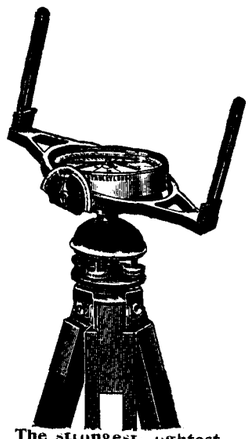
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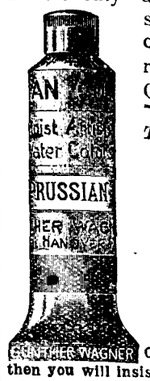
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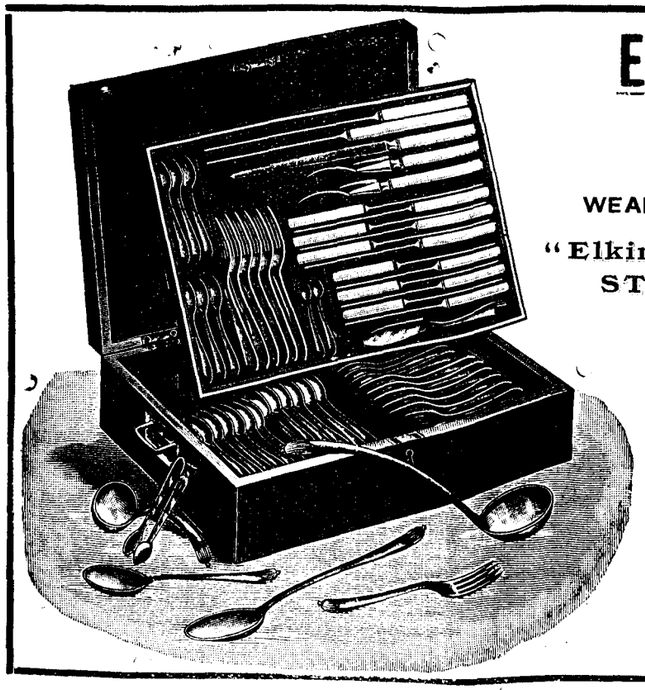
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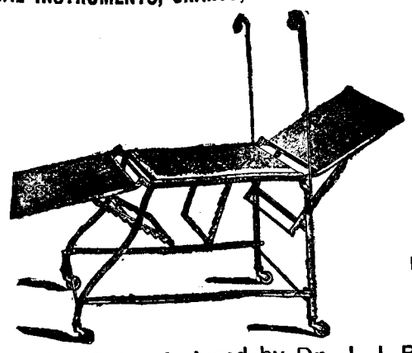
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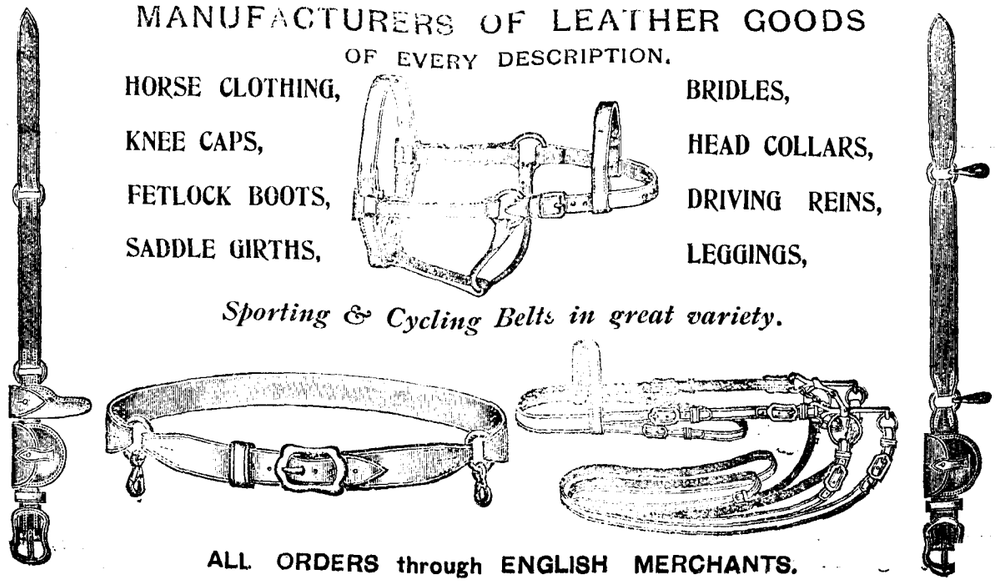
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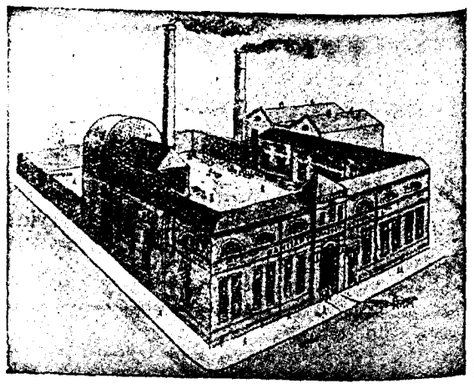
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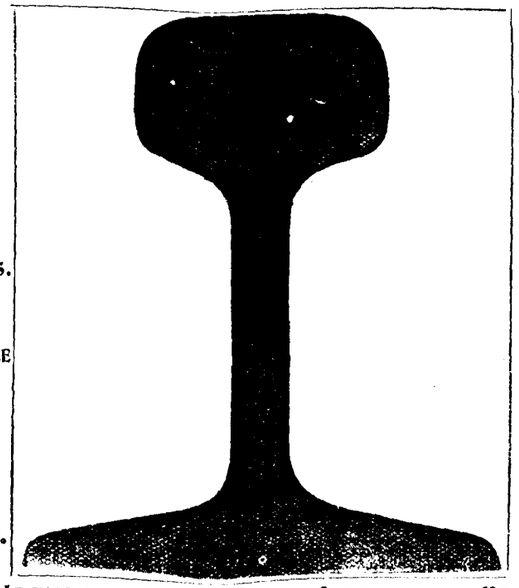
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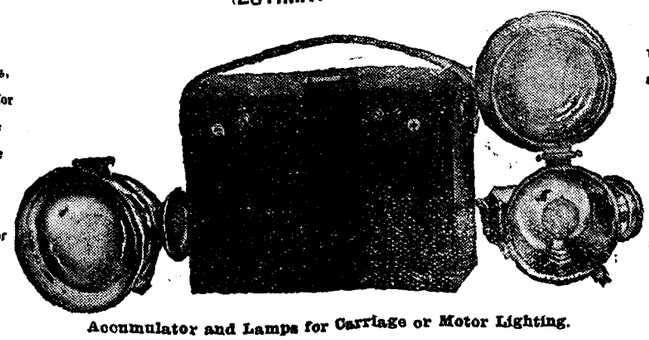
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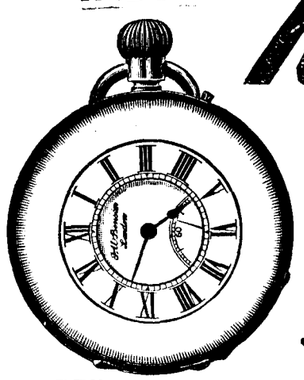
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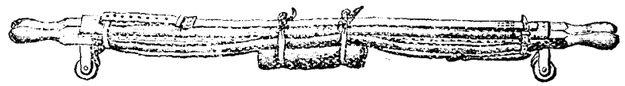
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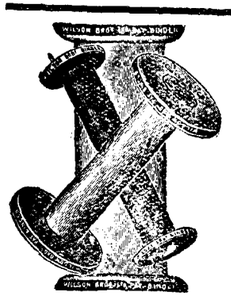
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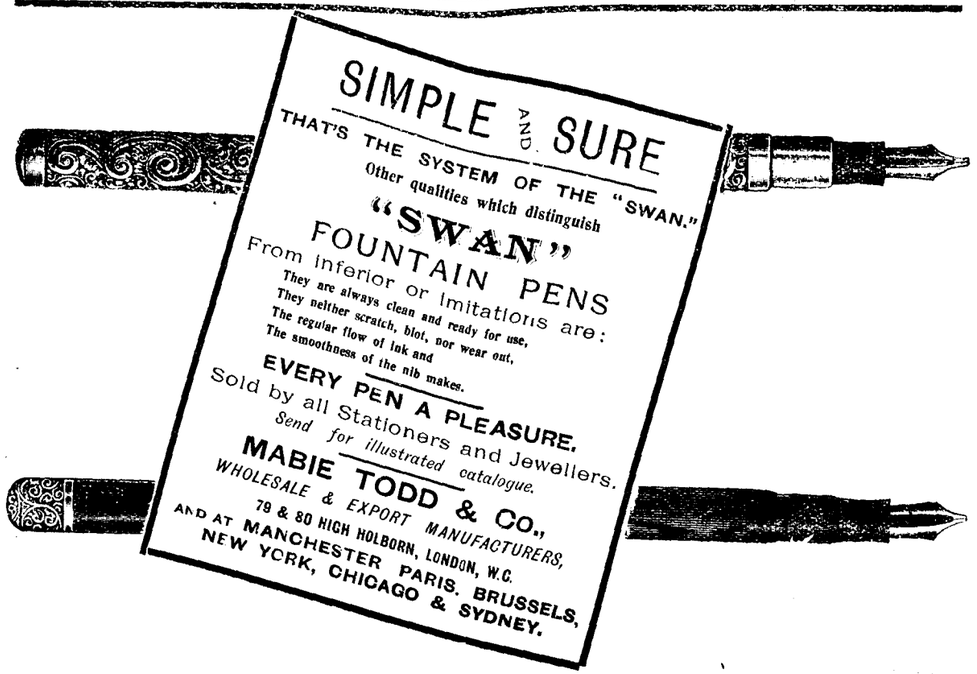
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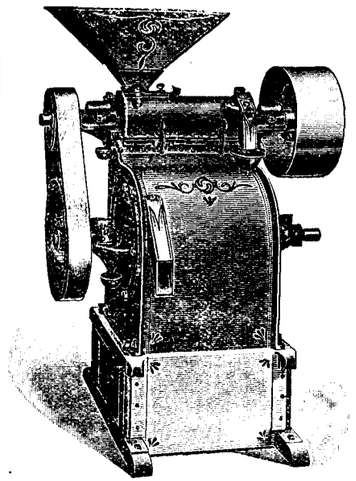


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NOTICE.

Arrangements are on foot to provide **Karachi** city, civil lines and cantonments with an **electric installation** sufficient for lighting and power purposes.

The municipal council of the town of British **Cochin** have obtained permission from the Government of Madras to construct a **tramway** in that town under conditions which are set forth in the *Fort St. George Gazette* of the 5th instant.

A correspondent states that a consignment of 60,000 lbs. of **cinchona bark from Amsterdam** has been received by the Director of the Cinchona Plantations on the **Nilgiris** for treatment at the Neddiwattum Factory. This seems to indicate an increased demand and a corresponding decrease in the indigenous supply.

The prevailing **scarcity in Bankura** has induced the inhabitants of that district to prepare a petition to the Government of Bengal asking for the **excavation of a canal** which would supply 55 villages and save the inhabitants from repeated famines caused by the failure of the monsoons. It is estimated that this canal would cost two lakhs of rupees, and that the water rate to be paid by the villagers would give an adequate return on the capital outlay.

In connection with the discussion as to the suitability of **wood-paving in Calcutta** a correspondent enquires why no mention has been made of *sal* (*Thorea robusta*). *Sal* wood, he says, is harder and more durable than *teak*, has been shown by experience to be one of the best for railway sleepers, and would appear to be the very thing for good block paving. *Sal* is only half the price of *teak* and is a very common timber in the huge forests of the Terai, Dooars, the Native States of Orissa and Chota Nagpur.

The following is the official programme of the tour of the **Factory Labour Commission:** Bombay, November 1st to November 7th; Ahmedabad, November 8th to November 14th; Broach, November 15th; Bombay, November 16th to December 19th; Jalgaon, December 20th to December 23rd. The Commission breaks up for the Christmas holidays. It reassembles at Agra on January 3rd. Agra and Hathras, January 3rd to January 7th; Cawnpore, January 8th to January 14th; Allahabad, January 15th to January 18th; Calcutta, January 19th to February 10th; Dacca, February 11th to February 14th; leave Calcutta, February 16th; Rangoon, February 18th; leave Rangoon, February 28th; Madras, March 3rd to March 10th; Sholapur, March 11th to March 12th; Amraoti, March 13th to March 17th; Wardha, March 18th to March 20th; Nagpur, March 21st to March 28th; Delhi, March 30th to April 4th; Amritsar, April 5th to April 8th; Lahore, April 9th to April 14th.

With reference to the **Egyptian cotton crop**, an Alexandria correspondent writes, under date October 13th:—"A notable discrepancy in price has occurred during the week between Lower Egypt and Upper Egypt produce, due to the almost excessive abundance of the latter, and the relative scarcity of the former. It is impossible accurately to determine why arrivals from Lower Egypt are so dilatory, but the consequences are evident enough in the keen inquiry for Lower Egypt classifications, whilst the plentiful stocks from Upper Egypt attract little attention. While Mit Affifi has fallen $\frac{3}{16}$ on the week, the Upper Egypt variety has fallen $\frac{9}{16}$; Joannovich is unchanged, but Abassi, which is scarce, advanced $\frac{3}{4}$ when sought for in the fulfilment of a contract. It is not improbable that producers and ginning factories in the Delta are timing and regulating their consignments in such a way as to keep receipts barely on a parity with the demand, so as not to swamp a market that is still in a state of convalescence. On the other hand, sensational reports are still in the air as to the losses in the Lower Egypt crop. It has not been uncommon to hear $6\frac{1}{2}$ millions named as the probable maximum of the crop. This would mean the destruction of about $1\frac{1}{4}$ million cantars, which seems too extravagant for belief, since $3\frac{1}{2}$ millions only remained to mature on the soil, while the Upper Egypt crop, of record quantity, was assured. With the arrival of £1,200,000 due from England to-morrow, Egypt will have received £2,500,000 or slightly over one quarter of the probable amount to come into the country this season. The funds so far received have not sufficed to relieve the situation very materially; and the circumspection that has to be exercised by the agencies in the conduct of business in this market is a deterrent to commercial, as well as speculative, activity. Speculation has begun to deal in November, 1908, which starts in high favour and at a figure $\frac{3}{8}$ above November this year; but even at this price sellers are not numerous. The week's exports neither came up to expectations nor to last year's figure; the quantity being 19,300 bales, against 20,100 in 1906."

We take the following paragraph from the *Manchester Guardian* of 24th ultimo:—"Mr. Ellison's annual review of the **cotton trade**, to which allusion was made in our Manchester Market report yesterday (October 23rd), gives an interesting summary of the state of trade on the **Continent** during the past season. Business in Germany was very satisfactory, and was even better than in the previous year, which was excellent. The prospects are favourable, but there are complaints of a scarcity of operatives. The industry has been influenced by the reduction of working hours. This movement for shorter hours is likely to continue, and a maximum working day for women will probably be fixed by the Reichstag. There has been an increasing demand for cotton goods owing to the enhanced spending power of the people in consequence of the general prosperity of all industries, and the good home crops of the past three years. In Wurtemberg there has been an increase of spindles. In Austria the industry has had one of the most prosperous years ever experienced. The demand overtook supply and large contracts were given out which extend even to 1909. This prosperity is attributed to the wages of the work-people having risen and to large grain crops. In the Vienna district scarcity of labour has prevented some of the newly erected mills from getting to work. There has been a large increase in Switzerland of weaving looms and embroidery machines. Contracts now run well into 1908. The report from France is that the year has been brisk. There is a tendency to spin finer counts. Spinners and manufacturers have been fully engaged at very profitable rates. There is an increase in spinning machinery as well as in looms. Business in Holland has been better for spinners than for manufacturers on account of the high price of yarn. At the moment the prospects are not very satisfactory as the demand for goods has declined, and the high price of yarn continues to hamper manufacturers. There are reports to much the same effect from Russia, Sweden, Norway, and Denmark."

According to Messrs. Noël, Murray and Co.'s Circular, dated Shanghai, October 17th, the trade in **Indian cotton yarns at Shanghai** is not nearly so brisk as it was a short time ago. They write:—"The steady decline in the rupee rate of exchange during the interval has made business practically impossible from first hands, buyers being very slow to recognise the enhanced cost it makes to importers. Prices are certainly slightly firmer for the sales reported, and that is about all that can be said for them. No. 10's have attracted most attention, being taken for Tientsin as well as the river ports, the latter being credited with all the rest, except the few bales No. 6's which were bought for Kiaochow. The total sales amount to 1,049 bales, the market closing firm."

The following was the condition of the American cotton market on the 24th ultimo:—

	Tone.	Prices. Oct. 24.	Prv. day.	Oct. 24. Sales.	Receipts.
New York	Steady	11·10	11.30	900	3,600
Galveston	Quiet	11¼	11½	500	9,300
Mobile	Easy	10⅞	11	500	2,800
Savannah	„	10⅝	10⅝	2,000	12,600
Charleston	Steady	10⅝	10⅝	700	1,700
Wilmington	Quiet	10⅝	10⅝	..	..
Norfolk	Steady	10½	10 13/16	700	3,500
Memphis	Quiet	11⅛	11 5/16	1,000	6,600
St. Louis	„	11⅜	11½	...	2,400
Augusta Quiet.	Steady	10⅜	10⅞	2,000	3,400
Houston (Texas)	...	...	...	...	10,600

Quotations for Futures.

Oct. 24.

	Highest paid.	Lowest paid.	Closing prices.	Prv. day's close.	Advance.	Decline.
October	10·50	10·23	10·31	10·50	...	·19
November	10·53	10·50	10·33	10·52	...	·19
December	10·39	10·38	10·45	1065	...	·20
January	10·35	10·15	10·25	10·30	...	·05
February	10 37	10·26	10·28	10.32	...	·04
March	10·38	10·20	10·29	10·34	...	·05
April	...	...	10·31	10·35	...	·04
May	10·44	10·25	10·34	10·39	...	·05
June	10·41	10·30	10·32	10·38	...	·06
July	10·39	10·23	10·30	10·32	...	·02
August	10·31	10·31	10·23	10·26	...	·03

The comparatively high price and increasing **scarcity of cotton waste** are causing spinners and manufacturers of waste yarns and cloths to be firm in their quotations. British spinners of the better grades, especially "condenser" weft, show no disposition to reduce their high level of prices, for the brisk demand for waste yarn in flannelettes, Yorkshire mixed goods, and other fancy styles is keeping their spindles well employed. Makers of piece-goods under these conditions find new business very difficult to secure, the export branch being exceedingly flat. The Mediterranean, usually a good market for low "preparation" T-cloths, is in a very unsatisfactory state, the Tripoli buyers of these goods being unable to place any orders except for very small lots, and those of the narrowest and cheapest qualities. Waste twills for the Levant show no signs of revival, although stocks in the hands of agents are moving off more freely. The unrest in Persia is affecting the sales of the sized plain cloths for Bagdad and Bussorah. Reports from the West Coast of Africa are rather more favourable, especially for some classes of wide fancies and "bandy" cloths. Dyed wastes for Senegal and French Guinea are, however, very dull, the hinterland trade being very unsettled. South American qualities of waste osnaburgs move only in small lots, and the demand for Chili shows a considerable falling off. Light goods for finishing are in fair request for the home and colonial trade, and wholesale clothiers and makers-up are buying these goods for linings.

Our issue of the 15th August contained the first of the series of articles on Indian Cotton Seed which are now appearing in our pages. It was then stated incidentally that **decortication of Indian cotton seed** was not practised in the United Kingdom and that therefore it was impossible to say whether lapse of time between gathering and decorticating rendered the process more difficult. This statement was made on information specifically elicited from a person eminently entitled to be regarded as an authority upon the industry in Europe. We now learn that it was inaccurate. A Company in London which manufacture oil-cake inform us that they have for some time had in full commercial operation a plant for decortication. They fear that the statement in this journal may embarrass them in some negotiations for the establishment of mills in India. We do not see how it could have that effect, for the article alluded to expressly referred to the well-known existence of sundry processes for the decortication of cotton seed and the main question in the passage quoted was whether such decortication became more difficult when the seed had been gathered for a considerable time. On this point the Company unfortunately give no information.

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

For the week ending 2nd November, 1907—

In the Calcutta market—

Behar opium—(old) Rs. 1,393; 1,375; 1,381; 1,373; 1,360; (new) 1,340; 1,345.

Benares opium—Rs. 1,375; 1,350; 1,360; 1,345; 1,335; 1,300; 1,310.

The prices in the time bargains for the Behar opium of the 11th and 12th sales of 1907 were, (new) Rs. 1,413; 1,395; 1,401; 1,388; 1,375; 1,345; 12th sale, Rs. 1,350.

In the China market—

At Hongkong (exchange Rs. 151¾ to 152¼ per $100).

Behar opium—$917½; 917½ and (new) 925; 917½; 917½; 917½; 917½; 915.

Benares opium—no quotations received.

At Shanghai—(exchange Rs. 204 to 205½ per 100 taels.)

Behar opium—On the 28th instant 684 and 697 (new) taels.

Benares opium—On the 28th instant 670 taels.

For the week ending 9th November, 1907—

In the Calcutta market—

Behar opium—Rs. 1,326; 1,336; 1,331; 1,337; 1,323; 1,310; 1,310.

Benares opium—Rs. 1,280; 1,290; 1,285; 1,290; 1,280; 1,275; 1,275.

The prices in the time bargains for the Behar opium of the 12th sale of 1907 were Rs. 1,333; 1,343 1,338; 1,344; 1,330; 1,316; 1,316.

In the China market—

At Hongkong (exchange Rs. 152½ to 155 per $100).

Behar opium—$900; 900, 910 and 915; 900; 900 and 905; 900; 900; 900.

Benares opium—On the 4th and 6th instants $880 and 870, respectively.

At Shanghai (exchange Rs. 206 to 207½ per 100 taels).

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 2nd November, 1907—

In the Bombay market—

On the 27th and 30th instants (new, 1906-07) Rs. 1,304 to 1,371 and Rs. 1,350 to 1388, respectively; on the 28th and 1st instants (new, 1905-06) Rs. 1,370 to 1,387 and Rs. 1,395 to 1,430, respectively; on the 27th and 31st instants (old, 1904-05) Rs. 1,440 to 1,465 and Rs. 1,456, respectively; the latest prices at Hongkong and Shanghai were (new), Rs. 1,325 and 1,432; (old) Rs. 1,484 and 1,525, respectively.

The **Transvaal** Government *Gazette* of 26th September announces the appointment of an **Industrial Commission** to enquire into and report upon the following matters:—(*a*) The condition of existing industries, manufacturing and agricultural, and the possibility of the extension of such industries; (*b*) what encouragement or protection should be given to such industries, and by what means and to what extent, whether by protective duties, bounties, railway rates, or otherwise; (*c*) what effect the Customs Union Convention and railway rates, preferential or otherwise, and bounties have had on such industries; (*d*) in what proportions imported and local products or raw materials enter into local manufactures and to what extent white labour is used as compared with coloured labour; (*e*) to what extent the use of coloured or Asiatic labour in the neighbouring Colonies is prejudicial to the continuance and establishment of industries in this Colony; (*f*) what effect the Customs Union Convention and the parcels post have had on the transfer of business to the Coast and elsewhere; (*g*) the best steps to be taken to encourage and promote the trade and industries of this colony; (*h*) the desirability of amending the classification of the present Customs Tariff and in what directions, and generally; (*i*) all matters relevant or akin to the foregoing terms of reference.

The quantity of **tea brought to auction in London** from 1st July (including new season's Indian tea previously sold) as shown by the figures given in Messrs. Gow, Wilson, and Stanton's Circular, show a considerable shrinkage, so far as India is concerned, if compared with the corresponding figures of last season. Of Indian tea the quantity was 305,654 packages as against 340,237 last year, but the Ceylon sales increased as from 338,045 packages to 348,696 packages, whilst those from Java show the slight increase as between 26,481 packages and 27,315. The combined Indian and Ceylon teas taken in foreign and colonial markets during the first six months of this year show a slight advance upon the corresponding period last year.

Reuter's Montreal correspondent telegraphed on the 31st October:—Mr. James Carruthers, of the well-known grain-exporting firm of that name, who has just returned from a trip through the **Canadian South-west**, states that he believes the **wheat crop** will reach 65,000,000 bushels. The farmers, he says, are receiving $1 a bushel for the best wheat, as against 65*c.* last year. There is a brisk demand for Europe for all grades of wheat and coarse grains.

The **Manitoba** *Free Press* publishes an interesting comparison between the **grain crop** of last year and that of 1907. The total product in 1906 was:—Wheat, 94,201,984 bushels, and coarse grains, 109,885,811 bushels, with a revenue to the farmer of $98,700,082 (£19,740,016) on a basis of 65½ cents (32¾*d.*) a bushel for wheat and 23 cents (11½*d.*) for oats. This year there are 40,000,000 bushels of wheat, higher grades, at 90 cents (45*d.*) 20,000,000 bushels, inferior, at 60 cents (30*d.*); 85,000,000 bushels of oats, at 45 cents (22½*d.*); and 15,000,000 bushels of barley, at 62 cents (31*d.*). These amounts are estimated to give a revenue of $96,510,000 (£19,302,000), or only $2,190,082 (£438,016) less than last year.

The net earnings on the broad-gauge system of the **Nizam's Guaranteed State Railways** during the half-year ended June 30th last amounted to Rs. 18,03,458. On the metre-gauge system the net earnings for the same period were Rs. 11,26,364. The Board have recommended the payment of a dividend on the stock of the Company at the rate of 5 per cent. per annum for the half-year, less income-tax.

The return of the **foreign trade and shipping of Japan** for August shows that the total exports amounted to 45,309,000 yen, against 39,946,000 yen for August, 1906, while the total imports were 36,537,000 yen, against 35,271,000 yen. The excess of exports for the month was 8,772,000 yen, against an excess of 4,675,000 yen for August, 1906, but for the eight months ended August 31st there was an excess of imports amounting to 59,682,000 yen, against an excess of imports of 41,336,000 yen for the corresponding period.

As a result of the **drop in copper** a meeting of the Union of German Electrical Industries has just been held to discuss the advisability of reducing prices. It was asserted, however, that in spite of the position of copper, there was still less margin of profit than was the case a few years ago, and that therefore the advanced prices must be maintained. Regarding raw material it was stated that it was only in copper, which had gone up about 100 per cent. since 1904, that any reduction has occurred, whilst wages and coal still show a decided tendency to rise. The advances which have had to be made in selling prices from time to time were said to have been considerably less than sufficient to cover the extra work's cost, so that the reduction in copper is merely to be regarded as a factor in favour of the electrical companies and not in favour of their customers. It was also stated that the works were busy, and had plenty of orders on the books. Doubtless when the works are a little shorter of orders the matter will be rediscussed, and it may then be found that some concessions in prices can be made.

On the 24th ultimo the position of **copper and tin** in the **London metal market** was:—**copper**: Notwithstanding a fresh fall in New York prices the market has assumed rather a better appearance in sympathy with the Stock Exchange, since no advance was enforced in the Bank rate. Transactions were, however, of comparatively reduced proportions. The opening was firmer at £55 10*s.* for January dates, and the market was inclined to harden on repurchases, closing on first 'Change 6*s.* to 10*s.* better. Sales were 650 tons. Low offers, however, are still current for refined. A fair election of buying orders were received in the afternoon, and a few inquiries for near dates caused values to advance to £56 15*s.* for cash and £56 10*s.* three months, but the market closed 5*s.* under the best, with a net gain of 20*s.* to 25*s.* at £56 10*s.* cash and £56 5*s.* three months. Total sales, 1,500 tons. Settlement price, £55 15*s.* Tough, £61 10*s.*; best selected, £59; electrolytic, £56. **Tin**: the volume of business has been reduced to insignificant proportion during early hours, while sellers in the East were reported more reserved, and £140 c.i.f. London was refused. The tendency was irregular. November dates opened about unchanged, and three months subsequently spurted 10*s.* to £138 10*s.*, but values eased towards the close of first 'Change, that position losing the improvement, while cash delivery registered a loss of 10*s.* About 50 tons were booked. A fair business was put through during late hours at a considerable recovery up to £140 for three months, but the market closed decidedly easier with a net rise of 10*s.* to 30*s.*, according to position, at £139 10*s.* both for cash and three months. Total sales, 250 tons. Settlement price, £139 5*s.* English ingots, £143 to £145.

The **German Steel Syndicate** has just definitely decided on a step of considerable importance—namely, to recommence the granting of export rebates. The arrangement is that on all export orders for finished goods booked since the 15th ultimo and which leave the works within three months, a rebate of 10 marks per ton shall be granted on the raw or semi-finished goods used in their manufacture and obtained from the Syndicate. This agreement may be cancelled by the Syndicate at any time after eight days, notice. So far as the wire trade is concerned, the agreement will be withdrawn should the rolled wire cartel not be renewed, no bonus being granted to members of this cartel after a decision to allow the cartel to expire. Full particulars of all orders on which it is intended to claim the rebate must be supplied to the Syndicate immediately after they are booked. Accounts will be settled quarterly, the first settlement being at the end of next December.

Discussing the **hematite iron Market** in its issue of October 25th, the *Manchester Guardian* says that the trend of the market is still downward, and the volume of business being done is very small. "The indications are that still cheaper prices will shortly prevail, but before that can come about to any material extent, it will be necessary to secure deliveries of raw material at lower rates than have been current for some time past. There is already a movement in that direction, for iron ore and fuel are quoted at slightly lower prices. Iron ore is at 16*s.* net at the mines for good average sorts, and coal is down about 1*s.* per ton, but steam qualities are selling at about 16*s.* 6*d.*, delivered. Coke is also a shade lower. It will be necessary to get much cheaper fuel before the iron trade can assume anything like a satisfactory position. Makers in the Furness district are quoting 74*s.* 6*d.* net f. o. b. for mixed Bessemer numbers, and warrant iron sellers 72*s.* 6*d.* net cash and 72*s.* 9*d.* in a month, and buyers are offering 72*s.* There are rumours that further reductions in output will shortly be made, and at one of the largest works it is stated that three furnaces will be damped down and two blown out; but there is reason to believe that the case is not so bad as that, although the output is far from satisfactory. The rail and plate mills at Barrow are on full time, but there are indications of an early slackening of activity.

The exports from West Coast ports during last week were :—Iron 7,166 tons, and steel 7,121 tons, a total of 14,287 tons, or a decrease of 3,294 tons on the corresponding week of last year. The aggregate shipments this year have reached 704,720 tons, an increase of 43,982 tons on the corresponding period of last year."

Notice has been given by the **Berlin Aniline Dye Company** of the intention to increase by subscription the capital of the concern from nine million to fourteen million marks. The extra capital is required for the acquirement of the "Auguste Victoria" coal mines and for the erection of works and plant in Norway for the manufacture of nitrate by the electrical process in which this Company has a joint interest.

We are informed that the area under **rice cultivation** in the 15 chief rice-producing districts in **Burma** is now reported at 7,286,986 acres, an increase of 16,023 acres over the figures for the previous month. The increase is distributed over nearly all districts being largest in Akyab, but in Pegu there is a decrease of nearly 4,000 acres. As compared with the revised area of last year the present estimate shows a net increase of 313,293 acres, or 4·5 per cent. The total area destroyed by floods is now given as 65,185 acres, a figure about 1,900 acres in excess of last month's estimate. The principal fluctuations are in Pegu where an increase of some 4,000 acres is due to floods near the New Martaban Railway and in Amherst where the flooded area is returned at some 2,600 acres less than in last month's estimate. The rainfall for the month was generally sufficient and seasonable and crop prospects are good.

The quantity and the value of **Gold** extracted from the **Indian mines** in September, 1907, were 44,224 oz. and Rs. 25,26,218 and those of April to September, 1907, were 270,047 oz. and Rs. 1,54,17,166. The output as compared with the corresponding periods of 1906 and 1905 was as follows :—

Month of September, 1907.

		1907.	1906.	1905.
Mysore	Oz.	42,990	45,618	51,172
	Rs.	24,53,468	26,23,392	29,41,919
Nizam's Territory.	Oz.	1,234	1,173	1,071
	Rs.	72,750	67,787	60,700

Six months, April to September, 1907.

		1907.	1906.	1905.
Mysore	Oz.	263,213	276,964	308,942
	Rs.	1,50,24,166	1,59,33,169	1,77,43,048
Nizam's Territory.	Oz.	6,834	6,987	6,686
	Rs.	3,93,000	4,00,876	3,81,840

Some extracts from a report by the newly-formed **South African Central Locust Bureau** have been printed, and it is mentioned that some 50 tons of arsenite of soda were used for destroying locusts last season. Spraying with a solution of this poison is regarded as the best means of exterminating locusts at present, so that a considerable trade should be developed. The proprietary dips in the market are either ineffectual or too expensive for the purpose. Most mechanical contrivances for the work have failed, but a resident of Port St. John's has also patented and is improving a device which under given conditions may yet prove among the best of mechanical contrivances for killing locusts. In a few words, it is a blast lamp suitably adapted for killing hoppers and fliers at rest by scorching. In a dry veld, grave danger of starting a grass fire would be an attendant risk in the use of these lamps, but as locusts are generally troublesome when the veld is green, the machine may prove serviceable, and, if it does what its inventor claims for it, economical as well. It is hoped to test this machine quite thoroughly next locust season.

The **Durax Dustless Road System**, which has proved popular in Germany and is now being introduced into England by a company specially formed for the purpose, is said to give a surface like asphalte, "freedom from dust and mud, and the resiliency of rubber paving." The "armouring material" consists of small cubes of stone 4 inches square, cut, trimmed and faced by machinery so true as to leave no interestices when set. The preliminary preparations of the road surface in the case of one that is already macadamised comprise the removal of the upper layer of metal to a depth of about 4 inches. The surface is then well rolled and levelled in order to present a solid, hard, and substantial foundation to the armouring. Upon this prepared face a thick layer of sand is distributed to serve as a cushion to the top dressing. The stones themselves are set by skilled labour, fitted together like mosaic and arranged in intersecting curves, so that the joins are broken as much as possible, this method of laying constituting one of the most important features of the system. What small space result between the stones are grouted with sharp sand, to which a little pitch may be added if desired. When the stones have been laid they are consolidated, so as to form one homogeneous flat and solid structure by heavy rammers. Owing to the cubes being faced by machinery, a perfectly level surface is presented to the traffic, over which the wheels roll easily and noiselessly, yet at the same time they give an excellent gripping surface. Cleansing and scavenging are distinctly facilitated, and no appreciable quantities of dust or mud can be produced, so that the armouring presents a highly hygienic roadway. The system is said to be proved a success in Germany, and the total cost is put at 7*s.* per superficial yard against an average for macadam of 6*s.* per similar yard.

NOTICES.

CALLS FOR TENDERS.

Ordnance Stores.

Tenders will be received by the Ordnance Officer in Charge of the Ferozepore Arsenal up to the 25th instant for the sale by public auction from time to time of condemned and unserviceable Ordnance Stores for a period of two years from 1st January, 1908.

ENQUIRIES.

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

Calculating Machines.

(143)—Makers and sellers of calculating machines of various types are requested to furnish full information to the Director-General of Commercial Intelligence at the above address. (*European and American papers please copy.*)

Bones.

(144)—A London firm desires to be placed in communication with firms in a position to export cattle thigh bones. A sample of the bones required may be seen at this office.

Jute and Hemp.

(145)—A London firm doing a large business in jute and hemp wishes to be placed in touch with Indian exporters.

Myrabolams.

(146)—A firm in London desires the addresses of exporters of myrabolams for tanning purposes.

Waste Wool.

(147)—A firm of London importers requires the addresses of exporters of waste wool from carpet factories, etc.

Hides and Skins.

(148)—A firm in London which is particularly interested in hides and skins, especially goat skins, and is in a position to sell on commission, desires to be placed in communication with exporters.

Preserved Provisions.

(149)—A London firm of provision manufacturers desires to appoint agents in Calcutta, Bombay, Madras, Karachi and Aden and invite applications from suitable firms.

Agave Fibre.

(150)—A Kangra Valley correspondent desires the addresses of English and foreign importers 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, 18th November, 1907 :—

Parliamentary Publications.

Colonial Reports—Annual Series—No. 537—British Central Africa Protectorate, 1906-07; No. 538—Bechuanaland Protectorate, 1906-07. Foreign Trade and Commerce—Monthly Accounts, September, 1907. Labour Statistics of the United Kingdom—Annual Abstract for 1905-06. Mines and Quarries—General Report and Statistics, 1906, Part II—Labour; Part III—Output. Agricultural Statistics, Ireland, 1906-07—Return of Prices of Crops, Livestock and other Irish Agricultural Products. Colonial Reports—Annual Series—No. 539—Leeward Islands, 1906-07; No. 540—Straits Settlements, 1906. Congested Districts Board for Ireland—Report for the year ending 31st March, 1907.

Foreign and Colonial Publications.

Belgium—Monthly Accounts of Trade, September, 1907. Canada—Weekly Trade Report, 7th October, 1907. Egypt—Monthly Accounts of Trade, September, 1907. Germany—Annual Accounts of Trade, 1906, parts VIII, X, XI, XII, XIII, XV, XVII, XIX and XXII. United States—(1) Foreign restrictions on American meat. (2) Freight costs and market values. (3) Cold Storage of Small Fruits. (4) American Varieties of Garden Beans. (5) Exports and Imports of Forest Products, 1906. (6) Excavating Machinery used for digging Ditches and Building Levees. (7) Public-road mileage, Revenues, and Expenditures in the United States in 1904. (8) Moisture equivalents of Soils. (9) Monthly List of Publications, August, 1907. Ceylon—Customs Returns, September, 1907. Egypt—Quarterly Return of Navigation in the Ports of Egypt and the Suez Canal—2nd quarter of 1907. Germany—Beitrage Zur Statistik Der Stadt Strassburg i. E. Mexico—Boletin de Estadistica Fiscal, April, 1907. Norway—Norges Kommunale Finanser, 1904.

Diplomatic and Consular Reports.

United States—Agriculture of the States of Oregon, Washington and Idaho for 1906. China—Visit to Southern Ports of China.

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., Ld.; 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.

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The Indian Trade Journal.

THURSDAY, NOVEMBER 14, 1907.

INDIAN COTTON SEED.

Its Industrial Possibilities.

VII.*

WE showed in our last article that for every additional five per cent. of butter blended with a ton of cotton stearine it is necessary to maintain a herd of 304 cows or 146 buffaloes, and that to make a product containing the same percentage of butter as is found in the best grades of oleomargarine the herd must number 2,128 cows or 1,022 buffaloes.

We also saw that on this latter hypothesis the products remaining to be marketed or used (besides soap-stock and whey) would be :—

Cotton cake and meal	622·2	cwts.
„ Stearine	20	„
White summer oil	60	„
Butter	7	„
Casein	2·28†	„

* Earlier articles in this series appeared in our issues of August 15th, September 19th, October 10th, 17th and 24th, and November 7th, 1907.

†If cow's milk were used there would be 3·8 cwts. of casein.

The question we have now to consider is how far the cattle required in connection with a refinery producing one ton of stearine per diem are capable of consuming the cake resulting from the necessary crushing operations.

There is unfortunately no record of any systematic experiments made in India in feeding dairy cattle exclusively or mainly upon cotton cake. We must therefore be content with analogy founded on the experience in other countries. The analogy is not perfect, for the food requirements of cattle in Europe are not identical with those of Indian cattle or with those which they themselves would probably exhibit in a warm climate.

At this point we must refer to the analyses of hulls and meal given in the third article of this series. The several constituents there enumerated have different values for feeding purposes. It is therefore necessary to find some **rule** by which the aggregate nutrient value of any food-stuff may be ascertained in a general way. This may be done with sufficient accuracy by adding together the percentages of fats and albuminoids (protein), multiplying them by $2\frac{1}{2}$, and adding to the figure thus obtained the percentages of carbohydrates (otherwise called nitrogen-free extract).

Thus from the analyses of hulls and meal given in the article referred to we take the averages and combine them as below, ignoring water, ash, and fibre and showing *total food units* :—

	Hulls.	Meal.
Protein 4·18 × 2·5 =	10·45	43·26 × 2·5 = 108·150
Fat 2·22 × 2·5 =	5·55	13·45 × 2·5 = 33·625
Carbohydrates	34·19	22·310
Total units .	50·19	Total units . 164·085
Water .	11·36	8·52
Ash .	2·73	7·02
Fibre .	45·32	5·44

We may apply this rule to any of the analyses of **Indian cotton cake** given in the same article. We take the first of these :—

Albuminoids	17·87 × 2·5 = 44·675
Oil	4·77 × 2·5 = 11·925
Carbohydrates	39·41
	96·01

Food Units.	
Moisture	10·41
Mineral matter	6·99
Fibre	20·55

The same test applied to the other analyses in the said article gives units varying from 95·1 to 97·625 with an average of 96.

Mr. Alfred Smetham, F.I.C., F.C.S., in a paper in the Journal of the Royal Lancashire Agricutural Society for 1902 (reprinted by J. Mawdsley and Son, 32, Castle Street, Liverpool) calculates, on the system described, the Food Units of various undecorticated cotton cakes (apparently Egyptian) as 107, 114, and 104; and the Food Units of whole-seed cotton meal as 137. This, of course, disregards what is called the digestible ratio. For our present purpose, however, we prefer to use the analyses given in the earlier chapters of this series. On this basis, then, the food value of Indian cotton cake (undecorticated) is to that of American meal as 96 (at the least computation) is to 164. And since the hulls in America (after elimination of the oil and linters) form 56·6 per cent. of the solid products, the mean nutrient value of these latter is to that of the single Indian solid product as 99·6 is to 96.

Cake made in England from Egyptian seed (which is free of lint) contains the husks or hulls and has the following constitution and nutrient value :—

Albuminoids	24·19 × 2·5 = 60·475
Oil	5·17 × 2·5 = 12·925
Carbohydrates	32·100
Total units	105·500
Moisture	14·13
Mineral matter	5·10
Fibre	19·31

From this it is evident that Egyptian cake is only 9·9 per cent. better than so-called "Bombay" cake in theoretical feeding value, whereas during the past year it has been selling at a difference of about £1 per ton, or 23·5 per cent. It may be added that the practical feeding tests made with sheep in England in 1904 showed the feeding value of Egyptian cake to be about 1·2 per cent. better than that of Indian cake, and the net value, including manurial value, to be only 4·7 per cent. better. Having regard to the usefulness of **linseed cake** as a food for cattle in India, it is well to show its analysis and its nutritive value. We take the average of two analyses given in agricultural Ledger No. 9 of 1903 :—

Albuminoids	27·47% × 2·5 = 68·675
Oil	10·90 × 2·5 = 27·25
Carbohydrates	36·32
Total units .	132·245
Moisture	11·70
Mineral matter	7·38
Fibre	6·23

For our present theoretical purpose, however, the feeding values of the four kinds of cake may be taken as follows :—

Cotton cake—			
Indian (undecorticated) .	96	taken as	100
Egyptian . . .	105·5	„	109·9
American (decorticated) .	164·1	„	170·9
Linseed cake . .	130·245	„	137·8

By means of this rather cumbrous calculation we may, in the absence of authentic records of feeding in India, deduce from the ratios of American and Egyptian cake in other countries the **quantities** of Indian cake which must probably be **fed to cattle** of a similar weight under equal conditions. For purposes of comparison it is well to state such data as for a uniform live weight of, say, 1,000 lbs. The following figures are taken from a statement given by Mr. Alfred Smetham in his paper already quoted.*

Food required per day per 1,000 lbs. live weight.

	Dry matter in food. lbs.	Digestible. Albuminoids. lbs.	Digestible. Carbohydrates. lbs.	Fat. lbs.	Digestible Albuminoids. Ratios.
Oxen, fattening, 1st period . .	27·0	2·5	15·0	0·50	1 to 6·5
Oxen, fattening, 2nd period . .	26·0	3·0	14·8	0·70	1 „ 5·5
Oxen, fattening, 3rd period . .	25·0	2·7	14·8	0·60	1 „ 6·0
Cows in milk .	24·0	2·5	12·5	0·40	1 „ 5·4

The last column, showing the **Digestible albuminoid Ratio**, requires explanation. This is the ratio borne by the percentage of albuminoids in a ratio to the food units of fat and carbohydrates combined, the fat being converted to terms of carbohydrates by multiplication by 2·5 as before. It must be understood that if the albuminoid ratio is lower than 1 to 7, the quantity of food which the animal is capable of digesting will not contain sufficient albuminoids. If, on the other hand, it is higher than 1 to 4, it is not fully assimilated and the surplus is wasted.

Reverting to the first of the three analyses of Indian cotton cake, we apply the above calculation as follows :—

Oil . . .	4·77 × 2·5	= 11·925
Carbohydrates . .	...	39·41
		51·335

Then as 17·87, the percentage of albuminoids, is to 51·335, so is 1 to 2·8, the albuminoid ratio of such cake.

* Other interesting data on this subject may be found in *Farmers' Bulletin No.* 22 of 1901, published by the U. S. Department of Agriculture, p. 12; Dr. Bernard Dyer's *Fertilisers and Feeding Stuffs* (London, VINTON AND CO., LD.); and McConnell's *Agricultural Note book* (London, Crosby, Lockwood and Son).

It is evident, therefore, that Indian cotton cake by itself contains an excess of albuminoids and, for dairy cattle, must be fed along with provender of less concentrated strength (such as hay) to bring the albuminoid ratio of the whole diet to about 1 to 5·4. Now, 2·5 lbs. of albuminoids is indicated in a statement above as the proper quantity per unit of 1,000 lbs. live weight in the case of cows in milk; and that quantity would be supplied by 14 lbs. of Indian cotton cake. But 14 lbs. of cake would also contain 0·67 of a lb. of fat, whereas only 0·4 of a lb. is wanted. 8·3 lbs. of cake would contain nearly the necessary fat, with 1·43 lbs. of albuminoids and 3·27 lbs. of carbohydrates. It is only necessary, therefore, to add other provender of lower strength containing the balance of 9·23 lbs. of carbohydrates and 1·1 lbs. of albuminoids. This can easily be arranged; and it therefore appears that the off-take of cotton cake per unit of 1,000 lbs. live weight of milch cattle would not exceed 8·3 lbs. This is about equal to 6 lbs. of good linseed cake.

The **live weight of Indian cattle** varies enormously, but we have been unable to find any record of typical weighments. Colonel Ewart, D.S.O., Assistant Quarter-Master General, India, has kindly had special weighments made of good types of milch cattle, and these are found to vary as follows :—

	Cows.	Buffaloes.
Maximum, maunds, . . .	9·5	17.5
Minimum ,, . . .	8	13·0
Average	8·8	15·25
,, lbs.	725	1,255

Assuming still that a herd of 1,022 buffaloes of 1,255 lbs. is maintained for the production of milk, they would constitute about 1,283 units of 1,000 lbs. live weight; and they would consume, at the rate of 8·3 lbs. per unit only, about 95 cwts. (or some 15¼ per cent.) of the 622 cwts. of cake resulting from the manufacture of the proportionate quantity of stearine. Since the percentage of butter added to the stearine would vary for different qualities, it is convenient to note that for every ten per cent. of butter an **off-take of 15¼ per cent.** of the cake produced could be relied upon. The production of a ghi substitute containing 30 per cent. of butter would, therefore, afford an outlet for about 46 per cent. of the cake manufactured. And it is to be borne in mind that a refinery would probably buy a good deal of its oil from outside sources and would have comparatively small quantities of cake to dispose of locally. In America tank wagons are now used instead of barrels for the transport of crude oil from the crushingmills to the central refinery.

There is no reason to doubt that the use of cotton cake in these large industrial dairies would furnish a valuable object lesson to the people. It would not only demonstrate the virtues of the diet, but would give the ordinary cattle owner an opportunity of learning the various methods of breaking and treating cake so as to render it palatable to animals. It would, of course, be to the advantage of companies engaging in the industry to interest themselves in supplying the people with cheap and efficient appliances for disintegrating or crushing the cake.

It is estimated that the **total number of cattle in India** is something like 121,800,000. On the other hand, only 137,400,000 lbs. of cotton cake and meal could be produced if the whole of the average Indian crop of seed were crushed for oil. It is, therefore, clear that the supply would not go very far if the habit of using the cake began to spread. That supply would furnish a daily ration of 1 lb. to only 376,400 cattle, or 0·309 per cent. of the total number of cattle. There is, unfortunately, no record of the number of **draught cattle** at work in the great cities and the centres of traffic converging on railways (where a market for such cattle feed would be found most easily); but at such places it is usually possible, to ascertain by local enquiry, the number of bullock carts plying for hire, and, from this, to deduce, approximately, the number of cattle hauling them.

Whole cotton seed is largely fed to cattle in India, and it is often asked what is the advantage of crushing. The advantage is that serious waste is avoided and money is obtained for oil which, if given in whole-seed, the digestive system of the cattle is unable to assimilate. It has been already explained that the several constituents of food must be present in certain relative proportions to produce the best results. We saw that for cows in milk these proportions should be as follows :—

	lbs.	Percentage of total nutrient matter.
Albuminoids . .	2·5	16·3
Fat . . .	0·4	2·6
Carbohydrates . .	12·5	81·1
		100

But in Indian cotton seed these constituents exist in the following proportions :—

	lbs.	Percentage of total nutrient matter.
Albuminoids . .	18·62	27·1
Fat . . .	21·53	31·4
Carbohydrates . .	28·49	41·5
		100

In other words, the ratio of fat to albuminoids ought to be only 2·6 to 16·3, or 1 to 6·3; but in whole Indian seed it is 31·4 to 27·1, or 1 to 0·86. In undecorticated cotton cake, on the other hand, the proportions are: Albuminoids 28·8 per cent., fat 7·6 per cent., carbohydrates 63·6 per cent.; so here the ratio of fat to albuminoids (1 to 3·8) is, though in defect, much nearer what is required. Now, fat or oil is a substance that can at a pinch be used by an animal to repair a deficiency in carbohydrates as a source of heat and energy. But ordinary fodder is rich in carbohydrates and a certain weight and bulk of such fodder is indispensable to ruminants. It would be extremely wasteful to make an animal break down a valuable substance like oil, which can be assimilated direct, in substitution for one of lower value; and, apart from this fact, the major part of the oil in a diet of whole-cotton seed would not be digested, but would be lost in the excrement. And since its presence in the excrement adds nothing to the fertilizing power of the manure, the loss is absolute.

We must reserve for another article the discussion of the manurial value of cotton cake.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 24th October, in the section relating to Tariff Changes and Customs Regulations, gives particulars about :—

Australian Commonwealth.—New Tariff Proposals : Comparison with Old Rates, etc. Customs Duties Passed. Evidence respecting Origin of Imports. Importation of Patent Medicines.

United States of America.—Customs Decisions.

Turkey.—Prohibition of Export of Corn and Barley.

Chile.—Method of Payment of Import Duties and Storage Dues.

Japan.—Application of New Duties to Goods in Bonded Warehouses.

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

JAPAN.

New duties to Goods in Bonded Warehouses—Application of.

H. M. Commercial Attaché at Yokohama reports that a notice was issued on 13th September to the effect that after 1st October duties would be levied on goods withdrawn from a bonded warehouse according to the rate in force at the time of withdrawal and not according to the rate at the time the application for warehousing was made, as was formerly the case.

CHAMBERS OF COMMERCE.

BURMA.

At a meeting of the Committee of the Burma Chamber of Commerce on October 24th, 1907, the following items were disposed of :—

Read the Import Sub-Committee's Report on a letter No. 6161, dated 6th September, 1907, from the Assistant Director of Statistics, Calcutta, asking for any suggestions the Chamber may have to offer regarding the proposed sub-division of the head "other sorts" under certain articles in the monthly and annual **Trade and Navigation Accounts.**

Resolved that a reply be sent in terms of the Import Sub-Committee's Report.

Read letter No. 429, dated 16th October, 1907, from the Chief Secretary to the Government of Burma, enclosing copy of letter from the Government of India in the Home Department, dealing with certain proposals for the creation of **Imperial and Provincial Advisory Councils,** and for the enlargement of the existing Imperial and Provincial Legislative Councils; and asking for the views of the Chamber thereon; also letter dated 1st October, 1907, from the European and Anglo-Indian Defence Association, Calcutta, enclosing extract from the proceedings of a meeting of the Council of the Association on the subject of non-official European representation in Indian Legislative Councils, Imperial and Provincial, and asking for the views of the Chamber with reference thereto.

Resolved that the matter be referred to a Special Sub-Committee consisting of the Hon'ble W. R. Stikeman and the Hon'ble S. Roberts for report.

Letter No. 822, dated the 28th September, from the Revenue Secretary to the Government of Burma, on the subject of the revision of the conditions of **licenses for the sale of spirits** in respect of the indication of the contents and strength of bottles sold by licensed vendors, saying that the limit of 20 per cent. under proof was adopted in accordance with the Chamber's proposal in their letter dated the 8th September, 1905; that the Lieutenant-Governor has decided to substitute the words "minimum quantity" for "actual quantity" in the conditions respecting the contents of bottles, and to modify these conditions further by making it clear that a pint bottle containing 13 oz. need not have the quantity marked on it; and that further, as regards strength, a proviso will be added allowing a margin of 5 per cent. on the indicated strength; also saying that the recommendations of the Chamber as to the minimum strength to be prescribed for gin and other spirits has been accepted.

Resolved to refer the letter to the Special Excise Sub-Committee already appointed to consider the matter.

Read letter dated the 8th October, 1907, from Messrs. Joseph Heap and Sons, Ld., Rangoon, regarding delay in transmission and mutilation of telegrams, together with copies of mutilated tele-

grams and letter from the Superintendent, Check Office, Government Telegraph Department, saying that the telegrams in question had miscarried in transit over the Indian lines; and asking the Chamber to approach the Director-General of Telegraphs with a view to the employment of **European Telegraphists** on the Home lines.

Resolved that, before addressing the Director-General of Telegraphs on the subject of the appointment of European telegraphists on the Home lines, the Calcutta, Bombay, Madras and Karachi Chambers be asked whether they would be willing to support such a recommendation.

CAPE TOWN.

We take the following figures from the proceedings of a meeting of the Cape Town Chamber of Commerce held on the 21st ultimo:—

Customs returns of Cape Colony for the eight months ending August 31st, 1907, as compared with the same period of 1906:—

	January to August.	
Imports.	£ 1907.	£ 1906.
Merchandise oversea	9,998,341	11,694,622
Stores for other S. A. Govts.	214,178	93,265
	10,212,519	11,787,887
Less exported to other S. A. Cols.	3,299,424	4,074,717
Retained for consumption in Cape Colony	6,913,095	7,713,170
For the Govt. of Cape Colony	324,079	320,988
Specie	351 588	199,476
Total value of imports	7,588,762	8 233,634
Exports.		
Oversea	29,381,067	25,618,364
Less imported from other S. A. Cols.	22,111,610	19,000 840
Oversea exports of Cape Colony produce	7,269,457	6,617,524
To other Colonies in South Africa	2,031,350	1,915,794
Imported goods re-exported oversea	273,832	269,524
Specie	353,030	174,646
Total value of exports	9,927,669	8.977.488

Return showing the value of Merchandize imported at the several Ports of Cape Colony from oversea during September, 1907, as compared with September, 1906, as conveyed by telegram:—

	September.	
Ports.	1907. £	1906. £
Cape Town	395,434	451,945
Port Nolloth	20,961	9,313
Simon's Town	3,604	12,978
Mossel Bay	27,667	31,050
Knysna	1,809	1,457
Port Elizabeth	483,427	613,269
Port Alfred	...	...
East London	231,310	329,270
St. John's	382	189
Total	1,164,594	1,450.071

BOMBAY MILLOWNERS' ASSOCIATION.

The following excerpts are taken from the proceedings of the Committee of the Bombay Millowners' Association during the month of September, 1907:—

Read draft letter to Government, urging that in view of the proposed **enlargement of the Provincial Legislative Councils**, the privilege of returning one of its members as an accredited representative on the Bombay Legislative Council be extended *to this Association.*

It was pointed out that having regard to the magnitude of the interests represented by the Mill *Industry*, and to the expressed intention of the Secretary of State for India of "making adequate provision for representing the mercantile and industrial classes," the Committee felt it incumbent on them to take this opportunity of respectfully placing the claims of the Millowners' Association before the Government. It was shown how vast were the interests and influences of the Mill Industry in this Presidency, which represented a capital estimated at nearly 13 crores of Rupees and which paid annually in excise duty to the State the sum of Rs. 24,36,265. It employed 142,460 operatives on whom were dependent for their maintenance about 284,900 persons; and in the city alone it contributed by way of Municipal rates and taxes the large sum of Rs. 3,50,000 in round figures, or little over $\frac{1}{16}$ part of the amount of the total property tax collected. Moreover, besides the operatives there was a large class of investors and traders whose income chiefly depended on the profits of the local industry. Thus it would be no exaggeration to state that at least one-fourth of the city's population was directly and indirectly dependent on it.

In these circumstances the Committee ventured to state that the interests represented by the Association could not but be considered of the greatest importance; and as Provincial Governments had been enjoined by the Secretary of State to provide for any important interest which was not specified in the general scheme, the Committee called attention to the appeal now made by the Millowners' Association, and trusted that His Excellency the Governor in Council would be good enough to accord the Association the same privilege as might be granted to other public bodies.

In conclusion, it was added that the Millowners felt keenly the absence of any official recognition of the Association that represented their interests, though it had been in existence for fully 30 years, and had at various times been called upon to give its advice to the governing authorities; and it was hoped that the reasons above urged in support of their request would commend themselves to Government, and that the right of electing a representative to a seat in the contemplated enlarged Legislative Council of the Presidency would be conceded to this Association.

Resolution.—Letter to be sent in.

Read telegram and letter from the Under Secretary to the Government of India, Department of Commerce and Industry, asking the Association, in consultation with the Chamber of Commerce, to submit to the Government of India, as soon as possible, the name of the gentleman they wished to nominate as the joint representative of both bodies on the proposed **Factory Labour Commission.**

Resolution.—That the Chamber of Commerce be informed that the Committee, having ascertained his qualifications, have nominated Mr. J. B. Leslie-Rogers, the Secretary, as their representative.

In reply to this letter the Chamber intimated that they regretted they could not see their way to spare Mr. Leslie-Rogers' services as Secretary of the Chamber for the lengthy period of seven months required by the Factory Labour Commission.

The matter again received the careful consideration of the Committee and they eventually unanimously decided to nominate their Chairman the Hon. Mr. Vithaldas Damodar Thackersey. This nomination having been accepted by the Chamber, Government were addressed accordingly.

Read letter from the Bombay Government stating that the question of the desirability of further increasing the staff of **Boiler Inspectors** in order to avoid delays in the examination of new boilers due to insufficiency of the staff, is under consideration. With regard to the Association's objection to the hydraulic testing of new boilers, Government stated that they were not disposed to limit the senior Inspector's discretionary powers in applying the test before allotting pressure to such boilers.

In regard to the question of the necessity for steel mountings for boilers in certain cases, Government intimated that a rule will shortly be published provisionally to give effect to the decision of Government, previously communicated to the Association by the Collector of Bombay.

Resolution.—To be recorded.

Read further letters from the Director-General of Commercial Intelligence forwarding copies of letters received by him from various **Yarn Merchants in Europe.**

Resolution.—The Director-General to be thanked for his letters, and copies of extracts to be circulated to members.

Read further letter from the Director-General of Commercial Intelligence, forwarding **samples of Cotton goods,** sent by the British Consul General in **Beirut,** and reported to be now most in demand at Beirut.

Resolution.—The Director-General to be thanked for his letter, and members to be informed that the samples are available for inspection on application to the Secretary.

Read letter from the Director-General of Commercial Intelligence, Government of India, stating that the range of samples of **Cotton goods** furnished to the Association in March, 1902, may still be regarded as representing very fairly the goods that find the readiest sale in **Smyrna.**

Resolution.—The Director-General to be thanked for his letter, but it should be explained to him that the samples sent on the 6th of March, 1902, by the Consul General at Smyrna, are not now complete or satisfactory as specimens. The Committee therefore suggested that a fresh range of samples might be procured, if feasible.

Read letter from the Secretary, Chamber of Commerce, giving cover to a letter from Mr. Heinreich Kahan of Budapest, asking for information regarding **Cotton Yarn** produced in India, etc.

Resolution.—Letter to be acknowledged and printed copies to be circulated to each member.

Read letter from the Baroda Spinning and Weaving Company, Limited, enquiring as to the actual **Expense of Calendering** goods per pound.

Resolution.—The writer to be informed that the cost of calendering goods per pound is estimated at from 2 to 3 pies.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 2nd NOVEMBER, 1907.

Rajputana.—The autumn crops are being harvested, the outturn is estimated at half the normal or slightly better in Bikaner, Kotah, Jhalawar, Karauli and Dholpur; elsewhere the estimate is generally four to five annas. Spring sowings have been started in a few places. Speaking generally the situation still depends on the character of the winter rains and if these are favourable direct relief on a large scale will probably not be required. Many people are now employed on grass and fodder collection. The condition of cattle is good. Pasturage is sufficient. Prices of common staple food-grains range from 11 seers in Bharatpur to 17 in Kotah and Shahpur and 22½ seers per rupee in Bundi. Prices are everywhere very much over the normal; since last week they have fallen in Jaisalmer and Kishangarh, risen in Bundi, Dholpur and Karauli, and are practically steady elsewhere.

Central India.—No rain. Spring sowings are in progress but are confined to irrigable lands except in Malwa, Bhopal, and Bhopawar; sowing has been completed in Indore, where gram sowings have largely taken the place of wheat. Irrigated autumn crops are satisfactory but unirrigated crops have been seriously damaged everywhere by continued drought except in Malwa where they are fair to good. The condition of agricultural stock is fair to good except in parts of Bhopal and Bhopawar. Fodder is sufficient except in parts of Bhopal. Prices of food-grains are high in Malwa and continue very high elsewhere, with a tendency to rise. Test works have been opened in Nagode and are about to open where necessary in Rewah and in the Sheopur district of Gwalior. The general situation is as it was last week.

Central Provinces.—Days continue warm and clear and nights cool; the week was rainless. Autumn crops continue to deteriorate except where irrigation is possible. The damage is serious in the Northern and Satpura districts and in Nimar. Picking of cotton and harvesting of autumn crops are in progress all over the Provinces. Sowings of spring crops continue and germination is reported fair to good in Jubbulpur, Narsingpur, Hoshangabad, Nimar, Wardha, Bhandara, and Bilaspur. Linseed has been damaged in parts of Hoshangabad for want of moisture and is being replaced by gram, linseed has also been considerably damaged in Bhandara. Some damage to the standing crops is being

caused by insect pests in Chanda and Mandla and by locusts or grasshoppers in Betul, Wardha and Nagpur. Rain is urgently required everywhere for spring crops. Fodder and water are adequate. The price of food-grains remained stationary in ten districts; *juar* become cheaper in Amraoti and Buldana by two and four seers, respectively, but rose in Akola by two seers.

Native States.—No rain fell during the week. Withering of crops is reported as considerable in Sakti and Korea. Spring sowings are in progress in Sarangarh. Germination of wheat and linseed is not satisfactory in Rajnandgaon. Harvesting of autumn crops continues. Fodder and water are sufficient. Rice in Raigarh and wheat in Korea became dearer by two seers; the price of rice rose by four seers in Korea.

Bombay.—Rain is generally needed for germinated spring seedlings and for further sowings. The standing crops are withering in parts of Sind, Gujarat, Khandesh, Ahmednagar, Poona, Sholapur, Bijapur, Baroda, Rewa Kantha and Palanpur, otherwise they are in good condition except for slight damage by rats in parts of Karachi and by insects in parts of Thar and Parkar, Ahmednagar and Bijapur. Harvesting of autumn crops generally continues; spring sowings are in progress in parts of Karachi, Upper Sind Frontier, Ahmedabad, Kaira, Broach, Surat, East Khandesh, Satara, Dharwar, Kathiawar, Baroda, and Cutch, but are retarded in parts of Ahmednagar, Poona, Sholapur, and Bijapur. Cotton picking continues in parts of Sukkur, Thar and Parkar, West Khandesh, and Ahmednagar. Water in irrigation tanks and canals is sufficient except in parts of Sind, Surat, West Khandesh and Sholapur. The quantity of food-grains purchasable per rupee is in the Karnatak 19 to 32 per cent.; in the Deccan 8 to 42 per cent.; in the Konkan 17 to 30 per cent.; in Gujarat 20 to 56 per cent.; and in Sind 31 to 38 per cent. less than the normal. During the week ending 26th October 27 persons were relieved gratuitously in Belgaum. The river is still falling in Sind and prospects are gloomy over a large area. The autumn outturn in Gujarat and the North Deccan is poor and late sown unirrigated crops are mostly withered and are being cut in places for fodder. Further rain will greatly improve spring prospects. Fodder, water and grain stocks are sufficient. Agricultural stock is in good condition. The condition of the cultivating and labouring classes is fair.

Hyderabad.—The standing spring crops are withering in parts and rain is very urgently required. The autumn and early rice harvest continues; the outturn of the former is estimated at about eight annas in parts and the crop is distinctly good; in some parts it is however estimated at from two to four annas only. The outturn of early rice is estimated at about eight annas. There is no present actual distress but if the rain holds off the labouring classes will suffer. The situation will develop in two or three weeks. Prices :—wheat 5¼; coarse rice 6⅓; and *jowar* 12½ seers per rupee; *jowar* is selling Hyderabad city at 11½ seers, and in Sillode and Parqi taluqnas at 8½ seers.

Mysore.—There was slight rain in parts of Mysore, Hassan and Kadur, but none elsewhere. The prices of food-grains are steady. Standing crops are withering in parts of Bangalore, Tumkur, Mysore, Hassan, and Chitaldroog for want of rain. The prospects of the season are good but rain is badly wanted throughout the province. Cattle are generally healthy. Water and fodder are available.

Coorg.—Rainfall 1 inch 32 cents. Cardamom picking continues. Coffee is ripening. Prices of food-grains are normal. Water and fodder are sufficient. Agricultural prospects are good.

Madras.—The rainfall was heavy in South Arcot; good in Tanjore, Madras, Chingleput, Tinnevelly, Malabar, North Arcot; light to fair in Nellore, Trichinopoly, Madura, Salem, South Canara, Coimbatore, Nilgiri, Cuddaph; *nil* elsewhere. Irrigation supplies are insufficient in parts of all districts except in Coimbatore, Tanjore, Malabar, South Canara, and Nilgiris. Ploughing, sowing, weeding, and transplanting are in progress in parts. The standing crops are generally, fair, but some in parts of Ganjam, Vizagapatam, Godavari, Kurnool, and Bellary are withering, and some in parts of Kistna, Guntur, Anantapur, Cuddapah and Salem require more rain. Harvests continue with outturn poor to normal generally. Pasture is sufficient except in parts of Godavari, Kistna, the Deccan and Nellore. Fodder is scanty in parts of Ganjam, Godavari, Kistna, Nellore, and Tanjore. The condition of cattle is generally good. The price of rice is stationary in twelve districts; has fallen in four; and has slightly risen in seven. The prices of millets have fluctuated as follows:—*Ragi* is stationary in four districts; has fallen in six; and has slightly risen in eleven. *Cholam* is stationary in two districts; has fallen in three; and has slightly risen in nine. *Cumbu* is stationary in two districts; has fallen in four; and has slightly risen in nine. Prospects are fair but more rain is required in parts of some districts. The condition of the labouring classes is good and employment is available. Prices are high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

Nepal.—*Report for the quarter ending 15th October, 1907.*—The rainfall in the Nepal Valley for the period was 28·69 against 26·51 for the corresponding period in 1906.

July.—The standing crop of Indian corn and early rice did well.

August.—Rice sowing commenced in the Terai. The crops of Indian corn and rice both in the hills and valley prospered and there was a good fruit harvest.

September.—Chillies and early rice were gathered in Nepal and the outturn was very good. Millet was harvested in the hills, the Indian corn crops both in the hills and the lower valleys were exceptionally good. Early winter vegetables, mustard and potatoes for the first crop commenced to be sown.

October.—Lowland rice has been harvested in the hills and valleys, the outturn being very good. Pepper is being picked and garlic and onions sown.

The market is well stocked and the price of food grains continues normal. The health of live-stock continues good throughout the country. The summer crop of rice and the rice crops on irrigated lands throughout the Terai have been good but the lack of later rain in the Terai has seriously affected the autumn crops on unirrigated lands, particularly in the western Terai in Butwal and Nepalganj. There is no intention, however, on the part of the Nepal Durbar to restrict exportation of grain. The prices of grain throughout the Terai are much inflated owing to the high rates advanced by the grain dealers for the purchase of the expected harvest.

EASTERN BENGAL AND ASSAM.
CROP PROSPECTS.

(*By Telegram.*)

Shillong, Nov. 12th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 11th instant:—

There has again been no rain in Eastern Bengal and the Surma Valley, and only slight local showers in the Assam Valley and hill districts.

The **winter rice** on the higher fields is **withering** for want of rain, but good fields are expected from the low land.

The sowing of **rabi crops** continues, but prospects are poor owing to the drought.

Rain is also required for **tea**; leaf is scarce, and mosquito blight is still severe in Cachar.

Cattle disease prevails in seven districts.

The **prices of common rice** have fallen in seven districts, but have risen in the same number.

Stocks of food grains are sufficient for the present and will shortly be replenished by the winter harvest.

Future prospects are worst in Bogra, but the people are fairly well off. In other districts there does not appear to be any well founded apprehension of scarcity at present.

No more **agricultural loans** have been distributed.

THE THREATENED SCARCITY.
Outlook Growing Worse.

The following is a copy of a telegram, dated the 11th instant, regarding crop prospects, despatched by the Viceroy to the Secretary of State:—

Fairly general rain fell during the week in Madras and Lower Burma, but in the latter Province the falls were light. Elsewhere the week was rainless and the outlook is steadily growing worse. There must now, we fear, be a considerable contraction in the area of the spring crops throughout North-West and Central India.

The demand for labour still continues in the United Provinces of Agra and Oudh and general distress has not yet made its appearance, but test works have already been opened in one district of this Province and are on the point of being started in another.

The prospects of the winter rice crops in Bengal are getting most unfavourable, but though the shortage of food stocks causes anxiety in some districts, there is at present no apprehension of general scarcity.

Prices are very high everywhere.

BONEMEAL AND SALTPETRE.
A Manure for Paddy.

Reference has frequently been made in the publications of the Agricultural Department, Bengal, to the success obtained with paddy by the application of bonemeal and saltpetre as a manure. Last year a quantity of these manures was distributed free by that Department with the assistance of the Burdwan Raj Estate to selected raiyats in the districts of Burdwan, Hooghly and Birbhum. The statement below has been compiled from the figures supplied by the Dewan of the Estate. It will be seen that the **average outturn per bigha** was 13·4 maunds of grain and 18·2 maunds of straw in the case of the fields treated with bonemeal and saltpetre as compared with 6·5 maunds of grain and 9·9 maunds of straw from the unmanured lands. The increase in value *per bigha* was a little more than Rs. 25, whereas the **cost of the manures was about Rs. 4 only.**

Name of district.	Name of village.	Outturn per bigha where 1 maund bonemeal and 10 seers saltpetre were applied per bigha.		Outturn per bigha where no manure was applied.		Remarks.
		Paddy.	Straw.	Paddy.	Straw.	
		Mds.	Mds.	Mds.	Mds.	Weights are given in standard maunds.
Burdwan	Mithapukur	15	21	6	8	
Ditto	Mirzapur	15	21	9	11	
Ditto	Beliarah	15	22	9	15	
Ditto	Rayan	9	15	6	9	
Ditto	Kurmoon	13	20	7	11	
Ditto	Urah	13	19	5	8	
Ditto	Ditto	18	19½	12	18	
Ditto	Sareil	14	19	6	9	
Ditto	Sanko	12	17	6	8	
Ditto	Ditto	13	18	6	8	
Ditto	Ughrah	10	12	8	11	
Ditto	Sankory	16	22	11	17	
Hooghly	Rasulpur	15	21	7	9	
Ditto	Ditto	13	19	8	10	
Ditto	Ditto	16	22	8	11	
Birbhum	Nagari	13	16	3	7	
Ditto	Naugulia	12	14	2	6	
Ditto	Birojpur	11	14	2	5	
Ditto	Bataspur	12	15	2	8	
	Total	255	346½	123	189	The value of the paddy was Rs. 2-12 per maund.
	Average	13⅔	18⅕	6⅔	9.⅔	The value of the straw was As. 12 per maund.
	Value in Rupees	36⅓	13⅓	17⅓	7.⅓	The cost of 1 maund bonemeal and 10 seers saltpetre may be taken to be Rs. 4.
		50⅔		25⅓		

COTTON CONSUMPTION AND STOCKS.

Following out the suggestion recently made by a Liverpool correspondent that the returns of the International Federation of Cotton Spinners' and Manufacturers' Associations would be very much more useful for purposes of comparison if reduced to a per-spindle basis, the following analysis has been made by the *Manchester Guardian* showing the consumption of cotton of all growths per spindle during the last two seasons and the end-of-the-season stocks per spindle in each year. The figures in every case represent decimal fractions of a bale per spindle. Owing to the varying weights of the bales used in different countries, and even in the same country, it is not possible to reduce the returns to pounds per spindle :—

	Seasons' consumption of all growths, in bales per spindle.		Mill stocks, in bales per spindle, on August 31st.	
	1906-07.	1905-06.	1907.	1906.
Great Britain	·080	·080	·0095	·0092
Germany	·181	·183	·0545	·0382
France	·140	·139	·0288	·0201
Austria	·197	·191	·0772	·0430
Italy	·255	·283	·0898	·0698
Switzerland	·063	·065	·0188	·0129
Belgium	·172	·171	·0544	·0341
Spain	·184	·205	·0325	·0119
Portugal	·243	·198	·0491	·0579
Russia	·233	*	·0644	*
Holland	·186	*	·0436	*
Sweden	·234	*	·0545	*
Norway	·162	*	·0298	*
Denmark	·419	*	·0242	*
Levant	·565	*	·0586	*
Egypt	·112	*	·0129	*
Japan	·787	*	·2665	*
United States of America.	·190	*	·0380	*

* No returns.

Several facts of importance may be deduced from this analysis. Of paramount interest are the unusually large end-of-season stocks in all important sections of the Continent, Germany, Austria, and Italy in particular. The fact that the invisible (mill) stocks of Great Britain are exactly the same per spindle as last year, which appears at first sight surprising when compared with continental returns, is probably due to the fact that English mills are accustomed to carry, to a large extent, their surplus stocks in warehouses in Manchester and Liverpool, where it can be financed easily (in most cases importing merchants carrying the cotton under contract to deliver it gradually as required by spinners). This accounts for the comparatively small increase of English spinners' "takings" last season over the preceding one in contrast to the large excess of takings by the continental spinners, who lack stock-carrying markets so near their doors as Liverpool and Manchester are to the Lancashire mills. Such large reserve stocks seem to indicate that the actual consumption was little in excess of 12½ million bales of American cotton last season.

Another fact established is the surprisingly small variation in the amount consumed per spindle in the two seasons. It might have been expected that some reduction would have been shown in consequence of the general tendency towards finer counts, but this tendency was probably counteracted by the lowness of the grade of the American crop, and also by the larger use of Indian cotton. It goes without saying that the figures given are but approximations towards truth, and not absolutely comparable. The varying growths and weights of bales involved cannot be allowed for. Still they afford a very valuable contribution to cotton market statistics, and the Federation, which has already earned the thanks of the trade for its half-yearly census, will deserve further thanks if in future it publishes analyses similar to the foregoing.

AFRICAN VANILLA CULTURE.

Methods of Growth and Preparation.

Consul-General Richard Guenther, U. S. A., of Frankfort, quotes from the exhaustive report of Richard Gomolla in the *Tropenpflanzer* the following summary as to the cultivation and preparation of vanilla in German East Africa, which should not be devoid of interest in India :—

The best variety of vanilla comes from vanilla planifolia, which requires a mucky, porous soil. The plant thrives up to a height of about 1,600 feet above sea level, and as its fleshy roots do not penetrate deep into the soil it requires only a proportionately thin layer of soil. The plant bears merchantable fruit in the third year, sometimes even in the second year, which require from seven to eight months to mature, and the harvest takes place from April to June. Five to seven harvests are made from the same plant before it is exhausted. New plants must not be planted in the same place of the old.

Protection against wind, also shade, is of great importance for the growth of the plant, and therefore the fields must be surrounded by trees and hedges. Grubs and snails are enemies of the vanilla plant ; the former eat the roots, the latter the young sprouts and beans. While in the third year only about one-tenth part of the plants blossom, the percentage increases from year to year up to the seventh. The cultivation of vanilla in German East Africa is impeded by the absence of insects which are instrumental in fructifying the vanilla blossoms. Each separate flower has therefore to be fructified by human hands, the cover of the stigma being raised by means of a thin little rod and the pollen, which is just above the cover, is pressed against the stigma.

When the young beans have grown to the length of a finger, they must be closely inspected and all defective ones must be cut off. The beans mature from seven to eight months after the fructification process. The ripe beans have a yellowish green colour.

The way of preparing the beans varies, but an ever increasing temperature is required to dry them and obtain the well-known brown-black colour. In this way the thin-skinned bean with its fine aroma is produced. If hot water is used for heating the beans, they are placed in baskets and immersed in it. The water has a temperature of 80° to 84° R. Afterwards the beans are packed into wooden boxes, which are lined with woollen cloth, and closed. The next day they must have a glassy appearance. They are then again wrapped in dark woollen covers and laid in the sun to dry. If the weather is rainy, they must be dried in a dry-room at a temperature of 50° R., but an after drying in an airy room of from two to four weeks is necessary. After that the dry beans are packed in tin boxes, where they, however, require close inspection, and have to be repacked every week in order to remove diseased beans or such which have become mouldy.

The value of the beans is measured by their length, which is from 12 to 25 centimetres (centimetre = 0·393 inches). For shipment they are sorted, bound in bundles, and put into tight but not soldered tin boxes, which are now lined with paper instead of tin-foil as formerly. Black mould is especially dangerous to the beans, while white mould is rather harmless.

NICOTINELESS TOBACCO.

What is popularly known as "Caporal doux," or the so-called "nicotineless tobacco," in France, is, says the *Journal of the Society of Arts*, simply ordinary caporal tobacco which has been treated by washing with water until the ordinary proportion of 2½ per cent. of nicotine has been reduced to 1 per cent. In this form it is used for smoking in pipes and for the manufacture of cigarettes, which find a certain favour among smokers who prefer a light flavour, or who by reason of nervous or cardiac weakness are wary of nicotine. Ordinary caporal is a mixture of French, American, and Oriental tobaccos, prepared by the Règie or Government establishments, which have a monopoly of the manufacture of tobacco, cigars, and cigarettes in France. It has a somewhat rank, but not unpleasant flavour, and is the cheapest and most popular form of tobacco used in France. The American Consul-General in Paris says that about eight months ago the French Government, finding that there was a growing demand for a so-called "nicotineless tobacco," which had been made on a small scale by certain druggists, and was also manufactured in Belgium, began the manufacture of a similar product by denicotinising caporal tobacco through the action of water, which, in reducing the proportion of nicotine from 2½ to 1 per cent., also washes out other ingredients, so that the weight of the tobacco is reduced according to the quality of the leaf, from 15 to 30 per cent. It is this loss of weight rather than the actual expense of the process which constitutes the cost of denicotinising and explains the fact that ordinary caporal tobacco is advanced so much in value when denicotinised. The process of washing is simple, and is facilitated by the use of automatic machinery, but it requires careful and constant supervision by a skilled and trustworthy workman, in order that a uniform product containing the specified percentage of nicotine may be obtained. It is too soon to form any conclusion as to the extent to which denicotinised tobacco and cigarettes may be used in France. It is now on sale in Paris and in eighty other municipalities throughout the country. During the four months from January 1st to April 30th last, there were sold by the Règie to dealers in Paris 26 tons of denicotinised tobacco, and 5 tons or 50,000,000 cigarettes, made from the same material. To smokers accustomed to full-flavoured tobacco the smoke of "caporal doux" is somewhat insipid. Its one advantage is that 25 cigarettes made of it contain only the same amount of nicotine as 10 of ordinary "caporal" and its narcotic action upon the heart and nervous system is proportionately reduced.

SERICULTURE IN CRETE.

The following report on sericulture in Crete has been forwarded to the Board of Trade by the British Vice-Consul at Canea (Mr. E. C. Wyldbore Smith) and will be read with interest by sericulturists in India :—

"Sericulture in Crete is at present in a very primitive state, owing to a great extent, to the lack of energy in the temperament of the natives. A want of capital also, no doubt, impedes many would-be native sericulturists from establishing business on a large scale.

"The districts in which the culture is most seriously carried on are the prefectures of Candia and Lassithi in the Western, and the prefectures of Canea and Sphakia in the Eastern portion of the island, but there would appear to be no reason whatever why the industry should not be carried on with an equal prospect of success throughout the island, the climatic conditions of which are all in its favour, extremes of heat and cold being unknown.

Scarcity of Mulberry Trees.

"At present there is a scarcity of mulberry trees for the sustenance of the silkworms, but this defect is being gradually remedied, and during the winter trees are daily planted, the soil being particularly suitable to this class of tree. Seed is imported in boxes weighing about one ounce avoirdupois and worth 2*s.* 6*d.* per box. About 4,000 of these boxes are imported annually—the large majority from France, the rest from Prussia and Greece. Eggs are also obtained from native cocoons, but at present with but partial success, since at the end of the

second year the cocoon becomes orange coloured and of a bad quality, and is worth only half its original value. It is estimated that in the Prefecture of Candia about 140 lb. weight of eggs is obtained annually. These eggs of native production fetch about the same price as the French imported article, and are exported chiefly to Persia.

"The average total annual production of fresh cocoons from all districts in the island is estimated at 2,110 cwt., but when dried the cocoons would represent only about 803 cwt. or one-third of their original weight. The local price for fresh cocoons is about 3 francs and for dried cocoons about 9 francs per kilo.

"The dried cocoons are for the most part exported to France. Buyers from Milan are reported to have been making enquiries lately with a view to effecting purchases in the Cretan market should prices be suitable. About one-third of the total production of cocoons remains in the island and is used for the purpose of manufacturing a common silk which is sold locally and is also sent to Tripoli, Smyrna and Alexandria. About 200 cwt. of this coarse silk is thus produced, the local price being about 16*s.* per kilo.

"In nearly every Cretan cottage stands a roughly-constructed loom on which this native product is woven into lengths and employed in the manufacture of shirts, sheets, curtains, etc. It is of an extremely durable nature and will stand frequently washing without deterioration. This silk is, as a rule, of a creamy colour, but the peasants, who are fond of gay colours, dye it in every shade.

Primitive Methods.

"The systems in current use, both for destroying the chrysalis and for withdrawing the silk into threads from the cocoons, are of the most primitive description. In the former case, the fresh cocoon is steamed until the chrysalis within is destroyed. In the latter, the method locally employed is to place a small quantity of cocoons (say 1 lb. weight) into a cauldron of water that is just at boiling point; the operator then takes each cocoon separately and proceeds to spin the small silk threads on a rough wheel; when a skein of silk thread of sufficient weight (say 2 lb.) has thus been spun, it is placed in the sun to dry, after which it is ready for sale.

"To sum up, then, the elements necessary to extend the silk industry in Crete are as follows:—(1) A continuance of the present state of political tranquillity in the island; (2) plantation of mulberry trees on an increased scale; (3) the adoption of more modern methods throughout the various stages of the industry.

"In view of the increased prices which the peasant silk-rearers have been able to obtain for their products, they are without doubt carrying on silk culture with redoubled vigour."

TRADE OF SWATOW.

Appreciation of Silver.

In reviewing the trade of the port of Swatow for the year 1906, Mr. Consul Hausser says that a further progress in the appreciation of silver has to be noted. Exchange, which on January 1st was 2*s.* $0\frac{9}{16}d.$, stood at the close of the year at 2*s.* $2\frac{3}{32}d.$, representing from the Chinese point of view a decline in the value of gold to the extent of about 9 per cent. On the whole, he says, the trade of the year was not good, business being specially dull until the end of September. Disturbances in the interior were of frequent occurrence, and those who had money sent their property to Swatow for safe custody. Money was consequently plentiful, and the rate of interest ruling during this period was the lowest on record, *viz.*, 3 to 4 per cent. After September money tightened and the rate rose to 10 and 11 per cent. per annum.

Foreign Imports.

The gross value of the trade, *i. e.*, imports of foreign goods from foreign countries and Chinese ports, imports of native produce, and exports of local origin to foreign countries and Chinese ports, amounted to 44,481,811 Haikuan taels (£7,320,965), the net value of the trade being 43,159,013 Haikuan taels (£7,103,255). Compared with the figures for 1905, as given in last year's report, this shows a reduction in currency of over 4,500,000 taels, though in sterling the difference amounts only to £65,423. It should, however, be noted that according to the customs returns the gross trade for 1905 was 48,982,452 Haikuan taels (£7,367,777, at an exchange of 3*s.* $0\frac{1}{16}d.$). Imports from foreign countries show in currency a falling-off of 405,422 Haikuan taels. Imports from native ports showed a decrease of 2,299,619 Haikuan taels and exports to native ports a decrease of 1,844,518 Haikuan taels. The only increases are in exports to foreign countries, 48,918 Haikuan taels, and re-exports 288,396 Haikuan taels. Below we give a few particulars of commodities of interest to Indian trade:—

Indian Opium.

The import of all sorts of opium in 1905 was 550,465 lbs., value £420,360, and in 1906, 584,009 lbs., value £433,097. The business in Patna and Benares was fairly satisfactory, Benares showing an increase of over 180 piculs (24,000 lbs.). In Malwa the reverse was the case, the price having been affected by the competition of native opium, the production of which shows no sign of any diminution. The steady yearly increase in the import of native opium is shown by the following figures:—

Year.	Quantity.
	Lbs.
1903	79,599
1904	196,518
1905	403,866
1906	433,466

Of this import the bulk consisted of Ssuchuan opium, 375,200 lbs., valued at £209,976, having been imported in 1906.

Cotton Goods and Yarn.

The trade in cotton goods has been marked by no special feature. Dealers and distributing shops complain as usual of small margins and limited consumption, but judging from the returns, the usual amount of trade appears to have passed through their hands. Generally speaking, the piece-goods market was unfavourable owing to the congestion of stocks in Hongkong, and business was neither brisk nor profitable. In cotton yarn the market was very restricted, and prices declined. The total import was 171,408 cwts., or 16,305 cwts. less than in 1905. Imports of cotton, flannel and crape manufactured in Japan are finding favour, and are likely to supplant the nankeens which have hitherto been in great demand here, being woven locally from imported cotton yarn.

The Sugar Industry.

Of sugar, the staple export product of the Swatow district, the export was 387,632 cwts. brown, and 275,278 cwts. white, as compared with 586,895 cwts. brown, and 370,721 cwts. white, during the previous year. In piculs the total export this year was 556,845 piculs. The annual production was formerly 1,400,000 to 1,500,000 piculs, and Swatow sugar supplied almost all the markets in the Yangtse and North China ports, but now refined sugar from Hongkong and from Japan, and imports of Java sugar from Hongkong are gradually supplanting the local product. During 1906 there was a phenomenal fall in the prices of raw and refined sugar all over the East of from 3 to 4 dol. (dol. = Re. 1-8) per picul, the prospects therefore of the Swatow industry are by no means encouraging just now for growers.

Owing to the gradual decay of the sugar industry of late years much land has gone out of cultivation. With a view to the reorganisation of the local sugar industry and restoration to its former prosperity, deputies from the Bureau of Trade at Canton have recently visited the port to investigate the local conditions, and for their information the local Chamber of Commerce was called on to furnish a report on the subject. The following details, extracted from this report as published in one of the native newspapers recently, may be of interest:—

Local Sugar Mills.

The area in the Swatow district now under sugar cultivation is estimated at about 150,000 mou or say 22,500 acres in all, the native sugar crushing mills numbering about 2,000. These work on the average 100 days in the year, each establishment turning out from 600 to 1,000 piculs or about 700 to 1,200 cwts. of sugar. Each mill employs some 25 hands at wages of 350 cash per man per diem, the hours of labour being from 5 A. M. to 9 P. M. In the Cheng-hai district the sugarcane is purchased from the cultivators by the mill owners, but in the Chao-Chow and other districts, where the cultivation is more scattered, a mill is set up by the nearest villagers and hired out in turn at so much per day. Each mou of land will produce about 700 catties of sugar, about 55 bunches of stalks being required to produce 100 catties of juice. White sugar now fetches from 7 dol. to 8 dol. 80 c. per picul, according to quality; that locally known as foreign sugar, which is slightly inferior to the white, costing 6 dol. to 6 dol. 50 c. per picul, and so-called "Ching-Tang" about 5 dol. per picul. Two years ago the produce in sugarcane of 1 mou of land fetched 38 to 39 dol., whilst this winter and spring the value of the cane was not more than 21 to 22 dol. per mou, each mou of land producing about 700 catties of sugar.

Method of Cultivation.

As regards mode of cultivation, the land is planted once a year, during the first, second or third months, the cane maturing in about 10 months. Each mou of land is planted with 1,100 or 1,200 bunches of cane in rows about 1 foot apart, each bunch consisting of 5 to 9 stalks of cane. If planted too closely together the sun does not penetrate sufficiently and the crop suffers. In the first year the crop is raised from cuttings which are steeped in water for three days and then covered over with sand or straw and watered once a day. In the second and third years the crop is grown from the old roots which are allowed to remain, banked up with mud, after the cane is cut. In the fourth year the roots are stubbed up and the land is planted with some other crop. The fertiliser almost exclusively used is bean cake, the cost of which is about 7 taels per mou for good level ground, but 9 taels for poor and hilly land.

TRADE OF CHEFOO.

Cotton Piece-goods.

We see from the Report on the Trade of Chefoo for 1906, by Mr. Consul Herbert F. Brady, that the gross value of the trade of Chefoo amounted in 1906 to 40,459,655 taels (£6,658,985), as compared with 44,352,585 taels (£6,671,367) in 1905, showing a falling-off in currency of 3,392,930 taels. These figures are exclusive of treasure, the import and export of which, during the year under review, were valued at 4,205,207 taels (£692,108) and 4,009,910 taels (£659,964), respectively.

Of all the imports into Chefoo, that of cotton piece-goods is by far the most important, the value in 1906 being equal to almost 50 per cent. of the entire import trade. Shirtings and sheetings, both British and American, increased considerably in quantity compared with 1905; no Japanese sheetings were imported during 1906, as a large stock remained over from the previous year.

Jeans and T-cloths also show a great improvement, especially those of British manufacture, the figures being as follows:—84,942 pieces of Jeans

valued at £36,744 for 1906, as against 52,070 pieces in 1905; and 76,674 pieces of T-cloths, valued at £32,114 for 1906, as against 47,158 pieces in 1905.

Against this, however, American drills hold the market with 155.231 pieces, compared to British 6.918 pieces. No imports of Japanese drills are shown this year, whereas in 1905 there was an import of 20.383 pieces, which apparently was in excess of the demand for this class of goods.

Indian Yarn.

In yarn, the Japanese article predominates, figuring to the extent of 66,553 cwts., of the value of £233,698; but this is barely half the quantity taken in 1902, and 1903, and only slightly in excess of the amount brought in in 1904; Indian yarn comes next, but only to the extent of 12,196 cwts., which compares unfavourably with previous years, when it stood at 45,745 cwts. in 1902, and at 28.904 cwts. in 1903. British yarn figures only to the amount of 484 cwts. Altogether the imports of yarn have dropped during the last five years from 175,693 cwts. to 79,268 cwts.

The market for cotton goods generally opened very badly, but improved in the autumn, owing, it is said to the condition of affairs in Manchuria

Japanese Methods.

The Japanese are now the only merchants who stock goods in the Chefoo district; others having long since given up the practice, as it was found they could not compete with the larger markets in Shanghai and Hongkong. The difference in practice is to be found in the fact that apparently no business is too small for the Japanese trader, who is always ready to break up a bale or parcel of goods to suit his customer, whereas the European merchant will decline to sell in driblets. The Japanese trader carries on a small retail business and peddling with considerable success. It is easier for him to get in touch with the native shopkeepers and people generally, and he loses no opportunity of doing so. There are large firms established at Chefoo, but for the most part the business is done by small traders.

Woollen goods show a slight improvement, aggregating in value £19,633; but they are not, and never have been in great demand, although one would suppose the severity of the winter climate would lead to their adoption. The fact proves, as has before now been said, how poor are the masses of the people, and how conservative the few that are wealthy.

Sugar Imports.

The total imports of sugar have remained practically the same as in 1905, but are double the quantity of the two previous years. The greater part of it comes from the refineries in Hongkong, though large quantities of native sugar (from Swatow principally) are also consumed in this district. The latter amounted to 76,337 cwts. (£54,891) in 1906, as compared with 89,190 cwts. £47.353, in 1905. Brown sugar is still the kind most largely in demand though both white and refined are also increasing in favour.

Indian vs. Manchurian Opium.

The opium trade is entirely in the hands of Chinese, foreign merchants having long since ceased to take any interest in it. Of the Indian article the import amounted to 717 cwts., which shows a slight increase of 23 cwts. on the average import during the previous five years. The Indian drug, however, has never found a large sale in Chefoo, the native grown article as well as the Manchurian variety, being generally preferred. The latter has been in considerable demand of late years, but figures are not available. No Persian opium is consumed in the district.

The Silk Trade.

The year commenced with a bad market for raw silk, but improved in the autumn. The Japanese are showing a greater interest in raw silk than they used to show, and it is reported that they have acquired a site in Antung for the erection of a filature: this cannot but affect Chefoo. There are three filatures with foreign machinery, and about 20 with Chinese reels, employing about 8,500 men, in operation at the port, but two of the former have had to close down owing to the short crop of cocoons and the high price demanded for them. The cocoons are chiefly imported from Manchuria *vid* Tatungkow and Antung. Considerable purchases were made during the year for the Tsingtau filatures.

The value of the silk exported amounted to £500,000.

NEW REFERENCE BOOKS.

PITMAN'S WHERE TO LOOK.
An Easy Guide to Books of Reference. 7½ × 4½, xvii + 151 pp. . . . . 1s. net.
Sir Isaac Pitman.

THE CHEMICAL TRADE DIRECTORY, 1907.
Third Edition. 9½ × 6, 327 pp. . . . . 10s.
The Chemical Trade Journal.

DICTIONARY OF THE WORLD'S COMMERCIAL PRODUCTS.
By J. A. SLATER. Second Edition. (Revised.) (Pitman's Commercial Series.) 8½ × 5½, 163 pp. 2s. 6d.
Sir Isaac Pitman.

THE LAW OF SALES.
By a Solicitor. 7½ × 4½, 132 pp. . . . . 3s. 6d.
H. Cox.

THE LAW RELATING TO FREIGHT.
By J. E. R. STEPHENS. 8½ × 5½, 222 pp. . . 7s. 6d.
The Syren and Shipping (Limited); and Sweet and Maxwell.

WAGE-EARNERS' BUDGETS.
A Study of Standards and Cost of Living in New York City. By LOUISE BOLARD MORE. With a Preface by FRANKLIN H. GIDDINGS, Professor of Sociology in Columbia University. (Greenwich House Series of Social Studies, No. 1.) 8½ × 5½, 280 pp. . . . . 10s.6d. net
New York: Holt. London: Bell.

OUR FACTORY WORKERS.
The Conditions under which they work. By C. H. NORMAN. (Anti-capitalist.) . . . 1d.
Twentieth Century Press.

Quantity (in lbs.) of *Indian and Foreign* Tea exported by sea from British India from 1st April to 30th September, 1907:—

Countries to which exported.	April.	May.	June.	July.	August.	September.	TOTAL.
INDIAN.							
United Kingdom	1,292,290	3,262,802	5,692,992	18,804,145	25,959,946	23,098,019	78,110,194
Cape of Good Hope	50	...	1,575	...	900	...	2,525
Natal	300	10	1,000	72	1,120	6,690	9,192
Zanzibar and Pemba	3,787	1,367	3,446	3,106	14,160	3,344	29,210
Other Territories in East Africa under British influence	3,213	4,512	4,720	8,484	6,738	8,440	36,107
Somaliland	...	...	810	...	...	...	810
Mauritius	10	4,116	...	...	...	...	4,126
Seychelles	...	...	...	225	...	300	525
Aden	7,053	6,550	18,403	31,059	32,409	39,364	134,838
Bahrein Islands	21,188	8,910	17,640	19,254	23,200	16,293	106,485
Straits Settlements	9,331	18,776	12,082	18,530	28,970	23,868	111,557
Ceylon	199,988	118,424	449,951	833,179	1,127,605	539,642	3,268,789
Hongkong	1,040	15,691	1,632	113,067	138,255	92,337	362,022
Australia	18,272	4,000	143,197	1,178,660	1,994,130	3,322,053	6,660,312
New Zealand	2,410	820	240	25,773	94,223	51,497	174,963
Canada	328,802	199,628	444,344	366,608	647,462	643,566	2,630,410
Russia	26,010	3,560	520,246	2,418,677	2,218,730	2,631,863	7,819,086
Sweden	...	...	...	...	...	98	98
Norway	...	...	...	2,000	...	1,800	3,800
Denmark	...	...	2,390	...	...	...	2,390
Germany	3,428	170	46,600	75,146	173,859	123,217	422,420
Holland	...	...	...	...	39,837	18,320	58,157
Belgium	120	134	96	5,236	49,892	336	55,814
France	2,982	4,930	1,429	7,200	6,645	3,736	26,922
Italy	310	600	700	200	649	50	2,509
Austria-Hungary	2,060	387	196	2,561	36,489	19,908	61,601
Greece	...	...	...	...	20	648	668
Roumania	...	...	...	...	6,600	15,400	22,000
Turkey, European	13,613	6,600	29,642	18,318	73,993	55,771	197,937
,, Asiatic	96,169	106,247	167,971	307,981	536,168	857,237	2,071,773
Egypt	1,272	1,080	2,810	39,871	131,447	38,716	215,196
French East Africa	...	420	...	...	...	...	420
German East Africa	1,140	...	200	710	1,312	560	3,922
Portuguese East Africa	...	926	270	1,905	1,548	720	5,369
Madagascar	...	...	...	...	95	880	975
Arabia	19,005	...	4,200	24,715	6,525	6,127	60,572
Java	...	...	200	...	...	60	260
Mekran and Sonmiani	...	80	...	...	...	...	80
Persia	53,970	91,067	198,538	170,016	87,843	71,592	673,026
Siam	2,234	2,002	1,863	1,131	442	...	7,672
China (exclusive of Hongkong and Macáo)	...	40	38,268	411,645	1,805,734	1,764,967	4,020654
Korea	...	...	...	...	100	...	100
Japan	...	...	...	...	...	...	110
United States	2,670	110 14,085	33,075	358,712	308,878	387,134	1,104,554
Mexico	...	...	...	...	...	40	40
Chile	...	2,000	2,000	...	4,000	...	8,000
Dutch Guiana	...	...	...	380	...	...	380
TOTAL	2,112,717	3,880,044	7,842,726	25,248,566	35,559,924	33,844,593	108,488,570
Indian tea exported from native (non-British) ports in Travancore to the United Kingdom lbs.	...	17,510	32,469	...	15,485	19,995	85,459
Indian tea exported from native (non-British) ports in Travancore to the United Kingdom Rs.	...	8,755	16,234	...	7,743	9,997	42,729
,, ,, ,, ,, other countries lbs.	...	...	...	...	...	1,365	1,365
,, ,, ,, ,, other countries Rs.	...	...	...	...	...	683	683
FOREIGN.							
United Kingdom	...	...	...	...	...	60	60
Gibraltar	...	...	...	24	...	...	24
Zanzibar and Pemba	...	...	...	...	1,355	1,145	2,500
Other Territories in East Africa under British influence.	157	200	120	245	85	...	807
Mauritius	50	...	400	...	...	70	520
Seychelles	...	...	...	236	...	...	236
Aden	...	...	...	...	69	590	659
Bahrein Islands	1,360	10,438	4,540	7,740	4,160	7,690	35,928
Ceylon	...	...	...	252	...	...	252
Germany	...	70	...	...	...	...	70
France	46	...	...	...	...	...	46
Turkey, Asiatic	2,728	8,211	9,525	24,147	34,490	29,619	108,720
Egypt	...	...	...	...	1,715	...	1,715
Portuguese East Africa	1,220	750	885	2,404	1,600	890	7,749
German East Africa	...	96	50	250	210	...	606
Madagascar	80	...	...	140	...	160	380
Arabia	1,695	9,748	12,478	4 560	...	4,231	32,712
Persia	25,395	31,402	38,281	95,819	35,512	13,499	239,908
Siam	...	...	...	200	...	...	200
TOTAL	32,731	60,915	66,279	136,017	79,196	57,954	433,092

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in the Indian mills in September, 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 September			Six Months, April to September		
	1905	1906	1907	1905	1906	1907
British India.						
Bombay	41,239,370	38,730,978	39,069,149	254,427,134	246,799,614	230,810,670
Madras	3,001,856	2,280,723	3,106,138	18,243,811	17,599,425	19,138,492
Bengal	4,477,637	3,353,076	4,077,121	25,789,206	23,138,507	20,702,631
United Provinces of Agra and Oudh (also Ajmer-Merwara)	2,930,107	2,762,804	2,969,291	16,518,197	17,184,769	17,709,608
Punjab	1,222,894	1,040,861	1,001,823	7,039,723	7,191,756	6,310,005
Central Provinces and Berar	2,441,233	2,100,742	2,258,441	14,925,997	13,684,696	14,143,819
Total	55,313,097	50,269,184	52,481,963	336,944,068	325,598,767	308,815,225
Foreign Territory.						
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	2,025,672	1,822,245	1,983,912	13,056,786	12,098,029	12,026,695
GRAND TOTAL	57,338,769	52,091,429	54,465,875	350,000,854	337,696,796	320,841,920

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 1906 and 1907.]

		Month of September			Six Months, April to September		
		1905	1906	1907	1905	1906	1907
British India.							
Bombay	pounds	12,946,832	12,733,093	15,882,361	68,337,226	67,819,328	76,839,527
	yards	42,872,694	54,881,053	70,776,394	241,573,072	309,990,129	337,055,902
	dozens	45,481	82,960	70,629	132,605	298,267	352,872
Madras	pounds	698,168	643,628	601,716	4,197,288	3,915,112	3,869,181
	yards	1,142,589	2,128,162	1,850,464	6,081,986	13,300,839	12,602,749
	dozens	...	2,010	324	..	5,586	7,411
Bengal	pounds	45,456	104,757	293,756	328,450	661,772	835,774
	yards	152,187	490,747	1,167,683	1,211,858	2,963,107	3,627,993
United Provinces of Agra and Oudh (also Ajmer-Merwara).	pounds	725,571	659,568	744,391	3,693,876	3,716,534	4,043,946
	yards	2,742,380	2,739,774	3,079,383	14,063,658	15,420,889	16,246,961
	dozens	...	2,010	4,545	..	19,238	25,413
Panjab	pounds	35,796	29,179	32,706	140,417	196,842	216,658
	yards	96,235	89,863	85,130	394,687	581,817	589,863
	dozens	...	23	279	...	94	935
Central Provinces and Berar.	pounds	752,830	743,501	702,036	4,145,521	3,517,276	3,875,982
	yards	2,242,966	2,900,293	2,858,880	12,029,059	14,216,670	15,903,072
	dozens	...	432	853	..	1,917	4,464
Total	pounds	15,204,653	14,913,726	18,256,966	80,842,778	79,826,854	89,681,138
	yards	49,249,051	63,229,892	79,817,934	275,354,320	347,473,451	386,026,540
	dozens	45,481	87,435	76,630	132,605	325,102	391,096
Foreign Territory.							
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, and Wadhwan.	pounds	636,625	532,578	586,337	3,484,052	3,351,127	3,602,951
	yards	2,424,251	2,104,397	2,119,982	13,748,846	13,072,153	13,888,476
GRAND TOTAL	pounds	15,841,278	15,446,304	18,843,303	84,326,830	83,177,991	93,284,089
	yards	51,673,302	65,334,289	81,937,916	289,103,166	360,545,604	399,915,016
	dozens	45,481	87,435	76,630	132,605	325,102	391,096

FOOD-GRAINS AND SALT.

Retail Prices of certain food-grains and salt at selected stations for the first half of October, 1907. (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 0	...	...	...	...	...	...	0 10
Toungoo	1 10	...	...	...	...	...	...	1 5
Eastern Bengal and Assam—								
Rangpur	2 6	2 0	...	...	...	...	...	1 4
Backerganj	2 6	...	...	...	...	...	...	1 0
Bengal—								
Calcutta	2 0	1 11	...	...	...	...	...	0 10
Patna	1 8	1 9	1 2	...	...	...	...	0 11
United Provinces—								
Cawnpore	...	1 11	1 5	1 5	1 4	..	1 5	0 9
Fyzabad	...	2 1	1 6	...	...	...	1 6	0 11
Meerut	...	1 10	1 4	1 4	1 5	...	1 5	0 8
Punjab—								
Delhi	..	1 11	1 4	1 3	1 5	...	1 5	0 9
Amritsar	...	1 7	0 10	1 0	1 2	...	1 2	0 7
Ráwalpindi	...	1 7	1 2	1 0	1 3	...	1 4	0 7
Sind—								
Karáchi	...	2 0	...	1 3	1 3	...	1 5	0 7
Bombay—								
Belgaum	...	1 9	...	1 0	1 0	...	...	0 10
Ahmadnagar	...	1 10	...	1 2	1 1	...	...	0 9
Bombay	...	1 9	...	1 5	1 4	...	...	0 11
Ahmadabad	...	2 3	...	1 5	1 7	...	...	0 7
Central Provinces—								
Jubbulpore	...	1 11	...	...	...	...	1 8	1 0
Nagpur	2 3	1 9	...	1 7	...	...	1 9	1 1
Raipur	1 10	1 9	...	...	...	...	1 5	1 2
Madras—								
Bellary	2 3	...	...	1 1	...	1 0	...	0 11
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 2	...	...	1 4	1 6	1 2	...	0 10

—The once popular ditty about the person who wore a paper collar round his neck, paper boots on his feet, and carried a paper walking-stick in his hand is recalled by the accounts of the progress which is being made in the manufacture and manipulation of **paper yarn in Germany.** When first introduced, paper yarn was expected to be a mere commercial curiosity, but its success has been such that proposals are being made to start several mills for its manufacture in the United States. It consists of cellulose made into flat strips of varying width and thickness; these are spun on specially constructed machines, sometimes with the addition of a fine cotton thread. According to an American official report paper yarn can be manufactured from wood fibre far cheaper than yarn made from shoddy or cotton waste. In the mills of Saxony the labour cost of producing one kilo (2·2 pounds) of paper yarn is about a third of a penny, and the wholesale selling price is at present about five pence a pound. There are now two mills in Germany turning out 20 tons of paper yarn a day. One manufacturer of carpets has placed an order for 600 tons of the new material, and one of the biggest jute spinning firms on the Continent has contracted for the sole right to make sacking of paper and jute yarns in combination. Amongst other things, tapestries, druggets, towellings, laces, and underclothing have been made from the new yarn. It is said that it does not ignite readily, and it is strong and flexible. For loosely woven "cellular" clothing it is believed that it will do admirably. A slight admixture of cotton seems to increase its strength and flexibility; "Xyolin," one of the best-known paper yarns, contains 2 to 5 per cent. of cotton.

WEEKLY TRADE MOVEMENTS.

For the week ending 9th November, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.		316,699
	Bombay "		198,125
	Madras "		...
Indian— Exports by sea from	Calcutta "		361,832
	Bombay "		4,490,000
	Madras "		...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	13,952,878
	Bombay "	3,172,682
	Karachi "	1,207,972
	Madras "	118,653
	Rangoon "	79,832

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	4,131,202
	Bombay "	2,092,911
	Karachi "	3,300,808
	Madras "	46,726
	Rangoon "	996,546

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	2,306,816
	Bombay "	3,233,081
	Karachi "	1,354,789
	Madras "	11,903
	Rangoon "	1,022,725

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	27,268
	Bombay* "	3,131
	Karachi "	9,904
	Madras "	1,578

Raw Cotton.

Imports into Bombay	By sea	cwt.	786
	Coastwise	"	12,775
Imports into Karachi by rail		"	59,544
" " Calcutta by rail and river		"	1 350
		"	4,805

JUTE.

Arrivals by all routes in	Calcutta, cwt.		895,838
Exports by sea from Calcutta	Gunny bags, No.		4,746,150
	" cloth, yds.		13,936,900
	Jute, cwt.		469,128
Chittagong—Jute	"		50,279

TEA.

Arrivals by all routes in	Calcutta, lbs.		5,076,738
Exports by sea from	Calcutta "		5,588,480
	Chittagong "		1,842,710

WHEAT.

Imports into	Calcutta by rail and river, cwt.		51,950
	Karachi by rail "		112,282
Bombay	By sea "		1,741
	Coastwise "		41,690
	By rail "		12,377
Exports by sea from	Calcutta "		830
	Bombay "		422
	Karachi "		282,871

RICE.

Arrivals by all routes in	Calcutta, cwt.		116,635
Exports by sea from	Calcutta "		28,329
	Chittagong "		...
	Bombay "		3,895
	Karachi "		35,448
	Madras "		7
	Rangoon "		91,110

LINSEED.

Imports into	Calcutta by rail and river, cwt.		37,093
Bombay	By sea "		314
	Coastwise "		615
	By rail "		15,626
Karachi by rail		"	...
Exports by sea from	Calcutta "		92,398
	Bombay "		46,726
	Karachi "		...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river, cwt.		20,395
Bombay	By sea "		...
	Coastwise "		46
	By rail "		2,344
Karachi by rail		"	14,649
Exports by sea from	Calcutta "		88
	Bombay "		5,885
	Karachi "		19,887

COTTON SEED.

Exports by sea from Bombay,	cwt.		59,486

* B. B. & C. I. Ry. figures only.

The following are the Bombay trade figures for last week received too late for insertion in last week's *Journal*:—Cotton Goods:—Twist and Yarn, Foreign—206,336; Indian—3,195,690, Foreign Piece goods Grey—5,376,353; White—5,739,287; others 5,663,598. Despatches of Piece Goods by rail—5,582. Wheat arrivals by rail—23,747: by sea—4,488; Coastwise—23,144. Wheat exports—1,290. Rice—19,898. Linseed arrivals by rail—12,355; by sea—171. Coastwise 254. Linseed exports, 5,993. Rape and Mustard seed, arrivals by rail—2,899: by sea—nil. Coastwise—nil. Rape and Mustard Seed exports—13,075. Imports of Kerosene oil by sea from Russia—684,524 Imports of Refined Sugar by Sea from United Kingdom—57. From Germany—2. from Java—2,815; from Mauritius—17,669 from other Non-European Countries—60; total Refined Sugar—50,603. Raw cotton arrivals by rail—43,857. by sea—255, Coastise—18,667. Cotton Seed—9,113.

KEROSENE OIL, WEEK ENDING 9th NOVEMBER, 1907.

Imports by sea into—	From Russia.	From America.	From all other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	938,462	...	938,462
Bombay	...	..	...	...
Karachi	...	...	...	...
Madras	...	...	...	...

Exports by sea from Burma to	Bengal	galls.	1,011,300
	E. B. & Assam	"	...
	Bombay	"	...
	Sind	"	...
	Madras	"	...
	Indian Ports, Non-Br.	"	...
	Foreign Ports	"	...

IMPORTS OF SUGAR, WEEK ENDING 9th NOVEMBER, 1907.

Country of Shipment.	Refined sugar imported into: Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	3	...	27	4	40	...	74
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	13,342	...	...	13,342
Other European Countries	...	...	...	...	...	...	...
Java	82,369	...	20,731	9,482	...	20,103	132,685
Mauritius	...	...	32,391	...	...	...	32,391
Other Non-European Countries	...	...	298	...	...	60	358
Total refined							178,850
Total unrefined							119
Grand Total, cwt.							178,969

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08. Sold in sale of 8th November. Packages.	Average price per lb. A. P.	Sold to 8th November. Packages.	Average price per lb. A. P.	Season 1906-07. Sold in sale of 9th November. Packages.	Average price per lb. A. P.	Sold to 9th November. Packages.	Average price per lb. A. P.
Assam	7,361	7 6	135,279	7 5·7	7,109	6 5·1	106,660	6 9·3
Cachar	5,558	6 6·8	109,883	6 1	4,169	4 3	96,852	4 2·3
Sylhet	3,324	6 8·5	87,041	6 0·8	3,549	4 2·5	73,161	3 11·2
Darjeeling	1,240	10 4·4	47,845	8 11·9	1,672	7 5·8	45,653	8 7·6
Dooars	5,669	7 1·8	132,978	6 8·1	7,173	5 6·6	117,757	5 3·3
Terai	504	6 11·6	17,239	6 2·4	942	4 5·4	25,620	4 2·8
Chittagong	185	6 9·1	6,843	6 2	821	4 2·7	9,062	4 1·2
Chota-Nagpore	...	...	609	5 2·5	...	...	236	4 8·5
Kumaon and Kangra	11	6 3	3,401	5 10·9	...	...	120	5 0
Madras	...	...	285	6 1·2	140	5 1	286	4 10·8
Dehra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	..	...	247	6 9·3	...	...	...	...
Total	23,852	7 2·6	541,854	6 10·3	25,575	5 5·2	475,457	5 5·1

(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 28,087 packages Dust* sold to 8th November As. P. 4 0·2

* On account of gardens which sell only that grade on this market.

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 (3*a*.)
2. Accounts relating to the Sea-borne Trade and Navigation of British India for the Calendar Year. As. 8 (2*a*.)
3. Annual Statement of the Sea-borne Trade and Navigation of British India:—
   - Vol. I—Abstract and detailed Tables of Imports and Exports. R3. (15*a*.)
   - 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. (10*a*.)
4. Annual Statement of the Coasting Trade and Navigation of British India. R2. (7*a*.)
5. Accounts of the trade of Aden. As. 10. (1*a*.)
6. Accounts of the Trade carried by Rail and River in India. R1-12. (6*a*.)
7. Report on the Rail-borne and River-borne Trade of Bengal. R4. (7*a*.)
8. Report on the Trade of Bengal with Nepal, Tibet, Sikkim and Bhutan. R1-8. (3*a*.)
9. Prices and Wages in India. R1-2. (3*a*.)
10. Financial and Commercial Statistics of British India. R4. (12*a*.)
11. Judicial and Administrative Statistics of British India. R2. (10*a*.)
12. Agricultural Statistics of India. R3½. (12*a*.)
    - Vol. I.—British India.
    - Vol. II.—Native States.
13. Area and Yield of certain principal Crops in India. As. 5. (2*a*.)
14. Production of Tea in India. As. 8. (2*a*.)
15. Note on the production of Coal in India. As. 10. (3*a*).
16. Note on the production of Coffee in India. As. 4. (1*a*).
17. List of Joint Stock Companies in British India for 1906. R2. (2*a*.)

QUARTERLY.

18. Accounts of Trade carried by Rail and River in India. As. 8. (3*a*.)

MONTHLY.

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

MISCELLANEOUS.

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

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., 16, James Street, Hay Market, London, W.
Bernard Quaritch, 15, Piccadilly, London.
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., Charing Cross Road, W.C.
Mr. B. H. Blackwell, 50 and 51, Broad Street, Oxford.
Messrs. Grindlay & Co., 54, Parliament Street, London, S.W.

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., Ld., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoon, Bombay.
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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, R
Messrs. S. Murthy & Co., Madras.
Messrs. Thompson & Co., Madras.
Messrs. Temple & Co., Madras.
Messrs. Combridge & Co., Madras.
P. R. Rama Iyer & Co., Madras.
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Messrs. Gopal Narayan & Co., Bombay.
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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:—		
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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
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DAILY LISTS—IMPORTS OR EXPORTS (separately).

One copy of either per annum	65	0
„ „ „ „ „ half-year	35	0
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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.

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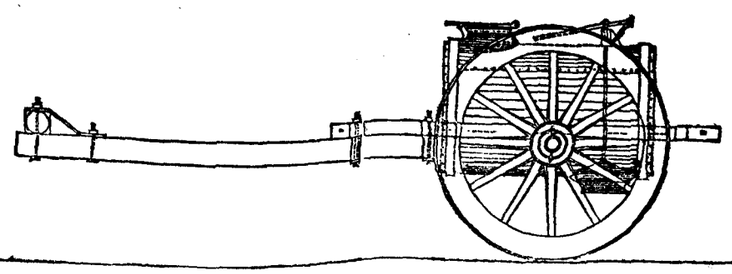
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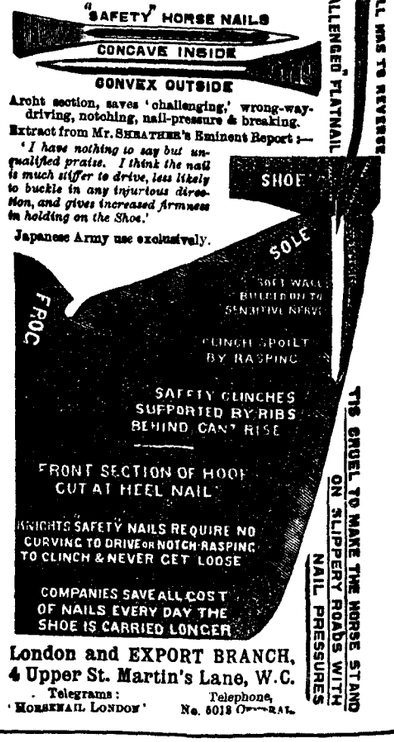
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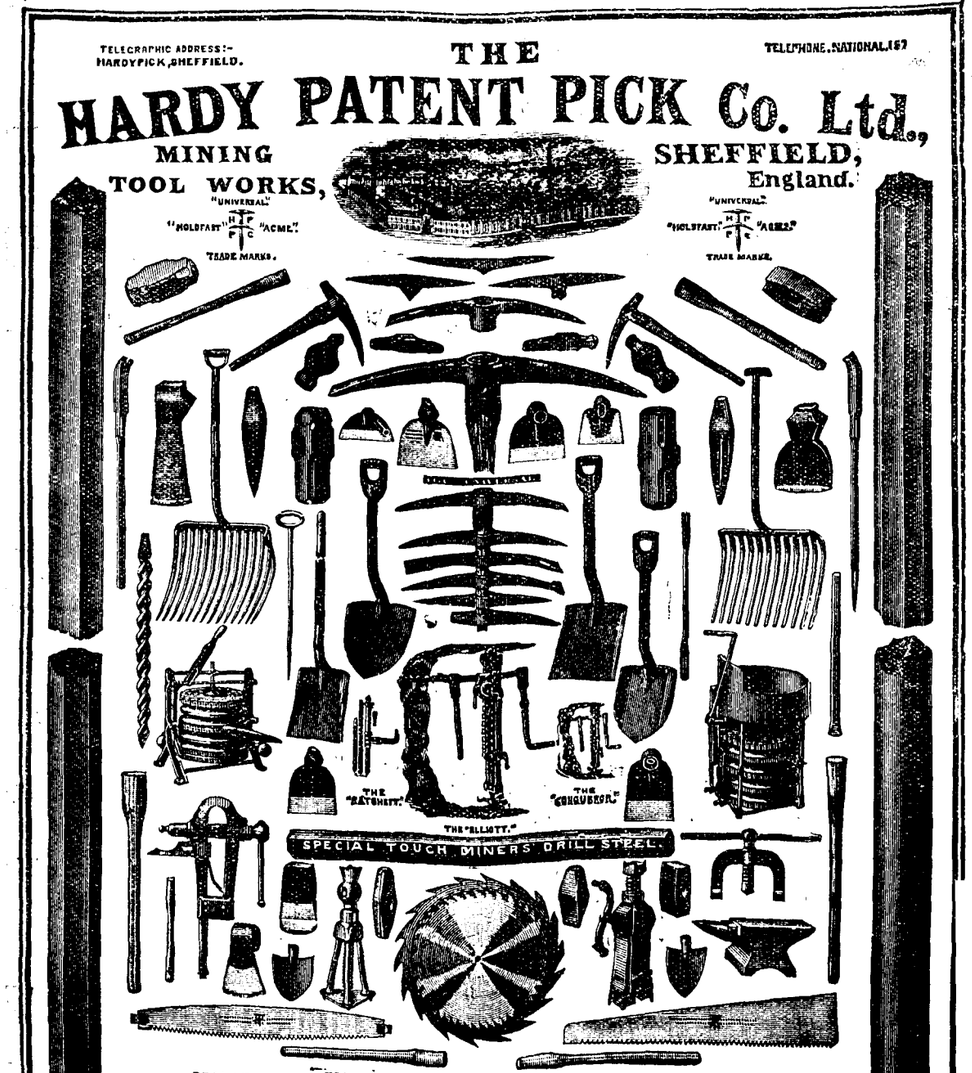
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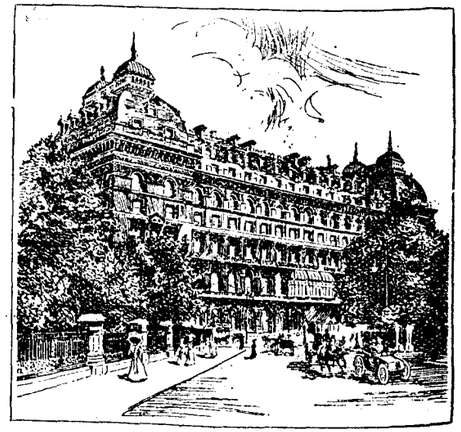
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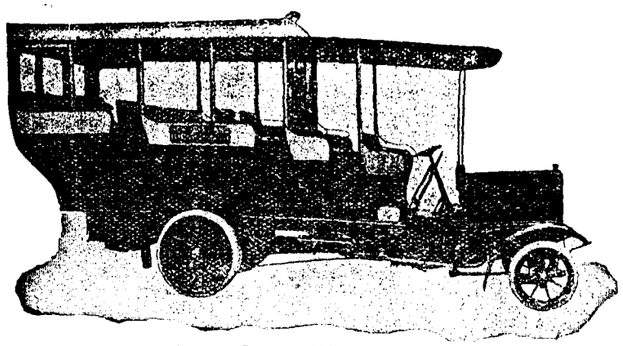
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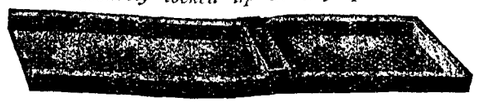
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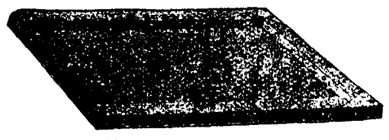
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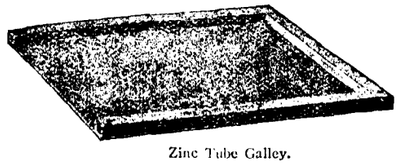


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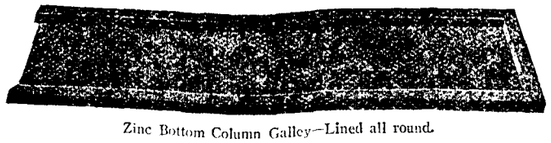


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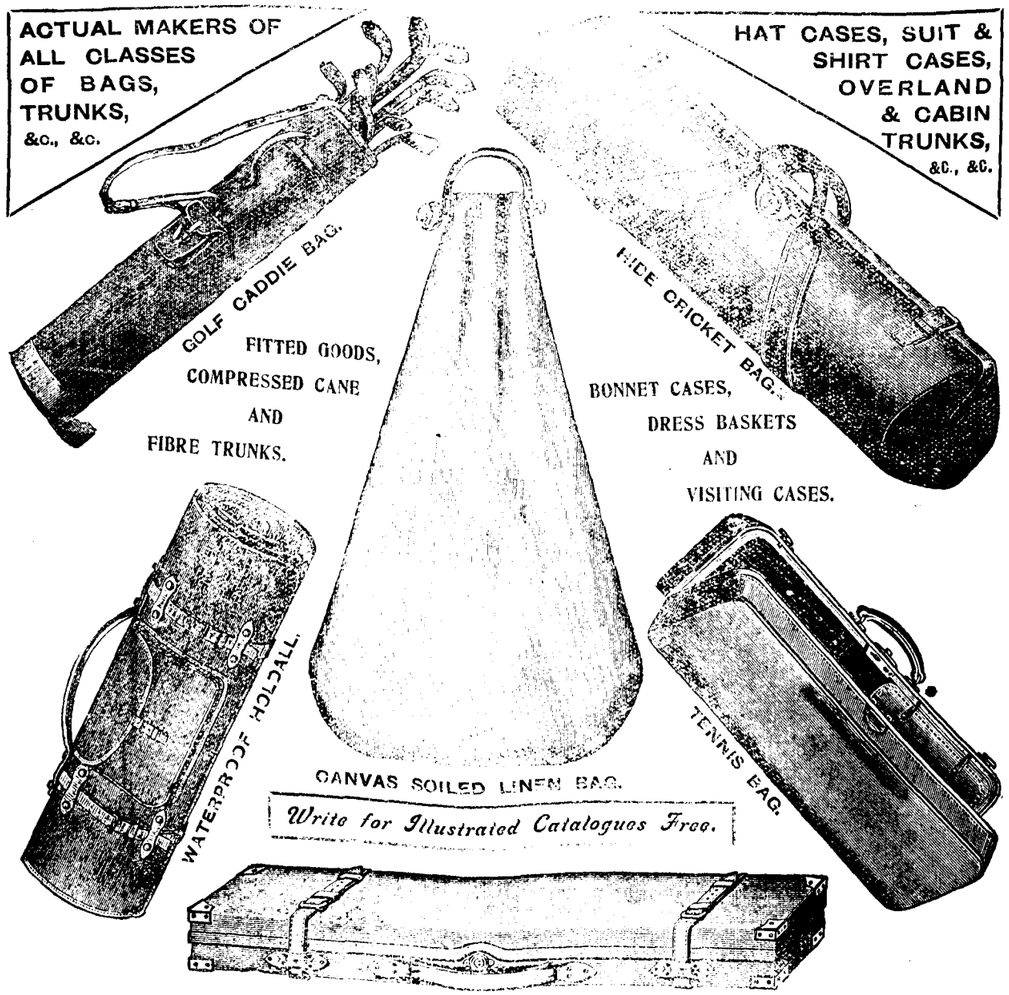
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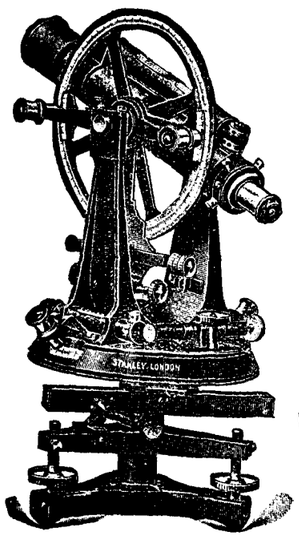


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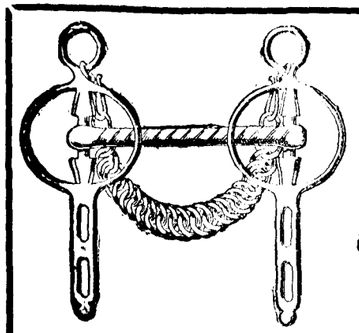
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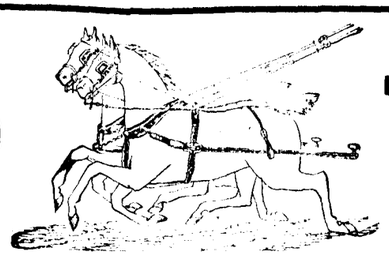
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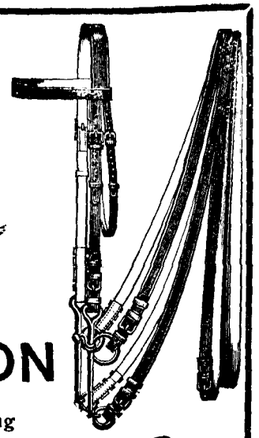
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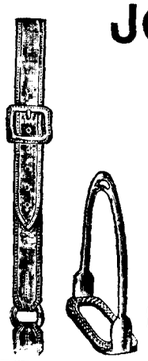
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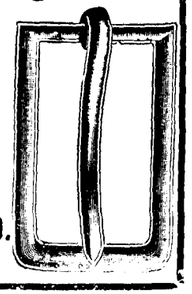
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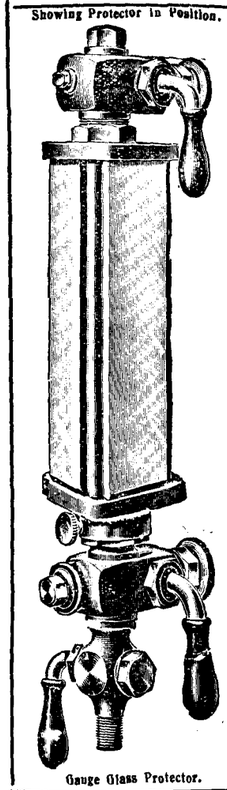
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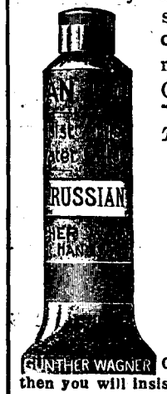
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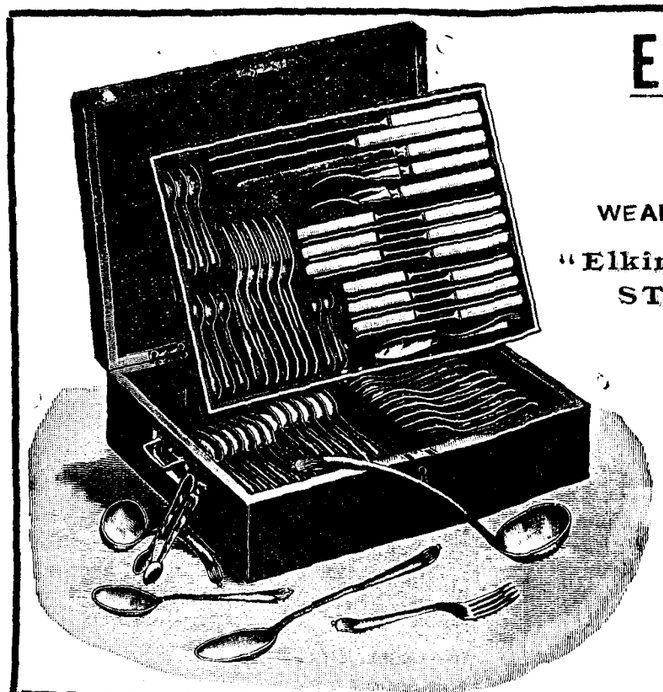
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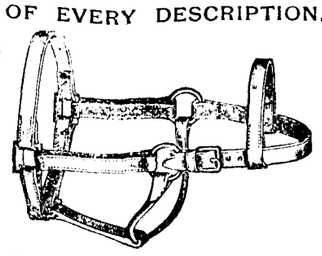
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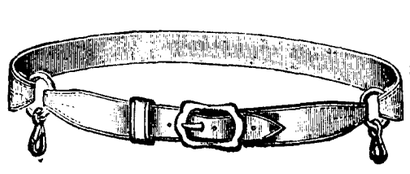
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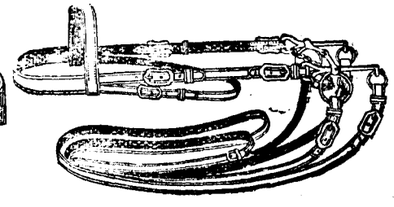


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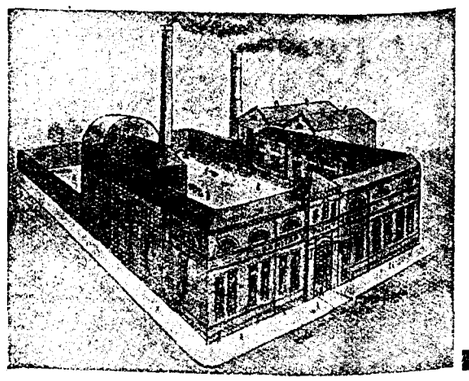
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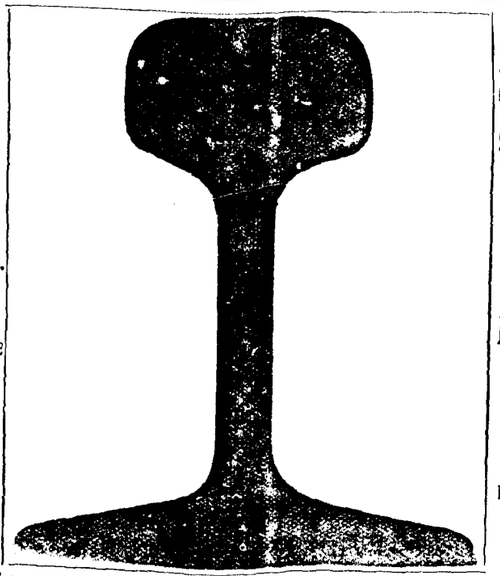
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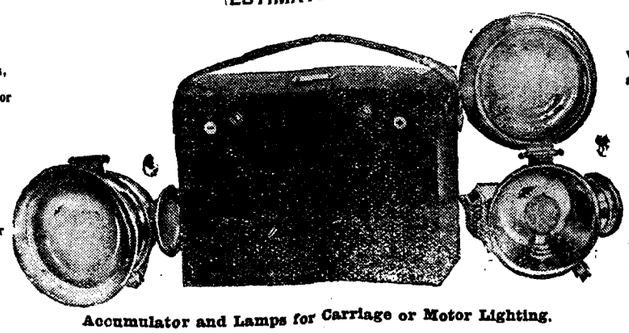
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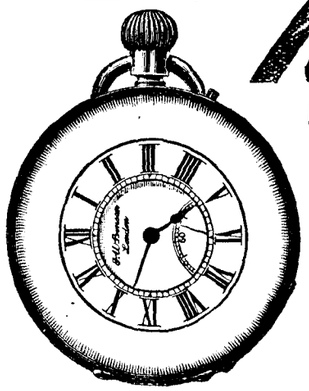
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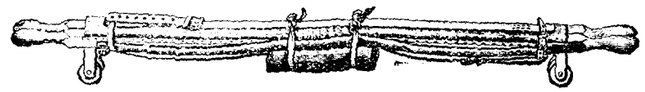
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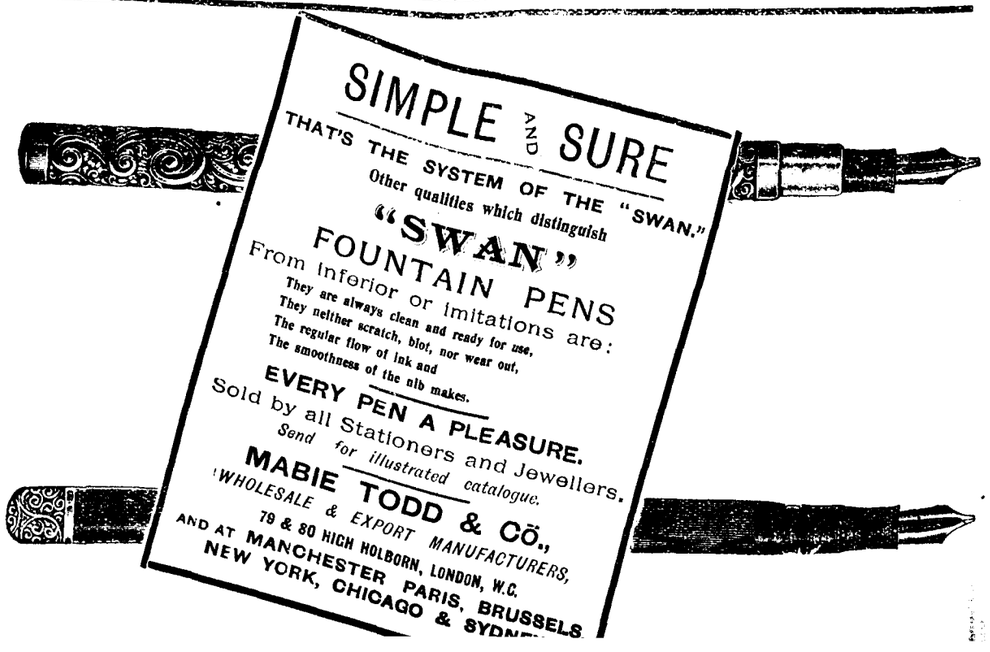
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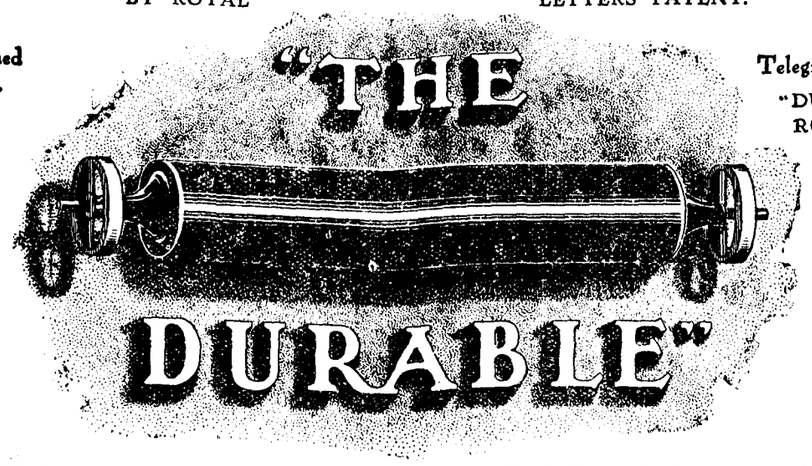
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The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 86.] CALCUTTA, THURSDAY, 21st NOVEMBER, 1907. [ANNAS 4.

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NOTES.

The second section of the **Jaipur State Railway**, from Nawai to Sawai Madhopore, is now open for traffic.

In connection with extension works in the **Madras Harbour**, an estimate for Rs. 60,000 for a **slipway** for hauling up lighters for repair has been sanctioned.

The total area leased for **irrigation** in **Bengal** during the official year 1907-08 up to the end of August last amounted to 781,869 acres, as compared with 735,500 acres during the corresponding period of the previous year.

Draft Rules under the **Central Provinces Boiler Inspection Act**, 1907, are published in the *Central Provinces Gazette* of the 16th instant. These will be taken into consideration on the 10th proximo, up to which date objections or suggestions will be received.

The total number of **vessels** which called **at the Port of Madras** during the year 1906-07 **was 604** (tonnage 1,457,473). Compared with the **preceding** year, there was a decrease in the **actual number** visiting the port, but an increase **is reported in the** amount of fees levied, due to the **arrival of a greater** number of foreign steamers, as compared with coasting vessels.

The *total* **loss of cattle** *in the* **Madras** Presidency during the quarter ending 30th June last is officially estimated at 23,801, against 20,452 of the previous quarter. Rinderpest was responsible for 12,778 deaths, anthrax for 1,979, and wild animals destroyed 2,789 cattle. Twelve cases of criminal poisoning were reported.

The law for the protection of **Indian labourers** in the State of **Johore** has been amended by an enactment to be cited as "The Indian Immigration Enactment, 1907," which has been recently passed by His Highness the Sultan in Council. The terms of this enactment are published for information by the Government of Madras, Public Department, in G. O. No. 802, 16th October, 1907.

It would seem from the report on the working of **co-operative credit societies in Eastern Bengal and Assam** for the year 1906-07 that the principles of co-operation in credit are gradually becoming familiar to the Indian villager. The Registrar of Co-operative Credit Societies in the new province, Mr. K. C. De, I.C.S., records steady progress and is convinced that though the success achieved within the year under report, taking into consideration the magnitude of the task and the innate prejudice of the Indian peasant against any movement strange to him, has been comparatively insignificant, the future is full of hope. On the 1st April, 1906, there were 21 societies (of which 7 were urban and 14 rural), which increased by the 30th June, 1907, to 60, of which 12 were urban and 48 rural. The number of grainbanks, which are unregistered, was 5. The total membership of the urban societies increased from 529 to 1,029, and that of the rural societies from 521 to 2,424. The available capital of the 12 urban societies was Rs. 45,755-13-4 as against Rs. 15,079-8-0 at the close of 1905-06, the paid-up share capital amounting to nearly one-half of the total capital. The urban societies issued 643 loans, amounting to Rs. 67,738 as against Rs. 21,485 during the preceding year, the average amount of each loan rising from Rs. 82 to Rs. 105. The rural societies issued loans to the amount of Rs. 30,717-6-6, as compared with Rs. 4,976-8 for the previous year, the average amount of each loan being Rs. 28-13. It is of interest to note here that loans are given usually for a period of six months to one year, *i.e.*, the period between two harvests, the rate of interest ranging from 9 per cent. to 18¾ per cent. per annum. "Considering that the members," remarks the Registrar, "cannot get any loans in the villages, even on the security of the land they hold, at a rate less than 37½ per cent. and often have to pay so much as 75 per cent. or 150 per cent., even the highest rate charged by co-operative credit societies is a much-appreciated relief." The urban societies report a profit of Rs. 3,798-8-1 and the rural societies a sum of Rs. 1,755-16-10. Mr. De draws attention to a remarkable feature of the development of the co-operative credit movement in Eastern Bengal in the increasing interest taken by native ladies in the societies.

The *Calcutta Gazette* of yesterday's date contains a Resolution of the Government of **Bengal** on the Annual Report on the working of the **Co-operative Credit Societies** in the province for the year 1906-07, from which we learn that the number of urban societies with limited liabilities remained unchanged, but the membership of the four societies in existence increased from 500 to 665. Four urban societies with unlimited liability were registered during the year. The number of rural societies rose during the year from 53 to 165 and the membership from 2,117 to 6,903. Four grain societies were registered with a membership of 256. The number of unregistered grain societies increased from 15, with a membership of 5,928, to 24, with a membership of 6,770. The number of unregistered cash societies was reduced to 15. There are now altogether 216 societies as against 90 in the previous year's report. A statement published by the Registrar (Mr. W. R. Gourlay, I.C.S.) in his Report shows that 26 per cent. of the capital of the societies came from Government sources, 20 per cent. from zemindars, 28 per cent. from investors, while only 25 per cent. was local. The Government of Bengal suggest that more local capital might be attracted, and that in future the detailed balance sheet of each society might be published in the nearest vernacular paper.

It is notified in the *Calcutta Gazette* of the 20th instant that in future no claim for the **refund of duty on salt lost by boat wreck** will in future be entertained unless the following points are proved to the satisfaction of the Board of Revenue:—(1) That the Preventive Officer before giving delivery was satisfied that the boat was not obviously unsafe or unfit for a salt cargo. (2) That the salt was lost. (3) That every possible effort was made by the crew of the boat to save the cargo. (4) That there was no neglect or fraud on the part of any person concerned with the salt. (5) That the loss of the salt occurred before the completion of the act of formal delivery of the boat's cargo. (6) That in the event of any salt being saved from the wreck application for reweighment was made without any available delay to the Superintendent of the Preventive Service. (7) That before the reweighment the salt was (except under special circumstances which may render this impossible) in the custody of a Customs Officer or the River Police. (8) That the expenses incurred for custody of the salt and reweighment have been paid by the person concerned with the salt.

The Report on the administration of the **Salt Department** in **Eastern Bengal and Assam** during the year 1906-07 contains several items of interest. The most important events were the abolition of the Rawana system, the reduction of duty from Re. 1-8 to Re. 1 per maund with effect from the 20th March last, and the opening of salt traffic in Assam. Imports by sea during the year under review amounted to 604,269 maunds, as compared with 683,558 maunds during the preceding year. British imports increased by 90,557 maunds, and those from Hamburg and Bremen by 8,499 maunds, while the importation of Aden salt decreased by 218,345 maunds. The Report states that the trade was hardly affected by the boycott agitation. The total consumption of salt in the province is estimated at 2,501,567 maunds, giving an average of 3 seers 3 chattaks per head of the population. The average selling price during the year was Rs. 2-11-5, against Rs. 2-10-6 in 1905-06, and Rs. 3-1-11 in 1904-05. The general rise in price is ascribed to some extent to the fact that owing to the Swadeshi movement there was a greater demand for Karkatch (country salt), which sold at higher prices, than for Panga or boiled salt; the poorer classes, however, continuing to use Panga salt and benefiting by the reduction of duty.

The recent **profits of the spinning trade in Lancashire** are exemplified by the Cromer Mill Company, Ld., of Middleton, which for the past quarter paid an interim dividend at the rate of 10 per cent. and a bonus of 5*s.* per share, the total distribution for the quarter being at the rate of 60 per cent. per annum. The Cromer is one of the mills built within the last three or four years, and the registered capital is £80,000. It contains, 6,000 spindles, producing 30's to 62's ring twist from American and Egyptian cotton.

We take the following paragraph from Messrs. Föel Murray and Co.'s Report on the **Shanghai piece-goods trade** dated the 24th ultimo. The facts noted relate to the trade in Indian yarns:—The general trend of the market this week has been towards steadier prices, and a slight increase in the volume of business. First-hand holders are keeping very firm, as although Exchange has recovered slightly from the further fall that took place just after our last was written, prices have not improved anything like the drop that commenced a month ago. Second-hand speculators have again been supplying the bulk of the requirements of the trade. Transactions during the interval are made up chiefly of No. 10's for **Tientsin** and **Szechuen** at improved prices and about 500 bales No. 20's for Szechuen at steady to firm rates. The sales amount in the aggregate to 1,986 bales."

An auction sale of **Egyptian cotton grown in Sind** will take place at Mirpur Khas, Sind, at 5 P.M. on the 23rd instant.

According to the *Overland Mail* of the 1st instant, the **crop outlook in India** and the apprehended famine are said to be causing considerable anxiety in cotton piece circles in Lancashire. Manchester shippers to Bombay and Calcutta are reported to be buying very sparingly indeed, and cautiously from cotton manufacturers, the position just now being that contract lists are running low. If the famine be widespread, the consumption of Blackburn calico is likely to be materially reduced. According to Mr. William Tattersall's figures, India for a long number of years back has absorbed forty per cent. of the British exports of cotton cloth.

The Bureau of the **U. S. A.** Department of Commerce and Labour on the 25th ultimo issued its report on the number of active **ginneries** and bales of cotton ginned from the growth of 1907 to the 18th of October. According to the report 22,796 ginneries have ginned 4,039,338 bales. At the same date last year 4,910,000 bales were reported as ginned by 26,287 ginneries, and in 1905 4,991,000 bales were reported ginned by 26,577 ginneries. The figures so far issued point to about 4,400,000 bales as the complete total ginned, and since the issue of the last report, to September 25th, the amount ginned is said to have been larger than that of last year in every State except Louisiana and Texas.

An Alexandria correspondent, writing on October 20th, says that there appears to be little substance in the **upward movement of Egyptian cotton** during the week. "Doubtless those speculators who contributed most to the advance," he writes, "would be least able to explain it, and it did not escape notice that those who did most to stimulate the advance at first dropped out half way, passing on their contracts to others. Alarmist reports regarding damage to the crop are neither so loud nor so frequent as a week ago, and at any rate the time approaches for the Produce Association's monthly inquiries to put the facts definitely into shape. Whatever the result may be, the leading houses in Alexandria that have large dealings with the interior are still convinced that this crop exceeds the last, though no one cares to risk surmises of how much is the excess likely to be. The firmness of spot and the activity of exports, as shown by the shipment of 27,000 bales during the week, against 23,000 last year, naturally tended to stiffen the breeze of speculation. In some quarters, however, the question is beginning to arise whether there is not something deceptive in the sustained volume of exports taken in conjunction with the reserved attitude of spinners. It need only be recalled that Egyptian banks are still absolutely declining to release their funds or to enlarge credit, either in the cotton or the stock market. It is obviously therefore to the interest of merchants to ship the produce

out of this country with all possible speed, in order to obtain in England the advances that are denied them here."

It is notified by the postal authorities that, in the case of **parcels for Ceylon containing cigars, tobacco, or snuff,** the *net* weight of the contents in lbs. and oz. must be entered by the sender below the "Description of Contents" in the form of Customs declaration presented by him at the post office along with the parcel. In the case of parcels containing tobacco, it must further be stated in the "Description of Contents" whether the tobacco is manufactured or unmanufactured.

Professor Bordas, a French savant, has made a most striking discovery, and that is that **radium** has the power of **making precious stones** out of quite common material. The Professor took some spar, of next to no value, and placed it in contact with a tube of radium, leaving it untouched for about a month. At the end of that time he went to look at his spar, and found that the white pieces had become yellow, like a topaz; the blue, green like an emerald; and the purple, blue like a sapphire. Thus the theory that each stone has its own colour and its own oxide, which is unchangeable, is done away with. But colour is not everything in a gem, so Professor Bordas took the stones to the jeweller of whom he had bought them. The jeweller had no idea that he had sold them for a few pence, and valued them at from twenty to thirty times their original price. An expert gem cutter declares that this radium-coloured spar will never deceive a lapidary, even if it retains its colour for any length of time. An expert will always be able to distinguish the real stone, and never was the price of real rubies and sapphires so high as it is to-day.

George Broomhall's *Corn Trade News* of the 31st ultimo gives the following summary of the **world's crops as on that date:—United States of America**—Moisture lacking in many sections of the Winter Wheat belt, but crops not suffering. Acreage increased some States, but decreased others. Spring Wheat fair movement. **Canada**—Recent weather favoured ploughing. Receipts liberal, grading poor. **Russia**—Drought continues southern region, also west and north-west, hopes for Winter Wheat in 1908 sinking. Other parts weather lately mostly favourable. **Hungary and Roumania**—Drought unrelieved, fair area seeded dry soil, prospects very poor. **Bulgaria**—No rain for three months, even ploughing impossible, prospects, for Winter crops gloomy. **Turkey**—Drought continues. **Argentina**—Weather too wet and some hail reported. **Australia**—No improvement weather or crops. **India**—Drought in main Wheat regions entirely unrelieved, some showers reported thousand miles away. Wheat seeding should be in progress now, even well up country, but season does not end till December or January. **United Kingdom**—Weather at last taken favourable turn. **France**—Still complaints delayed seeding, but weather rather finer. **Germany**—Fine, autumnal weather continues, seedings want rain. **Italy, Spain, North Africa, Belgium,** and **Holland**—Weather seasonable, seeding reports mostly favourable.

The British Commercial Agent in the United States (Mr. E. Seymour Bell) reports, on the authority of the New York *Tribune*, that the **American Sugar Refining Co.**—the Sugar Trust—has acquired the property of the Colonial Sugar Company in Cuba, and that this new acquisition, together with the plantations recently obtained, costing about $20,000,000 (£4,000,000), will give the American Company control of about 15 per cent. of the present sugar output of Cuba. It is expected that a number of other important plantations will be taken over shortly.

Correspondence respecting the Additional Act to the **Brussels Sugar Convention** of March 5th, 1902, just issued, records the various steps by which, in accordance with the desire of the British Government laid before the Permanent Commission at its sitting of July 27th last, a fresh agreement was drawn up and received the consent of all the States interested, relieving Great Britain from the obligation to enforce the penal provisions of the Convention against bounty-fed sugar. In exchange Great Britain undertakes to issue certificates with all sugar refined in the United Kingdom and thence exported to other countries that none of this sugar comes from a country granting bounties for the production or exportation of sugar.

The British Iron Trade Association reported on the 27th ultimo the **output of open-hearth and Bessemer steel** for the first half of this year. The total production of open-hearth steel in the United Kingdom was for the six months 2,337,000 tons, about 140,000 tons more than in the same half of last year. The North-Eastern district is the largest contributor to the production, giving nearly one-third of the total, and Scotland and Wales are the two districts that follow in the order of production. The increase seems to be more marked in proportion in basic than in acid open-hearth steel. Of Bessemer steel, the output of the United Kingdom was 1,068,000 tons for the first half of this year, an increase of about 140,000 tons also, that increase being spread over all the chief districts. Lancashire and Cumberland are the chief producers, and then follow Wales, Sheffield and Leeds, and Cleveland. The latter district produced 198,000 tons of Bessemer ingots, the largest output for years.

Reuter's **Hamburg** correspondent says that a complete agreement has been arrived at between the eight British and eight German representatives of the shipping firms of both countries, who have been negotiating for mutual recognition of their **load lines.** The **new rules** established are to apply to all vessels laid down after January 1st, 1909, and may, if desired, also be applied to old ships. Vessels laid down up to January 1st, 1909, will retain their old free board. These arrangements remain to be submitted by the delegates for the sanction of their respective Governments and associations. The result of the conference is regarded there not only as of the greatest importance, but also in the highest degree satisfactory and worthy of imitation in other matters for the promotion of good relations between Great Britain and Germany.

Advices from **Australia** which reached us this week state that, during the week ending October 29th, 28,807 bales of **wool** were offered, and 26,397 bales sold in the Melbourne and Geelong markets. The market has been extremely active throughout. The sales to date thus show an increase of 153,355 bales, as compared with the sales to the corresponding period of last year. This is due to the wool arriving earlier this season than last. The arrivals for the previous week in New South Wales amounted to 53,500 bales, and in Victoria to 34,200 bales, or a total of 87,700 bales. As compared with the week before, this shows an increase of 15,900 bales. For the corresponding week of last year, the arrivals only amounted to 70,000 bales, so that this year's figures for the week are 17,700 bales ahead of last year's.

In its monthly review of Stock Exchange values the *Bankers' Magazine* for November shows that notwithstanding the financial **crisis in America** (which, of course, has become more acute since October 19th, the date of the magazine's valuation) and the continued apprehensions of a railway strike in England the aggregate movement has been less striking than in some recent months. The comparison of values for the 387 representative securities is as follows:—

September 20th, 1907 . .	£3,531,957,000
October 19th, 1907 . . .	£3,506,083,000
Decrease	£25,874,000

The whole of this decline is much more than accounted for by three classes of shares, *viz.*, American rails, which have lost 16 millions; Home rails, which have lost three millions; and mining shares, which (owing mainly to the great slump in copper) have lost 14 millions. As to the other sections of the list it is pointed out that "the most favourable feature of the month has been a steady improvement in high-class securities, Consols and similar stocks showing a considerable rise for the month. This feature is the more satisfactory as there seems to be little reason for doubting that it has, on the whole, been based on genuine investment purchases. Similarly, prior charge stocks of English railways have advanced, notwithstanding the adverse effect produced upon the junior securities by the fears of a strike. In the miscellaneous markets, bank shares have been a particularly strong feature, and in this case the movement is probably due to expectations of good results for the half year, arising out of the continuance of comparatively dear money. Industrial shares have formed a notable exception.

The exports of **Ceylon produce** of interest to the **drug-trade** during the nine months January to September were as follows:—

	1907.	1906.	1905.	1904.
Cardamoms lbs.	559,426	567,348	552,727	727,644
Cinchona „	203,595	192,015	134,968	120,963
Citronella oil „	988,825	900,288	1,046,466	910,941
Cinnamon oil oz.	52,242	126,452	66,625	36,988

The principal destinations were: *Cardamoms.*—U. K., 240,517 lbs.; India, 224,281 lbs.; and U. S. A., 15,225 lbs. *Cinchona.*—U. K., 155,418 lbs.; Germany, 26,548 lbs. *Citronella Oil.*—U. K., 470,603 lbs. U. S. A., 339,855 lbs.; and Germany, 118,645 lbs. *Cinnamon Oil.*—U. K., 49,386 oz.; France, 1,500 oz.; and Germany, 1,056 oz.

Reuter's Agency is informed by the Japanese Financial Commissioner in London that the accounts first to hand show that the net profit of the **Japanese Tobacco Monopoly** for the year 1905-06 amounts to 32,574,483 yen, being an increase of 2,285,394 yen over the estimated amount. In the case of the financial year 1907-08 the only figures available, namely, up to September, show a net profit amounting to 11,806,943 yen, against 9,005,112 yen for the corresponding period of the previous year, or an increase of 2,801,831 yen. The crop of summer and autumn silkworm cocoons is estimated at 1,239,781 koku, against 1,122,369 koku during last year, showing an increase of more than 10 per cent. With the addition of the returns of the spring cocoons already announced, the total crop for this year will show an increase of about 500,000 koku as compared with the previous year.

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

For the week ending 16th November, 1907—

In the Calcutta market—

Behar opium—Rs. 1,306; 1,305; 1,299; 1,303; 1,285; 1,292; 1,297.

Benares opium—Rs. 1,266; 1,265; 1,260; 1,260; 1,250; 1,255; 1,260.

The prices in the time bargains for the Behar opium of the 12th sale of 1907 were Rs. 1,311; 1,310; 1,304; 1,308; 1,291; 1,297; 1,302.

In the China market—

At Hongkong (exchange Rs. 151 to 151¾ per $ 100)

Behar opium—$900; 900; 900; 900; 900; 900; 900.

Benares opium—No quotations received.

At Shanghai—No quotations received.

For the week ending 9th November, 1907—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,350 to 1,388; (new, 1905-06) Rs. 1,395 to 1,430; (old, 1904-05) Rs. 1,456; the latest prices at Hongkong and Shanghai were (new), Rs. 1,325 and 1,406; (old) Rs. 1,484 and 1,499, respectively.

The *New York Commercial* reports a **famine in talc-powder** (French chalk) in the **United States.** It appears enormous quantities of talc are used by rice-millers to clean and polish rice, but, owing to certain provisions in the new pure-food law, it was understood that restrictions would be placed on its use, and the millers in Texas failed to lay in a supply. Now the Rice Association of America has obtained a ruling from the pure-food department to the effect that the use of talc-powder in polishing and cleaning rice may be continued, and the consequence is millers have been frantically endeavouring to secure supplies. Practically all the talc-powder used in the United States comes from Austria, and a cargo is already on the way from a European port to New Orleans to relieve the situation temporarily.

A Bangkok correspondent of the *Manchester Guardian* writes that work on the **Northern Siamese Railway** line, which will ultimately connect Bangkok with Chiengmai and the frontier of Burma, is rapidly progressing, but the natural difficulties of the country are such that it will be several years at least before all is complete. This line, as well as that of 264 kilometres to Korat, on the east, is under the control of German officials. In the meantime the preliminary surveys are being carried out on the line which will in time connect Bangkok with the mainland opposite Penang, and also with the railway system of the Federated Malay States. The new line will, it is understood, be under the control of British officials. It will pass through a wonderfully rich but hitherto undeveloped country containing great deposits of tin and other minerals and splendid forests of various valuable timbers and jungle products, such as gutta, dammar gum, gamboge, etc. It will also have the effect of bringing Bangkok about a week nearer to Europe, so far as the mails are concerned. At present they take 24 or 25 days in reaching Singapore from London and another 4 to 5 days in getting to Bangkok, or, roughly a month in all. When landed at Penang and sent on by rail two days will be saved at the point of landing and at least four on the journey to their destination, a factor of considerable importance to business men. So far as the scheme has been completed up to the present, there will be several short branch lines connecting with the more important centres, and it is possible that a second connection may be made with Tavoy, in lower Burma, along the route now followed by the telegraph line. But it will of course take some years before all this is accomplished. Another line is now being pushed on from Bangkok to the Chanteboon district, which is one of the richest in Lower Siam, as besides being extremely well off in vegetable products it contains many minerals and the well-known ruby and sapphire deposits at Boh Phailin.

Referring to a paragraph on the **artificial production of nitric acid and nitrates,** which recently appeared in the *Manchester Guardian*, a correspondent asks that paper whether nitrate made in Norway by electrical processes can be produced in sufficient quantity and at a price to compete with Chilian nitrate of soda. He points out that the future of Chili is mainly dependent on her nitrate industry, as the export duty on nitrate yields the Government its chief source of income, and if that source of revenue were adversely affected by the competition with artificial nitre the financial stability of the Republic would be seriously affected. In reply the *Manchester Guardian* says:—The rapid strides which are made in chemical technology render it extremely difficult to predict what may or may not happen, but so far there appears to be no need for apprehension. There seems to be no doubt that nitrate of lime, which is the product manufactured by the Norwegian works and which is said to be more efficient than nitrate of soda for agricultural purposes, can be made cheaply in Norway, according to some at 30 per cent. less than the cost of nitrate of soda; but this is chiefly due to the exceptionally low price at which water-power is available at the Norwegian works. The present works manufacture about 4,000 tons of nitrate per annum, using a power of about 2,000 kilo. Watts. Considering the enormous amount of power required per ton of nitrate the ultimate rate of production from the Norwegian waterfalls appears to be limited to quantities which, in view of the ever-increasing demand for nitrate, should not seriously affect the Chilian Government. Taking the last eight years, we find the shipments of nitrate gradually and steadily increasing from 1,060,000 tons in 1897 to 1,604,000 tons in 1905, with prices varying from 7*s.* 6*d.* per cwt. in 1897 to 10*s.* 9*d.* in 1905. A more serious point is presented by the fact that the amount available in the natural deposits is limited, and will in the course of time be exhausted, at the present rate of consumption probably less than fifty years hence.

NOTICES

CALLS FOR TENDERS.

Army Rations.

The Divisional Contract Officer, Peshawar, is calling for tenders up to the 29th instant for the supply of beef and mutton for the use of troops in the Peshawar Command during 1908-09.

Flour Sacks.

The Egyptian Ministry of War, Cairo, are inviting tenders up to the 10th proximo for the supply of 50,000 flour sacks, stitched inside and dry sewn, size 42″×26″, 11 porters by 13 shots, the sacks to average 2 lbs. each and to be marked with a red trefoil on one side. A full specification may be seen at this office.

Railway Sleepers.

The Railway Board are inviting tenders up to the 16th January, 1908, for the supply of 600,000 sleepers for the use of the North-Western Railway, delivery to begin by 1st June and to be completed by 1st November, 1908.

ENQUIRIES.

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

Cocoanut Oil.

(151)—An American firm of oil machinery manufacturers requires the addresses of firms or persons engaged in the manufacture of cocoanut oil.

Grain and Seeds.

(152)—A Belgian firm desires to enter into communication with exporters of grain and seeds.

Arc Lamps.

(153)—A London firm desires to appoint agents in India for the sale of a reliable British-made arc lamp.

Agency Business.

(154)—A Hamburg firm of exporters desires the addresses of firms in a position to represent them to the best advantage.

Shellac.

(155)—A leading firm of oil colour dealers in Japan desires the addresses of the first-hand-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, Clive Street, where they will be displayed in the Ante-Room till Wednesday, 27th November, 1907:—

Parliamentary Publications.

Colonial Reports—Annual Series—No. 541—Turks and Caicos Islands, 1906; No. 542—Somaliland Protectorate, 1906-7; No. 543—Bahamas, 1906; No. 544—Barbados, 1906-7; No. 545—Trinidad and Tobago, 1906-7; No. 546—Grenada, 1906-7. Colonial Reports—Miscellaneous Series—No. 43—Report upon the Caicos Islands: with special reference to the further development of the Sisal Industry. Commercial No. 10 (1907)—Correspondence respecting the Additional Act to the Brussels Sugar Convention of March, 1902, signed at Brussels August 28th, 1907. Merchant Shipping—Progress Tables, 1906. Treaty Series—No. 37 of 1907—Agreement between the United Kingdom and Sweden respecting the estates of deceased seamen, October 5th, 1907.

Colonial and Foreign Publications.

Australia—Shipping and Oversea Migration of the Commonwealth of Australia, 1906; Statistical Register of New South Wales, 1906, Parts I and II; Monthly Statistical Bulletin, September, 1907; Statistical Register of Victoria, 1906, Parts VI, VII and VIII. Belgium—Etude De La Demographie Statique Et Dynamique Des Agglomerations Urbaines Et Specialement Des Villes Belges. Germany—Monthly Account of Trade, September, 1907. Canada—Weekly Account of Trade, 14th October, 1907. Netherlands—Een En Ander Betreffende De Regeeringsbenmoeiingen In Zake Den Landbouw; Monthly Account of Trade, September, 1907. Switzerland—Statistique du Commerce Suisse, Rapport Annuel 1906; Statistique du Commerce de la Suisse Avec L'Etranger en 1906. United States—(*a*) Monthly Summary of Commerce and Finance, August, 1907; (*b*) Crop Reporter, September, 1907; (*c*) Bureau of Plant Industry—Bulletin No. 102, Miscellaneous Papers; (*d*) Bureau of Plant Industry—Bulletin No. III, Part II—Fibres of Long-staple Upland Cottons; (*e*) Office of Experiment Station—Record, August, '07; Bulletin No. 190.—Irrigation in Northern Italy, Part II; Bulletin No. 191—Tests of Internal Combustion Engines on Alcohol Fuel.

Diplomatic and Consular Reports.

China—Trade of Kiungchow (Hoihow) for 1906. France—Trade and Agriculture of Algeria for 1906. Germany—Trade and Agriculture of Bavaria for 1906 and part of 1907. Japan—Coal Mines of Kyūshū. Roumania—Trade and Shipping of Constantza for 1906. Siam—Trade of Bangkok for 1906. Spain—Trade of the Consular District of Malaga 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., Ld.; 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.

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

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The Indian Trade Journal.

THURSDAY, NOVEMBER 21, 1907.

INDIAN COTTON SEED.

Its Industrial Possibilities.

VIII.*

The value of a manure depends on the quantities of nitrogen, phosphates, and potash which it contains. Taking into consideration the waste of tissue, etc., in an animal it may be said that roughly the quantity of these constituents present in the excreta is equal to about 90 per cent. of the quantity given in the daily ration. In other words, from one-tenth to one-fifth of these constituents is definitely consumed by the animal in a physiological sense. Theoretically all or nearly all the balance of 90 per cent. of the plant food is recoverable for manurial purposes; but in practice a great deal of it is lost. This arises partly from the fact that a very large proportion of the plant food is contained in the urine, which has about 0·56 per cent. of nitrogen against 0·27 per cent. in fresh dung, and 0·9 per cent. in well-rotted dung. The latter is, however, richer in phosphates. In stalled cattle the urine is almost inevitably lost, wholly or in part, and in grazing cattle it is either lost or badly distributed.

merely that the manure is thrown away, burned or at all events not applied to land; even when it is preserved for manurial purposes it is treated in such a way that much of its virtue is lost by various processes of evaporation and decomposition.

The extent of the loss even in Europe may be inferred from the following passage from Dr Bernard Dyer's book on *Fertilizers and Feeding Stuffs*:—

"The simplest of these remedies is to make, as a foundation for the dung heap, a good bed of dry earth and to remove the dung as frequently as may be from the floors of the yards or boxes, and to pile it on the bed of earth, covering it occasionally with a light protective layer of earth and finally with a good thick coating of the same material. Dung preserved in this way was found by analysis, after six months, to have lost but 2 per cent. of its virtue; while a similar mass of dung, without the protective cover of earth, **lost 23 per cent.** or nearly one-fourth of its virtue, measured in each case by the loss of the most valuable ingredient, nitrogen. Tested in the field the earth-preserved manure yielded on a potato crop more than three times the increase given by a corresponding quantity of the carelessly kept dung unprotected by earth, and in another trial nearly twice as much increase on a wheat crop."

In India the losses are even greater than in Europe. Having regard to these facts it would obviously be wasteful to give such feed as oilcake to Indian cattle for the single purpose of enriching their manure, even when they are stalled. It would be still more wasteful to adopt the same process in respect of cattle pastured under ordinary conditions on land to be tilled; for apart from the facts that in this country it is difficult to confine an animal to one tract of ground, and stock manuring is comparatively rare, the distribution of the manure under such conditions is so defective as to further detract from the efficiency already diminished by the operations of sun, air, and bacteria.

We saw in our last article that there are some 121,800,000 cattle in India. It is estimated that the **production of manure** is about 2½ tons per head per annum, or 304,500,000 tons in all—equal to 1·46 tons per unit of the 207,504,328 acres cropped. The weight given is for well-retted manure. It was shown in the sixth article that the number of cows required to serve a factory turning out

* Earlier articles in this series appeared in our issues of August 15th, September 19th, October 10th, 17th and 24th and November 7th and 14th, 1907.

1 ton 7 cwts. of high grade cotton ghi per diem would be 2,128. These cattle alone would produce some 5,320 tons of manure per annum without considering the portion of the urine that would in such an establishment be conserved. As the factory would naturally be situated in a cotton country, it would be able to furnish manure for some 3,600 acres.

Cattle dung varies very much in composition, more particularly as regards sand and moisture, which naturally affect the percentages of the valuable constituents. Dr. Leather, Agricultural Chemist to the Government of India, has kindly furnished us with data from which it may be deduced that in a sample having about 5 per cent. of water and about 26 per cent. of sand, the nitrogen content may vary from 0·78 per cent. to about 1·2 per cent., with phosphoric acid from about 0·5 to 1 per cent., and potash from 0·9 to upwards of 2 per cent. Indian cotton seed (undecorticated) contains from 2·5 to 3·25 per cent. of nitrogen.

In the third article we saw that the nitrogen runs about 3·1 per cent. in undecorticated Indian cake, and about 3·6 in Egyptian. Dr. Leather informs us that the amount of phosphoric acid may be put at 1 to 2·5 per cent., and the potash at a similar figure. The manurial value of an oilcake really reposes on its nitrogen content, in respect of which therefore, rough Indian cotton cake has between three and four times the manurial value of cattle dung. It is convenient to note here that while nitrate of soda contains 15·5 per cent. of nitrogen, Indian cotton cake contains one-fifth as much. Consequently cotton cake must be applied in quantities five times as great as those prescribed in respect of nitrate of soda in a given set of circumstances.

Of good cowdung one ton might be sufficient, if supplemented with a dressing of some fertilizer, such as cotton seed meal, stronger in nitrogen. So, theoretically, an adequate supply of natural manure already exists in India.

But we know that in all probability it will be many years before the habits of the people of India can be so modified as to save any considerable portion of this manure for agricultural purposes. Now that kerosene is obtainable at low cost throughout India, there is some chance that the use of a cheap cooking lamp may be introduced by degrees. For against the apparent cheapness of cowdung cakes is to be set the facts that kerosene has a calorific value, or heating power, five or six times as great, and lends itself to great economy by being easily extinguished and relighted. But it will be long before the influence of such a new departure can be felt. It is therefore of the greatest importance to consider the manurial value of such a substance as the cake produced along with cotton seed oil.

There is in respect of manure or fertilizers no such rule as prescribes for foods the proportions in which the proteids, fat, and carbohydrates should be present. For soils and crops vary in their requirements very much more than cattle do.

Although oil cakes contain a certain quantity of phosphate and potash, they are, as we have seen, to be regarded as essentially nitrogenous, and, as a rule, they should not be applied as manure without a dressing of superphosphates, basic slag, finely ground bone meal, or fish manure. Cattle manure not only supplies valuable plant food to the ground, but produces a peculiar and beneficial effect on the mechanical constitution of the soil. It excels oilcake in its percentage of phosphates; and it has in America been advantageously used in combination with cotton seed meal in manuring a cotton crop. But even this combination is deficient in phosphoric acid, which would probably have to be supplemented with phosphatic manure.

Oilcake when used as a manure should be ground to a fine powder; and the use of castor cake, rape cake, and mustard cake in this way is well understood in many parts of India. The grinding is necessary, not only to facilitate distribution, but to render the plant food quickly available. Farmers and stock raisers in Europe prefer to grind the cake themselves, since they regard meal with suspicion as more liable to adulteration than cake; and there are indications that American shippers for this reason are finding it expedient to revert to the practice of sending out their product in the less convenient form of cake.

On a loose and open soil, or in the presence of a very heavy rainfall, there is a danger that the plant food in finely ground cake may be washed out and carried off into the subsoil before the crop has been able to use it, but this applies also to chemical manures, like nitrate of soda, and may in the case of oilcake be mitigated by grinding more coarsely. And it is to be borne in mind that the lint present in undecorticated cotton cake not only contains a proportion of plant food, but affects the mechanical condition of the soil most favourably.

There have, unfortunately, been no systematic experiments in India as regards the direct applications of cotton seed and cotton cake as manure; but some valuable investigations have been conducted

America and recorded in Farmers' Bulletin No. 286 (1907) of the United States Department of Agriculture. In studying the results, however, it is necessary to bear in mind that the cake and meal discussed are free of husk and lint and are, therefore, not to be compared with that which would most probably be used in India.

It is understood that in 1905 some 30 per cent., or in all about 1,800,000 (short) tons of the total outturn of cotton seed, were used as manure in the United States. When the intention is to use it for that purpose, no effort is made to protect it from the weather, or to prevent heating and decomposition. Under these conditions it is, of course, worthless as a source of oil, not merely because such oil as might be extracted would be tainted, but because the abortive germination of the seed leads to a conversion of oil into carbohydrates.

The recent trials in America showed in the first place that there was no ground for a belief that had apparently been entertained in that country that the whole seed, when used as manure, produced on the ground a more lasting effect than the meal. *Primâ facie* it might be expected that the seed, which decomposes more slowly than meal, would be less liable to incur waste in a very wet season through the carrying away of its plant food. But there was excessive rain during the two years (1905 and 1906) in which the tests were made, and yet the results indicated very clearly the advisability of using meal instead of seed as a fertilizer in cotton cultivation. The results are so clearly stated in the Bulletin already referred to that we cannot do better than quote:—

Table I. *Results of tests with 40 bushels of whole cotton seed in comparison with 600 pounds of cotton seed meal.*

Field used for test.	Fertilizers used.				Yield in seed cotton.		
	Cotton seed meal.	Cotton seed.	Acid Phosphate.	Muriate of Potash.	1905.	1906.	Average for the two seasons.
	Pounds.	Bushels.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Plat 1 .	600	...	768	50	2,059	1,396	1,727½
Plat 2 .	...	40	768	50	1,897	1,318	1,607½
Difference in yield in favour of meal .	...	...	...	...	162	78	120

"In 1904 the land used for these tests was planted to corn and produced about 40 bushels to the acre. A heavy crop of pea vines was also grown on the land and the vines were turned under in the winter with a 2-horse turn plough. Later the land was laid off and bedded out eight furrows to the row with a 1-horse turn plough. The seed was applied to plat 2 and covered early in the year to prevent germination. All other fertilizers for both plats, including the meal for plat 1, were applied at the time of planting. The crop was cultivated in the usual way. Applications of 768 pounds of acid phosphate and 50 pounds muriate of potash were made to both the seed and the meal plats.

"In 1905 the meal plat produced 2,059 pounds of seed cotton, 162 pounds more than the seed plat, and in 1906 it produced 1,396 pounds, 78 pounds more than the seed plat, making an average of 120 pounds more for the two seasons. To reduce this difference to a money basis it is necessary to consider the relative market value of the seed and meal. At $16 a ton 40 bushels of cotton seed are worth $9·60 and at $25 a ton, 600 pounds of meal are worth $7·50, or $2·10 less than the seed. This amount added to $4·80, the value at 4 cents a pound of the difference in the yields from the two plats, gives $6·90, the gross difference in favour of the meal. If 75 cents is deducted for picking and preparing for market this extra amount of cotton produced by the meal, there still remains $6·15 as a net average profit from the meal plat more than from the seed plat. It must also be remembered that the 40 bushels of seed contained about 25 gallons of oil, worth about $6·50, and approximately 25 pounds of linters, worth at least $1; so that by using the seed as a fertilizer a quantity of two articles of commerce, having a market value of $7·50, was wasted. Considering the relative market value of meal and seed, the increased yield from the meal, and the loss of oil and linters to commerce, there is a difference in this case of $13·65 (Rs. 40) per acre in favour of using 600 pounds of meal instead of 40 bushels of seed.

Table 2. *Results of tests with 30 bushels of whole cotton seed in comparison with 450 pounds of cotton seed meal.*

Field used for test.	Fertilizers used.				Yield in seed cotton.		
	Cotton seed meal.	Cotton seed.	Acid Phosphates.	Kainit.	1905.	1906.	Average for the two seasons.
	Pounds.	Bushels.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Plat 1 .	450	...	576	148	2,112	1,343	1,727½
Plat 2 .	...	30	576	148	1,809	1,346	1,577½
Difference in yield .	...	...	...	...	303	3	150

"In 1904 the land used for these tests produced a crop of cotton of more than a bale an acre. In our experiment it was prepared and cultivated in the usual way. The seed was applied to plat 2 early in the year and the other fertilizers, including the meal for plat 1, were applied at planting time. An application of 576 pounds of acid phosphate and 148 pounds of kainit was made to each plat. In 1905 the meal plat produced 2,112 pounds of seed cotton, 303 pounds more than the seed plat; and in 1906 it produced 1,343 pounds, 3 pounds less than the seed plat. In the average production of the two years there is a difference of 150 pounds in favour of the meal.

"The 30 bushels of seed at $16 a ton were worth $7·20; and at $25 a ton the 450 pounds of meal were worth $5·62, or $1·58 less than the seed.

"This amount added to $6, the value at 4 cents a pound of the difference in the yields from the two plats, gives $7·58, the gross difference in favour of the meal. If $1 is deducted for picking and preparing for the market the extra quantity of cotton produced by the meal, there is left $6·58 as the net average profit from the meal plat over the seed plat. The oil contained in the 30 bushels of seed was worth about $4·85 and the linters about 75 cents, making approximately $5·60 worth of these products, which was wasted. In this test, therefore, there was a difference of $1·18 (Rs. 36-8-0) in favour of using 450 pounds of meal per acre instead of 30 bushels of seed.

Table 3. *Results of tests with 20 bushels of whole cotton in comparison with 300 pounds of cotton seed meal.*

Field used for test.	Fertilizers used.				Yield in seed cotton.		
	Cotton seed meal.	Cotton seed.	Acid Phosphates.	Muriate of Potash.	1905.	1906.	Average for the two seasons.
	Pounds.	Bushels.	Pounds.	Pounds.	Pounds.	Pounds.	Pounds.
Plat 1 .	300	...	384	25	1,743	1,133	1,437½
Plat 2 .	...	20	384	25	1,615	1,084	1,349½
Difference in yield in favour of meal .	...	...	...	...	127	49	88

"The land used for these tests is the same kind that was used in testing 40 bushels of seed in comparison with 600 pounds of meal. It produced the same crops in 1904 and was prepared in the same way for the crop of 1905. As usual, the seed was applied early in the season, and the other fertilizers at planting time. An application of 384 pounds of acid phosphate and 25 pounds of muriate of potash was made to each plat. In 1905 the meal plat produced 1,742 pounds of seed cotton, 127 pounds more than the seed plat; and in 1906 it yielded 1,615 pounds, 49 pounds more than the seed plat, making an average of 88 pounds more for the two years. The 20 bushels of seed at $16 per ton were worth $4·80, and at $25 per ton the 300 pounds of meal were worth $3·75, or $1·05 less than the seed. This added to $3·52, the value at 4 cents a pound of the difference in the yields from the two plats, makes $4·57, the gross difference which was realised in favour of the meal. Taking 57 cents from this amount for the cost of picking and preparing for market the extra cotton produced by the meal, we have $4 as the net average profit from the meal plat over the seed plat. The oil in the 20 bushels of seed was worth about $3·25 and the linters 50 cents, making approximately $3·75 worth of these products, which was wasted. There is, therefore, a difference here of $7·75 (Rs. 23-4-0) in favour of using 300 pounds of meal instead of 20 bushels of seed.

"As previously stated, the object of this experiment was to secure data which will enable the growers to estimate how much meal is approximately equivalent to a given quantity of seed in its effect on their crop, and which will guide them in determining what terms they can accept from the mills. Of course, it is impossible to determine what quantity of meal will always be exactly equivalent in effect to a given quantity of seed, as the relative effect will vary with the season, some seasons favouring the meal more than the seed, and *vice versâ*. It is believed that the seasons of 1905 and 1906, but especially that of 1906, were more favourable to the seed than to the meal in the vicinity of the experiment, yet the meal plats produced considerably more cotton.

"However, the difference between the yields from the corresponding seed and meal plats was much less in 1906 than in 1905. This is attributed to the heavy rainfall of 1906, which was probably less favourable to the meal than to the seed. In these tests 1,000 pounds of meal were used in comparison with 1 ton of seed, and it is evident from the results that less meal would have yielded as much as the seed. It is believed, therefore, that these results amply justify the assumption that 900 pounds of meal is at least equivalent to a ton of seed in effect on the crop; that is, on such land as was used for this experiment."

If, then, it prove to be a fact that there is a market for ghi substitutes in India, it is clear that it will be more profitable to manufacture them and to use the cake and meal as cattle feed and manure than to give the whole seed with its excess of oil either to the land, as is done in America, or to the herds, as is done in India.

PRICES OF COMMODITIES.

THE following are the index-numbers of the prices of forty-five commodities, compiled by Mr. A. Sauerbeck, for September, 1907, the average of the eleven years 1867-1877 being 100 :—

	Average.		Monthly Numbers.		
1878-1887	= 79	February,	1895	=	699
1887-1896	= 68	July,	1896	=	592
1890-1899	= 66	July,	1900	=	762
1897-1906	= 70	December,	1901	=	684
		September,	1906	=	775
1883	= 82	December,	1906	=	797
1896	= 61	March,	1907	=	809
1900	= 75	April,	1907	=	807
1901	= 70	May,	1907	=	824
1902	= 63	July,	1907	=	820
1903	= 69	July,	1907	=	814
1904	= 70	August,	1907	=	794
1905	= 72	September,	1907	=	791
1906	= 77				

There is a further reduction in the index-numbers, but it is smaller than might have been expected. Corn, etc., was higher on the average owing to the rise for foreign wheat, flour and maize, while all classes of meat were somewhat cheaper. Among minerals we have the important fall for copper from £76¼ per ton to £64, and of tin from 165½ per ton to £160¾; iron was practically unchanged, while lead rose from £20 per ton to £21½, and a further advance took place for coal, almost balancing the decline for copper and tin. In the case of textiles, cotton was lower, while wool experienced an advance, and in the group of "sundry materials" hides and tallow declined, but linseed oil and petroleum were better.

The prices and index-numbers of silver compare thus (60·84*d.* per oz. being the parity of 1 gold to 15½ silver 100) :—

	Price.		Index-Number.
Average, 1887-1896 . . .	38⅜*d.*	=	63·8
Average, 1897-1906 . . .	27⅛*d.*	=	44·6
Average, 1893	35⅜*d.*	=	58·6
Average, 1902	24 3/16*d.*	=	39·6
Lowest, November 6, 1902 .	21 11/16*d.*	=	35·6
End December, 1904. . .	28⅜*d.*	=	46·6
End March, 1905 . . .	25 13/16*d.*	=	42·4
End December, 1906. . .	32 5/16*d.*	=	53·1
End August, 1907 . . .	31½*d.*	=	51·8
End September, 1907 . .	31 3/16*d.*	=	51·3

According to a report issued by the **Bolivian** Department of Finance and Industry, the output of **tin** in that country amounted in 1906 to 29,370,367 kilos. of tin in bars of 60 per cent. fineness, or 17,622,220 kilos. of pure metal, as compared with 27,689,621 kilos. in 1905.

CHAMBERS OF COMMERCE.

KARACHI.

AT a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on the 12th instant, the following matters were disposed of :—

Read letter, dated 29th October, 1907, from the Secretary, Bengal Chamber of Commerce, Calcutta, forwarding for the information of this Chamber, copy of a letter addressed by his Chamber to the Manchester Chamber of Commerce, on the subject of the **late shipments of piece-goods** and yarns.

Resolution.—To be recorded. Copy of this Chamber's letter No. 556, of 31st October, to the Manchester Chamber of Commerce to be sent to the other Indian Chambers.

Read letter, dated 25th October, 1907, from the Postmaster General, Punjab and N. W. F. Province, Lahore, intimating with reference to previous correspondence, that the **mail arrangements between Karachi and Amritsar** have now been improved.

Resolution.—To be acknowledged, circulated and recorded.

Read letter, dated 11th October, 1907, from the Secretary, Punjab Trades Association, Simla, forwarding proceedings of an extraordinary general meeting of his Association, held on the 23rd September, 1907, to protest against the revised **Octroi Schedule of the Simla Municipality.**

Resolution.—The Punjab Trades Association to be informed that this Chamber does not see its way to take any action in the matter.

Read letter, dated 21st October, 1907, from the Manager, **Jodhpur-Bikanir Railway**, intimating that on and from 4th November, 1907, the **service from Hyderabad to Agra** and *onwards* towards Calcutta by the metre-gauge route, *via* Luni Junction and Phulera, will be accelerated.

Resolution.—The Manager, Jodhpur-Bikanir Railway, to be thanked for his letter. The Committee are pleased to note the acceleration.

Read letter, dated 29th October, 1907, from the Secretary, Bengal Chamber of Commerce, Calcutta, forwarding with reference to previous correspondence, copy of the revised draft Bill for the **Registration of Partnerships**, which his Chamber has now resubmitted to the Government of India.

Resolution.—To be referred to the Sub-Committee for Local Affairs for favour of early report.

Read letter, dated Simla, 19th October, 1907, from the Hon'ble **Mr. J. F. Finlay**, C.S.I., Member for Commerce and Industry of H. E. the Viceroy's Council, intimating that he will be **in Karachi** from 25th to 28th November, 1907, and stating that he will be glad to meet the Committee informally and discuss any subject of interest with the Chamber.

Resolution.—The Committee will be very pleased to meet Mr. Finlay at the Chamber Buildings at 3 P. M., on Tuesday, 26th November.

PUNJAB.

At a Committee meeting of the Punjab Chamber of Commerce on the 30th *ultimo*, the following item came up for consideration :—

Read letter from the National Bank of India, Ld., Delhi, dated 21st October, 1907, drawing attention to the difficulty experienced in obtaining **foreign bill stamps** in the Punjab and requesting the Chamber to address the Punjab Government on the subject.

Resolution.—Letter to be addressed to the Superintendent of Stamps, Punjab, pointing out that great inconvenience has been caused to Merchants, Bankers, and others, who have repeatedly had to obtain their requirements of foreign bill stamps from Calcutta or Bombay, owing to the insufficient supply in the Punjab. It to be urged that steps be taken at once to ensure an adequate supply in the future in all parts of the Punjab, but more particularly at Delhi, Amritsar, and Lahore.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 31st October, in the section relating to Tariff Changes and Customs Regulations, gives particulars about :—

BURMA.—Proposed Royalty on Export of Lac.

AUSTRALIAN COMMONWEALTH.—Free Importation of Minor Articles. Temporary free importation of Magazine. Decisions. Commerce Act: Revised regulations respecting Butter. Commerce Decisions. Malt Extract. Jewellery. White and Red Lead. Cognac Brandy.

SOUTH AFRICA.—Customs Decisions.

BASUTOLAND.—Export Duty on Angora Goats.

EGYPT.—Revised Valuation Tariff for Iron and Steel Manufactures. Revised Valuation Tariff for Petroleum.

GERMANY—GERMAN NEW GUINEA.—Customs Clearance of goods destined for the German Solomon Islands.

TURKEY.—Entry of pure Cotton Seed Oil Permitted.

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

TURKEY.

Entry of Pure Cotton Seed Oil—Permitted.

The Board of Trade are in receipt, through the Foreign Office, of information to the effect that a circular, dated 15-28th May, 1907, was issued by the Turkish Government to all the Custom Houses of the Empire allowing the entry of pure cotton seed oil from America which does not contain injurious matter. It may be explained that cotton seed oil was formerly excluded because of the characteristic Mussulman distrust of foreign oleaginous materials in general and consideration for the indigenous olive oil industries. The withdrawal of the embargo is due to recognition of the great value of the oil both for alimentary purposes and for the manufacture of soaps.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 9th NOVEMBER, 1907.

Burma.—The rainfall mostly was light; showers have been confined to six districts of Lower Burma, to Kyaukse in Upper Burma, and to the Southern Shan States. Reaping of early wet-weather paddy progresses in the Arakan Hill Tracts, Kyaukpyu, Sandoway, Pegu, Myaungmay, Thaton, Amherst, Mergui, Thayetmyo, Magwe, Myitkyina and the Southern Shan States. Reaping of hill-side paddy is going on in Toungoo, Tavoy, Thayetmyo, Katha and the Ruby Mines district. Ploughing for dry crops is in hand in Minbu, Mandalay, Shwebo, and Sagaing; and the sowing of these crops is making progress. Picking of cotton continues and the groundnut crop is being harvested in Magwe and Lower Chindwin. In Lower Burma the standing rice crop is in good condition and progresses well. Prospects are poor to fair in the unirrigated districts of the dry zone of Upper Burma; in Thayetmyo, Pakokku, Mandalay, Sagaing, and Lower Chindwin the crops are suffering from want of rain. The price of paddy has risen slightly in Toungoo, Thayetmyo, Mandalay and Myingyan; it has fallen largely in Prome and slightly in Pyapon and Minbu.

Eastern Bengal and Assam.—There has again been no rain in Eastern Bengal and the Surma Valley; and only slight local showers in the Assam Valley and Hill districts. Winter rice on higher fields is withering for want of rain, but good crops are expected from low land. The sowing of spring crops continues, but prospects are poor owing to the drought. Rain is also required for tea; and leaf is scarce. Mosquito blight is still severe in Cachar. Prices of common rice have fallen in seven districts and have risen in the same number. Stocks of foodgrains are sufficient for the present and will shortly be replenished by the winter harvest. Future prospects are worst in Bogra, but the people are fairly well off. In other districts there does not appear to be any well-founded apprehension of scarcity at present. No more agricultural loans have been distributed.

Bengal.—There was practically no rain throughout the province during the week. In Siliguri alone a fall of 2·81 inches was recorded. Paddy on high lands and in unirrigated tracts is withering in several districts for want of rain and prospects are not generally favourable. Sowings of spring crops are also being interfered with for want of moisture in the soil. Sugarcane is doing well on the whole, but even this crop needs rain now. Prices of foodgrains still show a tendency to rise in many districts. Stocks are reported as not likely to last till the next harvest in Burdwan, the 24-Parganas, Nadia, Murshidabad, Cuttack, Balasore, Ranchi, and Palamau. Reports of apprehended scarcity have been received from Burdwan, Bankura, Nadia, Murshidabad, Jessore, Gaya, Shahabad, Saran, Cuttack, Balasore, Puri, Hazaribagh, Ranchi, Palamau, and Manbhum. The condition of agricul-

tural stock is generally good. The fodder and water-supply are sufficient with but few exceptions. The price of common rice has risen in seven and fallen in nine districts.

United Provinces.—No rain has fallen and the outlook has altered little. Food supplies supplemented by imports are adequate. Prices, which are everywhere at or over scarcity rates, are generally stationary. There is plenty of employment for labourers at good wages. Harvesting of autumn crops, except of cane and cotton, will soon be over. Cotton is being picked. Cane and *arhar* are suffering in places. Sowings of spring crops are in progress, but practically only where there is natural moisture or artificial irrigation. Seed sown has generally germinated well. In Hamirpur insects are doing some damage. Poppy sowings have been started in some of the Eastern districts. The condition of agricultural stock is generally good. Fodder is scarce and dear in many districts. Supply of hay from the Government forests continues. The condition of the people is good and no actual distress is reported; and except in a few districts no increase in crime. Village gratuitous relief lists are being prepared and checked. Poor-houses have been opened at Bahraich and Hardoi, but there are no inmates at Hardoi and few in Bahraich. The numbers on the two test works opened in the south of the Allahabad District are 546. A test work was opened at Banda on the 8th November and has attracted 1,025 workers. Test works will shortly be required in Bahraich, Gonda, Shahjahanpur, and in some districts in Bundelkhand.

Punjab.—There was no rain during the week. In comparison with prices of last week wheat is selling above scarcity rates in Hissar, Ambala, Jullundur, Ferozepore, Lahore, Sialkot, Gujranwala and Shahpur; at scarcity rates in Rohtak, Gurgaon, Amritsar, and Lyallpur; and below scarcity rates elsewhere. The price of wheat is still rising in Hissar, Ferozepore, Lahore, Sialkot, and Shahpur; and falling in Rohtak, and Mianwali; the price of other food-grains also is high elsewhere. Picking of cotton and harvesting of other autumn crops continue. Sowings of spring crops are in progress generally on irrigated areas. A considerable contraction in the area sown is anticipated, especially in Rawalpindi, owing to the absence of rain. The yield of the cotton crop is good to fair in Lyallpur and Jhang; and of other autumn crops generally below average throughout the Province. Rats are still damaging crops in Lahore, Gujranwala, and Shahpur; cotton has been attacked by green fly (*tela*) in Gujranwala; and grass-hoppers (*toka*) have injured young crops in Sialkot. The condition of cattle is good to fair except in Jullundur and Sialkot, where they are suffering from overwork. Fodder is scarce in Delhi, Lahore, Sialkot, Gujranwala, Shahpur, and Multan. Sugarcane is being used as fodder in Sialkot and Gujranwala; the available supply is decreasing in Ambala. There are some complaints still of a shortage in the water-supply at the tail of certain branches of the Chenab canal in Lyallpur; the supply of water is also decreasing in Ambala.

North-West Frontier Province.—Rainfall *nil*. Rain is badly wanted all over the Province. The condition of the standing crops is fair on irrigated areas; and generally poor on unirrigated lands. Harvesting of autumn crops continues and the outturn is fair in Bannu, but poor in Peshawar and Dera Ismail Khan. Sugarcane pressing has commenced in Bannu, and the outturn is reported to be fair. Sowings of spring crops are in progress on irrigated lands, but have been greatly retarded on unirrigated areas for want of rain. Irrigation from the Paharpur canal continues. The water-supply in canals is sufficient. Fodder is getting scarce in Dera Ismail Khan. The condition of cattle is generally good. Prices are rising owing to large exports down country. Prices—wheat $10\frac{9}{16}$ to $14\frac{1}{4}$; gram $12\frac{11}{16}$ to 18; maize $16\frac{11}{16}$ to 26; and *bajra* $15\frac{3}{8}$ to 18 seers per rupee. In Peshawar all staple articles of food and in Bannu gram only are selling above scarcity rates.

Jammu.—Rainfall *nil*. Prices are rising. Prices—wheat $9\frac{1}{3}$ to 17; and maize $12\frac{1}{2}$ to 25 seers per rupee. The condition of the standing crops is bad for want of rain. Fodder is insufficient in Bhimber, Kathua, Udhampur, Jammu, Basohli, and Akhnur Tehsils. Harvesting of autumn crops is in progress. Land is being prepared for spring crops.

Kashmir.—The weather is bright. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.
CROP PROSPECTS.
(*By Telegram.*)

Shillong, Nov. 19th.

THE following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 18th instant:—

There has again been no rain in any part of the province, except the Khasi and Garo Hills, where light showers have fallen.

The harvesting of **winter rice** has commenced and reports indicate that the outturn from the lowlands will be even better than was previously expected, but the prospects of crops on higher land are poor.

The absense of rain is impeding the growth of the **rabi crops.** Rain is also required for **tea.** Mosquito blight still prevails in Cachar.

Outbreaks of **cattle disease** are reported from four districts.

Prices of common rice have fallen in eight and risen in only three districts. Imports appear to be decreasing in anticipation of the winter harvest.

In the Jamalpur sub-division of Mymensingh further **agricultural loans** to the amount of Rs. 1,045 have been distributed.

In Bogra prices have decreased and the outlook has improved though a partial failure of the winter rice crop is inevitable.

At present there remains **no reason to anticipate serious scarcity** in any part of the Province.

THE THREATENED SCARCITY.
No Material Alteration.

The following is a copy of a telegram, dated 18th instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Good rain has fallen in Southern India; light rain in Lower Burma. Elsewhere the week was rainless, and there is no material alteration in the position and prospects.

A considerable contraction in spring sowings is reported from North-West and Central India, but germination is satisfactory on the whole.

Demand for labour continued and general distress has not yet appeared.

Scarcity is apprehended in some Bengal districts. There are 1,500 persons on test works in two districts of the United Provinces of Agra and Oudh. More test works will shortly be opened.

Prices continue high, but on the whole stationary.

THE WORLD'S SUGAR SUPPLY.
Final Estimates.

MR. C. CZARNIKOW, in his Sugar Report, dated October 31st, says the factory estimates were published on Sunday, 27th October, and compare as follows:—

	Hectares (00 omitted).		Total Roots in Thousand Tons.				Tons Roots per Hectare.	
			1907.		1906			
	1907.	1906.	Oct.	Avge.	Oct.	Final.	1907.	1906.
Germany	446,0	442,0	13,086	13,600	13,675	14,171	30·5	31·9
Austria	329,2	342,1	8,673	8,900	8,670	8,978	27·0	26·2
France	211,0	200,1	5,341	5,600	4,861	5,475	26·5	27·4
Belgium	58,0	60,3	1,620	1,675	1,781	1,850	28·9	30·8
Holland	46,0	44,1	1,142	1,175	1,158	1,200	25·5	27·2
Russia	1,090,0	1,090,8	29,792	30,950	30,145	31,675	15·0	17·5
	615,0	578,0	9,051	9,200	10,064	10,147		

	Total Sugar in Thousand Tons.				Tons Sugar per Hectare.	
	1907.		1906.			
	Factory.	Avge.	Factory.	Final.	1907.	1906.
Germany	1,997	2,180	2,038	2,238	4·89	5·02
Austria	1,394	1,440	1,294	1,344	4·38	3·93
France	704	770	637	756	3·65	3·78
Belgium	238	260	265	283	4·48	4·69
Holland	166½	180	167	181	3·91	4·10
Russia	4,500	4,830	4,451	4,802		
Denmark	1,390	1,425	1,382	1,470		
Sweden	50		64	67	2·32	2·54
Italy	111	450	149	156		
Spain	140		112	115		
Roumania	109		87	94		
Others	..		31	28		
	...	...	...	10		
		6,705		6,742		

"We have added average figures for this season based on previous experience, but they may vary in accordance with the weather (*vide* 1904), or with the care bestowed upon October figures in various seasons. Therefore the calculated yields per hectare, too, etc., will be subject to revision later on. Most figures correspond to expectations, only the Austrian figure is high, Bohemia showing per acre 12 per cent. more roots of 5 per cent. better quality, whilst in Hungary there are 10 per cent. less roots per acre of 18 per cent. better quality, the area being 10 per cent. less, *viz.*:—

	Hectares.		Roots.		Sugar.	
	1907.	1906.	1907.	1906.	1907.	1906.
Bohemia	128,1	130,6	4,300	3,892	695	600
Moravia	100,9	100,7	2,740	2,756	450	419
Hungary	100,2	110,8	1,900	2,329	300	311

	Roots per Hectare.		Sugar per Hectare.		Quality per cent.	
	1907.	1906.	1907.	1906.	1907.	1906.
Bohemia	33·6	30·0	5·43	4·59	16·2	15·4
Moravia	27·1	27·4	4·46	4·16	16·0	15·2
Hungary	19·0	21·0	3·00	2·81	15·8	13·4

"Refiners bought some 88 per cent. at 9*s.* 3½*d.* to 9*s.* 3*d.* Tate's Cubes are unchanged at 19*s.* 7½*d.*, standard Granulated at 17*s.* 7½*d.*, Lyle's No. 2 at 16*s.* 10½*d.* Hamburg Granulated prompt at 11*s.*, November-December at 10*s.* 11½*d.*, May-August moved from 11*s.* 3¾*d.* to 11*s.* 5¼*d.* to 11*s.* 3¾*d.*; Paris, October from fcs. 26·87 to fcs. 27·18 to fcs. 26·43 (10*s.* 10½*d.* f. o. b.), January-April from fcs. 27·75 to fcs. 28·06 to fcs. 27·31 (11*s.* 3*d.* f. o. b.); Hamburg Beet October from 9*s.* 2¾*d.* to 9*s.* 3½*d.* to 9*s.* 2½*d.*, November-December from 9*s.* 3½*d.* to 9*s.* 4½*d.* to 9*s.* 3*d.*, January-March from 9*s.* 6½*d.* to 9*s.* 7*d.* to 9*s.* 5½*d.*, May from 9*s.* ×½*d.* to 9*s.* 9½*d.* to 9*s.* 7¼*d.* to 9*s.* 7½*d.*, August from 9*s.* 10½*d.* to 9*s.* 11*d.* to 9*s.* 9½*d.*, next crop from 9*s.* 6*d.* to 9*s.* 5½*d.*"

—The **wool sales in Australia** may now be described as in full swing. Since the opening of the season at Adelaide on September 26th, far more wool has been marketed in the Australian selling centres than was sold in London during all last year. At Adelaide there have been two auctions, at which no fewer than 46,000 bales were sold. Adelaide brokers combine to sell enormous quantities in one day in order to compel the attendance of buyers from Sydney and Melbourne, which are situated respectively about 1,000 and 500 miles away.

THE WHEAT CROP AND FOOD RESOURCES OF INDIA.

The *Economist* of October 19th has an article on this subject, from which we take the following particulars :—

We know now for a certainty that the harvests in the two principal wheat-producing continents, Europe and North America, are much smaller than last year, and, unless this is made good later by South America, Australia, and Asia (of which there seems little prospect), a rather high range of prices is likely to be maintained for some time, if it is not advanced further. The greatest food-producing country in the world to-day is probably India; China may surpass it, but it is an uncertain quantity. But unlike most other countries where the energies of the people are devoted mainly to this industry, the surplus available for disposal abroad is often comparatively insignificant. There are always large exports of rice, occasionally of wheat, but in the most favourable season the two combined amount to but a very trifling percentage of India's total food production. From Bengal, for instance, where an enormous proportion of the cultivated area is devoted to the staple food, rice, there is practically no export of the grain; occasionally, indeed, there may be some import from other provinces. The same is usually true, though not perhaps to quite the same extent, in Madras, where acreage and production average about one-sixth that of the old undivided Province of Bengal. But Burma, which is really an outlying part of the sub continent of India, always yields largely in excess of its requirements and disposes of its regularly recurring surplus, in the first place to make good any deficiencies there may be in India proper, and then for export oversea to countries where it is wanted.

The districts comprising nearly the whole of Central India, where the food crop consists principally of millet and pulse, are in still worse predicament; for they never appear to yield a surplus at all, and frequently have to import from elsewhere, though the acreage devoted to them is little, if any, inferior to rice. With wheat the case is different, and though this crop is much smaller than either of the others India may prove a very important factor in a season like the present. But the Indian wheat crop is a most unreliable one, and cannot regularly be counted on to yield any exportable surplus at all. As more and more of the land on which it is grown is irrigated this should minimise uncertainty; but the irrigation is itself uncertain, being largely dependent on the overflow of rivers like the Indus, which occasionally fail to do their duty. Thus during the official year ending March 31st, 1901, the export of wheat was only some 12,500 quarters all told, while nearly 15 ,000 quarters were imported, this unusual state of affairs being the outcome of the severe famine of 1900. Four years later the export exceeded 10,000,000 quarters, a very appreciable addition to the world's supply. But of the total area devoted in India to the production of food-grains, which the latest official estimate places at 185,000,000 acres, it is seldom that more than 10,000,000 can be reckoned upon to contribute to export trade, and this is not subject to either rapid or material expansion.

India and the Empire.

When we talk, therefore, about the British Empire being capable of yielding the whole of its food requirements within its own limits, we must place no present, much less future, dependence on India Compared, indeed, with the European or American scale of consumption, there is already a startling deficiency, and though climate may render frugality an easier task, there is little doubt that untold millions are always underfed, and any material advance in the welfare of the people will surely be accompanied by the demand for more to eat. The process must, in any case, be painfully slow, but the question is whether eventually any surplus supply will be forthcoming. This doubt is increased when we take into account what has happened with sugar. It likewise is an important crop in India, and averages usually between one and three-quarter and two million tons from something like a corresponding number of acres. With the advance in population and prosperity of cities like Calcutta and Bombay, and the districts that minister to their industries, there has been steady growth in the consumption of this luxury, which ought to have stimulated local cultivation. What has happened, however, has been a growing import of foreign sugar, partly from Mauritius, which has always relied on the Indian market for a large portion of its output, but also from Java, and especially from Europe, though some bad legislation was for a time detrimental to the last branch of trade. There has been more than one reason for this, the growth of sugar imports. In the first place, the native sugar is of too low a quality for the consumption of Europeans or well-to-do Indians. That could easily be remedied, for, when prices are high, Indian sugar is shipped to Europe, to go through a refining process which renders it fit for use; and it might be similarly treated in India. Further, cost of transport to the seaboard towns and adjacent districts may be no more from Europe than from the interior of the continent where the sugar is grown; so that Indian sugar has no natural advantage over European in the markets of the great seaboard cities. The fact, nevertheless, remains, that an important food product required in ever-increasing quantities, and quite capable of being profitably produced in India, has to be supplied from elsewhere; and if this is true where the cultivation of no more than an additional half-million acres is involved, what is likely to happen when a growing demand for other commodities necessitates the addition of many million acres, or, at least, the far more intensive cultivation of millions actually under crop? Beyond this, there is the tendency to devote more land and labour to commodities like cotton, jute, and oilseeds, the bulk of which, or of their products, are subsequently exported, so limiting the acreage available for food production without lessening in any way the demand for the food itself. And as industries expand, and facilities for transport with the labour required for working them increase, the tendency will become more pronounced, until the point may be reached where India is incapable of feeding itself from its own unaided resources, even in favourable seasons.

A NEW ENGINE.

Remarkable Claims for a Liverpool Invention.

For some time past says the Liverpool *Journal Commerce* of the 29th ultimo, there have been rumours abroad in engineering circles to the effect that in a Liverpool engineering shop a "radial" engine had been constructed, which for power, economy in space and fuel, would out-class the turbine, while having the additional advantage in regard to steamships of being able to reverse almost by instantaneous action. The article proceeds :—

A *Journal of Commerce* representative ascertained that the invention, which is the work of a Scotch engineer resident for many years in Liverpool, is erected and working at the engineering shop of the well-known firm of Messrs. C. and H. Crichton, Derby-road. It has been protected in England, America, and on the Continent, and already it has come under the observation of one of the largest German engineering firms, who are said to have made a very substantial offer for the patent rights.

By the courtesy of Messrs. Chrichton and Company the *Journal of Commerce* representative was permitted to inspect the remarkable engine and to see its extraordinary power and adaptability thoroughly tested. Like most other great inventions, the engine has the appearance of extreme simplicity in construction. All that was to be seen was a small cylinder securely bolted to a bedplate, with a cylinder cover at each end and a shaft passing through two covers and supported on either side by a bearing. On the top of the cylinder was a small steam chest with a control valve. It was exhibited in all its nakedness before the expansion valve was added. The stuffing boxes and glands were taken off, showing when the engine was running that there was no perceptible escape of steam, while when the engine was by a turn of the wheel reversed scarcely any more steam escaped in volume than an amount equal to a puff from a tobacco pipe.

The important principle is that the steam pressure is direct on the piston from the boiler. The leverage is direct and unvariable, the part of its mechanism affected by the steam being always at the greatest distance from the shaft centre. The enigne in its internal construction is strikingly simple, the risk of anything getting loose or going wrong having been reduced to a minimum, while any individual working part could be made in a small machine shop.

The engine can be constructed to any size. It has been designed for marine work, and it is claimed by expert engineers who have inspected it that if it were applied to any great liner now equipped with the turbine it would do the same work with a considerable saving in space, weight, and at least 30 per cent. less in fuel.

The small engine on the test work produced with 5 lbs. of steam 30 revolutions per minute; with 10 lbs., 80 revolutions; with 15 lbs., 200 revolutions; with 30 lbs., 450 revolutions, and with 50 lbs., any number of revolutions up to 1,000. The starting of the engine, the varying of its speed, and reversing may be worked with the greatest ease imaginable, while from slow to full speed requires but the work of a second. The indication of great power was unmistakable, and was attested to by the clean cut emissions from the exhaust pipe.

For the "Radial Engine," so called by the inventor, it is claimed that it has one-third more power than any other existing engine of the same piston area, and that it can do anything which any other engine can do, and that it can do it better, with greater efficiency and economy. The piston is absolutely steam-tight.

The engine can go slow, half-speed, or full-speed without vibration and without loss of steam. It can take full advantage of the steam pressure and velocity without, as in the case of the turbine, depending on velocity alone.

It has the same power astern as ahead, and can be reversed instantly without the least hesitation and when going at any speed. So remarkable is its speed capacity that it can be run to the limit of its centrifugal bursting force.

A well-known engineer commenting upon the invention said it was so well balanced that the pressure of steam required to drive it 60 revolutions per minute would not move any other engine of equal piston area. "The friction," he added, "is almost nil, while beyond doubt the steam expansion power is greater than any reciprocating engine."

The same gentleman said :—"Nothing in my career has given me a greater surprise than when I made a thorough inspection and test at Messrs. Crichton's. I have had considerable experience of every known kind of propulsion, and in my opinion this invention will bring about a revolution and will take the place of the turbine. It is designed for marine work, but if applied to the railway it should at least give double to power of the present locomotive, as railway engineers are hampered for space, and the new engine could be fitted to any axle. As no other gear is required, it could be fitted on each axle under the cab or under the boiler itself, and each axle driven singly or coupled as required."

It may be mentioned that the inventor of the engine is an engineer of marked and well-established ability.

AUSTRALIAN WOOL.

Drought and Prices.

DISCUSSING the Australian wool market the *Manchester Guardian* of the 31st ultimo writes :—Letters received by this week's Australian mail from correspondents in the Riverina district of New South Wales give very gloomy accounts of the state of things prevailing in that, the most important wool producing area in Australia. The owner of three important freehold sheep stations on or near the Murrumbidgee, under date September 23rd, writes : "There has been no rain all the winter, and the season is becoming simply deplorable. According to present appearances, I should think there will hardly be a station in the Riverina that can carry one-fourth of its stock through the summer without renting country, buying feed, etc. I have got on two of my stations about 1,200 tons of hay in stacks and have the hill country in reserve, so that I am better off than most people, but, even so I do not expect to get through without severe losses unless rain soon comes, and what many others will do goodness only knows. Shearing finished here on Friday, and I find the clip more than 200 bales less than last year ; but, of course, we have finished three weeks earlier, and that means three weeks' less growth of wool than last year. It is wonderful that the result is not worse, for it is surprising that the sheep have grown such fleeces as they have done, considering the way in which they have been pinched for feed since last March." This correspondent's clip last year from three stations was close on 4,300 bales. On one station, it will be seen, he is more than 200 bales short this season, and he expects that when he has finished shearing he will only have a total clip of about 3,800 bales. Happily for our woollen and worsted industries, this bad news from the Riverina is balanced by good news from the remaining districts in New South Wales, and also from every other State in the Commonwealth. The reports from South Australia are especially satisfactory, but even there pastoralists could do with more rain. Shearing was over in the outside country, and was proceeding in the lower north and south east. Several owners of large properties write that they never had heavier fleeces, and all state that the wool is deep, sound, and light in grease, owing to the genial season. As to the probable increase in the Australian wool exports during the present wool year, the estimates of squatters are, as usual, influenced by their surroundings ; whilst Riverina correspondents think there will be no increase, South Australian correspondents think there will be one of from 75,000 to 100,000 bales. For our own part we prefer not to hazard a prediction until we have more data upon which to form an opinion. One factor which none of our correspondents takes into account is the continued improvement in breed, which is constantly going on at an ever-increasing rate, although some of them write from stations where during the last forty years the weight of each fleece has been more than doubled.

THE COTTON TRADE IN OCTOBER.

A Review.

WE take the following review from the *Manchester Guardian* of November 1st :—

Cotton declined during September, but the October decline has been even more remarkable. Middling American was 6·67*d.* on October 1st, and this turns out to have been within a point of the highest of the month, but on October 29th it was 5·81*d.*, and closes on the 31st at 6·03*d.* Since the beginning of September the decline has been something like 1½*d.* per lb., and though the price of middling is only a rough index to what can be done in the actual purchase of cotton it serves to show the trend. Various obvious causes have contributed to this decline which has persisted in spite of the comparative smallness of the movement. At the end of last week the total in sight according to the *Financial Chronicle*, was 2,282,000 bales, against 2,858,000 a year ago, and the visible supply of American cotton is actually smaller by about 127,000 bales than it was a year ago. We have heard a good deal about the holding of cotton in the South, and even the Atlanta Conference and the decline that followed it have hardly dispelled the illusion that the resolution to hold for 15 cents will have precedence over other natural causes. It seems high time, however, that the movement increased unless there is to be a revision downwards of tentative crop estimates, and it is doubtful how the market would have gone during the last week or two had it not been for the extraordinary state of affairs in New York. The financial crisis there has doubtless had far-reaching effects, though it has not yet set loose the avalanche of cotton which was supposed to be held in check by bankers' credits, and we have some immediate concern with it in the advance of the Bank rate to 5½ per cent. on the last day of the month. It is significant that the dry goods trade in the United States is much less active than it was, and circumstances specially affecting this market are the drought in India and the fall in Eastern exchanges. The news of the Egyptian crop has been dubious, and prices have not fallen in correspondence with American, but the latest news is not very discouraging. Reports of the Indian crop have been unsatisfactory, and there have been some unconfirmed rumours of serious damage to the Asiatic Russian crop.

Statistical Tables.

There have been several statistical publications during the month, chief among which is the fifth half-yearly census of mill stocks and consumption, for which we have to thank the International Federation. Various deductions may be drawn from the figures, which, however, make it clear that while the Lancashire stocks at the mills were not abnormally large at the end of last season, those of Continental and American spinners indicated a very extensive provision for the future. On the whole the stocks were much larger than had been anticipated, and, without at least the continuance of a full volume of trade, they pointed to a decline in prices. The reports of the United States Government during the month have been, as usual, indecisive. On October 2nd the Crop Reporting Board gave an average condition on September 25th of 67·7, which compares with 72·7 a month before and 71·6 for the preceding crop on September 25th, 1906. The Census Bureau has issued two ginning reports, and it may suffice to say that the second one, when amended, showed that 4,407,055 bales had been ginned up to October 18th, against 4,910,000 bales to the corresponding date last year. On the face of it these various reports do not seem favourable, but it appears that they had been sufficiently discounted before publication, and their effect, on the whole, has been slightly depressing. We have had, too, a circular from Messrs. Neill Brothers which gives an estimate of the acreage as about 2,000,000 acres above that of last season, and one from Mr. Ellison estimating the consumption at 12,500,000 bales, against 12,432,000 last season, with the deduction that this season's average of prices is likely to be the lower. Reference may be made to the attendance of a large body of Lancashire and Continental spinners at the Atlanta Conference early in the month and to the formation of the International Committee of Cotton Growers' and Manufacturers' Associations.

Fluctuations.

Appended is a table showing the fluctuations in futures and spot cotton, the quotations of American being given in decimals. The lowest price for futures was touched on October 29th and the highest on October 1st and 5th :—

	October 1. Opening.	Lowest.	Highest.	October 31. Close.
	d.	*d.*	*d.*	*d.*
October . .	6·14	5·51	6·20½	...
October-November	6·12	5·50	6·15	5·79
November-December	6·07½	5·43	6·08	5·71½
December-January	6·06	5·43½	6·06½	5·70½
January-February	6·05½	5·42	6·06	5·69
February-March	6·06½	5·43	6·07	5·69
March-April .	6·07½	5·42½	6·08	5·69
April-May .	6·08	5·44½	6·08½	5·68½
May-June .	6·09	5·43½	6·09	5·68½
June-July .	6·09	5·44½	6·09	5·68½
Mid. American spot	6·67	5·81	6·68	6·03
F. G. F. Egypt spot	10 1/16	10	10 3/16	10⅛

The advantage rests still with the manufacturer who "spins his own," and those who have to buy yarn have generally had a bad time of it. Some of them, it is asserted, have preferred a bear speculation to certain loss, but anyhow it is clear, unless a monstrous conspiracy to misiuform exists, that manufacturing is uncomfortable work. The amount of business done is probably below the average, but it is not the quantity that is at fault. Great irregularities in price have been apparent, and those who are fairly engaged, and so ask prices that have something like a normal relation to cost, find themselves underbidden by the needy ones who can not yet make up their minds to stop looms. Probably few looms, comparatively, are actually stopped, and the proposals that further stoppages should be organised at Burnley have not been received with acclamation. What is wanted is some easing in spinner's prices of which manufacturers may take advantage, but this seems as far away as ever, and the prospects of cloth are not improving even if they can scarcely become much worse.

WORLD'S SUPPLY OF ARSENIC.

AN American Consular report states that the countries possessing the best mines of arsenic are Germany, England, Austria, France, Italy, Spain, Portugal, Norway, Siberia, New Zealand, Chile, Mexico, Canada, and the United States. Among the most important sources of arsenic may be mentioned the following :—The silver mines of Saxony, Germany, those of tin and pyrites of England, arsenico-pyrites or mispickel of Spain and auriferous mispickel in the Province of Ontario, Canada. Metallic arsenic associated with antimony, silver, and other minerals is occasionally found. The United States consumes more than one-half of the world's production of metallic arsenic, white arsenic (arsenious acid), orpiment, and red sulphate of arsenic. The production of the principal countries during the five years ending 1905 was as follows :—

Year.	America.	Canada.	Germany.	Portugal.	Spain.	England.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1901 .	272	630	2,549	527	120	3,416
1902 .	1,226	723	2,827	736	120	2,165
1903 .	554	233	2,768	698	1,088	916
1904 .	33	66	2,800	1,370	1,088	923
1905 .	684	54	4,900	1,400	4,800	1,700

Spain, which follows close on Germany as to production, exported in 1905 1,750 tons of white arsenic to the United States and 246 tons to France. Germany produces the largest quantity of metallic arsenic and arsenious acid. England has fallen far behind, although it held the first place in 1901. In France there are three mines of mispickel extraction : two in the Department of the Aude and one in that of the Puy-de-Dome. The production of these three mines, in 1905 amounted to 3,117 tons, estimated at 110,659 francs. The amount exported from France during the same year was 2,643 tons to England, 33 tons to Germany, and 571 tons to Belgium. France imported in 1905 418 tons of arsenious acid, of which 31 came from England, 3 from Germany, 136 from Belgium, and 246 from Spain. The present market price of white arsenic is $170·32 per ton. In 1902 the price was quoted at $58·39 per ton.

BOYCOTT OF JAPANESE SILK FACTORIES.

An Interesting Situation.

THE *Commercial Attaché* to H. M. Embassy at Tokio (Mr. E. F. Crowe) has forwarded a memorandum on the boycott of three Japanese re-reel factories by the Foreign Raw Silk Association, from which the following is taken. Mr. Crowe points out that raw silk forms such an important item of Japanese trade that anything affecting it should be of interest to merchants, even though they are not directly concerned in the trade :—

"A glance at any Japanese raw silk market report will reveal the fact that there are three kinds of raw silk exported, namely, filatures, re-reels and kakedas. Filatures, as their name shows, are machine-reeled; re-reels are first of all hand-reeled and then machine-reeled, while kakedas are hand-reeled. The proportion in which they are exported is, roughly: filatures, 80 per cent.; re-reels, 13 per cent.; and kakedas, 7 per cent. Now although one would naturally suppose that 'filatures' would always fetch a higher price than re-reels of a similar grade, such does not appear to be the case, the latter having gradually increased in value from a position of 24 cents gold per lb. *less* than filatures in 1896-97 to 12½ cents gold per lb. *more* than filatures of the same grade in 1905-06. The reason for this is that the supply is limited and that the American buyers prefer the re-reels, especially from selected cocoons, because by careful manipulation in the process of re-reeling they pass through a severe test as to their strength and nerve, and are therefore considered in America to be more dependable than ordinary filature silk.

"The price has now fallen considerably and is again less than that of 'filatures,' but it is not clear that this result is caused by the boycott, although it may have helped towards it, the main reason being that owing to their high price for several seasons consumers have been tempted to look elsewhere for a substitute.

The Raw Silk Market.

"It is now necessary to say a word of explanation with regard to the Yokohama raw silk market. Since the first days when foreigners began to export raw silk, the custom of the trade has been that all raw silk should be brought to Yokohama and be purchased there by the foreign buyer from a Japanese intermediary or 'toiya.' These Japanese middlemen charge a small commission, but, apart from their business as middlemen, it must be remembered that they also occupy a position of quasi-bankers, and that they finance most of the filature proprietors who require large sums of money with which to buy their cocoons.

"It will be seen then that, thanks to the power which the middlemen thus obtain over the raw silk producers, they are an extremely important force. They form a corporation known as the 'Japanese Silk Guild,' which is so powerful that it would be most difficult for a foreign firm to oppose them and buy direct from the producer in order to avoid paying them any commission.

This system of pledging the crops in advance to middlemen is.....one which has existed in Japan for some centuries.....and, judging by results, in the case of raw silk at least, it has been very successful. It has been instrumental in establishing the present arrangement by which the foreign buyers, instead of having to bear the cost of establishing agencies in all the producing districts in order to enter into direct dealings with the sericulturists, know that their market is limited to Yokohama, and that all the silk for export must find its way there. In other words, buying expenses are reduced to a minimum.

Silk Piece-goods.

"In the silk piece-goods trade the conditions are quite different—for one thing it is a newer trade and the middlemen are not so powerful as to hold the weavers in the hollow of their hand, and therefore the foreigner can buy direct from the producer. This, however, does not appear to be an advantage, for it means that he must go to the additional expense of large staffs, more agencies, more telegraphic expenditure, etc., as he has to be ready to buy in any part of the producing districts. The raw silk trade therefore may be said to be based on the custom of buying on the Yokohama market through the Japanese middleman, and the experts say that it is because of this custom that the trade has flourished so exceedingly and that Yokohama has acquired its dominating position.

How the Boycott Arose.

"But some of the Japanese producers have now broken through this trade usage and in doing so have considerably interfered with the trade of the foreign exporters. These latter have therefore decided to boycott them.

"The details shortly put are as follows:—Three of the most important re-reel factories, namely, the 'Usuisha,' 'Kamransh,' and 'Shimonita,' which turns out between them about 60 per cent. of the total re-reel production (which amounts roughly to £1,000,000), have made arrangements to sell a portion of their produce direct to the two leading Japanese silk exporting firms—the Mitsui Bussan Kaisha and the Kiito Gomei Kaisha—without the intervention of the Yokohama (Japanese) middlemen, thus saving the commission and enabling these two Japanese firms to compete more successfully with the foreigner while giving him no chance to compete in the purchase.

"The Foreign Raw and Waste Silk Association, therefore, dreading that this might be the thin end of the wedge, in self-defence determined to take strong measures, and on 9th August they decided unanimously to abstain from buying the chops of the three offending factories until further notice. This, the foreign exporters hope, will compel the factories concerned to return to the old arrangement, because, by forcing them to dispose of their silks through one channel only, the value of their goods must necessarily depreciate. Up to the present moment (2nd September) there is no sign of either party giving way."

COTTON GROWING IN CYPRUS.

MR. WINSTON CHURCHILL has sent to the President of the British Cotton-Growing Association (Sir A. L. Jones) the following memorandum, which he has had prepared by the Director of Agriculture in Cyprus. In forwarding it Mr. Churchill expresses the opinion that Cyprus seems to offer very considerable cotton possibilities, and he thinks that the British Cotton-Growing Association should not overlook this field of enterprise :—

Cyprus produces "dry" and "wet" *cotton—i.e.*, non-irrigated and irrigated. The former is poor in quality and little remunerative, and is mostly used for local consumption. The latter kind is that chiefly exported. It ranks second on the Marseilles market, being placed next after the Egyptian variety "Jumel." The following are the exports of raw cotton during the last six years :—

	lbs.
1901	307,552
1902	303,968
1903	236,208
1904	168,896
1905	472,376
1906	452,928

as against six and a half million pounds exported in Venetian times, although locusts, now practically exterminated, then abounded. Production in those days was, therefore, many times greater than now. The chief reasons for this decline in production are—1. Want of capital among small farmers. 2. The need of more extended irrigation facilities. 3. The want of direct steamship communication with England. 4. The relative high rates of freight to England compared with those from other producing countries. 5. The deterioration of seed, which needs continually renewing. (The Agricultural Department has imported fresh seed for the last two years which has been sown at Athlassa Chiftlik; the produce having been distributed among farmers.) 6. Owing to the large production elsewhere and at low prices.

Sea Island Cotton.

In 1893 American seed was imported and sown with good results, but in four years it had reverted to the native type. Experiments have been conducted by the Agricultural Department this year in different parts of the island, with five varieties of American and Sea Island cotton seed. Excellent results were obtained in each case from Allen's Long Staple and Sea Island, which indicates that these two varieties could be profitably grown. These experiments are being continued this year, since, in the case of cotton as in all other experimental work, a period must be allowed for tentative effort and preliminary trials. Both Professor Dunstan and the British Cotton-Growing Association have urged that careful experiments be made by the Agricultural Department with different varieties of seed, as a preliminary to more extended operations. The Association considered that £1,000 per annum should cover the cost of such experiments; they, on their part, co-operating by (1) providing the seed, (2) looking after the disposal of the crop, and (3) making annually a grant of £100. To this proposition the Colonial Office replied (June 1st, 1905) that they were not prepared to sanction additional expenditure beyond slightly strengthening and improving the organisation of the Agricultural Department for this purpose.

A Question of Transport.

The High Commissioner, in his despatch No. 33, of 27th January, 1905, states :—"I am entirely in accord with Professor Dunstan in his view that the decadent cotton industry of Cyprus could be re-established and made the foundation of the future prosperity of the island. The efforts of a competent and practical Agricultural Department, together with an augmentation of the existing water supply, would undoubtedly do much for the extension of improved cotton cultivation, but the results, so obtained, will be of no benefit to the English market until the provision of means for ocean transport and the reduction of freight rates and other charges render that market more attractive than those at Marseilles and Trieste."

The Future.

As regards the actual position of cotton-growing in Cyprus (putting aside dry cotton, which, as already said, is not remunerative) the "wet" cotton is, on an average, as good in quality and as remunerative as that of Egypt. Its profitable cultivation could be further assured if, over and above the considerations of capital, irrigation and transport facilities, the cultivator could be brought (1) to improve the quality of his produce by the distribution to him of selected native seed or of imported seed, so as to obtain kinds specially suited to the different localities (the "native" seed is at present a degenerate form of "Orleans" seed crossed, during the course of time, with the old original seed of the country); (2) to learn by actual experience that for a superior quality of cotton he will obtain a relatively higher price; and (3) by the introduction of fertilisers and improved implements of husbandry. Large acres of land are suitable for cotton growing if irrigation were possible.

—According to a Parliamentary return just issued, 3,975 vessels of all nationalities, representing a gross tonnage of 18,810,713, passed through the **Suez Canal** last year. Of these 2,333 were British, 588 German, 260 French, 113 Russian, and 37 Japanese.

PRODUCER GAS.

Its Use Extending.

IN the course of an article on this subject in the *Times'* Engineering Supplement, Mr. J. E. Dowson, M.I.C.E., says that the adoption of what is known technically as "Producer Gas" is now proceeding by leaps and bounds, compared with its progress as recently as 10 or 15 years ago. He writes :—"In this country we are chiefly indebted to the late Sir William Siemens for the impetus he gave to the use of gas for furnaces requiring high and uniform temperatures. He was able to prove by actual results that there was not only a saving in fuel by converting it into a combustible gas (before burning it in the furnace), but that many important operations in industrial processes could be performed with gas-heated furnaces which could not be effected by direct firing with solid fuel. For this purpose the gas is used in bulk, and the crude gas is taken direct from the producer to the furnace without being cooled or cleaned. For smaller work, as, for instance, where the gas must pass through small cocks and burners, or where it is used for driving gas engines, the gas must be washed and scrubbed before it is used, and special attention has been given to the making of gas for these purposes during the last 20 years; its adoption for factory and domestic work has spread rapidly.

"In some of the early producers used for furnace work air was drawn into the producer by suction instead of being forced in under pressure as in producers of later date. Dr. Arbos, of Barcelona, was the first to conceive the idea of making a gas engine draw the gas it required from the producer in such a way that it also drew into the producer for making the gas with. The intention was excellent, but the apparatus devised was not a very practical one; and it was not until the late M. Benier, of Paris, took up the subject that it was seriously considered. His first attempts were not successful, but he and other skilled engineers gave close attention to the subject, and the result has been very satisfactory; the recent development in this source of power has in fact been remarkable. It is not possible to estimate even approximately the number of suction plant, now in use, or the horse power they serve, but it is well known that during the last three or four years the leading makers of gas engines and gas plants have had more orders than they could well execute. Although they have worked overtime they have been late in their deliveries.

"From an engineering point of view the subject is full of interest, and increased attention is being given to it; small steam engines are being rapidly superseded, and in several cases the makers of steam engines are now making gas engines. The heat efficiency of a good suction plant has been proved to be about 90 per cent.; in other words, only 10 per cent. of the heat of combustion is lost in the process of converting the fuel into useful gas. With the combination of a gas engine and suction plant the consumption of small anthracite (under a full or three-quarter load) is guaranteed by the leading makers not to exceed 1 lb. per b.h.p. hour, and with small gas coke of good quality the consumption is only a little higher. This is even accomplished with such a small power as 10 to 20 b.h.p., a result which is quite impossible with a steam engine and boiler of the same power. Suction plants of many sizes are working well up to about 500 b.h.p.; we believe there are some still larger, but we have not full information about them.

Suction Plants.

"One effect of the great spread of suction plants worked with anthracite has been to raise the price considerably. The vagaries of the coal market have doubtless contributed to this also, but, whatever the cause may be, the fact remains that the present price of anthracite is now about three times higher than it was a few years ago. This has led several inventors to try making producer gas for engines with bituminous coal, but so far success has been only partial. Condensable hydrocarbons are distilled off in the producer and mixed with the gas, and it is most difficult to prevent a troublesome deposit of tar on the engine valves, &c. To separate the tar from the gas considerable additions are made to the gas plant; it is more complicated and more costly, and the consumption of fuel is appreciably raised per effective horse-power because of the power required to work washers, tar extractors, &c. Improvements are being made, and it is all-important that they should be encouraged and persevered with; excellent results can be attained with anthracite or coke, but we must not be limited to the use of these fuels. For marine work little can be done until bituminous coal can be used without risk of failure or stoppage of the engine.

"It has been well said that 'coal bears the same relation to industrial life that corn does to human life; industry must have it or cease to exist.' The demand for fuel is ever increasing and it is clearly to our interest to economise what we have by making a better use of it, and in this direction producer gas offers a *via media*. Apart from the saving which can be effected in various heating processes, we have the encouraging fact before us that instead of burning from 2 lb. to 4 lb. per b.h.p. hour with steam power we need burn only 1 lb. with gas power. This is no fancy picture; it is a *fait accompli*; but to make it of general application we have to improve the present method of converting bituminous coal into useful gas. In nearly all the bituminous plants now used a large proportion of the condensable hydrocarbons are distilled off and afterwards removed from the gas, but it is advisable that they should be converted into fixed gas in the producer itself, and some recent trials have proved the correctness of this opinion. The cleaning process is then simplified, and at the same time the valuable heat-giving hydrocarbons can be used instead of being wasted. Great progress has certainly been made, but we have not touched bottom yet either with gas engines or gas plants, and our best thought and energies should

be given to improvements in all directions. Some makers of gas engines in this country are rather against further changes; they say they can make more money by making and selling engines of moderate size as now designed, and they prefer not to make engines of large size. It is all-important, however, that in this greatest of all manufacturing countries we should work out the best and most efficient system of power obtainable; and, fortunately, we now have several years' varied experience and some useful failures to guide us. On the Continent great attention is being given to this subject, and the theoretical problems and details are more closely studied than in this country, but all who know anything of gas engine design are fully aware that it cannot be perfected by mere rule of thumb or mere mechanical skill.

Pressure Gas.

"The older form of producer gas, made with a jet of steam and generally known as 'pressure gas,' still holds its own for certain purposes where it is important to have a high calorific power, say, 150 to 160 B. T. U. per cubic foot. For blow-pipe work, or where it is necessary to intensify or concentrate the heat, this is important. The calorific power or good suction gas is usually about 10 per cent. lower than that of good pressure gas made with a jet of steam, chiefly because it contains less hydrogen and carbon monoxide and more nitrogen. For engine work this is not a practical drawback, provided the ignition of the explosive mixture is properly attended to. This is assisted by raising the compression or the charge before ignition, and it has the additional advantage of reducing the volume of residual products left in the cylinder after each explosion, as there is then less dilution of the new charge. For engine work it should also be remembered that it is not so much the percentage of hydrogen in the gas which is important as the percentage of hydrogen in the charge of gas and air introduced into the cylinder. For instance, if we take two examples of producer gas, one containing 15 per cent. of carbon monoxide and 25 per cent. of hydrogen, the other containing 25 per cent. of carbon monoxide and 15 per cent. of hydrogen, the quantity of air required for combustion will be the same in each case. This again affects the liability to pre-ignition, as it follows that in the first case there will be 25 parts of hydrogen in the cylinder and only 15 parts in the second; in this proportion the charge in the former will be more liable to pre-ignition than in the latter. Whilst suction gas has a lower calorific power than pressure gas, it requires less air for its combustion, and after allowing for this it will be found (approximately) that an engine which will develop a *maximum* of 100 h. p. with pressure gas will only give 93 h. p. with suction gas, as loss in the *maximum* power of the engine of 7 per cent.

Complete Plants.

"A large number of gas engines and suction plants are now used successfully for electric light installations in country houses and factories. They are also used for driving dynamos where the power generated is transmitted electrically, and it is fortunate that in electric installations it is always possible to measure accurately the output of the plant, so that precise results can be ascertained under working conditions. One example we know of gave the following results :—The average power developed was about 200 b. h. p., and the plant worked 123 hours without a stop; readings of the current generated were taken every half-hour, and the consumption of fuel was carefully noted. The general result was that the consumption of small anthracite peas (including all sources of waste during the run) averaged only 1·23 lbs. per kw. hour, corresponding to 0·82 lb. per b. h. p. hour, on the assumption that the efficiency of the dynamo was 90 per cent. One labourer worked the plant during each shift, besides doing other work. It should be added that an important feature of suction plants is the ease with which gas can be made, and the readiness with which the gas making can be started. With plants up to about 100 h. p. the engine can be started in 15 to 20 minutes after lighting the fire in the producer, and not much longer time is required for larger plants. The producer is then left full of fuel, and the attendant need only put on more at long intervals. It has been a matter of surprise that the engine can be started so soon after lighting the fire, and it has been noticed that if the engine is not started promptly the gas is no better when the fire has been blown up for a much longer time. The probable explanation is that the wood with which the fire is lighted and the mass of new fuel in the producer soon yield rich hydrocarbon gases; but after a certain time these are exhausted, and producer gas of the ordinary kind is made. The volume of gas which can be obtained from anthracite by distillation alone is greater than is generally supposed."

—The following table, published in the Selangor Government *Gazette*, shows the exports of **tin and tin ore** from the **Federated Malay States** during the six months ended June last with the corresponding figures for the same period of 1906. The tin exported in the form of ore is calculated at 70 per cent. of the gross weight of the ore.

State.	January to June, 1906.			January to June, 1907.		
	Tin. Piculs.	Tin exported in the form of ore. Piculs.	Total. Piculs.	Tin. Piculs.	Tin exported in the form of ore. Piculs.	Total. Piculs.
Perak . .	61,716	152,040	213,756	53,813	157,560	211,373
Selangor . .	55,434	78,040	133,474	43,796	84,960	128,756
Negri Sembilan.	24,637	14,519	39,156	19,507	16,962	36,469
Pahang . .	2,645	13,903	16,548	6,195	9,566	15,761
Total .	144,432	258,502	402,934	123,313	269,048	392,361

A picul = 133⅓ lbs.

PETROLEUM IN ROUMANIA.

H. M. MINISTER at Bucharest has forwarded the following memorandum on the development of the petroleum industry in Roumania :—

"Although petroleum can be traced back in Roumania to the year 1832, when it was employed by peasants as a lubricant, and although as early as 1856 a refinery was installed in Bucharest, which claims the privilege of having been the first town in Europe to be lighted by petroleum, it is only of late years that the industry has attained universal repute. In 1866, owing to the rise in prices of petroleum abroad, Roumania, in spite of its limited production of 5,915 metric tons, was able to export as much as 2,712 metric tons to Marseilles alone. Shortly afterwards, however, owing to the primitive means of extraction employed and to the absence of railroads and general difficulties of transport, Roumania found herself unable to compete with other countries and the exploitation of petroleum was abandoned. But it was renewed in 1882 and continued on a small, though progressive, scale until 1898, when it quickly began to assume considerable proportions, as the following figures will show. From 1882 till 1897 the production increased from 19,000 to 79.000 tons, while from 1898 to 1906 it rose from 106,470 to 887,554 tons, and the first six months of the current year show a total of 555,482 tons. Roumania thus now comes fourth on the list of petroleum-producing countries after the United States, Russia and the Dutch Indies.

Rapid Development.

"This rapid development has gradually attracted foreign capital, the amount of which is now close upon £7,750,000 ; Germany being responsible for nearly £3,000,000, France for £1,250,000, and Holland for £900,000. British capital which had been invested as far back as 1885 in Glodeni, and subsequently in Provitza and Bacau, was lost through want of experience, and its total now amounts to only £120,000.

"The exploitation of petroleum is at present confined to the four districts of Prahova, Dambovitza, Buzeu and Bacau. The fields of the Prahova valley alone supply 95 per cent. of the total production, but there are other petroliferous regions as yet unexplored, the greater part of which belong to the State.

"The means employed for the extraction of petroleum are sounds and hand-wells. At the end of 1906 there were 451 sounds and 591 hand-wells at work, the production of the former representing 92 per cent. of the total. The depths at which the oil is reached vary from 500 to 1,800 feet but about 900 feet is the average. The average monthly production of a sound is estimated at 150·8 metric tons, and that of a hand-well at 9·9 metric tons.

Transport from Oil-fields.

"The transport from the oil-fields to the refineries is carried on by means of tank waggons or pipelines, of which there are at present 36 kilometres (22½ miles). From the refineries to the various centres of consumption the oil is transported in tank waggons of 10 metric tons capacity. But the road and rail communications with the oil-fields are insufficient, and one of the projects of the Government is notably to double the railway line leading to Campina (Prahova). In various stations and at the ports on the Danube, reservoirs capable of holding 100,000 tons have been erected for storing the oil. In Constantza, the principal outlet to the sea, special reservoirs have also been constructed, fitted with the latest appliances for shipping the oil, etc. Further works are now in hand for which this year alone a sum of £280,000 has been set aside, and, when completed, it is calculated that 100,000 tons can be shipped annually from that port.

"There are a number of refineries capable of producing together 3,300 tons a day, or nearly 1¼ million tons a year. The most important are "Steaua Romana" with a daily production of 1,200 tons, "Vega" with 900 tons, "Societe Roumano-Americaine" and "Aurora" with 600 tons each.

"The principal products derived from Roumanian petroleum are benzine, lamp oil, lubricating oil, paraffin and "Pacura," made of the residues, and now used on nearly all Roumanian railways and steamers instead of wood and coal as heretofore.

"The export of oils, which in 1897 amounted only to 21,387 tons, of a value of £42,764, rose in 1906 to 321,119 tons, worth £1,045,553."

Yield of Petroleum.

The following statement shows the output of petroleum in each of the four producing districts during the first six months of the years 1905, 1906 and 1907 :—

	First six months.		
	1905.	1906.	1907.
	Metric Tons.	Metric Tons.	Metric Tons.
Prahova . . .	251,373	389,977	529,450
Dembovitza . . .	12,531	9,257	16,296
Buzeu	4,653	5,921	4,606
Bacau	3,610	4,356	4,130
TOTAL .	272,167	409,511	555,482

—According to the latest estimate of the Japanese Department of Agriculture and Commerce (published on the 3rd October) the **Japanese rice crop** will amount to 49,812,435 koku (1 koku=4·96 bushels), which is 3½ million koku in excess of last year's figure.

ARTIFICIAL SILK.

Methods of Manufacture in England.

SPECIAL U. S. A. Agent William Whittam, jr., furnishes his Government with the following interesting report on the manufacture of artificial silk in England, which was forwarded from Manchester :—

The process of manufacturing artificial silk made from wood pulp is one which in Europe is jealously guarded from inspection. The product is intended to supply the trade with a yarn which will take the place of the product of the silk-worm. It is recognized, however, even by the makers of the imitation silk, that its use has limitations. Its fabrication into cloth without the admixture of other fibres is not recommended, but rather distinctly discouraged by at least one "mock" silk spinner. On the other hand, it is coming into popularity as the material for both transverse and longitudinal stripes and small figured effects in cloths, the body of which is composed of either cotton, wool, or worsted.

Obviously, the aim of the inventors of the several processes is to produce a thread resembling real silk as closely as possible in appearance, feel, and wearing qualities. Up to the present a product possessing the two first-named characteristics, but deficient in the latter attribute, seems to have been arrived at. Naturally, then, the price at which the artificial yarn can be marketed must be less than that which the real and well-established silk commands. At this time imitation silk sells for considerably less than real silk, but at a higher price than mercerized cotton, and the exploiters of the patent processes are looking forward to the time when their yarns will have a settled position in the textile trade between silk and the best qualities of mercerized cotton yarns.

Processes Employed.

Two processes are employed—one in which alcohol is used as the dissolving agent of the wood pulp, while in the other process a caustic solution is employed. It is with the caustic or "viscose" process I shall deal in this report. I am told that the United States is the best market for these yarns, and as the trade is as yet in its infancy we have an opening for the establishment of a new industry. So far as I have been able to find there is but little of this stuff made in America, and as the base patents have not long to run the industry should at least compel the investigation of the users at home. My information is that something approaching $250,000 was paid for the British patents, and that, although the concern working them has invested over half a million dollars in plant, etc., they expect their works will represent an investment of $1,250,000 within the coming year or two.

Raw Material and Conversion.

The raw material comes from Norway in the form of baled sheets, each sheet being about 4 feet square. Its price fluctuates from time to time, but 4 pence (8 cents) a pound may be taken as the average cost. After the pulp has been dissolved into a liquid of the required consistency it is forced through a series of microscopic holes, four one-thousands of an inch in diameter, punched through a thin platinum plate. A "setting" bath (acid) then fixes the filaments so that they can be twisted together to form a workable thread. Usually either 16 or 32 of these capillary filaments go to form what may be termed the "single" yarn. The spinning spindle, which is a weighty affair of some 90 ounces, is gear-driven at 5,000 revolutions a minute, and carries a "cup" into which the yarn is collected in the form of a small "cheese." There will shortly be introduced an improved spindle weighing but 30 ounces, which it is expected can be successfully driven at the rate of 9,000 revolutions per minute. A later arrangement for feeding the "viscose" through the microscopic holes enables a varying pressure to be exerted on the liquid, and by this contrivance different counts of yarn can be made than could be conveniently produced by the older arrangement of increasing or decreasing the number of component filaments in the finished thread.

Aside from the apparatus for treating the pulp prior to spinning, the spinning machines are in themselves costly, the present price per spindle being $25, the average production per spindle being 100 meters per minute of a thread having 2½ turns of twist to the inch. I learn that, so far as British experience is concerned, the development of the work has been most expensive. Starting with the accumulated knowledge of the continental producers has not prevented comparatively enormous sums being expended in simplifying complicated, though somewhat crude, mechanism and simplifying chemical processes and standardizing the quantities and qualities of the ingredients employed.

The Finished Yarn

The single yarn, bleached and dyed, is put up in three qualities, A, B, and C, and is sold in the hank at $1·20, $1·32, and $1·44 per pound, the cost to the manufacturer of the artificial yarn averaging 75 cents per pound. I inquired as to the division of cost and was told that one-third went for raw material and chemicals, one-third for labour, supplies, power, etc., and that one-third covered interest, depreciation, selling and other general expenses.

Although the English product is as yet limited in volume, an attempt is being made to distribute the output through the greatest number of channels in order to create a demand for the greater weight of yarns to be made by the rapidly increasing number of spindles. Many makers of fancy cotton goods, who sell part of their output in the American market, are and have been for some time using artificial silk for stripes and figures.

The firms working the "viscose" patents in the several countries in Europe have the markets in which they may sell their yarns defined by agreement, *to reduce competition*. They also have an arrangement by which any improvement in processes made in one factory is communicated to every other firm in the "cartel."

Before the true intrinsic value of artificial silk as a textile material can be arrived at, any disadvantage it has must be known. It is much heavier than real silk, and therefore more pounds will be needed to supply any given length. It is more or less seriously affected by water and moisture and is very inflammable, and both the strength and elasticity of the material falls far below that of the real article. At the same time its brilliancy and lustre are superior to mercerized cotton. With all its comparatively weak characteristics, I suggest that it will ultimately compete with cotton and with silk yarns made from waste silk, if its use is confined to the mixture with other textiles in the manner I have indicated.

YUCATAN FIBRES.

Sisal grass or hemp, henequin, or simply sisal, says the *Journal* of the Society of Arts, are the various commercial terms applied to a fibre that is neither a grass nor a hemp. The term "sisal" was applied to it because it originally reached the outer world through the Yucatan port of that name. The agave, according to the American Consul at Progreso, is one of the most characteristic plants of Mexico. One species produces pulque, the intoxicating drink of the country. Great fields of this plant are found upon the table lands and long pulque trains are run daily into Mexico city. The *Agave sisalensis*, another species, furnishes a fibre capable of binding wheat. There are four varieties of this plant growing wild in the forests of Yucatan—the chelm, cahum, pabci, and the citamci. There are also two varieties of the cultivated plant—the yaxci or green fibre, and the sacci, or white fibre. The last-named is the most largely cultivated and the one producing the sisal hemp of commerce. The fibre-cleaning machines in use in Yucatan, in order of precedence by priority of invention, consist of what are called the pacche, the tonkas, and the raspador. The pacche is a triangular, sharp-edged piece of wood, with rounded ends as handles. A wood log with a flat face is made with a hole and a peg in the upper portion. One end of the leaf of the plant is firmly fixed in the flat surface by jamming it into the hole and pushing the plug in after it; then the pulp is scraped away, leaving the fibre hanging from the uncleaned half of the leaf. The leaf is then reversed, the clean fibre fixed into the hole, and the uncleaned portion made ready for the action of the cleaner. The tonkas is a flattened piece of hard wood, about eighteen inches long by five inches wide. At the upper end it is about one inch thick, and it dwindles until at end it becomes a thin, sharp edge, curving inward, so as to grip and save the pulp from the fibre. The bed-board of the tonkas has a curve to correspond with the curve in the edge of the implement. The leaf is placed between the bed-piece and the tonkas, and while the tonkas is held firmly in one hand, the other draws the leaf towards the body, this movement being repeated until one-half of the leaf is clean. The same operation takes place on the second half of the leaf. The pacche is the implement most in use to-day among the natives of the interior of Yucatan, and with which one person can produce from six to nine pounds of fibre daily. The next step in the evolution of the fibre-cleaning machine is the raspador, which in principle is a wheel upon which are placed the edges of many pacches. With the aid of this machine two men can clean in one day more than forty men are able to accomplish with the tonkas and pacches. There are many other labour-saving devices, some of them proving very effective. The total output of sisal hemp from Yucatan during the year 1906 was 600,000 bales, weighing 214 million pounds, and having a value of £2,700,000.

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With notes by Charles J. Howorth. First impression . . . . . 1s. 1d.

—The Commercial Intelligence Branch of the Board of Trade have been notified by the Agent-General for Victoria of the following alterations in butter grades in connexion with the export of **Australian butter**:—"Superfine" instead of "First Class Superfine"—95-100 points inclusive, instead of 94-100 points; "First grade" instead of "First Class"—90-94 points inclusive, instead of 86-93 points; "Second Grade" instead of "Second Class"—83-89 points instead of 75-85 points; "Third Grade" instead of "Third Class"—75-82 points instead of under 75 points; "Pastry" butter under 75 points. The change came into operation on the 23rd September last.

WEEKLY TRADE MOVEMENTS.

For the week ending 16th November, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.		332,489
	Bombay „		226,713
	Madras „		336,430
Indian— Exports by sea from	Calcutta „		441,974
	Bombay „		2,586,108
	Madras „		...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.		17,160,782
	Bombay „		4,679,903
	Karachi „		1,122,573
	Madras „		645,121
	Rangoon „		114,619

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.		5,423,619
	Bombay „		7,672,399
	Karachi „		3,229,853
	Madras „		375,330
	Rangoon „		749,335

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.		3,006,519
	Bombay „		7,480,014
	Karachi „		3,087,631
	Madras „		331,496
	Rangoon „		799,347

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.		27,913
	Bombay* „		7,106
	Karachi „		15,893
	Madras „		3,323

Raw Cotton.

Imports into Bombay	By sea cwt.		438
	Coastwise „		7,052
	By rail „		62,077
Imports into Karachi by rail	„		4,836
„ „ Calcutta by rail and river	„		6,624

JUTE.

Arrivals by all routes in	Calcutta. cwt.		775,996
Exports by sea from	Calcutta — Gunny bags, No.		7,364,317
	„ cloth, yds.		14,181,463
	Jute, cwt.		554,856
	Chittagong—Jute „		107,225

TEA.

Arrivals by all routes in	Calcutta, lbs.		4,048,940
Exports by sea from	Calcutta „		6,301,700
	Chittagong „		2,161,706

WHEAT.

Imports into	Calcutta by rail and river, cwt.		53,166
	Karachi by rail „		417,921
	Bombay — By sea „		2,842
	Coastwise „		16,795
	By rail „		7,713
Exports by sea from	Calcutta „		620
	Bombay „		859
	Karachi „		234,772

RICE.

Arrivals by all routes in	Calcutta, cwt.		144,756
Exports by sea from	Calcutta „		44,016
	Chittagong „		...
	Bombay „		4,460
	Karachi „		19,573
	Madras „		...
	Rangoon „		217,937

LINSEED.

Imports into	Calcutta by rail and river, cwt.		33,216
	Bombay — By sea „		2
	Coastwise „		210
	By rail „		6,196
	Karachi by rail „		...
Exports by sea from	Calcutta „		62,477
	Bombay „		67,854
	Karachi „		...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river, cwt.		18,569
	Bombay — By sea „		...
	Coastwise „		1
	By rail „		895
	Karachi by rail „		9,201
Exports by sea from	Calcutta „		110
	Bombay „		8,666
	Karachi „		15,506

COTTON SEED.

Exports by sea from Bombay,	cwt.		16,761

* B., B. & C. I. Ry. figures only.

KEROSENE OIL, WEEK ENDING 16th NOVEMBER, 1907.

Imports by sea into—	From Russia.	America.	All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	...	818	818
Bombay	...	...	...	...
Karachi	...	...	...	...
Madras	...	195,592	...	195,592

Exports by sea from Burma to	Bengal galls.		405,800
	E. B. & Assam „		415,684
	Bombay „		...
	Sind „		...
	Madras „		568,200
	Indian Ports, Non-Br. „		...
	Foreign Ports „		...

IMPORTS OF SUGAR, WEEK ENDING 16th NOVEMBER, 1907.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	TOTAL.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	52	...	5	3	31	57	148
Germany	...	...	501	...	1,600	...	2,101
Austria-Hungary	...	...	...	9,034	...	...	9,034
Other European Countries	...	..	...	...	...	...	...
Java	92,998	...	12,004	...	...	34,680	139,682
Mauritius	...	...	1,577	24,806	...	...	26,383
Other Non-European Countries	...	...	209	...	...	...	209
					Total refined		177,557
					Total unrefined		...
					Grand Total, cwt.		177,557

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 15th November.		Sold to 15th November.		Sold in sale of 16th November.		Sold to 16th November.	
	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	6,197	7 4·7	141,476	7 5·7	5,912	6 5·9	112,572	6 9·2
Cachar	3,472	6 7	113,355	6 1·2	3,815	4 7·2	100,667	4 2·5
Sylhet	1,753	6 7·5	88,794	6 1	5,104	4 7·7	78,265	3 11·7
Darjeeling	1,018	11 4·3	48,863	9 0·5	1,835	8 5·4	47,488	8 7·5
Dooars	5,034	7 3·1	138,027	6 8·4	7,866	5 7·8	125,623	5 3·5
Terai	591	6 10·2	17,830	6 2·7	770	4 6·4	26,390	4 2·7
Chittagong	265	6 7	7,108	6 2·2	280	4 1·9	9,342	4 1·3
Chota-Nagpore	...	...	609	5 2·5	105	3 5·4	341	4 3·7
Kumaon and Kangra	442	6 11	3,843	6 0·4	...	...	120	5 0
Madras	...	...	285	6 1·2	...	...	286	4 10·8
Debra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	..	...	247	6 9·3	...	...	...	...
TOTAL	18,772	7 3·7	560,641	6 10·3	25,687	5 7·5	501,144	5 5·2

(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 29,572 packages Dust* sold to 15th November — As. 6 P. 8·9

* On account of gardens which sell only that grade on this market.

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 October, 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	159,300	...	246,393	8,500	137,811	...	552,004
„ 41 to 50	88,500	...	49,205	...	40,500	...	178,205
„ above No. 50	131,910	...	77,443	...	22,000	...	231,353
Orange, red and other colours, Nos. 31 to 40.	404,293	...	215,134	50,567	371,995	11,800	1,053,789
Orange, red and other colours, Nos. 41 to 50.	...	...	16,360	4,510	4,800	11,280	36,950
Orange, red and other colours, above No. 50.	4,280	...	33,068	...	46,276	4,750	88,374
TOTAL	788,283	...	637,603	63,577	623,382	27,830	2,140,675

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3. Annual Statement of the Sea-borne Trade and Navigation of British India :—
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   - 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. (10*a*.)
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19. Accounts of the Trade and Navigation of British India. As. 8. (2*a*.)
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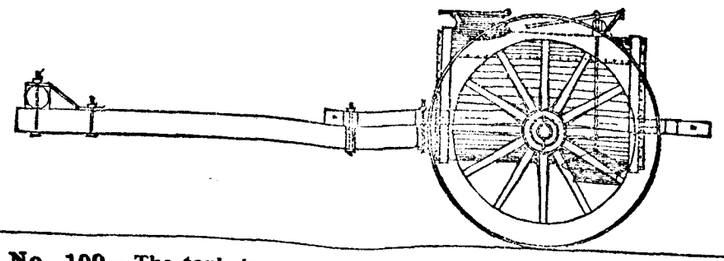
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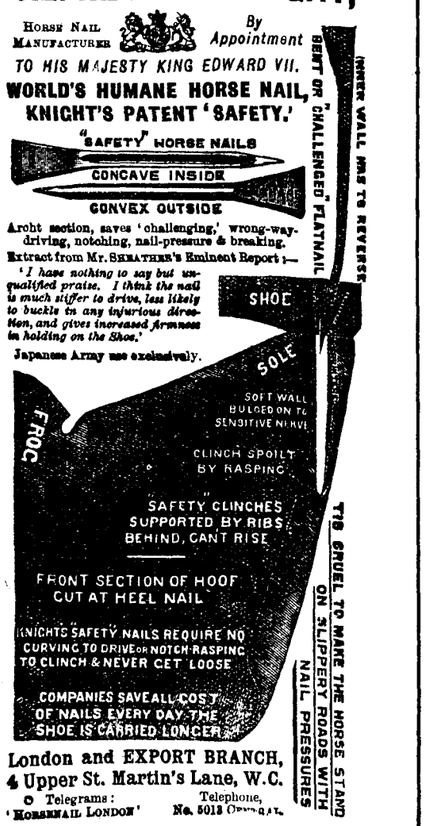
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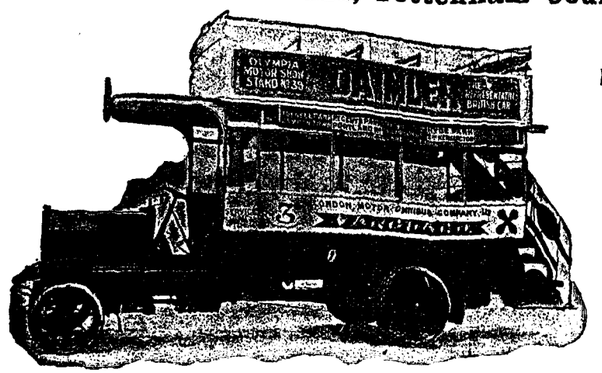
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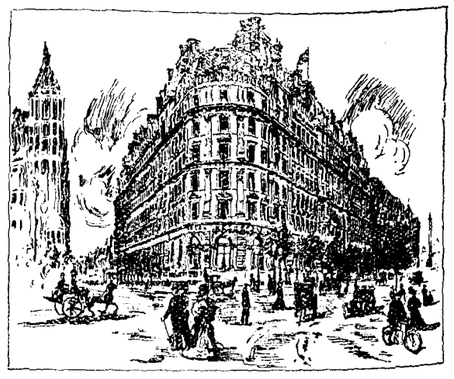
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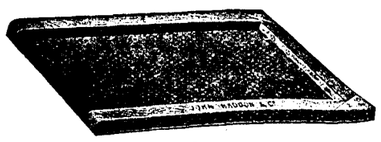
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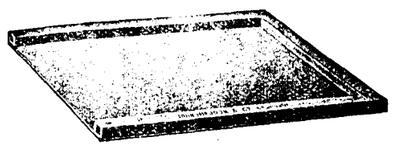


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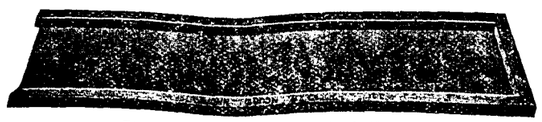


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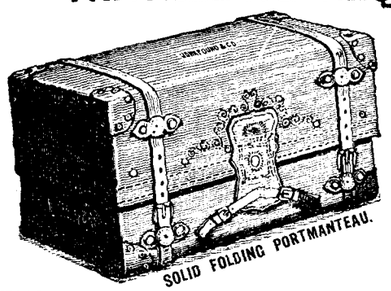
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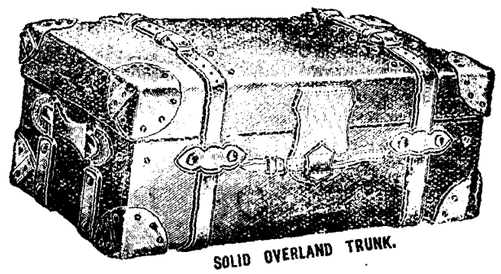


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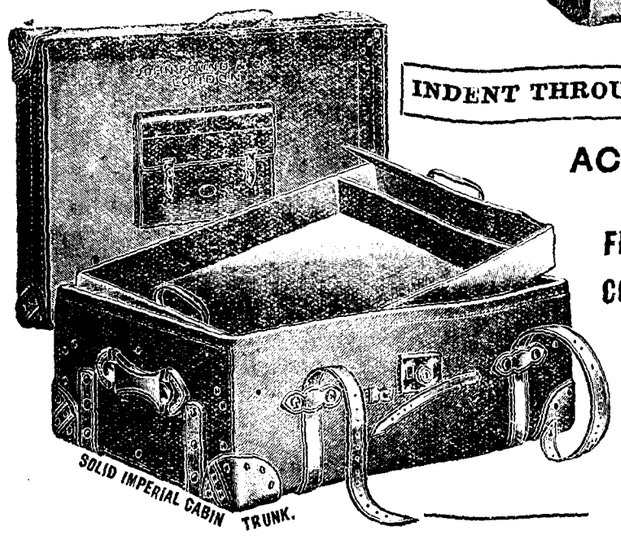
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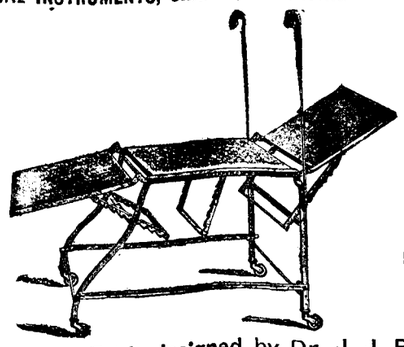
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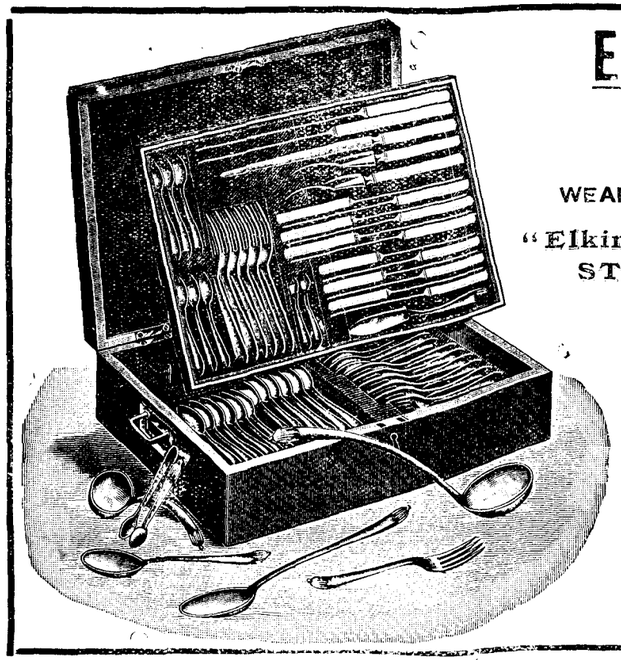
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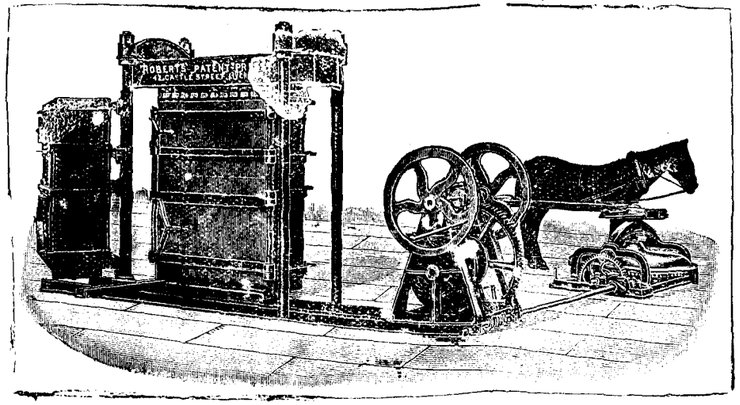
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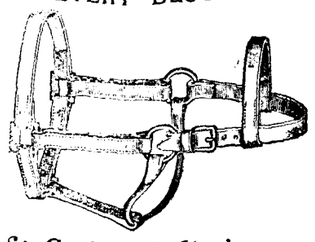
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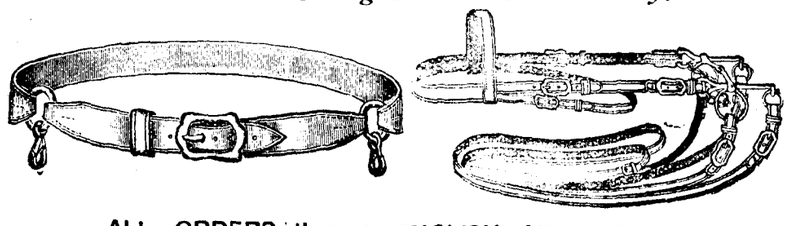
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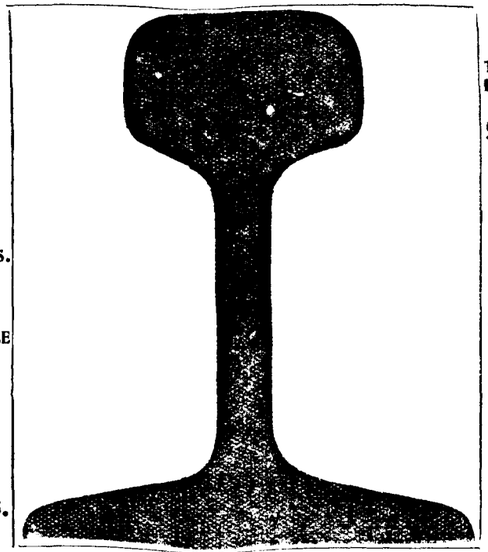
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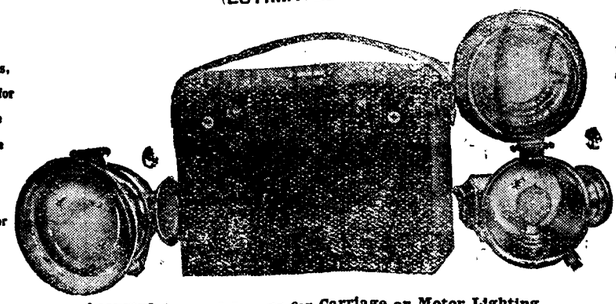
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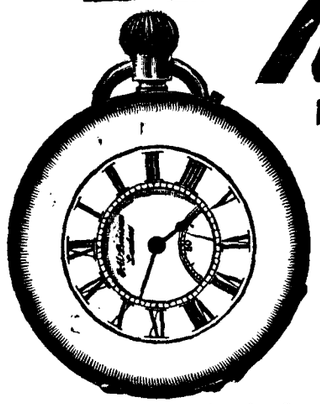
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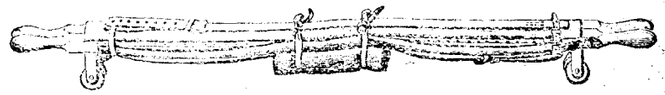
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The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 87.] CALCUTTA, THURSDAY, 28th NOVEMBER, 1907. [ANNAS 4.

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NOTES.

A new spinning and weaving mill has been opened at **Nadiad**, *Kaira* district, Bombay, under the name of the Nadiad Swadeshi Spinning and Weaving Co.

The total area **irrigated** in the **United Provinces** in connection with the Rabi (spring) crops of 1906-07 is officially estimated at 1,573,532 acres, as against 2,206,180 acres during the previous year.

The total area leased for **irrigation in Bengal** during the official year 1907-08 up to the end of September last was 791,822 acres, as against 758,077 acres for the corresponding period of the previous year.

The cost of producing a maund (maund=82⅔ lbs.) of **synthetic indigo** is believed to be Rs. 90; but, according to *Capital* Mr. E. C. Schrottky claims that natural indigo can now be produced at Rs. 60 per maund of 65 per cent. indigotine, in which case it would appear that the prospects of the natural product have considerably brightened.

The latest **Shanghai** advices to hand by the China Mail, which reached Calcutta last week, are to the effect that during the week ending 31st *ultimo* the market for **Indian spinnings** ruled very quiet, the only enquiry being for the River Ports and Szechuen. In the absence of any competition with other ... holders had difficulty in maintaining ... taels. ... spite of the further decline ... November, 1907— ... exchange they had been— Owing to the high with instants (new, 1906-07) Rs. ... cation with Szechu Rs. 1,308 to 1,347; on the 14th ... (new, 1905-06) Rs. 1,395 to 1,430

floods were prevalent in the low-lying districts of Hankow. The business doing was simply from hand to mouth and there seemed to be no regularity about prices, the sales amounting to 1,355 bales.

The Alexandria General Produce Association, in its record of answers received during October regarding the **Egyptian cotton crop**, says:—The temperature during the first half of October was not favourable to the plants. The nights were often too cool, and this naturally retarded the opening of the pods The second picking where finished has therefore been of small extent everywhere, and where unfinished in certain districts the damage done by the cool nights indicates smaller results than had been hoped for The third picking shows up irregularly, varying in the different districts. Final results depend on the continuation of favourable climatic conditions during November. The ginning yields are maintained at an increase of 1 to 2 per cent. over 1906. From Upper Egypt there are complaints of the weather, but, in spite of these, the crops there promise a big increase over 1906. Taking the reports as a whole, the crop ought to yield about as much as 1906, and the first estimate is therefore placed at 6,500,000 to 7,000,000 cantars (cantar=99·05 lbs.).

Mr. Hester, Secretary of the New Orleans Cotton Exchange, has compiled the following statement showing the **average weights of American cotton bales** handled at **United States ports** and overland from September 1st to September 30th, 1907, inclusive, with the corresponding averages for September, 1906:—

	1907.			1906.
	Number of bales.	Weights in lbs.	Average weights lbs.	Average weights lbs.
Texas . .	194,627	104,919,523	539·08	542·44
Louisiana .	41,093	21,188,784	515·63	522·13
Alabama, etc.	15,267	8,015,175	525	533·68
Georgia .	219,598	113,180,809	515·40	511·01
South Carolina	27,767	13,883,500	500	510
North Carolina	60,896	30,585,016	502·25	511·56
Virginia .	21,937	10,968,500	500	502
Tennessee, etc.	10,354	5,180,850	499·89	513·75
Total for month	591,549	307,922,167	520·54	527·75

It will be noticed that the average bale was over 7 lbs. lighter this year than last.

At the opening of the **new Port works in Rangoon** on Friday last by His Excellency the Viceroy, Mr. G. C. Buchanan, Chairman of the Port Commissioners, stated in his address that the port now possessed 3,415 lineal feet of quayage for sea-borne trade and 300,000 square feet shed accommodation. The registered tonnage of sea-borne steamers entering the port for the year 1906-1907 had reached the sum of Rs. 26,90,588 and the total value of the sea-borne trade for the same year aggregated Rs. 43,60,96,159. The ordinary revenue of the port, which in 1901 was Rs. 12,61,220, had in 1906-07 increased to Rs. 20,28,089 and the works which were on the eve of completion had been accomplished without increasing the charges on trade. The estimated cost of the training wall scheme was Rs. 125 lakhs, to which a further grant of 50 lakhs of rupees from the Imperial and Provincial funds had been made. By the building of this wall and removal of the Hastings Shoal, which would be done concurrently, the harbour would have its capacity doubled and should be able to accommodate ships of any size and at all states of the tide.

The Legislative Department of the Government of India have just reprinted in three volumes, under the title of **General Statutory Rules and Orders**, all the rules, orders and notifications issued under the authority of the Governor-General in Council under Statutes and General Acts of the Governor-General applying to the whole of British India, which are now in force, with the exception of orders of a temporary or personal nature. In reprinting them an endeavour has been made to incorporate all amendments and modifications made in them by subsequent notifications. References to these notifications are given in footnotes *in loco*. Lists of these Rules and Orders and also of Orders in Council under Statutes relating to India have for some years past been issued periodically by the Legislative Department. Such of the latter Orders, as are included in Part I of those Lists, have not been republished. They consist principally of Extradition Treaties and Conventions and Orders under the English Foreign Jurisdiction and Merchant Shipping Acts, which are seldom needed for reference in India, and are readily accessible to those who require to refer to them in the Statutory Rules and Orders Revised. Certain Orders of the Crown and Orders of the Secretary of State which are of direct or special importance to India and are included in Part II of the lists referred to above have been included in the present compilation. Instances of these are the Letters Patent of the Chartered High Courts and the regulations made under the Naturalization Acts. Apart from these, the orders included are those of the Governor-General in Council. The order in which they have been arranged is the chronological order of the Statutes or Acts of the Governor-General in Council under which they were issued. An Index to these Rules and the Orders in Council noted in the List published separately by the Legislative Department has been placed at the end of the last volume of this collection. Copies may be obtained from the various Government book depôts, or from the Government Central Printing Office, Simla, price Rs. 5 per volume.

Hitherto Austria has commanded a large share of the **wood-pulp paper** trade in this country, as elsewhere; but we believe that a leading Norwegian company is now making a bid for a portion of the Indian trade in this article; and, owing to the tempting prices offered, with considerable success. Several of the leading newspapers in India have contracted for a supply.

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 October, 1907:—The total imports of gold were 202,6 1 oz. valued at Rs. 1,24,94,231; of these 116,898 oz. valued at Rs. 74,23,122 represented bullion; and 80,350 oz. valued at Rs. 46,90,763 represented sovereigns and other British gold coin; and 5,373 oz. valued at Rs. 3,10,346 represented other coined gold. The total exports of gold were *51,904 oz. valued at Rs. 29,55,159; of these *45,518 oz. valued at Rs. 25,78,996 represented bullion; and 2,321 oz valued at Rs. 1,36,640 represented sovereigns and other British gold coin; and 4,065 oz. valued at Rs. 2,39,523 represented other coined gold. The total imports of silver were 8,136,534 oz. valued at Rs. 1,66,30,236; of these 6,087,185 oz. valued at Rs. 1,25,20,022 represented bar; and 1,004,000 oz. valued at Rs. 18,46,858 represented other kinds of uncoined silver; and 275,248 oz. valued at Rs. 7,34,078 represented Government of India rupees; and 770,101 oz. valued at Rs. 15,29,278 represented other coin. The total exports of silver were 717,618 oz. valued at Rs. 18,72,457; of these *2,848 oz. valued at Rs. 7,103 represented bullion, and 656,927 oz. valued at Rs. 17,51,807 represented Government of India rupees; and 57,843 oz. valued at Rs. 1,13,547 represented other coin. In this month the net imports of gold amounted to 94·69 lakhs of rupees, and of silver to 147·57 lakhs. The figures marked with an asterisk * are defective, the weight of certain postal parcels not being declared by the Post Office.

A Cawnpore correspondent writes to the *Times of India*:—"Major E. Forrestier-Walker, the Superintendent of the Government Harness and Saddlery Factory, accompanied by Mr. W. deNoronha, head of the firm of Government auctioneers and contractors of that name, and a staff of native hide-selectors, undertakes shortly, I am informed, a tour which will probably occupy two months, and in the course of which all the various **hide agencies and exporting centres** in the **United Provinces** and the **Punjab** will be visited. Hitherto the Government Leather Factory have purchased their hide supplies through local contractors and have consequently never been in real touch with the butchers and "byparis" through whose hands the hides pass in the first instance. This unsatisfactory state of affairs is now to cease, and along with it the disadvantages that the intervention of the middle man must entail. It is the object of the Commission to personally interview the butchers and give them expert advice on the flaying and preserving of hides for the tanner. So far, "butcher-cuts" and "salt-stains" have been the bane of the scientific tanner's life in India, and a vast deal of damage and immense loss have been caused by the butcher's ignorance of the tanners' real requirements, and tanners and exporters in India have for generations been content to accept what has been offered to them, but any sympathy for them is wasted because of their rank folly in submitting to the rule of the butcher. Another source of loss to the worker of the Indian hide is the damage done by the weevil, particularly in cow hides from the Punjab. Several years ago Dr. Lingard, the Government Bacteriologist, studied the question of the loss due to the weevil, and, I believe, made some suggestion as to the means by which the pest might to some extent be eradicated. It now remains for Major Forrestier-Walker to decide whether these suggestions can be put to any economical use. I also understand that the results of the Commission will be embodied in a private report to Government, and it is to be hoped that this report will, in the fulness of time, issue in Blue-book form for the public benefit."

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

For the week ending 23rd November, 1907—

In the Calcutta market—

Behar opium—Rs. 1,292; 1,288; 1,294; 1,297; 1,299; 1,295; 1,295.

Benares opium—Rs. 1,255; 1,255; 1,255; 1,260; 1,260; 1,260; 1,260.

The prices in the time bargains for the Behar opium of the 12th sale of 1907 were Rs. 1,296; 1,292; 1,298; 1,301; 1,303; 1,299; 1,299.

In the China market—

At Hongkong (exchange Rs. 152 to 155 per $100).

Behar opium—$890; 885 (new), 887½ and 890; 880; 875, 880 (new) and 885; 875 (new) and 880; 875; 875.

Benares opium—On the 18th instant $860; on the 20th instant 855 and on the 21st instant 852.

At Shanghai (exchange Rs. 205 per 100 taels).

Behar opium—On the 20th instant 657 (new) and 660 taels.

Benares opium—On the 20th instant 644 taels.

For the week ending 16th November, 1907—

In the Bombay market—

On the 10th and 12th instants (new, 1906-07) Rs. 1,350 to 1,388; and Rs. 1,308 to 1,347; on the 14th and 15th instants (new, 1905-06) Rs. 1,395 to 1,430

and 1,360 to 1,375 respectively; on the 10th and 13th instants (old, 1904-05) Rs. 1,456 and 1,456 respectively; the latest prices at Hongkong and Shanghai were (new), Rs. 1,290 and 1,406; (old) Rs. 1,449 and 1,499, respectively.

The latest official returns show that the **opium revenue** to date is Rs. 47,00,000 better than the estimate.

It is notified in yesterday's *Calcutta Gazette* that the total quantity of **opium** to be brought forward for **sale by public auction in 1908** will consist of 23,400 chests each of Patna and Ghazipur opium under conditions which are fully set forth in the Notification.

The Government of Bengal have sanctioned an **extension of the Baraset-Basirhat Light Railway** from Basirhat to Taki and Hosanabad, and the conditions under which this sanction is given are published in yesterday's *Calcutta Gazette*.

We learn from a **Bangkok** authority that the **exports of rice** from that port during the quarter July, August and September, 1907, totalled 163,675 tons, valued at Rs. 1,35,66,644.

The Manager of Schools, **Jhind State**, informs us that **cattle shows** are held annually at Sangrur, Balanwali in Tahsil Sangrur Jhind, Sagidon, Ramrai and Julana in Tahsil Jhind and at Dadri Karirupa, Amlota and Badhwana in Tahsil Dadri. The State manages the fairs and gives prizes to exhibitors of the best cattle and to the largest purchasers to encourage the trade. In 1906-07 the number of animals exhibited was 48,357 and sold was 12,373 for Rs. 66,63,360. The table below gives details:—

Tahsils.	Place where fair held.	Number of cattle exhibited.	Number of cattle sold.	Amount for which they were sold.
			Rs.	Rs.
Jhind	Ramrai	2,000	525	24,804
„	Julana	1,000	226	11,386
Sangrur	Sangrur	2,058	765	39,742
„	Balanwali	3,799	1,476	90,270
Dadri	Amlota	24,000	4,587	3,17,590
„	Badhwana	13,000	4,121	1,19,795
„	Karirupa	2,500	683	32,773
TOTAL	.....	48,357	12,373	66,63,360

The best cattle are found in Tahsils Jhind and Dadri, lying as they do in the cattle-breeding tract of Hariana. The best buffaloes are found in Tahsil Jhind and next in Sangrur.

A London corespondent informs us that Mr. B. J. Rose has been appointed Secretary to the Executive Committee of the **Franco-British Exposition**, who are doing their best to organise a good Indian section. The Executive Committee consists of Sir William Lee-Warner, Sir David Barr and Sir Edward Law.

The British Vice-Consul at **Toulouse** (Mr. T. Huggins) reports that an **International Industrial Exhibition** is to be held in that town from 1st May to October, 1908. The exhibits will include all products of industry, agriculture, arts and sciences, foreign products being admitted free of Customs duties on condition of being returned to their country of origin within a period of one month after the closing of the Exhibition.

Discussing the improvement of **Bengal Fisheries**, the *Indian Daily News* says that Mr. K. G. Gupta, on his return from England, is engaged in preparing a report embodying the results of his inquiry into the fishery methods of Europe and America, but, as it will take some time before it can be finished, he has submitted a proposal to Government to institute a regular investigation on open sea fishing, and he suggests starting the investigation forthwith, in order to take advantage of the present cold season when the Bay is smooth and the season is most favourable for carrying out the scheme. For the purpose of investigation a steam vessel of the type of the latest steam trawlers used on the East coast of England and Scotland would be suitable, but, for the present and as a temporary expedient, a good tug could be fitted up locally for the purpose at no great cost. It will be necessary, he thinks, to bring out a staff of expert fishermen from England with the requisite appliances—such as trawls, seines, drift of gill nets and long lines and hooks, which constitute the implements chiefly used in home fisheries. The party will consist of a headman or expert fisherman (an experienced captain of a steam trawler being selected for the post) with two assistants accustomed to handle trawls, one assistant for drift nets and another for lines, together with a fifth or spare hand. The annual cost of the staff will be not more than £1,000, and the nets and other equipment will cost perhaps £500. The men will be employed for two years, and during the monsoon they will be utilised in exploring the estuaries, of which we have so many large ones.

Advices from Constantinople states that an *Irade* has been issued which finally approves of the scheme for the **drainage of the Plain of Konia, Asia Minor.** This scheme, remarks the *Pioneer*, includes the regulation of the Beyshehir Lake and river, the building of a canal thirty kilometres long to connect the rivers Beyshehir and Tcharkhamb, the building of weirs, three reservoirs, an aqueduct over the Tcharkhamba, besides numerous smaller canals. It is expected that some 260,000 acres of

desert land will be opened up for wheat culture. The contract for the work, which will cost about 18 million francs, has been given to the German Anatolian Railway, and it will be carried out by the firm of Frankfort engineers which built the railway from Konia to Karaman.

The **Southern Punjab Railway Co.** have declared an interim dividend at the rate of six per cent. per annum for the half-year ended June 30th last. The report of the **Southern Mahratta Railway** states that the gross earnings for the half-year ended June last exceeded those of the first half of 1906 by Rs. 5,41,233. The Directors have declared a dividend of 15*s.* per cent. for the current half-year, in addition to the £1-15*s.* per cent. due from Government, making the payment on January 1st next £2-10*s.* per cent., subject to English income-tax. The Directors of the **Rohilkhund and Kumaon Railway Co.**, in adopting the report for the half-year ended June, have recommended the payment of a dividend of £3 per cent. together with a bonus of 10*s.* per cent. on the ordinary capital, free of Indian, but subject to English, income-tax. The accounts of the **Eastern Telegraph Co.**, Ld., for the first half of this year show a gross revenue of £593,432. Two quarterly dividends on the preference stock and two interim dividends of 1¼ per cent. each on the ordinary stock have been declared.

With reference to the postal notice regarding the closing of the **British Post Office Agency at Tientsin**, published on page 307 of our issue of the 7th instant, the postal authorities now inform us that intimation has since been received that arrangements have been made to keep that Agency open for the present. The announcement made in the postal notice as to the alteration in the rate of postage on letters for Tientsin is accordingly cancelled, and the rate will continue until further notice to be one anna the ounce or part of that weight, as in the case of letters for other places in China at which there are British Post Office Agencies.

It has been decided that, with effect from the 1st February, 1908, the sender of a postal article intended for transmission by the **value-payable post** will no longer be required to fill in the forms which have now to be presented with each such article. On and after the date mentioned, the sender of a value-payable article will merely have to fill in a prescribed form certifying that the article is being sent in execution of a *bonâ fide* order received by him and furnishing the following particulars:— (1) a description of the article; (2) the name and address of the addressee, and (3) the amount for remittance to himself. From the same date, the sender of every value-payable article intended for transmission by post will be required to write clearly on the face of the article itself:— (*i*) in the upper left hand corner the letters V. P., followed by an entry, in figures and words, of the amount for remittance to himself, and in the lower left hand corner his own name and full address. The new form of certificate will be procurable from the Post Office before the date on which these changes are brought into force. Bound copies of one hundred of these forms with counterfoils will also be available for sale to the public at post offices. It will be observed that this change involves a great simplification in the value-payable post procedure.

According to an American Consular Report the tea planters of India are calling attention to the need of a **machine to pluck tea leaves**, and "an invention of this kind," we are told, "would help the planter quite as much as the mechanical cultivator. Such an invention, it is claimed, would not only help to solve the labour question, but would remove the serious objection of having each leaf handled by the coolie. The great objection to green tea is that while soaking wet it is handled and rehandled by the coolie, whose hands are never clean. A machine for plucking would be a step towards cleanliness and hygiene, and a machine for mixing tea intended for 'greening' would be another step in the right direction."

Mr. W. Martin Leake, Secretary of the Ceylon Association in London, writes to controvert the recent statement made by the Secretary of the China Tea Association that **Indian and Ceylon tea** contains "enough **tannin** in a day's ordinary consumption of one person for the prescribed course of the drug in the Pharmacopœia." Mr. Leake says that the experiments made by Lord Goschen when Chancellor of the Exchequer showed that the given weight of British-grown tea produced fifty per cent. more liquor of a standard strength than did the same weight of China leaf. The proportions of tannin in the various kind of tea are as follows: Ceylon 11 to 18 per cent.; Assam, 15 per cent.; China, 12 to 20 per cent. Therefore, unless one drinks a much weaker cup of China tea the quantity of tannin will be greater than in the cup of Indian or Ceylon tea. It is by attention to quality alone, Mr. Leake says, that the Indian planters have nearly ousted China tea from the British market.

A Dresden despatch to the Roman *Bolletino delle Finanze* announces that the Finance Ministry is about to bring in a Bill to establish a **Government monopoly in alchohol** throughout the **German Empire.** The present Spirit Ring would naturally disappear in the event of this Bill becoming law.

The position of the **hematite iron trade**, says the *Manchester Guardian* of the 8th instant, is as remarkable as it is unusual. With a much weaker market and with prices lower week after week stocks of iron, which usually increase in these circumstan-

ces, are actually on the decrease. The shrinkage is, of course, only small, but stocks themselves are also small, totalling in warrant stores to only 7,992 tons, the lowest point touched for many years. The stocks in makers yards are also kept very low, and this is a proof that makers, finding their foreign trade largely gone, and seeing that the home demand for metal has fallen off to a considerable extent, and particularly so in the tonnage required for conversion into steel, took early opportunity of reducing their output of iron to meet the quieter conditions of the crude iron market. The production of iron in the district has been reduced during the past two months by about 7,000 tons per week, and it seems probable that more furnaces will either be put out of blast or damped down at an early date. Makers are quoting 76*s.* nominally for mixed Bessemer No. 1 net f. o. b., but business is being mostly done at about 71*s.* to 72*s.*, while warrant sellers quote 70*s.* 6*d.* net cash, 69*s.* 10½*d.* a month, buyers 6*d.* less.

Amongst the **trade facilities** recently added to the port of **Mohammerah** are two steam launches to be employed in towing barges.

News comes from **Mohammerah** that **cattle plague,** which appeared at intervals on Abbadan island during the present year, has become severe and has spread to Hindiyan and Jerrahi. It attacks cattle, buffaloes and sheep, and the percentage of deaths to seizures is about 90.

A Persian Gulf correspondent states that practically all the **Persian caravan routes** are **infested by robbers** and no caravans are moving. For instance, a caravan from Kerman, consisting of 170 pack animals in charge of 18 attendants and accompanied by 11 British-Indian subjects, arrived at Bunder Abbas on the 22nd September last and reported that on leaving Rud Khana Dozdi, and before reaching Rahdar, 24 robbers armed with Martini-Henry rifles attacked them from several directions and succeeded in carrying off all their effects and 60 of their pack animals. The loss is said to be considerable as several of the men robbed were bringing valuable merchandise from Meshed. The robbers are stated to be men from Farghun and Ahmedi. Since then 3 caravans have been plundered between Kerman and Bunder Abbas.

The Blue-book on the **railways of the United Kingdom** during the year 1906, which has just been published, discloses the interesting fact that the increase in the authorised capital of British railway companies during the past year was the lowest on record, being two and a half million sterling. The previous minimum was £7,600,000 in 1885. The total capital invested in British railways at the end of last year was £1,286,900,000. Probably this comparatively slight increase in capital may be accounted for by the adverse condition of the money market, probably also by the natural disinclination of railway directors to spend capital on new works while "home rails" show so poor an average yield as they have done in the last few years.

The Report on the administration of the **Salt Revenue in the Madras Presidency** for 1906-07 states that the total number of factories available for manufacture was 65, the area actually worked being 11,727 acres. The total quantity received into store was 11,234,984 maunds, and the quantity of salt imported by sea is estimated at 1,233,639 maunds. In the five years ending 1906-07, the consumption of salt has increased by 1,426,462 maunds, an increase almost equivalent to that in the previous fifteen years. The total revenue realised during the year amounted to Rs. 148·34 lakhs, against Rs. 159·02 in 1905-06. The receipts from fish-curing operations amounted to Rs. 1,14,414 and the expenditure to Rs. 88,139. The receipts from the saltpetre industry were not large enough to cover the expenditure, the Government incuring a loss of nearly Rs. 700.

There appears to be a **large stock of grain** of sorts in the **Bushire** districts, and owing to the high prices now prevailing in Europe and elsewhere, is now beginning to find an outlet. The export of grain, which was, it is believed, seriously affected by the imposition of the present tariff, has not appeared in the export returns to the United Kingdom since 1904.

According to the *Corn Trade News* the **World's Crop Reports** on the 5th instant were as follows:—**U. S. A.**—Favourable rains have fallen recently in droughty districts and there are no complaints. **Canada.**—The official estimate for Saskatchewan shows some 10 million bushels out of 28 grading No. 1 to 3 Northern. Winnipeg grading shows better than this although far below last year's. **Russia.**—Drought relieved, resowing may be done in south, but frost threatens. **Roumania.**—Light rains fallen throughout country, but weather inclined turn wintry. **Hungary.**—Continued drought prevails and temperature falling. **Turkey.**—Still droughty. **Argentina.**—Weather again unsettled and unseasonable cold; rain in north. No harm done yet, but people keenly apprehensive of consequences if rains continue. **India.**—Still without needed rain. Famine conditions proclaimed throughout the United Provinces. No good wheat can be bought for export, but food grains still being sold. **Australia.**—Rains have fallen abundantly. Crops have improved, but export surplus not likely exceed million quarters, of which about half for Europe. **U. K., France** and **Italy.**—Weather is unseasonably wet, but complaints not serious. **Germany** and **Spain.**—Seeding well advanced with good weather. **Belgium** and **Holland.**—Weather rather wet, but no complaints made. **North Africa.**—Good seeding rains have fallen.

NOTICES.

CALLS FOR TENDERS.

Sale of Military Stores.

Tenders for the contract to sell by public auction unserviceable and other stores from the Rawalpindi arsenal for a period of two years, commencing from 1st January, 1908, will be received by the Ordnance Officer in Charge, Rawalpindi Arsenal, up to the 5th proximo.

Army Rations.

The Station Supply Officer, Secunderabad, is inviting tenders for the supply of 911,00 lbs. of potatoes, 500,000 lbs. of onions, 159,000 lbs. of rice, 6,100,000 lbs. of firewood, and other miscellaneous articles.

ENQUIRIES.

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

Indian Condiments.

(156)—An Indian firm of condiment manufacturers desires the addresses of firms in Europe, America, India, China and Japan who deal in Indian condiments, preserved provisions, vinegar and arrow-root.

Mineral Products.

(157)—An Ahmedabad correspondent requires the addresses of purchasers of Indian mineral products, such as manganese, iron, antimony, etc.

Seeds, Bran, Rice Meal.

(158)—A firm in Hamburg, which furnishes Indian bank references, desires the addresses of exporters of seeds, bran and rice meal with prices c. i. f. Hamburg.

Oil Seeds.

(159)—A Marseilles firm, which furnishes references, requires the addresses of exporters of oil-seeds.

Imports and Exports.

(160)—A firm in Japan desires to open up direct import and export transactions with firms in the principal towns in India.

Camphor.

(161)—A firm in China desires to open up communications with firms in a position to handle camphor to advantage.

Sulphur.

(162)—A firm carrying on business at Hongkong, Swatow and Shanghai desires to be placed in communication with importers of sulphur.

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 December, 1907:—

Parliamentary Publications.

Colonial Reports—Annual Series, No. 547—Mauritius, 1906, Colonial Reports—Miscellaneous Series No. 44—East Africa Protectorate—Report of the Survey Department. Tinning of Metals—Special report on dangerous or injurious processes in the coating of metal with lead or a mixture of lead and tin, together with a report on an experimental investigation into the conditions of work in tinning workshops. United Kingdom—Monthly Account of Trade, October, 1907.

Colonial and Foreign Publications.

Canada—Weekly Trade Report dated 21*st* October, 1907. France—Production Houillere du Monde en 1905; La Valeur Moyenne a la Mine des Charbons Dans le Monde. Italy—Monthly Account of Trade, June, 1907. Mexico—Monthly Account of Trade, July, 1907. Spain—Monthly Account of Trade, September, 1907. United States—Crop Reporter, October, 1907; Monthly Consular and Trade Reports, October, 1907; Growing and Curing Hops; Dodder in relation to Farm Seeds; Game Laws for 1907; Imports of Farm and Forest Products, 1904—06; Trade with Noncontiguous Possessions in Farm and Forest Products, 1904—06; Use of Suprarenal Glands in the Physiological Testing of Drug Plants; Official and Provisional Methods of Analyses, Association of Official Agricultural Chemists; Experiment Station Work, Volume III, No. 2; Annual Report of the Hawaii Agricultural Experiment Station for 1906. Annual Index to the *Times* for 1906. Bulletins of the Agricultural Experiment Station of Nebraska, U. S. A., No. 91—Experiments with Corn; No. 92—Cover-Crops for Young Orchards; No. 93—Cattle Feeding Experiments; No. 94—Fattening Pigs on Corn and Tankage; No. 95—Crop Production in Western Nebraska; No. 96—Some Insects Injurious to wheat during 1905-1906; No. 97—Potato Experiments; and No. 98—Spraying Demonstrations in Nebraska Apple Orchards.

Diplomatic and Consular Reports.

France—Foreign Trade of France for the year 1906 and first half of 1907. Zanzibar—Trade of Zanzibar for 1906.

Indian Publication.

Quarterly Journal of the Department of Agriculture, Bengal, October, 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., Ld.; 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, NOVEMBER 28, 1907.

INDIAN COTTON SEED.

Its Industrial Possibilities.

IX*

CONSIDERABLE quantities of meal for manurial purposes are now made, more particularly from rapeseed, by means of **chemical solvents** in addition to or in place of pressure. The first proposal for the chemical extraction of oil from the husks of oilseeds after leaving the hydraulic press was made in 1843 by Jesse Fisher of Birmingham, although the better known is probably that of the eminent French Chemist, M. Georges Ville, in 1876. The processes best known at the present day are probably those of Butaille, Schädler and Deitz. These all rely upon a volatile solvent, like ether or carbon bisulphide which extracts the oil and is then driven off by heat and recovered by condensation. The meal resulting from the correct use of such a solvent may contain as little as 1 per cent., or even 0·3 per cent., of oil; and it naturally shows relatively high percentages of nitrogen and ammonia, which enhance its value for manurial purposes. As regards cotton seed, it has been found by experience that the large quantity of mucilage and colouring matter contained in that seed is too freely dissolved out along with the oil, with the effect that the additional yield of the latter is largely counterbalanced by the increased trouble and loss attending the operations of refining. The colouring matter becomes definitely fixed in the oil if subjected to great heat; and for this reason it is necessary that the solvent used should be such as can be driven off by a temperature not exceeding about 200° F. (say 93°C.). Carbon bisulphide and tetrachloride are both dangerous. Ether is also costly, though its higher price is to some extent compensated by its lower specific gravity and greater bulk. Distilled benzolene has been used industrially and with some success. Naphtha was proposed under the English patent No. 19586, dated 1st October, 1901. But a glance at the table of Indian temperatures given in the fourth article in this series will show that great trouble, loss and risk would attend the use of such solvents in this country, seeing that the boiling point of several (as for example that of carbon bisulphide, 114·8° F.) is below the temperature of the atmosphere at times. Canadol does not dissolve resins and thus presents some advantages as a solvent for cotton seed oil; but its high boiling point renders more injurious such part of the colouring matters as may come over and further necessitates artificial heating during the process of extraction.

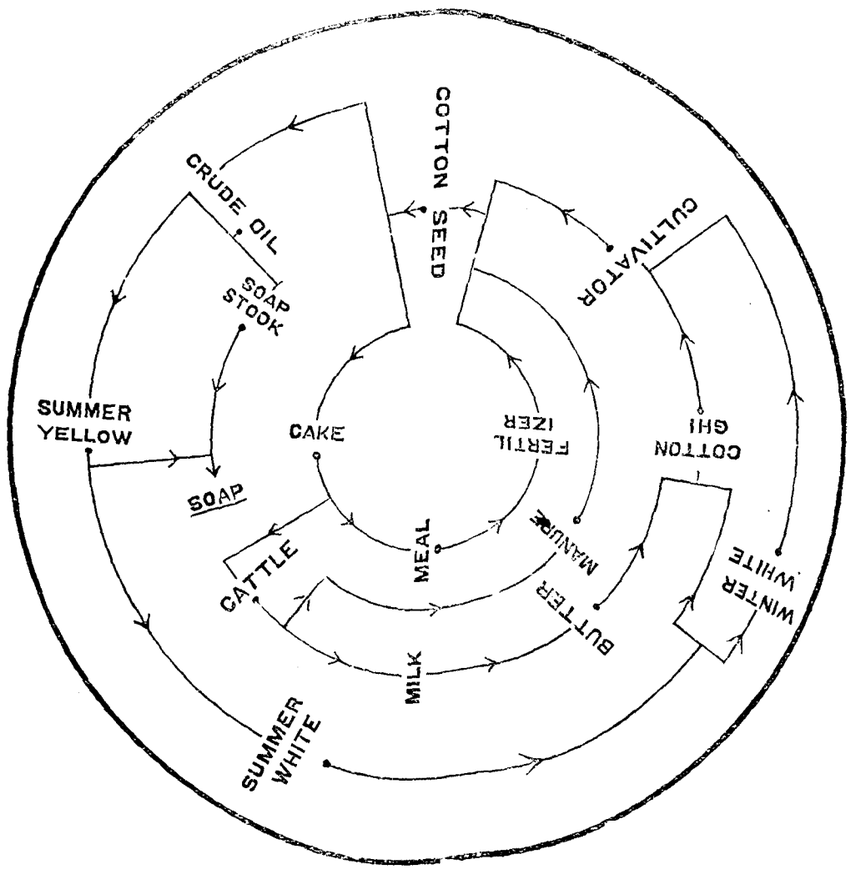
Most of the solvents have a marked antiseptic action, and we have been unable to obtain any record of heating and mildew under ordinary conditions in the meal resulting from one of these processes. It remains to be seen, however, whether a sterilizing process such as that suggested in the third article would not suffice as a safeguard against heating.

The diagram on the opposite page shows the cycle of products dealt with in this series of articles which will shortly be re-issued in pamphlet form.

Starting with cotton and cotton seed at the top the cycle descends on the left side, the various products being split up first into oil and cake, the former going to the refinery and the latter going partly to cattle and partly to the soil as manure. The cotton oil products are shown in the order in which they are formed, and one of them, the stearine, is brought into combination with the products of dairy cattle as a ghi substitute, the other product of the cattle, namely, manure, passing to the ground and to the future cotton and food crops along with that part of the cake which is devoted to fertilizing purposes. The ghi substitute and other edible oils contribute to the maintenance of the cultivator and industrial labourer and so to the renewal of the cycle.

As it is probable that some readers may desire to go more fully into the technical matters dealt with in the foregoing articles, reference may be made to the following works:—

Chemical Technology and Analysis of Oils, Fats and Waxes, by Dr. J. Lewkowitsch. (London, Macmillan and Co., Ld., 2 vols., 36*s*.)



Laboratory Companion to Fats and Oils Industries, by the same author and publishers.

Practical Treatise on Animal and Vegetable Fats and Oils, by W. T. Brannt. (London, Sampson Low and Co., 2 vols.)

Oils, Fats and Waxes, by Wright and Mitchell.

Animal and Vegetable Fixed Oils, Fats, Butters and Waxes, by C. R. A. Wright. (London, Griffin, 2 vols., 25*s*.)

Commercial Organic Analysis, by A. H. Allen, Vol. II, Part I. (London, Churchill, 14*s*.)

Cotton Seed Products, by L. L. Lamborn. (London, Constables, Ld., 1 vol.)

Cotton and Cotton Oil, by D. A. Tomkins. (Charlotte, N. C., U. S. A., 1 vol., $7·50.)

Manufacture of Cotton Seed Oil and Allied Products. (New York, U. S. A., *National* Provisioner.)

* Earlier articles in this series appeared in our issues of August 15th, September 19th, October 10th, 17th and 24th, and November 7th, 14th and 21st, 1907.

Indian Agricultural Ledger, No. 9 of 1903, by James Mollison, Inspector-General of Agriculture in India. (Calcutta, Superintendent of Government Printing, 2 annas, or 2 pence.)

Bulletin No. 9 of the Department of Agriculture in the Central Provinces, by F. G. Sly, I.C.S., Director of Agriculture, C. P. (Nagpur Secretariat Press, 3 annas, or 3 pence.)

Handbook of Indian Agriculture, by N. G. Mukerji. (Calcutta, Thacker, Spink.)

Agricultural Note Book, by P. McConnell. (London, Crosby, Lockwood and Son.)

Dairy Farming in India, by Meagher and Vaughan. (Calcutta, Superintendent of Government Printing.)

Fertilizers and Feeding Stuffs, by Bernard Dyer. (London, Crosby, Lockwood and Son.)

Digestibility and Manurial Value of Purchased Feeding Stuffs, by Alfred Smetham. (Liverpool, Mawdsley and Son.)

Farmers' Bulletin No. 286, 1907. Comparative value of whole cotton seed and cotton seed meal in fertilizing cotton. (Washington, Government Printing Office.)

Farmers' Bulletin No. 22, 1901. The Feeding of Farm Animals. (Washington, Government Printing Office.)

A certain number of firms that make machinery for the treatment of cotton seed have forwarded to this Department copies of their catalogues and price lists. These may be seen at the office of the Director-General of Commercial Intelligence, 5, Clive Street, Calcutta. The names of these firms will be furnished to enquirers without responsibility. Other makers of machinery and appliances for the production of cotton-seed oil, cake, butter substitutes, casein, galalith, etc., are invited to furnish copies of their catalogues for submission to persons who contemplate engaging in the industry.

The series of articles, of which this is the last, will shortly issue from the office of the Superintendent of Government Press, India, Hastings Street, Calcutta, in pamphlet form. Occasion has been taken to revise and amplify the information in the light of criticisms and suggestions offered during their issue in the *Indian Trade Journal*.

—The **prices of British corn** per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 2nd November, 1907, were as follows:—Wheat, 36*s*. 3*d*., Barley, 27*s*. 7*d*. and Oats, 18*s*. 10*d*.

CHAMBERS OF COMMERCE.

BENGAL.

The following particulars are taken from the Abstract of the Proceedings of the Bengal Chamber of Commerce during the month of October, 1907:—

It was mentioned in the Abstract for May last that the Government of Bengal had appointed a Committee to consider the question of so amending the **Indian Electricity Act** III of 1903, as to admit of the supply of electricity in bulk. The Chamber was represented on the Committee by Mr. E. J. Oakley, of Messrs. Kilburn & Co. After holding several meetings the Committee reported in August last; and on the 26th September a copy of their report was forwarded by the Government of Bengal to the Committee of the Chamber. It was accompanied by a request for an expression of opinion from the Chamber on one of the proposals made in it. The proposal was that the administration of the special law governing electrical enterprise should for the present be assumed by the Government of India. The Committee of the Chamber had no hesitation in supporting this proposal. The administration of the Act hitherto had been, they understood, both unsatisfactory and tedious, because but few of the Local Governments had the necessary machinery for dealing with the complicated and technical questions which had arisen from time to time. It was, they thought, conclusively shown in the report that if the law were administered by a central authority, these difficulties would be overcome. They suggested, therefore, that the Government of Bengal should urge the Government of India to adopt the change proposed.

The question is understood to be still engaging the attention of Government.

It was stated in the Abstract for August that the Committee had before them a proposal, which had been made by the Calcutta Port Commissioners, for the levy of a charge on **burst bales of jute at the Kidderpore Docks.** Such bales are, it appeared, sometimes left for a considerable period in the custody of the Port Commissioners. With the object of expediting their removal, the Commissioners proposed to levy a charge for rent upon them. As the matter was one affecting the interests of the members of the Calcutta Baled Jute Association, the Committee referred it to that body for consideration. They were subsequently informed that the Vice-Chairman of the Commissioners was agreeable to the extension of the free time by one day. That is to say, the bales could be left for four days, instead of three, without any charge being made. It seemed that the majority of the bales burst in the course of transit to the Docks; and the Vice-Chairman proposed to instruct the Dock officials not to receive such bales, but to return them direct to the Press-houses. This would be convenient to the balers, and would be a ready way of disposing of most of the bales. The principal jute shippers had asked the Port Commissioners to put this arrangement into force; and it did not, therefore, seem to the Committee of the Chamber that they need take action in the matter. They replied accordingly, on the 5th October, to the reference which had been made to them some time previously by the Government of Bengal.

The question of the prevention of the **adulteration of jute** was before the Committee at their meeting on the 22nd October. On the 10th idem the Government of Eastern Bengal and Assam had forwarded copies of a New Zealand enactment, "The Products Export Act, 1903," and of certain revised Regulations, framed thereunder by the Government of the Colony, controlling the grading and export of Phormium Fibre (flax). His Honour the Lieutenant-Governor of Eastern Bengal and Assam enquired if legislation on the lines of these regulations would commend itself to the Chamber in the case of jute for export.

After examining the papers, the Committee were clearly of opinion that the regulations in question were altogether unsuitable for the jute trade. They have accordingly replied to Government to this effect, and they understand that the Indian Jute Mills Association, the Jute Fabrics Shippers' Association, and the Calcutta Baled Jute Association take the same view.

At their meeting on the 29th October, the Committee had under consideration the question of the **octroi taxation levied at Simla and Lahore.** The Punjab Trades' Association had invited their support to a protest against the Octroi Schedules in force at these towns. From the papers submitted it appeared that the Simla revised Schedule had been protested against at a general meeting of the Association held on the 23rd September, and that a memorial on the subject had been subsequently presented to His Excellency the Viceroy.

It did not seem to the Committee of the Chamber that the question was one in which they could well take part, and they replied accordingly to the Punjab Trades' Association. They have since been addressed further in regard to it, and still have it under consideration.

In the Abstract for June it was mentioned that the Committee had been asked to undertake the publication of a **daily statement of the arrivals of produce in Calcutta.** For some time past a statement of this description has been issued by the Bombay Chamber of Commerce, and the idea is that a similar publication should be attempted in Calcutta. The Committee considered the proposal attentively, and made enquiries from the different Railways in regard to it. They ascertained that the information required could be given; but it seemed to them that the Calcutta statement would be a larger, and consequently a more expensive, publication than that for which the Bombay Chamber is responsible. On the 2nd November they approached the members of the Chamber on the subject, stating that the 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. In the event of more than seventy-five subscriptions being forthcoming, the rate would be proportionately reduced. But if the number were below seventy-five, a higher rate would be unavoidable.

The views of the members of the Chamber are now being received, and will be considered by the Committee in due course.

On the 25th September the Committee asked Mr. W. A. Dring, the Agent of the East Indian Railway, and one of their members, who was attending the meetings of the Indian Railway Conference at Simla, to bring forward the question of the apparently increasing number of **assaults and robberies on Indian railways.** In so doing, they ventured to suggest that such concerted action on the part of the Railway Administrations should be taken as might be calculated to put an end to crime of this class. Mr. Dring kindly complied with the wishes of the Committee, and the question was fully discussed by the Conference, with the result that the following resolution was unanimously adopted:—"That the Conference considers that the danger brought to notice relates more to Law and Order than to Railway Administration; it recognises the necessity for providing an effective and readily accessible means of communication between passengers and the guard and the driver, a matter which is already receiving the attention of all Railway Administrations. The Conference further thinks that permission should be accorded to the Railways that desire to do so to introduce interrupted, instead of continuous, footboards and hand rails." In the circumstances, it did not seem to the Committee that they could take further action, except to publish the papers for general information. This was done on the 12th October.

The Registration of Partnerships was referred to in the Abstract for August last where the Committee stated that they had submitted to their legal advisers the different suggestions and recommendations which they had received from the other Indian Chambers of Commerce. It may be mentioned here that the original Bill was forwarded by the Committee to the Government of India on the 5th February 1904. It was discussed at a Conference held in Calcutta on the 24th March, 1905, between the legal representatives of the Government and of the Chamber. After considering the principal points involved, the representatives of the Chamber at the Conference expressed a wish to be allowed to revise the Bill further, in view of certain difficulties which had arisen, particularly in connection with the registration of partnerships in the case of Hindu joint families. This permission was granted by the Government of India; and certain amendments were made in due course by Counsel. The revised Bill was then submitted in February last to the different Indian Chambers of Commerce, and certain other Mercantile Associations. The views of these bodies were not all received until August when, as has been already mentioned, they were placed before Counsel for further consideration. The Bill was then again revised by Counsel, and on the 29th October the

Committee submitted it to the Government of India. In so doing, they expressed their regret that there should have been so much delay in the matter. But such was unavoidable, in consequence of the protracted correspondence and discussion which had arisen in the course of the consideration of the Bill. They also pointed out that the other Indian Chambers of Commerce had been consulted, but that they were not committed to all the provisions of the measure. There was, however, a general feeling in commercial circles throughout India that legislation should be undertaken. And in the event of the Government of India deciding to proceed, ample opportunities would be, of course, given in the usual way to all who wished to raise objections, or to offer criticisms on points of detail.

The question is now under the consideration of Government.

MADRAS.

At a general meeting of the Madras Chamber of Commerce held in October, 1907, the following matters were taken into consideration :—

READ a letter, dated the 5th instant, from the Secretary to the Government of Madras (P. W. D.), forwarding extracts from a Report by the Committee appointed by the Government of India to consider the question of amending the **Indian Electricity Act** and inviting an expression of the Chamber's opinion regarding the proposed amendment of Section 3.

Resolved to inform Government that the Chamber considers, in the circumstances pointed out, that the administration of the law governing electrical enterprise should be vested in the Government of India. With regard to the views expressed, however, in clause 4, the Chamber is advised that a local laboratory cannot well be dispensed with, and it trusts that adequate provision in this respect will accordingly be made.

READ a letter, dated the 18th instant, from the European and Anglo-Indian Defence Association, Calcutta, enclosing extract from the proceedings of a meeting of the Council of the Association, and inviting an expression of the Chamber's views on **Non-Official European Representation in the Indian Legislative Councils.**

Resolved to inform the Association that the Chamber concurs generally in its views as to the desirability of a larger non-official European representation being given in the Imperial Legislative Council, and to suggest that if this is not found practicable Commercial representatives might be elected by the Chamber of Commerce and Trades Associations of Calcutta, Bombay, Madras, and Rangoon, and the other Associations named, failing a direct representative being awarded to them.

READ a reference from the Madras Board of Revenue, with enclosures, inviting an expression of the Chamber's opinion on the proposal of the Behar Planters' Association to levy a **cess on indigo** exported from Indian Ports.

Resolved that the papers be further circulated and then referred to the Committee to deal with.

READ a letter, dated the 18th instant, from the Punjab Trades' Association, Simla, with enclosures, regarding the **Octroi Schedule of the Simla Municipality.**

Resolved to inform the Punjab Trades' Association that the Chamber, although of opinion that octroi duties are out of date and ought everywhere to be abolished, it regrets that it does not in the present case see its way to actively interfere.

BOMBAY.

The following extracts are taken from the Proceedings of the Committee of the Bombay Chamber of Commerce for the month of October, 1907 :—

READ memorandum, dated 30th September, 1907, from the Commissioner of Police, Bombay, forwarding copy of communication addressed to him by the Acting Under-Secretary to Government, General Department, Bombay, together with its accompaniments, and requesting him to report on the proposals contained in the papers, after consulting the Municipal Commissioner, Bombay, and such other persons as he might think necessary.

The papers referred to the formation of a Syndicate in London for the purpose of providing Bombay and Poona with a complete and up-to-date **motor-cab service,** as efficient in every respect as the services now working sucessfully in London, Paris, and New York.

The Commissioner of Police asked for the opinion of the Committee in the matter.

Resolution.—The Commissioner to be informed that, from a Bombay standpoint, the Committee were of opinion that the scheme should be welcomed, and that every reasonable facility should be afforded to the promoters to establish a motor-cab service on a practical and popular basis. A monopoly for three years (in accordance with the conditions mentioned in the papers submitted to Government) might be given, and the Syndicate's license renewed for further periods of three years on the terms stated, provided that the management and facilities afforded by the service were entierly satisfactory to both the Government and the general public.

Whilst conceding that the Motor Syndicate should be protected against minor and inefficient competition, the Committee felt that the present victoria carriage traffic, which was an undoubted boon to the poorer middle class and the community generally, should not, through a partial loss of custom, be driven gradually off the streets; and that as regards relative fares, it was a question whether the competition of the Syndicate should not be so adjusted that, whilst the motor-cab would provide increased facilities for more rapid movement, the humbler ticca gharry would still be able to ply for ordinary purposes as at present.

As regards the speed of these cabs, the Committee suggested that it should be strictly limited to a moderate pace; that the machines should be geared to the maximum pace allowed, and should remain in this respect under the control of Government, who

should reserve to themselves the right to alter the speed power from time to time after giving due notice and with due regard to the cabs already in existance.

READ letter, dated 26th September, 1907, from the Bombay Government, forwarding copy of a Report of the Committee appointed by the Government of India to consider the **question of amending the Indian Electricity Act, III of 1903,** and asking for the opinion of the Chamber on the important point raised by the Committee in their recommendations under Section 3 of the existing Act, namely, that the administration of the special law governing electrical enterprise should, for the present, be assumed by the Government of India.

READ also letters from Messrs. Killick, Nixon & Co., Messrs. Tata Sons & Co., and the Acting Managing Director, Bombay Electric Supply and Tramways Company, Limited, on the subject.

Resolution.—Government to be informed that while the Committee of the Chamber are prepared to admit that there is much force in the arguments put forward in the Report in regard to this amendment, they are nevertheless in some doubt as to whether the procedure now proposed would really simplify the work of an applicant for a license to the extent contemplated by Government. In practice it may be found difficult, if not impossible, to have a uniform license for all districts of India and Burma, for there are great variations in local and climatic conditions, and on this account the terms of a license could probable be more advantageously settled and granted by a local authority.

The Committee were, however, somewhat doubtful as to whether it would always be of advantage to an applicant to have to apply to a central authority at presumably Calcutta or Simla, for many questions must arise in every case which could only be settled by personal interviews at very often considerable inconvenience. If, however, it was intended to have Government representatives in the Presidency towns and at other important centres who would have power to settle preliminary details and help an applicant in drawing out his form of license, it might then be beneficial for the Government of India to assume the administration of the Act; but even then it seemed somewhat doubtful as to whether applications would be more quickly and satisfactorily dealt with, for differences of opinion would presumably arise at times between the Government of India and the Local Government with regard to particular areas, which would only mean further delay. Without further information, therefore, as to how it was intended to administer the Act, if amended, as now proposed, the Committee of the Chamber were unable to give a definite answer to the questions referred to them by Government.

Resolution.—To be recorded. It will be remembered that in June, 1906, the Committee addressed Government on the subject of the **insufficiency of the water-supply in Bombay,** and give certain instances of the inadequacy of the supply in the City.

Under date 18th October, 1907, the Committee received a long letter from Government in reply to their representation. Government were assured that the Bombay Municipality appreciated the fact that the population of the City was increasing, and were taking measures to maintain the water supply in a satisfactory state and to meet increased requirements. The following are the important measures now in hand :—

(1) Providing and laying a 32-in. main from the Tansa main at Chinchpokli to Malabar Hill Reservoir. (2) Providing and laying a 24-in. water main from the Tansa main at Chinchpokli to the Bhandarwada Reservoir. (3) Providing and laying a 32-in. diameter outlet main from the Malabar Hill Reservoir up to the Junction of Chowpati and Gamdevi Roads.

Government stated that the benefits anticipated from (1) and (2) were as follows :—

(*a*) Full quantity and a uniform rate from the Tansa main to the Malabar Reservoir and Bhandarwada Reservoir, ensuring better regulation and control to the water-supply to all districts.

(*b*) Relief from "water hammer," sudden shock caused to the main by frequent working of the sluices on the Tansa main and branches therefrom. At present when the Tansa supply is distributed direct without at first being emptied into balancing reservoirs, the sluices are frequently opened and shut to deliver water in different directions and districts. When the 32-in. and 24-in. mains are laid from the Tansa main to the Malabar Hill and the Bhandarwada Reservoirs these sluices will remain at rest and "water hammer" action, which causes bursts, will be avoided.

The advantage to be derived from work No. (3) will be an improvement of pressure in the distributing mains in the City generally, but especially in the mains in the Fort and Colaba Districts.

The other measures under consideration for improving the water-supply of the City are: The laying of new mains and the renewal of the worn-out mains, replacing them by mains of larger diameter. These will secure a larger supply with increased pressure. The Municipal Commissioner and the Corporation have also under their consideration the advisability of increasing the quantity of water daily available for common use by developing the existing Vehar and Powai water works and by duplicating the Tansa main.

PUNJAB.

At a special Committee meeting of the Punjab Chamber of Commerce held on November 6th, 1907, the following matters came up for disposal :—

At the extraordinary general meeting on September 23rd, 1907, it was resolved to inaugurate a constitutional **Octroi Campaign** operating on all the following lines simultaneously :—(*a*) Memorialise His Excellency the Viceroy and submit a copy to the Secretary of State for India. (*b*) Submit

copies to members of Parliament trusting that they will give the matter their favourable consideration. (c) Appeal for the sympathy of the Press and the Trades in India. (d) Appeal for the sympathy of the Press and the support of the manufacturing and wholesale Trade in England. (e) Question the legality of the position of the Municipalities of Simla and Lahore by test cases at law, under responsible legal advice, at the cost of the general fund. (f) Appeal by public advertisement for funds at a fixed rate of subscription, *viz.* :—European Firms Rs. 10, Native Firms Rs. 5.

The Committee of the Chamber are requested to give the matter their consideration, when it is hoped they will be able to support the views held by the Trades Association.

Resolution.—Letter to be addressed to the Secretary, Punjab Trades' Association, stating that the Committee do not see their way to express any opinion on the matters dealt with in the above papers beyond saying that (a) While they agree that octroi is not a desirable form of taxation they are not prepared to say that the time has come when it can be abolished in the Punjab. They are, however, of opinion that municipal authorities should, in revising their octroi schedules, be careful to see that the tax is levied on such articles and on such a scale as will not seriously hamper local industry or tend to drive away trade. (b) They do not consider it equitable that local retailers should have to pay octroi on their wares when similar articles can be imported from outside markets, through the Post Office, free of octroi.

READ report dated 24th October, 1907, of the deputation appointed at a special Committee Meeting held on 19th October, 1907, to approach Mr. R. Humphreys, I.C.S., Deputy Commissioner, Delhi District, in regard to the measures best calculated to cope with the probable outbreak of **plague in Delhi** in the coming cold weather.

The report ran as follows :—

On Thursday, 24th October, we waited on Mr. Humphreys, Deputy Commissioner, at the Town Hall as arranged, for the discussion of measures best calculated to cope with a probable outbreak of plague in the city during the coming cold weather. There were also present :—Lieutenant-Colonel Davidson, I.M.S., Civil Surgeon, and Mr. Salkield, Municipal Engineer. The views of the Chamber were voiced by Mr. Currie as follows :—

"In the spring of this year Delhi experienced a severe visitation of the plague. Business was for all practical purposes suspended for three months and the loss sustained by all interested in trade was very great. We were caught by it unprepared, and consequently suffered all the more. Naturally we do not wish to have the same experience again if it is possible to prevent it, and therefore we have come to you to-day to hear what your plans are for precautionary measures which you believe necessary. If it may be that we appear to you at this time over-anxious; a recrudescence of the plague may not be looked for for three months or so; it is because we feel that it is absolutely necessary that special effort should be made to get a practical and comprehensive scheme on its legs and in working order before the end of the year. We believe that the members of our Chamber and the members of the Delhi Piece Goods Association will co-operate with you and your officers in whatever measures are taken, and we are anxious that this co-operation should be hearty and effective, in fact, we wish if possible to make every merchant's office in the city a sub-agency of your plague establishment, where correct information will combat ignorance and prejudice, and sympathy will convince and persuade the people to adopt protective measures and induce them to get out into the open in time. We are particularly anxious to get full information about the vacant lands that are available for temporary occupation and your scheme for allotting sites on them.

In the course of the discussion which followed certain available areas were named for evacuation camps, and plans and estimates were submitted for enclosures and shelters. It is estimated that shelters can be constructed at from Rs. 20 to Rs. 100. Full-sized models of these are to be erected in public places, to afford the public an opportunity of seeing what they can obtain at the above costs. Each plot of ground will carry a separate number, the object being that permission for occupation may be promptly given.

When the models have been constructed and a general scheme for protective measures is further developed the Deputy Commissioner will hold another meeting, to which representatives from the Chamber will be invited. At present there exists a Plague Committee in Delhi, of which the Civil Surgeon is a member, and efforts are being made to re-invigorate this body.

Resolution.—The Deputation's report is approved.

READ letter No. 1277 from G. B. H. Fell, Esq., Deputy Secretary to the Government of India, Home Department, to the Secretary to Government, Punjab, dated 24th August, 1907, forwarded by the Deputy Commissioner, Delhi District, for an expression of opinion on the question of **restriction of the importation of white arsenic into British India.** The points on which the Chamber's opinion is invited are :—(1) Should the importation of white arsenic into British India be prohibited except under license, under section 3 of Act I of 1904? (2) If so, should the prohibition and the rules for the grant of licenses be applied, under section 6 of the Act, to other poisons as well, and, if so, to which? (3) If such restrictions are to be imposed should they be imposed on importation by land as well as by sea or only on importation by sea?

Resolution.—The Deputy Commissioner, Delhi District, to be informed that the Committee are of opinion that all poisons should only be imported under license, but that regulations should be framed so as not to hamper the handling and distribution in the country of the poisons that are used in commercial industries and in manufacture.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 16th NOVEMBER, 1907.

Rajputana.—There was no rain during the week. The autumn harvest has been generally poor and in most places it is estimated at four or five annas; it is eight annas in Kotah and Bundi and between eight and twelve annas in Bikaner and Jhalawar. The collection of fodder continues to give sufficient employment to many who would otherwise be unemployed; but it is possible that work will have to be provided for the Bhils in the Magra district of Partabgarh and in Mewar. Cattle are in good condition. The fodder and water supply are sufficient. Prices have fallen in Mewar, Shahpura, Bundi, Kotah and Jhalawar by 1 to 2¾ seers; have risen by 1¼ seers per rupee in Kishengarh; and slightly in Marwar and Partabgarh.

Central India.—There was no rain during the week. Spring sowings continue but are confined to irrigable lands in Baghelkhand, Bundelkhand and Gwalior; they are practically completed in Indore, Bhopawar, Bhopal and Malwa. Germination is fair in Indore and good in Malwa and parts of Bhopawar. Autumn harvesting and cotton picking has commenced in parts of Gwalior, Indore and Bhopawar. Irrigated autumn crops are satisfactory but dry autumn crops have been seriously damaged everywhere by the continued drought, except in Malwa; they have also been slightly damaged by insects in parts of Bhopawar and by locusts in pargana Kolaras of Gwalior. The condition of agricultural stock is fair to good except in parts of Gwalior, Bhopal and Bhopawar. Fodder is sufficient except in parts of Bhopal. Prices of food grains continue very high but are falling in Bundelkhand and parts of Malwa. Sowing of opium continues in Malwa and land is being prepared in Indore, Bhopal and Bhopawar. Test works were opened in Nagod and Jaso in Baghelkhand. On the whole the general condition is distinctly easier than it was expected to be; but throughout the Agency a great deal depends on timely winter rains.

Central Provinces.—The days continue warm and clear and the nights cool. The week was rainless. Harvesting of autumn crops and picking of cotton were in full swing all over the Provinces. Threshing was also in progress in Mandla, Narsinghpur, Betul and Nagpur. Sowings of spring crops are almost completed in Wardha, Chanda, Balaghat, Akola and the northern districts but operations are at a standstill for want of rain in Drug and Raipur. Germination of spring crops is reported to be fair in Saugor, Jubbulpore, Bhandara, Chanda, Bilaspur, Amraoti and Akola; usually good in Yeotmal and Nagpur; and unsatisfactory in Betul, Balaghat and Chhindwara. In Damoh, Mandla, Seoni, Hoshangabad, Nimar, Betul, Chanda and Akola the spring crops are suffering for want of sufficient moisture; and rain is required everywhere to prevent withering of the young plants. Some benefit has been derived in the Jubbulpore and Chanda tahsils from heavy dew. Insects have caused some injury to wheat in parts of Mandla; to linseed in Nagpore; and to linseed, wheat, *ringni*, *juar* and *tur* in Chanda; grasshoppers continue to damage the standing crops in Betul. Agricultural prospects are reported to be serious in Betul. Fodder and water are adequate. There is no insufficiency of work for labourers except in Hoshangabad. The prices of wheat and rice remained stationary in 15 districts; gram in 18; and *juar* in 21 districts. Wheat became dearer by one seer in Hoshangabad; and rice by half a seer in Balaghat, and all three districts of Chhattisgarh; elsewhere prices of food grains fluctuated very slightly.

Native States.—No rain fell during the week. The absence of rain continues to cause deterioration of crops. Harvesting of autumn crops and sowing of spring crops are in progress. Linseed was damaged considerably by insects in Raj-Nandgaon. Sugarcane is in excellent condition in Raigarh. Fodder and water are sufficient. Wheat became dearer by two seers in Kanker. The prices of wheat and rice fell by two and three seers respectively in Sarangarh.

Bombay.—Slight rain fell during the week in parts of Kanara, Dharwar and Savantvadi. More rain is generally needed for germinated spring seedlings and for further sowing. Standing crops are withering in parts of Sind, Ahmedabad, Broach, Khandesh, Nasik, Ahmednagar, Sholapur, Bijapur and Rewa Kantha; otherwise they are in good condition except for slight damage by rats in parts of Karachi; by locusts in parts of Hyderabad, Nasik and Poona; and by insects in parts of Thar and Parkar, Bijapur and Baroda. Harvesting of autumn crops continues generally. Threshing is in progress in parts of Sukkur, the Konkan, West Khandesh and Ahmednagar. Spring sowing is in progress in parts of Karachi, Sukkur, Hyderabad, Thar and Parkar, Nasik, Ahmedabad, Surat, the Konkan, Satara, Dharwar, Kathiawar, Baroda, Cutch, Palanpur, Mahi Kantha, Rewa Kantha and Savantvadi; but it is retarded in parts of Ahmednagar and Bijapur. Cotton picking continues in parts of Sukkur, Thar and Parkar and the Deccan. The supply of fodder and drinking water is adequate. Agricultural stock is generally in good condition. Water for irrigation is sufficient except in parts of Sind, Surat, West Khandesh, Nasik and Sholapur. The quantity of food-grains purchasable per rupee is in the Karnatak 22 to 37 per cent.; in the Deccan 22 to 47 per cent.; in the Konkan 8 to 30 per cent.; in Gujarat 20 to 56 per cent.; and in Sind 29 to 38 per cent. less than the normal. During the week ending 9th November 27 persons were relieved gratuitously in Belgaum. The outturn of the autumn crops in the affected area of Gujarat and the Deccan is not more than one-third of the normal. The spring area is much contracted and absence of rain causes anxiety. Emigration has begun in Sholapur. Preparations for test works are being made in the Panch Mahals. Stocks of grain are sufficient. Prices are rising. The

cultivating and labouring classes are in fair condition and sufficient employment is available.

Hyderabad.—The rainfall during the week was one cent. The weather looked threatening during the week; but the storm passed over. The rainfall recorded during the week was as follows:—At Gangawati in the Lingsagar district, 50 cents: Koppal, 10 cents; Dewarkunda in the Nalgunda district, 8 cents; and a few drops in parts of the Warangal district. The autumn harvest is nearly over, in parts the crop is very good; in others it is fair. If rain falls during the next three weeks there will be a good spring crop, otherwise a considerable failure is anticipated, but it is too early to estimate the extent of such failure or to specify the district in which failure will be most extensive. Prices:—wheat $5\frac{3}{4}$; coarse rice $6\frac{1}{2}$; and *juar* $11\frac{3}{4}$ seers per rupee.

Mysore.—Slight rain fell throughout the Province. The prices of food grains are steady. Standing crops are in good condition. The prospects of the season are good but more rain is needed in parts of Bangalore, Mysore, Hassan, Kadur, and Chitaldrug. Cattle are generally healthy. Water and fodder are available.

Coorg.—Rainfall 60 cents. Cardamom picking continues. Prices of food-grains are normal. Water and fodder are sufficent. Agricultural prospects are good.

Madras.—The rainfall during the week was heavy in Madras and Chingleput; good in Nellore, Malabar, Tanjore, North Arcot, Tinnevelly, South Canara, Cuddapah, South Arcot and Coimbatore; *nil* in Ganjam and Vizagapatam; and light to fair elsewhere. Irrigation supplies are insufficient in parts of all districts except Chingleput, Coimbatore, Trichinopoly, Tanjore, Tinnevelly, 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 Kistna, Kurnool and Anantapur require more rain; and some in parts of Ganjam, Vizagapatam, Godavari, Guntur, Bellary and Cuddapah are withering. Harvests continue with outturn poor to normal. Pasture is sufficient except in parts of the Circars, the Deccan and Tanjore. Fodder is scanty in parts of Ganjam, Godavari, Kistna, Nellore and Tanjore. The condition of cattle is generally good. The price of rice is stationary in seven districts; has fallen in two; and has risen in fourteen. The prices of millets have fluctuated as follows:—*Ragi* is stationary in seven districts; has fallen in five; and has risen in nine. *Cholam* is stationary in three districts; has fallen in one; and has risen in ten. *Cumbu* is stationary in two districts; has fallen in seven; and has risen in six. Prospects are fair but more rain is required in parts of some districts. The condition of the labouring classes is generally good and employment is available. 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, Nov. 26th.

The following is a summary of the weather and crop reports of Eastern Bengal and Assam for the week ending the 25th instant:—

There has been no rain in any part of the province.

The harvesting of **winter rice** has commenced. Prospects generally are fair. The outturn from low lands is expected to be better than was previously estimated, but the prospects of crops on higher land are poor.

The absence of rain is impeding the growth of the **rabi crops.**

Rain is also required for **tea.** Mosquito blight has become severe in Cachar.

Outbreaks of **cattle disease** are reported from three districts.

The **prices of common rice** have fallen in seven and risen in only four districts. Reports from six districts have not been received. Imports appear to be decreasing in anticipation of the winter harvest.

At present there remains **no reason to anticipate serious scarcity** in any part of the province.

THE THREATENED SCARCITY.

Test Works in Burma.

The following is a copy of a telegram, dated 25th instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Good rain has fallen again in **Southern India,** light showers in parts of **Burma, Assam and Bombay.** Elsewhere the week was rainless and conditions are practically unchanged, except that a serious failure of crops is reported in one subdivision of the Lower Chindwin district in **Upper Burma,** where test works will shortly be opened.

A detailed report received from the **Punjab** shows that the apprehension of immediate distress is confined to two districts, and that relief works may not be necessary elsewhere.

In **Central India** the situation is better than was anticipated, and winter rains would everywhere greatly improve prospects.

Conditions, as before, are most serious in the **United Provinces,** where 3,500 persons are now employed on test works in four districts. Labour is, however, still in demand and the condition of the people is generally satisfactory.

—The cultivators and **buyers of "Henna"** at Bam, **Persian Gulf,** are said to be at variance. The cultivators have formed themselves into a union and fixed prices at 50 tomans (toman = Rs. 2-12) per kharwar, the buyers' union price being tomans 25.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 7th November, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

Australian Commonwealth.—Importation of Patent Medicines. Drawbacks. Free Importation of Minor Articles. Revised Tariff Rates on Certain Articles. Catalogues. Tools.

Dominion of New Zealand.—Continuation of Reciprocal Agreement with South Africa.

South Africa.—Customs Decisions.

Cape of Good Hope.—Regulations respecting Ships' Stores. Excise Duty on Samples of Foreign and Colonial Spirits.

Transvaal.—Free Exportation of Angora Rams or Ewes to Basutoland. Date of Operation of "Ostriches Exportation Protection Act, 1907."

Dominica.—Citrate of Lime Ordinance, 1907.

Egypt.—Revised Valuation Tariff for Sesame.

Dutch East Indies.—Textile Section of New Tariff.

Portugal-Mozambique.—List of Duty-free Articles. Tariff of Trading Licenses. Taxes on Goods Imported, etc.

Roumania.—Importation of Olive Oil restricted to certain Customs Houses.

Servia.—Suspension of Import Duty on Maize Stalks, Roots, and Straw.

Turkey.—Prohibition of Export of Corn from the Adana and Sivas Vilayets.

Argentine Republic.—Free Importation of Material for the Electric Lighting of Posadas.

Japan.—Translation of the Revised Japanese Pharmacopœia.

JUTE IN THE SHAHABAD DISTRICT.

An Interesting Experiment.

Babu Harihar Prasad Singh, a member of the Patna Divisional Agriculture Association, has sent to the *Quarterly Journal* of the *Department of* Agriculture, Bengal, the following interesting account of a trial with jute near Itarhi, in the Buxar sub-division of Shahabad:—

"When I met the Director of Agriculture last year he gave me the assurance that the cultivation of jute may be attended with success, if tried in the South Gangetic districts of Bihar, and this led me to procure a small supply of seed from Mymensingh district (Nasirabad). About 12 cottahs of lowland were placed under jute, which was sown early in April, the soil being prepared for it in small soft beds by well irrigation and deep ploughing. A few waterings, about 5 or 6 in number, were given in the dry season till the commencement of the rains, which brought the plants to a height of about 5 feet. When the plants were fully mature they attained a growth of 10 feet on the average, and some healthier plants were a few feet higher than that. Weeding was also adopted once to remove the grass. The fibre was extracted by hand process in the month of September, preceded by ordinary retting in a pool of water. The cost of these operations amounted to about Rs. 10 in all. The fibre was sold locally at the rate of Rs. 8 per maund, and the total yield was 8 maunds. A rotation of paddy was also taken from the same field after the removal of the jute, the outturn of which was found to be 6 maunds in weight, and which sold for Rs. 15.

"The details are shown in a tabular statement herewith annexed. The result appears to me very hopeful and the experiment has this year been enlarged and extended upon, and I hope to be in a position to say next year what the general prospects of jute are in a dry country like Shahabad."

1. Serial No.	1.
2. Name of crop	Jute.
3. Kind of soil in which sown.	Soft loam, "Banger."
4. Preparatory tillage	Five times ploughed and laddered.
5. Manure applied	No manure applied. The soil was rich and fertile.
6. Area sown	Three-eighths of an acre.
7. Date of sowing	First week of April, 1906.
8. Quantity of seed sown	Four seers.
9. Character of the season	Heavy rainfall in the beginning followed by irregular showers of rain, which kept the soil moist.
10. Field operations after sowing, such as watering, weeding, etc.	Five waterings before rains from well. One weeding.
11. Date of harvesting	Last week of August, 1906.
12. Outturn per acre	Twenty-one maunds of fibre per acre.
13. Value of the outturn per acre and market rate.	Rs. 168 per acre.
14. Cost of cultivation	Rs. 25 per acre.
15. Remarks	Paddy was also grown by rotation, the yield of which covered the cost of cultivation. The land on which jute was grown was a lowland surrounding a big pool of water which kept the soil moist. It is yet to be seen whether jute will grow in the ordinary paddy fields of the districts.

It will be seen from this statement that the value per acre of the produce obtained by this gentleman was:—

	Rs.
Jute	168
Paddy	40
Total	208

while the cost of cultivation of the jute was only Rs. 25 per acre.

INDIAN YARNS FOR EUROPE.

Further Details.

IN continuation of the article in our issue of August 29th last on the subject of an opening for the sale of Indian yarns in the weaving centres of Europe, we are in a position to place before our readers some further information which the Commercial Intelligence Department has since received in response to its enquiries referred to in previous articles.

The Textile Trade in France.

With regard to the general question of the movement of yarns in France the British Consul-General at Paris (Mr. A. P. Inglis) states that according to the most recent statistics the imports of cotton yarns in 1906 amounted to 2,878,000 kilogrammes representing a value of Frs. 14,955,000 against 2,705,000 kilos. valued at Frs. 9,500,000 in 1905. Exports amounted to 6,804,000 kilos. valued at Frs. 19,435,000 in 1906, against 8,299,000 kilos. and Frs. 19,944,000 in 1905. Cotton yarns are imported into France principally from the United Kingdom, Belgium, Germany and Switzerland. The number of spindles is 6,170,000 or 7½ per cent. of the total in Europe. The finest counts after English are those produced in France where the most modern appliances have been set up.

Lille is not, properly speaking, a large cotton-weaving centre, the articles mostly woven being cloths, part flax and part cotton yarns The British Consul at Lille reports that large plant for cotton-spinning have recently been erected or are in course of erection and that it is expected there will be as much yarn on the market as may be required.

H. M. Consul at Rouen (Mr. C. Clipperton) is of opinion that there is not much room for the introduction of Indian yarns in the French market, the general impression being that yarns spun from Indian cotton were considered of an inferior quality to the yarns in use in France, spun from American and Egyptian cotton. Indian cotton is purchased from the Havre market, the proportion used in mixing being ⅓ and less quantities for certain yarns. Mr. Clipperton is informed that the English counts corresponding to French yarns mostly used in the Rouen district number from 30 to 60.

A letter has been received from a Paris firm which is interested in yarns of pure Broach quality in hanks, from No. 16 up to No. 32 (English counts).

Requirements of Manufactures.

We gather the following particulars regarding the requirements of manufacturers from a mass of correspondence which has reached this Department:—

Germany.

A firm of manufacturers at Chemnitz states that local mills use mostly twist on cops and in hanks, and weft yarns on cops, from 6's to 24's also 32's and finer counts. A Gladbach firm writes that if yarn could be delivered on cross spools a large trade might be done. Cops on trough tubes are suggested, and it is added that a demand exists among buyers for water as well as mule yarns, from No. 4 to about No. 24. A firm in Elberfeld is specially interested in 6, 8, 10, 14, 16, 20 and 24s. bundles, 7 leas, cross-reel, and 2 leas. It inquires if Indian spinners would be able to supply 2-8, 2-12, 2-14, 2-20, 2-24, 2-30, 2-32 and 2 40s, all usual hard twist bundles 7 leas, cross-reel and 2 leas. A Dusseldorf manufacturer says Indian yarns are chiefly required in Nos. 1 to 4 and 1 to 24 in hanks (made up in cross-reals) and, if practicable, in 1 to 20 to 1 to 24 on cross spools loosely twisted in thread and warp twisting. A firm in Rheydt (near Dusseldorf) writes that it is especially desired that if the yarn be made up in hanks it should be in cross-reals besides this cross-spools and pin-cops are largely used, the former very largely. A communication from Frankfurt states that water and mule Nos. 6 to 30 English No. single is wanted, as well as for thread two and more ply No. 6 to 40 Engl.; and that yarn could be used in hanks, cops, and finished warps according to number and quality. A Wasseluheim firm is prepared to consider 1's mule twist of 1's purest Indian cotton, made in No. 7 Engl. reel, twisting not too hard.

Austria.

A Vienna correspondent writes that the present state of the market offers a good opportunity for the importation of Indian yarns, such as 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, and 24 in weft and warp, in hanks and on cops. Another thinks No. 8's pin-cops Bengal would be suitable, the yarn to be used for fustian. It is largely bought in No. 8, 10 and 12.

Holland.

The British Consul at Amsterdam (Mr. W. A. Churchill) is under the impression that there is a very limited demand for Indian yarns in Holland, which produces all its requirements as well as a considerable quantity of goods for export.

Belgium.

H. M. Consul-General at Antwerp (Sir Cecil Hertslet) in a letter dated August 31st, states that he has received a communication from the British Vice-Consul at Ghent saying that the condition of the market is eminently favourable for the introduction of Indian cotton yarns.

Turkey.

A despatch received from the British Consul-General at Constantinople (Mr. H. C. A. Eyres) states that it is said that "goods made solely of Indian cotton are not of good colour, and the samples obtained by Constantinople merchants a few years ago were not all liked and led to no business."

Greece.

The British Consul at Piraeus writes that a considerable amount of yarn is imported, mostly of 4, 5, 8, 10, 12 and 20 counts, and that private persons import counts 4, 6, 8, 10, 12, 14, 16, 18, 20 and 24.

SYNTHETIC CAMPHOR.

Future of the Natural Product.

SYNTHETIC camphor is at last an accomplished fact, and a product which is said to respond to all the chemical tests of natural camphor and to answer all its industrial requirements can now be obtained in England in commercial quantities at prices materially below the present cost of the natural article. Until a few months ago artificial camphor was little more than a scientific curiosity, but within the last two or three weeks it has been placed on the market in serious competition with the product of the camphor tree of Formosa. This event marks a new era in certain industries in which the use of camphor is essential, and will possibly be the starting-point of new commercial enterprises.

In 1899, four years after the forests of Formosa became the property of Japan, the camphor industry was placed under Government monopoly, and the world became practically dependent on Japan for its supplies In due course the price of camphor began to advance, and eventually reached such a figure that not only were industries dependent upon camphor crippled but great encouragement was given to scientific research in the direction of finding a chemical substitute for the natural product which was so difficult and so costly to obtain. This price, which at one time was 50*s.* per cwt. for the raw product, advanced to 400*s.*, and remained there long enough to do considerable damage to industry. In fairness to Japan it must be said that certain difficulties arose in Formosa which rendered the cost of camphor collection much higher; but as these difficulties were gradually overcome the monopoly showed no disposition to make equivalent concessions to purchasers. It is believed that the Japanese contemplated the manufacture of celluloid, and, in fact, it is stated that this industry is already carried on to some extent in Japan. Had it not been for the recent triumph of science there is a possibility that in course of time not only would Japan have held the monopoly of camphor production, but would have secured a predominant share in all those industries in which the use of camphor is required, including such important branches of commerce as the manufacture of cellaloid, smokeless gunpowder, a certain class of disinfectants, and a number of popular medicines.

Free from Chlorine.

The synthesis of camphor has been promised for some time, and in fact an impure product has been obtainable on a small scale for more than a year. The difficulty hitherto has been to produce synthetic camphor free from chlorine at a reasonable cost, and these difficulties have only just been overcome. Apparently until a few months ago the Japanese Government felt assured that both these obstacles were insurmountable, for it was not until the end of March this year that it introduced an important change in camphor distribution, and within the last four months the price of the refined natural product has dropped to the extent of 45 per cent., the last reduction, equivalent to £28 per ton, having taken place a few days ago. The price of natural camphor, however, is still substantially higher than that at which the synthetic product can be produced, and there seems to be little doubt that in course of time the competition of the synthetic article will bring the price of the Japanese product very considerably below its present reduced value. It is estimated that at least two-thirds of the world's supply of camphor is absorbed in the manufacture of celluloid, and the new source of supply will therefore prove an enormous stimulus to this industry. The demand for celluloid goods is steadily increasing, and as a result of the excessive prices that have been ruling in the camphor market the increased demand has to some extent been met by cheap imitations of celluloid largely composed of shellac to which a very small percentage of camphor has been added.

Effect on Turpentine Market.

Patents for the production of synthetic camphor are being worked in Germany, France, Switzerland, America, and England, and most of the processes are based on the production of pinene hydrochloride from turpentine, the pinene hydrochloride being changed into isoborneol, which is oxidised to camphor. As turpentine is the most important raw material on which the synthesis relies, it is clear that the future of the camphor market depends very largely indeed on the cost of turpentine. If turpentine were to remain somewhere about its present price it is possible that in due course the value of camphor might recede to nearly one-half the figure now quoted for the refined product. Turpentine has been dearer than it is at present, and it has been very substantially cheaper, but an increased demand occasioned by the manufacture of camphor would doubtless have a hardening influence on the market, and if this were aided by an increased demand for the purposes of paint and varnish manufacture the cost of synthesising camphor might be considerably higher than at present. These are possibilities which must be taken into account, but unless some quite unforeseen circumstance should arise to enhance the value of turpentine more considerably than the influences just mentioned synthetic camphor could still be produced at very much less than the present selling price of refined natural camphor. There is also the possibility that cheaper methods of synthesis will be devised, and then Japan may stand in the same position with regard to synthetic camphor as does India to synthetic indigo. In appearance the new camphor is identical with natural camphor, and chemically they are the same. There is this distinction, however, between the two products—that while natural camphor rotates the plane of polarisation to the right, synthetic camphor, like other synthetic substances, has no action on polarised light. This is merely a technical difference which has no bearing on the use of the new product in the industries.

THE INDIAN POST OFFICE.

Report for 1906-07.

THE text of the Report on the Post Office of India for the year 1906-07 appears as a Supplement in the *Gazette of India* of the 23rd instant, from which we learn that the estimated number of postal articles of all kinds, exclusive of money orders and parcels, issued for delivery during the year, added to the actual number of parcels, amounted to over 779$\frac{1}{2}$ millions, or more than 45$\frac{1}{2}$ millions in excess of the number during the preceding year. The percentage of increase in the case of unpaid letters, namely, 7·71 in 1906-07 and 6·63 in 1905-06, was higher than usual. The total number of parcels, registered and unregistered, rose from 4,955,379 in the previous year to 5,281,884 showing an increase of 6·59 per cent., as compared with that of last year. Altogether there were 2·76 postal articles—letters, postcards, packets, and parcels—per head of the total population and 48·93 postal articles per head of the literate population. As in previous years, the number of postal articles per head of the general population was highest in Bombay where it was 5·82. During the year under report 691,004 letters and parcels were insured for transmission by the post, the aggregate insured valued over nineteen crores of rupees.

Parcels by Foreign Post.

The total number of parcels sent by the foreign post from this country during the year under review was 267,848, as compared with 235,408 during the previous year. The total number of parcels received during 1906-07 was 317,895, as compared with 289,070 during 1905-06. The numbers of parcels *sent to, and received from, the United Kingdom* during the year under report were 122,460 and 235,695, respectively, as compared with 118,865 and 214,884, respectively, during 1905-06. The percentage which this traffic bears to the total of our foreign parcel traffic remains fairly stationary. In the case of the exchanges with countries other than the United Kingdom, there was also a satisfactory development of the traffic in both directions, the numbers of parcels sent to, and received from, these countries during 1906-07 being 143,933 and 81,592, respectively, as compared with 115,101 and 73,490, respectively, in the previous year. From India the most important increases were in the despatches to Ceylon, the Far East and *British East Africa*. To India the most important increases were in the mails from Ceylon and Egypt, the increase in the latter case being nearly 25 per cent. and being due mainly to the growing use of the parcel post by cigarette-smokers.

Increase in Business.

During the year 779,556,586 letters, postcards, newspapers, packets, and parcels were issued for delivery, and these figures, added to the 21,381,497 money orders issued for payment, make a grand total for all these classes of articles of 800,938,083, as compared with 753,922,391 in 1905-06. Of the total number of articles issued for delivery or payment, it is estimated that 761,339,626 or 95·06 per cent. were actually delivered or paid.

Postage Stamps.

The total value of ordinary postage stamps and postal stationery issued during the year amounted to more than 222 lakhs of rupees, showing an increase of more than 21$\frac{1}{2}$ lakhs over the value of issues during the previous year. The total value of service stamps issued was 35 lakhs, being an increase of more than 2$\frac{3}{4}$ lakhs upon last year's figure. The largest issues of ordinary stamps were in Bengal, Bombay, and Madras, where the values exceeded 45 lakhs, 43 lakhs, and 41 lakhs, respectively. The $\frac{1}{4}$-anna stamp sold best during the year under report, the number having increased from 113$\frac{3}{4}$ millions in the previous year to over 140$\frac{3}{4}$ millions. The sale of the $\frac{1}{4}$-anna stamp has now outstripped even that of the single $\frac{1}{4}$-anna postcard, the total issues of which decreased from 135 millions in 1905-06 to 129 millions, this decrease being entirely due to the steadily growing popularity of privately manufactured postcards. The $\frac{1}{2}$-anna adhesive stamp comes next with a sale of 97$\frac{3}{4}$ millions. This is followed by the small $\frac{1}{2}$-anna oblong envelope which is sold for the face value of the stamp, of which over 75 millions were sold. With respect to the postal stationery which is issued by the Department at a small charge in addition to the face value of the stamp, there has been an increase in the sales throughout, except in the case of $\frac{1}{2}$-anna and 1-anna newspapers and of the 1-anna converted envelope.

Value Payable Post.

The total number of value payable articles of all kinds sent through the post during the year under report was 5,943,385 as compared with 5,715,695 in the previous year. The total amount declared for recovery was more than 6$\frac{1}{2}$ crores of rupees, as against a little over 6 crores in the preceding year, while the amount of commission realized was Rs. 9,44,490, as compared with Rs. 8,67,735 in the year 1905-06. The number of value payable articles posted during the year in Calcutta was 1,544,094, as compared with 1,472,393 in the preceding year, and the Department realized on the delivery of these articles and paid over to the tradesmen of Calcutta a *total sum* of Rs. 1,89,06,214, or over one and a quarter million pounds sterling. It may be added that the total number of value payable articles posted in Bombay during the year under report was 851,423 as compared with 807,570 posted during the previous year, while the total number of such articles posted in Madras was 505,727, as compared with 420,660 in the preceding year.

Money Orders.

The total number of money orders issued during 1906-07 was 21,620,813, as compared with 20,296,418 in the previous year, and the total amount remitted was about 38$\frac{3}{4}$ crores, as compared with over 35$\frac{1}{4}$ crores in 1905-06. Foreign money orders constitute, as usual, a small percentage (3·23) of the entire transactions of the year. During the year under report there was a further increase in the sales of British postal orders, the total number of orders sold being 207,751, as compared with 178,385 in the preceding year, and the total value (including poundage) £139,673, as compared with £120,616 in 1905-06. The chief increases occurred in the Punjab and North-West Frontier circle, and in Bengal, Bombay, the United Provinces, Madras, and Burma.

Savings Banks.

In connection with Savings Banks there were 1,190,220 active accounts in existence at the end of the year, showing a net increase of 74,462 or 6·67 per cent. in the number of active accounts. The total amount at credit of depositors at the close of the year exceeded 14 crores 76$\frac{1}{2}$ lakhs, and was 77 lakhs or 5·53 per cent. more than the balance at the close of the preceding year.

Insurance Fund.

As the result of the administration of the Postal Insurance Fund during the year, 1,532 new policies were issued of the aggregate value of Rs. 22,07,527. The total sum realised during the year on account of premia on both old and new policies amounted to Rs. 7,77,879, as compared with Rs. 7,03,588, in the previous year. Claims to the extent of Rs. 2,42,835 were discharged as compared with payments amounting to Rs. 2,12,108 during the preceding year. At the close of the year there were 12,651 active policies in existence representing an aggregate insurance of Rs. 1,87,18,496, of which 5,087 policies were held by Post Office servants and 7,564 by persons employed in other Departments. Nine life annuities were purchased from the Post Office.

The receipts of the Post Office for the year amounted to Rs. 2,62,69,413, after deducting charges the final result is a surplus of Rs. 23,33,569 as compared with Rs. 16,11,417 for 1905-06 and Rs. 14,18,224 for 1904-05.

—Messrs. Claffin's Circular of October 31st admits that the **American cotton-goods trade** has been entirely dislocated by the monetary panic, but argues that "as the situation cannot be said to have arisen from any unsoundness in the general trading activity of the country" the effects of the scare have been out of all proportion to the facts of the situation. Hence the season's trade, though partially interrupted, must in time be adjusted to the wants of consumers, and Messrs. Claffin think that the present contraction "may be the prelude to greater confidence and larger operations later on, eliminating all that is fragile and artificial and putting the market on a solid basis both as to values and supply." Possibilities of some renewal of export trade are said to be in evidence.

TRAMWAYS IN ASSAM.

An Opening for Capital.

REPLYING to an address presented to him at Nowgong last week, the Lieutenant-Governor of Eastern Bengal and Assam alluded to the request made for a tramway connecting Nowgong with the Assam-Bengal Railway system, and, whilst not disagreeing with the desirability for some such project, told his audience that he could not yet intimate to them the particular position it held in the order of preference or urgency amongst similar provincial schemes. There was also the fundamental question of finance; and whilst on this subject Sir Lancelot Hare said:—

"Much has been talked of and written on this subject, but no terms have yet been agreed to which the public investor is prepared to accept. The local investing public does not seem to be large enough to fill the subscribers' list and the wider public do not know or care enough about the schemes to run any risk without a guarantee of interest. I see no prospect of raising the money which is required. When the provincial contract has been settled and I can see my way more clearly, or if even before this I can obtain the consent of the Government of India, I shall be prepared to devote a fair amount of money towards meeting the claims under a guarantee. Looking to the configuration of the province, a series of short lines linking up the railway and the river with the chief producing and trade centres, and not any one long line only, is clearly indicated.

A Comprehensive Scheme.

"My idea is that several such lines should constitute a single company and should be under a single management with single stock and a single main workshop where all but petty repairs would be conducted. By means of special trollies the stock could be carried to the workshop or transferred as required from line to line. In this way much saving could be effected, as it is well understood that, standing alone, a short line cannot afford the expenses of efficient management, either having regard to the staff or to the waste involved in the surplus stock which every line, big or small, must necessarily maintain. Even so, however, on the average some Rs. 25,000 per mile is required in this province for a fully equipped tram line. I should like to see 100 miles more or less built in the Assam Valley and 100 in the Surma Valley under two companies as a beginning. I would take up each piece of line in order of merit and importance, and in accordance with its prospects of commercial success. I have little doubt that if, say, two lakhs a year could be guaranteed for the possible payment of interest, it would be a very good provincial investment, and very great and substantial progress would be made. Not all the interest guaranteed would have to be paid at first, and much would be saved in the upkeep of roads and bridges. I need not say after these remarks that I am satisfied that on the development of feeder tram lines the prospects of the province is closely dependent, and nothing is more calculated to quickening its advancement."

WORLD'S MERCHANT SHIPPING.

WE take the following extract from the Liverpool *Journal of Commerce* of October 31st, 1907 :—

With never failing regularity and convincingness the annual statistics referring to the merchant shipping of the world continue to remind us of the wonderfully predominant part played by this country in seagoing shipping. Naturally enough a Mercantile Marine which in bulk is considerably larger than that of the rest of the world combined cannot increase at anything like the percentage rate of those which only represent a very small fraction of the world's tonnage, but the slightest glance at the figures suffices to show that not only is England holding her own in the trade, but is continuing to add to her shipping year after year a far greater tonnage than all the rest of the world put together. We have drawn up the following table, which illustrates this very strikingly, and shows the tonnage of sailing and steam vessels of Great Britain and the other nations, entered and cleared at different periods, with cargoes in the foreign trade in British ports :—

	British. Million Tons.	Foreign. Million Tons.
1880 . . .	35·8	13·7
1890 . . .	46·4	16·4
1895 . . .	49·9	17·7
1900 . . .	52·3	27·5
1906 . . .	64·5	31·6

Here it will be seen that while the total tonnage increased between 1880 and 1906 from 49 million to 96 million tons, the share of this increase taken by the United Kingdom almost amounted to 30 million tons, leaving only 17 million tons for the remainder of the nations

Looked at from the point of view of percentage increase, it is seen that between 1880 and 1906 there was a fall from 72·2 to 67·1 in the proportion per cent. of British tonnage to total tonnage, but when the enormous total preponderance of British shipping is considered this feature must give cause for anything but disquietude. Some of the newspapers which point to these figures as displaying a relatively larger increase of foreign shipping might as well assert that a new daily journal only just beginning business, and therefore starting on the appearance of its first number with an enormously "increased" circulation, was relatively progressing faster than the old-established papers. The fluctuations in the foreign shipping trading to and from our shores since 1880 are well worth noting, but except for the Italian and United States flags every country shows a substantial increase, Norway continuing to retain the lead all through. Figures here follow showing the tonnage of sailing and steam vessels of the different nations which entered and cleared in the foreign trade at United Kingdom ports in 1880 and in 1906 :—

	1880.	1906.
Foreign ships—		
American U. S. . . .	882,277	620,271
Austro-Hungarian . .	260,923	633,985
Belgian	461,078	1,271,319
Danish	1,158,572	3,159,571
Dutch	1,049,377	3,465,300
French	1,133,630	2 281,578
German	2,576 819	5,134,431
Italian	884,206	646,103
Norwegian . . .	2,914,407	5,770,359
Russian	470,336	1,276,635
Spanish	584,721	2,481,901
Swedish	1,310,707	3,913,684

Some of the figures for 1906 relating to the different ports of the United Kingdom are most interesting. Apparently for the first time Cardiff has passed both London and Liverpool in tonnage clearances, and the South Wales town can now proudly boast of being in this respect the first port in the country. We here give the figures of entrances and clearances for 1906 for 15 of the chief ports of the United Kingdom :—

Port.	1906. Entrances. Total Sail and Steam.	1906. Clearance. Total Sail and Steam.
Blyth . . .	1,213,328	1,756,733
Cardiff . . .	5,295,331	8,193,312
Dover . . .	2,577,607	2,582,549
Hull . . .	2,915,370	2,530,080
Liverpool . . .	8,145,441	7,125,417
London . . .	11,222,542	8,185,400
Middlesbrough . .	1,434,807	1,344,143
Newport . . .	1,445,751	2,022,574
Southampton . .	2,264,646	1,954,659
Sunderland . .	1,115,725	1,454,792
Swansea . . .	837,614	1.579,370
Tyne Ports . .	4,334,783	5,635,064
Glasgow . . .	1,842,416	2,955,410
Leith . . .	1,312,938	1,229,805
Methil . . .	845,071	1,168,103

The growth of the world's merchant navies is shown in the following table for steam vessels only, in which the figures are given for the years 1880 and 1906 :—

	1880.	1906.
	Thousand Tons.	
United Kingdom . . .	2,723	9,612
British Possessions . . .	226	729
Total British Empire .	2,949	10,341
Germany	82	2,081
France	278	727
Spain	234	684
Italy	77	493
Austria-Hungary . . .	63	386
United States—		
Oversea	147	591
Lake and river . . .	1,065	3,384
Japan	41	1,041

AMERICAN COTTON.

Views of an Expert.

HERR KUFLER, President of the International Cotton Congress held this year at Vienna, was one of the party of European spinners who attended the Atlanta Conference (America). He is returning home by way of England, and was interviewed in Manchester on the American visit. Herr Kufler said :—"Our tour was a perfect success. The general arrangements were good, and we had opportunities of inspecting the cotton-growing parts of the United States to better advantage than any single traveller could have had.

"Having seen the growing crop in various States of the Union, we were able to compare the various methods of working and the different facilities for handling. We not only went through some of the plantations, but through some of the State experimental farms. Observing the various methods of cultivation of cotton in the United States, we were all impressed by the fact that they can be improved. The land is able to yield much more cotton than it yields to-day.

"One of the great objects of our International Federation, and also perhaps of the Convention at Atlanta, was to introduce improvements in the baling and handling of cotton. Improvements of this sort will be very difficult to bring about rapidly unless the prevailing methods of the trade are changed. Cotton bought and sampled as it is bought and sampled now is bound to arrive in Europe in a bad condition. Our complaints not only apply to the machinery but to the whole of the existing trading system.

Cotton Farmers' Organisation.

"In the Convention at Atlanta we found that the farmers were much better organised than many of us thought them to be a short time ago. The organisations can be divided into two sections. Much the larger of the two is the Farmers' Co-operative and Educational Union, which is said to have more than 1,500,000 members. These figures, it should be explained, include not only cotton farmers but farmers all over the country and also doctors, teachers, and others. Largely, however, this Union is composed of small tenant farmers. The other organisation, the Southern Cotton Association, is composed principally of the larger planters, and has only about 10,000 members.

"Neither association is so well organised that it can command its members in the matter of price or on the question of sale or no sale, but both have roused a strong agitation and exercise great influence.

Removing Wrong Impressions.

"We found at Atlanta that the farmers generally had queer ideas about the object of the Convention. They believed, or were led to believe, that the European spinners had gone to America to take the crop off their hands and to give them a certain price for it. One of the best results of the Convention is that their illusions on that point have been removed by what they heard from the European spinners. Certainly the American farmers have learnt as much from the Convention as the European spinners learnt. We can safely say that—

"One of the great objects of both the American associations is to advocate the building of local warehouses all over the South to enable the farmers to warehouse their cotton in the interior, to get advances by the banks on the warehouse warrants to enable them to spread the sale of their cotton through the season and not to be forced to sell it at the beginning of the season, as has been the custom in the past. European spinners favour this system, at any rate so far as the warehousing goes. Cotton has been exposed too much in past years through lack of sufficient shelter. Another good result of the Convention was that the farmers learned from the spinners the quality of the cotton the spinners require. In the past a great many of the farmers had not the slightest knowledge of the various grades of cotton or of the reason why spinners prefer one staple over another. Organisation among the farmers will have very good results in these respects, unless it becomes political, as organisation in America is apt to become.

The Proposed Instructional Farm.

"The methods of growing cotton and the methods of selling and handling cotton can be very greatly improved, as I have said, but before these beneficial results can be secured the spinners of Europe will, in my opinion, have to give an object-lesson themselves in growing and handling cotton under the improved conditions that have been suggested. The best plan would be to form a company of English and Continental spinners to buy a fair sized plantation in the United States, to apply scientific methods, and to grow and handle cotton at the least possible expense In this way the numerous suggestions of the past few years could be put to a practical test. The promotion of such a scheme will secure the ends our deputation had in view much more speedily than any other means."

FLAX IN BIHAR.

Imperial Institute Report.

IN the July number of the *Quarterly Journal* of the Department of Agriculture, Bengal, mention was made of a trial made with Russian (Riga) flax seed at the new Agricultural Station at Bankipore. Two bundles of the flax-straw was sent to the Imperial Institute, London, for examination and valuation. The following report has since been received from the Institute, and may interest flax growers in Bihar :—

The sample of flax which is the subject of this report was forwarded for examination to the Imperial Institute by the Director of Agriculture, Bengal, with a letter No. 1884-A., dated the 4th April, 1907. It was stated that the flax had been grown from Riga seed at the Bankipore Agricu-

tural Experiment Station. The sample consisted of two bundles of flax-straw, weighing 4 lbs. 4 ozs. and 5 lbs. 2 oz., respectively.

The straw, which had not been retted, was straight and generally not branched except towards the upper parts. The colour varied from green to pale yellow. The fibre could be easily separated from the yellow portions by breaking the straw, thus indicating that the material had become partially over-ripe.

The following results were obtained on comparing the sample with a standard specimen of flax-straw grown in Belgium :—

	Flax straw from Belgium.	Flax straw from Bengal.
Length of straw .	30 to 35 inches.	30 to 42 inches.
Diameter; maximum .	0·063 inch.	0·132 inch.
Ditto; minimum .	0·032 ,,	0·041 ,,

It will be noticed that the flax from Bengal was longer and coarser than the standard sample of Belgian flax used for comparison.

The clean fibre obtained from the Indian straw had an average diameter of 0·00094 inch, the diameter of the standard sample of Belgian flax being 0·00085 inch.

The sample under examination was therefore generally coarser than the Belgian specimen.

The straw was well grown, but it seems probable that insufficient seed had been sown as a considerable amount of wood had developed in parts of the straw. The presence of woody tissue interferes with the process of retting and causes the fibre to be damaged in the subsequent breaking operation.

The quantity of seed usually employed in flax cultivation is from 2½ to 3 bushels per acre, but double this quantity is sometimes used, in which case the young plants require to be thinned out.

In order to ensure the production of the best quality of fibre, the flax-straw should be gathered when the lower half has turned brownish-yellow. If the plants are left in the ground until the whole stem is yellow or brown and the plant is fully ripe, the flax obtained will be coarse and of inferior quality.

With greater care in cultivation it is highly probable that flax of excellent quality could be grown in that part of Bengal where the present sample was produced.—*Wyndham R. Dunstan.*

—H. M. Consul at Genoa reports that the annual production of **Italian olive oil** shows great fluctuations, owing partly to the alternations of full and meagre years' crops and partly to the ravages of the oil-fly. The production during the five years 1901-02 to 1905-06 is estimated as follows: 1901-02, 3,200,000 hl.; 1902-03, 1,800,000 hl.; 1903-04, 3,200,000 hl.; 1904-05, 1,700,000 hl.; and 1905-06, 3,400,000 hl. The most-prized qualities are those produced in Tuscany (Lucca, Pisa), the Ligurian Riviera, and the Pugli (Bari, Bitonto, Gallipoli). The exports from Sicily in 1906 amounted to 488,582 quintals (exclusive of exports of sulphur oil), valued by the Customs at 125 lire per quintal.

RUBBER PRODUCTION IN MALAYA.

Area under Cultivation.

Although statistics show that tropical America contributes about 63 per cent. of the world's total rubber supply, tropical Africa 34 per cent., and Asia the remaining 3 per cent., British-grown rubber is steadily asserting its claims to priority with the consumer at home. The small output contributed from Asia includes products of the Federated Malay States, Ceylon, Southern India, and British North Borneo, which invariably fetch the best prices in European markets; but without considering the wide field open for capital and judicious enterprise in each of these countries, where the development of the planting industry has been placed on a par with the rapid expansion of the tea industry in India and Ceylon, observations may be confined to what is being accomplished in the Federated States of Malaya, where for the most part the trees are maturing and have scarcely yet begun to yield.

At the end of 1905 there were about 40,000 acres planted with rubber, and by the close of the year following this had increased to more than 85,000 acres, with between six and seven million trees. On January 1st last there were nearly 86,000 acres, half of which had been opened during 1906 on 242 different estates. The output of dry rubber was about 130 tons in 1905 and 385 tons in 1906. The reason that, while the average has more than doubled, the number of trees has not proportionately increased is that the number of trees planted per acre during 1906 was not so great as previously. With the present yearly increase of about 10 per cent. in the consumption of rubber—a rate which is likely to be exceeded as soon as prices become easier—it must be many years before the supply can become equal to the demand. If the whole of the rubber now planted in these States should grow vigorously, without the loss of a single tree, until the end of 1912 (when all the trees ought to be in bearing and yielding throughout the high average of 1½ lbs. per tree), the Federated Malay States will then be supplying only about one-seventeenth of the world's estimated requirements at that date. This figure—which, by the way, is given by Mr. J. B. Carruthers, the Director of Agriculture and Government Botanist of the Federated Malay States—is calculated at the present 10 per cent. rate of increase in consumption, and makes no allowance for a probable higher rate. But meanwhile casualties amongst the trees must occur, for drought, excessive moisture, insect, fungoid, and bacterial pests, with other accidental causes, such as sudden winds and fire, have all to be taken into account in reducing output.

Average Yield per Tree.

In going carefully through the figures compiled from the annual reports of the numerous rubber plantation companies of Malaya issued during the past six months it is found that in the great majority of cases the yield of rubber obtained exceeded the estimate. The average yield per tree in the Federated Malay States appears to be just over 1 lb. of dry rubber per annum. In the case of estates having older trees this quantity is exceeded, and if labour were always available to tap the trees to a limit no doubt considerably higher averages would be obtained. On the Consolidated Malay Rubber Estates, where 32,693 lbs. of rubber was harvested from 11,348 trees, the average was 2·88 lbs. per tree. In the case of the Highlands and Lowlands Estate an average over 38,639 trees of nearly 2½ lbs. per tree is reported, while a yield of over 7 lbs. per tree was obtained from 807 trees widely planted to occupy 16 acres. The result of three tappings of these 807 trees was: First tapping, 2,500 lbs.; second 1,469; and third tapping, 1,773 lbs., a total of 5,742 lbs. But such results must be regarded as quite exceptional; although the returns indicate the immense superiority in the growth and yield of trees which are given plenty of space. This fact is being slowly realised by planters in the States, who nevertheless require considerable convincing, as, naturally, they desire to get their rubber into the market as early as possible in order to benefit by high prices. They realise that they have a sure market market now, and perhaps feel a little uncertain respecting the future, so that one appreciates their motive in having close-planted trees during the first few years of bearing. Their view is that by the time the close planting begins injuriously to affect the yield they will have made their money. But it is always possible, of course, for estates with a large acreage to combine the two systems, thus keeping a reserve of open-planted trees which would doubtless, by their increased yield in future years, make up for the deficiencies of the close-planted. In this connection, however, it is found that there are large areas quite as well, or even better, suited for rubber cultivation than the land already taken up. During 1906, for instance, a larger area was planted in Perak than in any of the other States, an entirely new district having been opened in Lower Perak, where rubber is now growing quite as well as in more popular districts. Selangor has now nearly 45,000 acres under rubber cultivation, Perak about 30,000, Negri Sembilan 11,000, and Pahang close upon 485. Working on the various estates are 39,000 coolies, of whom nearly 30,000 are Tamils, 4,000 Javanese, 1,500 Malays, and 3,400 Chinese. When, however, the 13,000,000 trees already planted in the Peninsula are all in bearing (say five years hence) about 50,000 coolies will be needed for tapping operations, apart from opening, planting, weeding, and other work. Thus it will be seen that the labour question is of paramount importance, and now that Government recognises the importance of studying the coolies' health and comfort the outlook is by no means unpromising.

Prices Realised.

Turning, in conclusion, to the prices realised during the past year's working of the various rubber companies of Malaya, it is found that considerable decrease on the previous twel months' results has to be recorded. The price best cultivated Para, which in January stood 6s. 1¾d., after a gradual rise of 1½d. up to t end of March, began to recede in an evenly descen ing scale until in December it stood at 5s. 5½ recovering a little before the end of the year and the time of writing is approaching 5s. 10d. T prices of Brazilian Para took practically the sa course, beginning at 5s. 5d. and receding to 5s. 1 being as a rule about 10 per cent. to 12 per ce below the cultivated rubber. The factors whi affect the price of rubber, and which must be co sidered in trying to foresee the future market pri of this product, are many and various. Hc much the demand for rubber will increase is n easy to foretell, but rubber at the present hig prices continues to find fresh markets and new use

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CYCLOPEDIA OF AMERICAN AGRICULTURE.
Edited by L. H. Bailey. Volume II, Crops. 10½ × 7½, xvi + 699 pp. . . . . 21s. n
The Macmillan Company.

—The second issue of the *Quarterly Journal* of th Department of Agriculture, Bengal, which has jus reached us, is a creditable production. It contains pleasing variety of information on many agricultura subjects, and a number of capital plates to illustrat it.

SUGAR IMPORTS.

Imports of foreign sugar (excluding confectionery and molasses) into British India in the month of October, 1907, and in the seven months ending October, 1907, compared with the corresponding periods of the previous year. The statement shows, as 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 Oct., 1906.	Share of each country in the total imports in Oct., 1907.	Share in the seven months ending Oct., 1906.	Share in the seven months ending Oct., 1907.	Countries of production of total imports.	Share of each country in the total imports in Oct., 1906.	Share of each country in the total imports in Oct., 1907.	Share in the seven months ending Oct., 1906.	Share in the seven months ending Oct., 1907.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Austria-Hungary	24,969	16,068	1,167,161	395,695	South America	...	9	18,088	8,828
Belgium	8,214	35	101,228	614	China	17	279	3,828	3,229
France	6	108	23,617	9,535	India	...	...	...	66
Germany	32,985	2,211	1,630,343	44,570	Japan	...	...	4	...
Holland	...	41	339	198	Java	743,419	1,176,321	2,269,264	3,709,818
Italy	...	...	4	4	Philippines	...	...	...	400
Spain	...	...	3	...	Straits Settlements	61	71	2,127	10,369
Egypt	...	...	69	...	Australia	...	...	9	...
Mauritius	276,596	177,852	1,136,402	1,468,658	From non-producing countries. Origin unknown	29	4	265	158
Réunion	...	...	109,471	11,377					
West Indies	1,286	43	5,049	5,144	TOTAL	1,087,582	1,373,042	6,467,271	5,668,173

Quantity of beet and cane sugar imported by sea from foreign countries into each province of British India for the month of October, 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	23,955	114	337,006	782,902	360,961	783,016
Eastern Bengal and Assam	...	1	...	1	...	2
Bombay	12,801	3,521	336,202	244,766	349,003	248,287
Sind	26,069	12,358	212,557	277,934	238,626	290,292
Madras	2,360	2,441	60,236	1,962	62,596	4,403
Burma	997	30	75,399	47,012	76,396	47,042
TOTAL	66,182	18,465	1,021,400	1,354,577	1,087,582	1,373,042

—According to a report by the Geological Survey the **production of slate in the United States** in 1906 was valued at 5,668,346 dols., as against 5,496,207 dols. in 1905. The production of slate for roofing is measured by "squares," a square being the number of slates required to lay 100 sq. ft. of roof allowing a 3 in. lap. Since 1903 there has been a gradual decrease in the number of squares of roofing slate made in the United States, and a corresponding decrease in the value of the total product as well as in the price per square. The production of slate for milled stock—that is, for table tops, mantels, etc. has been steadily increasing in quantity and value, the output for 1906 having been larger than for any previous year, the value being 1,219,560 dols., as against 921,657 dols. in 1905. The Geological Survey also reports that metallic and steam **tin** were produced in the United States in 1906 in four widely separated localities to the aggregate value of 35,600 dols.

—H. M. Consul at **Christiania** (Mr. F. E. Drummond Hay) reports that the Nordreisen Mining Company have amalgamated with the Scandia **Copper Works.** The head office and domicile of the amalgamated Company is to be in Norway. The Company have now secured concessions on the Nordreisen mines, Lillebottem copperfield and Taorstad pyrites concession. An annual royalty of 5,000 kroner is to be paid until the new laws regarding concessions come into force. The smelting works and water dams are to be ready by the end of June, 1910, and the mines are to commence working two years after the granting of the concession. Besides the ore from these mines the smelting works will also treat the ores from the Nantanen mines in Sweden. Mr. Drummond Hay also reports that the Rustvangen copper-mining rights in the neighbourhood of Röros have been secured by Mr. Person of Helsingborg.

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and **Exports** to, each country in the five months, April to August 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	2,42,858	2,40,127	3,62,199	80,153	73,950	65,391	3,23,011	3,14,077	4,27,590
KHELAT—									
Sind and British Baluchistan	1,94,311	2,69,812	2,49,886	2,10,379	1,77,847	1,72,228	4,04,690	4,47,659	4,22,114
PERSIA—									
Sind and British Baluchistan	99,219	20,711	1,56,668	1,02,872	64,307	1,80,572	2,02,091	85,018	3,37,240
AFGHANISTAN—									
Northern and Eastern (including Kabul and Ghazni)—									
North-West Frontier Province	8,12,600	3,77,587	4,30,591	52,54,958	52,26,750	49,48,718	60,67,558	56,04,337	53,79,309
Southern and Western (including Kandahar and Herat)—									
Sind and British Baluchistan	11,52,428	28,16,291	25,37,856	14,72,087	17,12,619	22,06,093	26,24,515	45,28,910	47,43,949
North-West Frontier Province	...	...	...	1,30,510	96,116	1,68,685	1,30,510	96,116	1,68,685
Panjab	...	...	...	26,458	1,07,447	...	26,458	1,07,447	...
TOTAL	19,65,028	31,93,878	29,68,447	68,84,013	71,42,932	73,23,496	88,49,041	1,03,36,810	1,02,91,943
TIRAH—									
North-West Frontier Province	1,60,681	1,83,294	2,00,663	1,71,522	2,41,955	2,01,706	3,32,203	4,25,249	4,02,369
DIR, SWAT, AND BAJAUR—									
North-West Frontier Province	14,69,120	20,73,992	20,26,644	29,06,489	28,92,835	28,11,143	43,75,609	49,66,827	48,37,787
BUNER—									
North-West Frontier Province	72,545	64,947	41,422	1,32,444	61,508	43,840	2,04,989	1,26,455	85,262
KASHMIR—									
North-West Frontier Province	8,31,243	9,31,899	7,66,670	22,77,249	17,19,350	15,88,041	31,08,492	26,51,249	23,54,711
Panjab	43,83,892	50,95,020	31,84,686*	37,98,405	40,58,416	28,97,809*	81,82,297	91,53,436	60,82,495*
TOTAL	52,15,135	60,26,919	39,51,356	60,75,654	57,77,766	44,85,850	1,12,90,789	1,18,04,685	84,37,206
LADAKH—									
Panjab	44,180	...	3,100	1,69,188	2,17,726	1,53,466	2,13,368	2,17,726	1,56,566
TIBET—									
Panjab	10,087	8,982	5,020	55,459	47,604	30,064	65,546	56,586	35,084
United Provinces of Agra and Oudh	89,304	85,672	71,864	3,16,554	5,25,560	4,31,488	4,05,858	6,11,232	5,03,352
Bengal	4,21,200	5,50,162	6,25,697	6,34,741	5,51,320	4,83,191	10,55,941	11,01,482	11,08,888
TOTAL	5,20,591	6,44,816	7,02,581	10,06,754	11,24,484	9,44,743	15,27,345	17,69,300	16,47,324
NEPAL—									
United Provinces of Agra and Oudh	40,09,304	36,03,212	35,19,017	13,97,860	11,52,587	12,64,714	54,07,164	47,55,799	47,83,731
Bengal	36,71,709	68,85,639	77,04,121	41,43,783	39,46,431	37,23,164	1,05,15,492	108,32,070	1,14,27,285
TOTAL	1,03,81,013	1,04,88,851	1,12,23,138	55,41,643	50,99,018	49,87,878	1,59,22,656	1,55,87,869	1,62,11,016

* 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 five months April to August 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	1,15,525	1,25,451	2,69,809	2,25,231	2,29,716	3,13,129	3,40,756	3,55,167	5,82,938
BHUTAN—									
Bengal	36,545	8,924*	5,811	40,471	5,113*	4,132	77,016	14,037*	9,943
Eastern Bengal and Assam	29,074	20,943†	25,191	250	16,198†	40,157	29,324	37,141†	65,348
TOTAL	65,619	29,867	31,002	40,721	21,311	44,289	1,06,340	51,178	75,291
TOWANG—									
Eastern Bengal and Assam	...	13,472	5,002	...	...	...	...	13,472	5,002
NÁGÁ AND MISHMI HILLS—									
Eastern Bengal and Assam	92,890	1,42,003	55,435	2,454	7,215	3,272	95,341	1,49,218	58,707
DUFFLA AND AKA HILLS—									
Eastern Bengal and Assam	17,402	25,085	38,551	...	...	...	17,402	25,085	38,551
WESTERN CHINA—									
Burma	9,95,063	9,77,867	8,93,006	14,17,462	15,75,513	16,20,415	24,12,525	25,53,380	25,13,421
NORTH SIAM—									
Burma	8,66,125	9,99,422	11,03,320	5,91,595	8,99,650	9,66,418	14,57,720	18,99,072	20,69,738
SOUTH SIAM—									
Burma	1,70,764	1,91,529	1,51,748	2,20,348	2,28,873	2,04,526	3,91,112	4,20,402	3,56,274
N. SHAN STATES—									
Burma	21,50,482	21,86,324	28,03,801	18,97,020	20,08,185	34,76,297	40,47,502	41,94,507	62,80,088
S. SHAN STATES—									
Burma	23,86,563	21,47,469	22,21,980	28,53,233	44,77,783	29,57,340	52,39,796	66,25,252	51,79,320
KARENNEE—									
Burma	8,46,310	9,87,213	9,20,359	4,14,630	8,67,462	10,68,371	12,60,940	18,54,675	19,88,730
GRAND TOTAL	2,80,71,424	3,10,33,047	3,03,80,117	3,09,43,805	3,31,90,036	3,20,24,370	5,90,15,229	6,42,23,083	6,24,04,487
Share of each Province in the total trade—									
Sind and British Baluchistan	16,88,816	33,46,941	33,06,609	18,65,191	20,28,723	26,24,284	35,54,307	53,75,664	59,30,893
North-West Frontier Province	33,46,189	36,31,719	34,65,930	1,08,73,172	1,02,38,514	97,62,133	1,42,19,361	1,38,70,233	1,32,28,123
Punjab	44,38,159	51,04,002	31,92,806	40,49,510	44,31,193	30,81,339	84,87,669	95,35,195	62,74,145
United Provinces of Agra and Oudh	40,98,608	36,88,884	35,90,881	17,14,414	16,78,147	16,96,202	58,13,022	53,67,031	52,87,083
Bengal	69,44,979	75,70,176	86,05,438	50,44,226	47,32,580	45,23,616	1,19,89,205	1,23,02,756	1,31,29,054
Eastern Bengal and Assam	1,39,366	2,01,503	1,24,179	2,704	23,413	43,429	1,42,070	2,24,916	1,67,608
Burma	74,15,307	74,89,822	80,94,214	73,94,288	1,00,57,466	1,02,93,367	1,48,09,595	1,75,47,288	1,83,87,581
GRAND TOTAL	2,80,71,424	3,10,33,047	3,03,80,117	3,09,43,805	3,31,90,036	3,20,24,370	5,90,15,229	6,42,23,083	6,24,04,487

* 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 October, 1907, and for the seven months, 1st April to 31st October, 1907, compared with the corresponding period of the years 1905 and 1906 :—

	MONTH OF OCTOBER			SEVEN MONTHS, 1st APRIL TO 31st OCT.		
	1905	1906	1907	1905	1906	1907
	R	R	R	R	R	R
IMPORTS—						
MERCHANDISE, PRIVATE—						
Bengal	3,23,83,189	3,95,55,853	4,71,06,545	23,44,46,046	24,75,54,315	30,95,35,614
Eastern Bengal and Assam	(a)	1,97,204	10,36,531	(a)	26,07,071	31,75,856
Bombay	3,63,59,635	3,72,52,628	4,46,00,665	19,35,88,504	20,19,53,323	24,00,85,220
Sind	61,55,618	92,12,953	90,23,097	4,48,53,420	5,50,30,964	5,12,04,880
Madras	59,22,626	89,59,736	81,32,746	4,61,98,462	5,35,83,966	5,70,28,010
Burma	71,53,872	99,48,390	79,17,855	4,48,70,120	5,55,63,849	5,69,22,481
TOTAL	8,79,74,940	10,51,26,764	11,78,17,439	56,42,56,552	61,62,93,488	71,82,52,061
DITTO, GOVERNMENT STORES	52,82,423	69,98,994	53,97,135	5,17,78,090	5,27,35,091	3,68,47,651
TOTAL MERCHANDISE	9,32,57,363	11,21,25,758	12,32,14,574	61,60,34,642	66,90,28,579	75,50,99,712
TREASURE, PRIVATE—						
Bengal	87,24,910	1,46,88,040	52,62,332	4,02,74,16	4,92,75,913	5,19,66,765
Eastern Bengal and Assam	(a)	...	...	(a)	36,475	60,928
Bombay	85,02,979	1,43,60,623	1,29,93,629	7,40,36,332	9,88,98,751	15,32,82,957
Sind	2,08,000	5,68,402	8,30,720	23,34,742	27,07,790	47,28,594
Madras	4,12,712	5,98,739	8,35,712	25,37,846	34,35,223	55,15,491
Burma	55,661	87,580	95,590	4,01,025	7,23,032	7,50,862
TOTAL	1,79,04,262	3,03,23,384	2,00,17,983	11,95,84,114	15,50,77,184	21,63,05,597
DITTO, GOVERNMENT	34,74,842	1,50,33,672	90,36,484	1, 71,71,252	9,96,83,849	9,32,69,189
TOTAL TREASURE	2,13,79,104	4,53,57,056	2,90,54,467	13,67,55,366	25,47,61,033	30,95,74,786
GRAND TOTAL OF IMPORTS	11,46,36,467	15,74,82,814	15,22,69,041	75,27,90,008	92,37,89,612	106,46,74,498
EXPORTS—						
MERCHANDISE, PRIVATE—						
(*Foreign Merchandise*)—						
Bengal	97,290	1,16,246	91,310	11,85,312	10,59,849	13,19,733
Eastern Bengal and Assam	(a)	250	500	(a)	250	550
Bombay	21,87,223	29,77,607	26,88,142	1,48,22,829	1,46,98,924	1,73,61,811
Sind	3,86,434	3,01,400	3,97,626	20,44,052	27,11,638	27,41,584
Madras	86,462	1,36,329	1,32,955	5,24,665	11,49,647	8,04,997
Burma	17,816	43,599	51,086	2,32,911	4,13,747	4,44,271
TOTAL	27,75,225	35,75,431	33,61,619	1,88,09,769	2,00,34,055	2,26,72,946
(*Indian Merchandise*)—						
Bengal	7,27,65,339	9,07,77,094	6,88,58,693	37,32,43,416	40,44,85,100	42,73,07,209
Eastern Bengal and Assam	(a)	92,24,318	65,38,180	(a)	1,92,13,927	1,75,49,561
Bombay	2,53,29,146	2,92,50,186	2,82,71,633	24,49,28,755	22,55,03,686	29,77,63,127
Sind	49,48,144	90,00,601	1,85,20,723	7,45,41,169	8,95,66,335	13,37,51,847
Madras	1,05,22,399	1,37,95,496	1,40,65,313	8,68,42,571	9,90,88,011	11,97,15,275
Burma	1,19,15,840	39,07,020	83,48,891	8,31,45,438	7,49,39,903	8,73,31,323
TOTAL	12,94,80,868	15,59,54,715	14,46,03,433	86,27,01,349	91,27,96,962	108,34,18,341
Total Foreign and Indian Merchandise exported—						
Bengal	7,28,62,629	9,08,93,340	6,89,50,003	37,44,28,728	40,55,44,949	42,86,26,942
Eastern Bengal and Assam	(a)	92,24,568	65,38,680	(a)	1,92,14,177	1,75,50,111
Bombay	3,15,16,369	3,22,27,793	3,09,59,775	25,97,51,584	24,02,02,610	31,51,24,938
Sind	53,34,578	93,02,001	1,89,18,349	7,65,85,221	9,22,77,973	13,64,93,431
Madras	1,06,08,861	1,39,31,825	1,41,98,268	8,73,67,236	10,02,37,658	12,05,20,272
Burma	1,19,33,656	39,50,619	83,99,977	8,33,78,349	7,53,53,650	8,77,75,593
TOTAL	13,22,56,093	15,95,30,146	14,79,65,052	88,15,11,118	93,28,31,017	110,69,44,885
DITTO, GOVERNMENT STORES	95,030	93,038	1,00,141	7,49,301	5,31,989	8,53,548
TOTAL MERCHANDISE	13,23,51,123	15,96,23,184	14,80,65,193	88,22,60,419	93,33,63,006	110,60,91,287
TREASURE, PRIVATE—						
Bengal	3,25,000	10,00,000	1,03,939	10,79,483	50,17,639	20,62,398
Eastern Bengal and Assam	(a)	...	...	(a)	...	...
Bombay	35,46,938	44,37,275	46,02,829	2,72,36,574	3,56,93,045	2,49,38,813
Sind	82,800	...	1,14,643	9,65,871	8,10,406	10,07,370
Madras	13,00,175	3,20,000	980	13,00,355	9,22,209	25,12,498
Burma	8,500	11,875	25	3,54,250	1,83,015	93,275
TOTAL	52,63,413	57,69,150	48,22,616	3,09,36,533	4,26,26,314	3,06,14,354
DITTO, GOVERNMENT	1,50,11,479	...	5,000	6,00,85,979	37,450	5,000
TOTAL TREASURE	2,02,74,892	57,69,150	48,27,616	9,10,22,512	4,26,63,764	3,06,14,354
GRAND TOTAL OF EXPORTS	15,26,26,015	16,53,92,334	15,28,92,809	97,32,82,931	97,60,26,770	113,75,64,189
GROSS AMOUNT OF IMPORT DUTY COLLECTED, *including Salt*	60,47,127	65,45,781	67,05,103	3,82,08,547	3,95,82,469	4,16,05,352
DITTO, EXPORT DUTY COLLECTED	8,04,592	3,19,581	4,58,069	61,15,317	51,53,156	50,47,205

(a) Included with Bengal.

FOOD-GRAINS AND SALT.

Retail Prices of certain food-grains and salt at selected stations for the second half of October, 1907. (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 1	...	...	...	...	...	...	0 10
Toungoo	1 10	...	...	...	...	...	...	1 5
Eastern Bengal and Assam—								
Rangpur	2 6	2 0	...	...	...	...	...	1 4
Backerganj	2 6	...	...	...	...	...	...	1 0
Bengal—								
Calcutta	2 0	2 2	...	...	...	...	...	0 10
Patna	2 0	2 0	1 3	...	...	...	...	0 11
United Provinces—								
Cawnpore	...	1 11	1 5	1 5	1 6	...	1 5	0 9
Fyzabad	...	2 0	1 8	1 5	...	...	1 7	0 11
Meerut	...	1 11	1 5	1 4	1 5	...	1 5	0 8
Punjab—								
Delhi	..	1 11	1 4	1 5	1 8	...	1 5	0 9
Amritsar	...	1 8	0 11	1 0	1 4	...	1 2	0 7
Rawalpindi	...	1 7	1 2	1 0	1 2	...	1 4	0 7
Sind—								
Karáchi	...	2 0	...	1 3	1 3	...	1 4	0 7
Bombay—								
Belgaum	...	1 9	...	1 0	1 0	...	...	0 10
Ahmadnagar	...	2 0	...	1 2	1 1	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 2	...	1 4	1 7	...	...	0 7
Central Provinces—								
Jubbulpore	...	1 8	...	...	...	...	1 7	0 11
Nagpur	2 0	1 9	...	1 9	...	...	1 9	1 1
Raipur	1 10	1 9	...	...	...	...	1 5	1 2
Madras—								
Bellary	2 3	...	...	1 1	...	1 1	...	0 11
Madras	2 3	...	...	...	...	1 4	..	0 7
Salem	2 2	...	...	1 3	1 5	1 2	...	0 10

—According to the official reports recent experiments in **tobacco cultivation** in 21 districts in **Burma** and in the Shan States have not been very encouraging. In four districts successful results were obtained, namely, in Myitkyina, Toungoo, Tharrawaddy, and Minbu, but in four others—Hanthawaddy, Bhamo, Henzada, and the Western Sub-Division of the Southern Shan States—only partial successes are recorded, while in the remainder the experiments were a complete failure. The failures were due either to seeds not germinating or to destruction by floods or insects, and in a few cases to carelessness on the part of the cultivator. In the first case it is thought that the seed may have been at fault rather than the soil, and in future all importations of seed will be thoroughly tested before they are issued to the cultivators. The tobacco experimented with was Havana and Virginian, and the remarkable success achieved—especially with Havana seed—in some districts, leads to the belief that failures in similar districts must have been due to carelessness or indifference, or, as already mentioned, bad seed.

—New **platinum mines** have been discovered in the **Urals**, in the State of Barantchinsk, on the Schumich River, a tributary of the Barantchi. The new mine is in a mountainous district, covered with thick pine woods. The mineral is right on the surface, and the poachers who first came upon it made a very good profit. The Barantchinsk platinum is of a dark colour, and there is reason to believe it is rich in iridium, a much costlier metal.

WEEKLY TRADE MOVEMENTS.

For the week ending 23rd November, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.	713,221
	Bombay „	325,959
	Madras „	8,900
Indian— Exports by sea from	Calcutta „	201,274
	Bombay „	5,299,484
	Madras „	...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	21,565,622
	Bombay „	4,404,548
	Karachi „	1,236,029
	Madras „	1,847,063
	Rangoon „	72,783

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	3,619,117
	Bombay „	4,746,055
	Karachi „	3,659,006
	Madras „	647,584
	Rangoon „	520,145

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	2,889,741
	Bombay „	4,583,110
	Karachi „	2,952,136
	Madras „	1,608,811
	Rangoon „	344,153

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, owt.	25,336
	Bombay* „	5,440
	Karachi „	18,630
	Madras „	4,538

Raw Cotton.

Imports into Bombay	By sea owt.	2,693
	Coastwise „	7,367
	By rail „	115,263
Imports into Karachi by rail	„	14,707
„ „ Calcutta by rail and river	„	6,713

JUTE.

Arrivals by all routes in	Calcutta. cwt.	742,039
Exports by sea from Calcutta	Gunny bags, No.	13,179,716
	„ cloth, yds.	22,443,606
	Jute, cwt.	480,299
Chittagong	—Jute „	76,963

TEA.

Arrivals by all routes in	Calcutta, lbs.	4,266,462
Exports by sea from	Calcutta „	4,963,976
	Chittagong „	1,116,306

WHEAT.

Imports into Calcutta	by rail and river, cwt.	35,692
Imports into Karachi	by rail „	301,617
Imports into Bombay	By sea „	976
	Coastwise „	24,453
	By rail „	7,276
Exports by sea from	Calcutta „	672
	Bombay „	312
	Karachi „	109,311

RICE.

Arrivals by all routes in	Calcutta, cwt.	76,373
Exports by sea from	Calcutta „	24,059
	Chittagong „	...
	Bombay „	5,194
	Karachi „	28,421
	Madras „	...
	Rangoon „	27,246

LINSEED.

Imports into Calcutta	by rail and river, cwt.	19,388
Imports into Bombay	By sea „	65
	Coastwise „	54
	By rail „	5,832
Imports into Karachi	by rail „	378
Exports by sea from	Calcutta „	35,024
	Bombay „	52,278
	Karachi „	...

RAPE AND MUSTARD SEED.

Imports into Calcutta	by rail and river, cwt.	13,052
Imports into Bombay	By sea „	...
	Coastwise „	12
	By rail „	1,112
Imports into Karachi	by rail „	18,910
Exports by sea from	Calcutta „	7,642
	Bombay „	17,409
	Karachi „	16,758

COTTON SEED.

Exports by sea from Bombay,	owt.	10,160

* B., B. & C. I. Ry. figures only.

KEROSENE OIL, WEEK ENDING 23rd NOVEMBER, 1907.

Imports by sea into—	From Russia.	From America.	From all other foreign countries.	Totals.
	galls.	galls.	galls.	galls.
Calcutta	...	122,460	1,057,272	1,179,732
Bombay	55,649	...	...	55,649
Karachi	...	..	...	...
Madras	...	...	...	...

Exports by sea from Burma to	Bengal galls.	303,200
	E. B. & Assam „	...
	Bombay „	617,828
	Sind „	384,072
	Madras „	...
	Indian Ports, Non-Br. „	...
	Foreign Ports „	...

IMPORTS OF SUGAR, WEEK ENDING 23rd NOVEMBER, 1907.

Country of Shipment.	Refined sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	9	...	18	58	..52	...	147
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...	...
Java	224,126	...	43,213	110,715	417	2,489	380,960
Mauritius	...	...	47,010	18,392	...	...	65,402
Other Non-European Countries	...	...	1,404	...	...	100	1,504
						Total refined	448,013
						Total unrefined	9,011
						Grand Total, cwt.	457,024

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 22nd November.		Sold to 22nd November.		Sold in sale of 23rd November.		Sold to 23rd November.	
	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	3,345	7 3·9	144,943	7 5·7	5,977	6 10·4	118,549	6 9·2
Cachar	2,708	6 7·4	116,063	6 1·3	5,097	4 10·4	105,764	4 2·9
Sylhet	2,306	6 8·5	91,100	6 1·2	2,436	4 7·5	80,701	4 0
Darjeeling	1,468	10 6·5	50,331	9 1	1,081	9 5·9	48,569	8 7·7
Dooars	4,311	7 2·9	142,369	6 8·6	8,078	6 11·1	133,701	5 4
Terai	468	6 11·5	18,298	6 2·9	1,111	5 6·3	27,501	4 3
Chittagong	402	6 7	7,510	6 2·5	85	4 9	9,427	4 1·3
Chota-Nagpore	...	...	609	5 2·5	198	4 1	539	4 2·7
Kumaon and Kangra	43	6 6	3,886	6 0·4	...	...	120	5 0 3
Madras	...	...	285	6 1·2	...	...	286	4 10·8
Dehra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	..	...	247	6 9·3	...	...	...	...
Total	15,051	7 4·3	575,845	6 10·4	24,063	5 10·8	525,207	5 5·5

(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 30,464 packages Dust* sold to 23nd November — As. 6, P. 8·7

* On account of gardens which sell only that grade on this market.

—With effect from the 1st proximo, the maximum amount for which a single **money order** may be drawn in India on **Russia or Roumania** will be raised in the case of money orders for Russia from £10 to £30 and in the case of money orders for Roumania from £20 to £40.

—Advices from **Australia** which reached us this week state at the Melbourne **wool sales** on the 30th *ultimo* the market was very firm, competition being extremely animated. Among the leading prices obtained were: In the Grease—Yawong Springs, merino (St. Arnaud) to 15¼*d.*; Corinda (Q), to 14*d.*; Parwan, comeback to 13½*d.*; Oura (Wagga), merino to 13*d.*; Overflow (Cobar), to 12¾*d.*; and in scoured merino, Aldingham (Winton) to 24*d.*, and Corona (Broken Hill) to 23½*d.* At the Sydney sales on the same date 8,877 bales were catalogued, and 9,163 sold at auction and privately. An exceptionally keen demand ruled for super wools, for which extreme rates were paid, the record price for many years, 17½*d.*, being secured for one line from the Mudgee district. Other lots brought to 16¾*d.* Scoured sold to 24*d.* The second Geelong sales were held on the 31st *ultimo*, 5,466 bales being offered. Among the leading prices paid were:—In greasy merino, Austin over Eilyer up to 17*d.*, and Warrambeen to 16½*d.*; and, in greasy crossbred, Hexhampark to 17½*d.*, and Barwon-park to 15¾*d.* In scoured, Tyrell Downs sold up to 24*d.* for very clean scoured comeback, and 22¾*d.* for merino.

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

QUARTERLY.

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

MONTHLY.

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

MISCELLANEOUS.

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

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., Ld., 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
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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.

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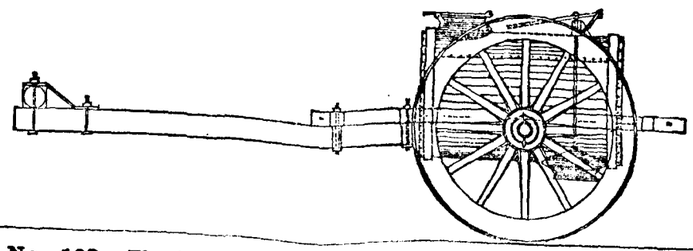
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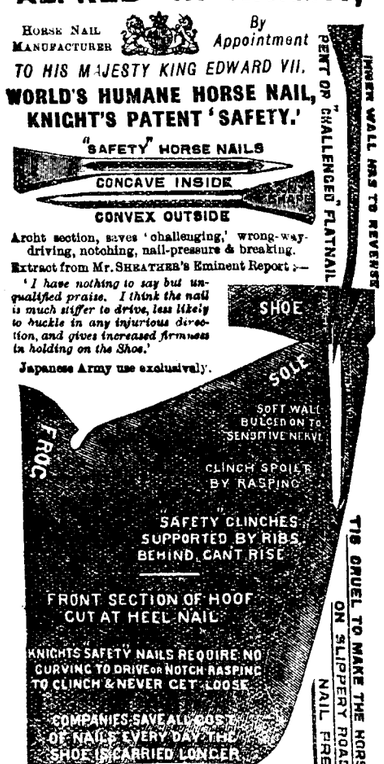
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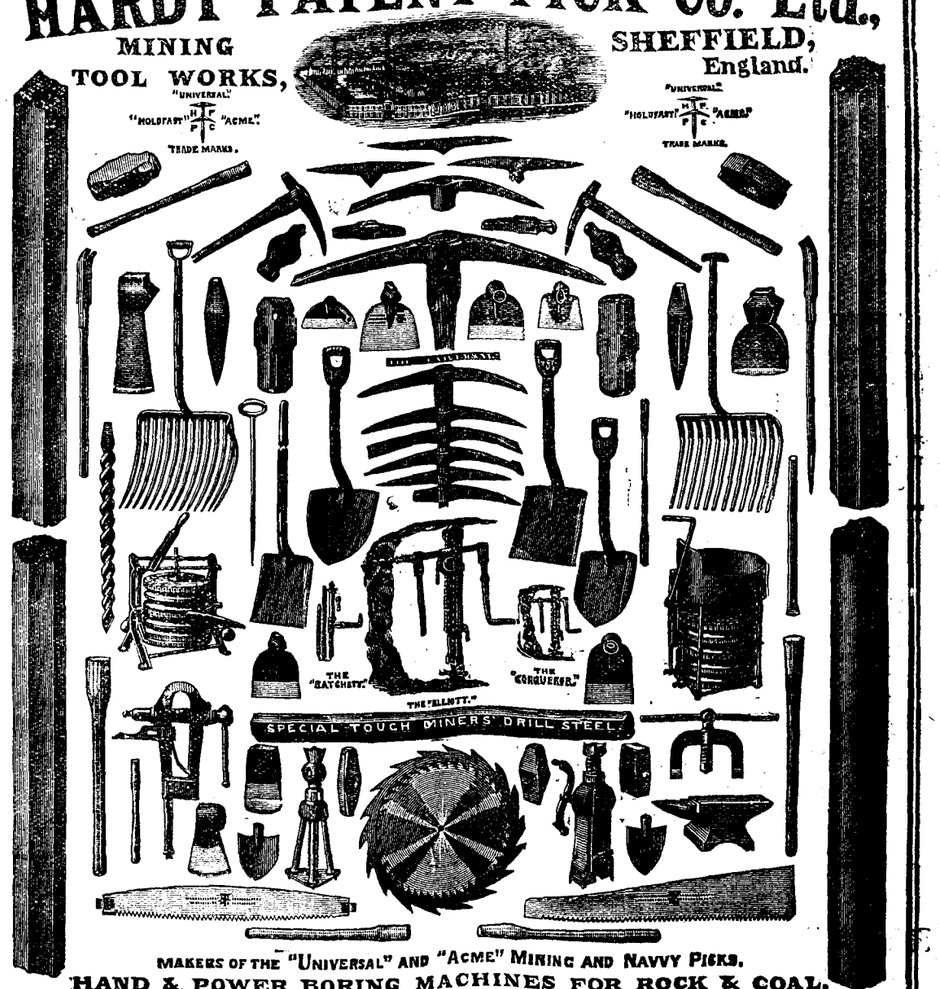
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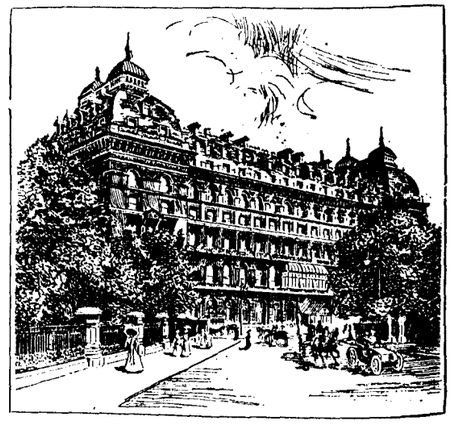
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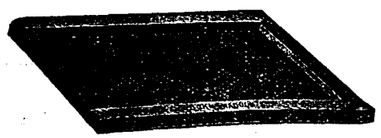
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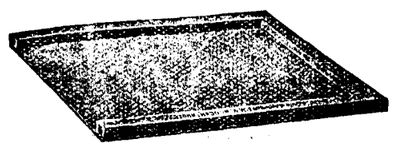


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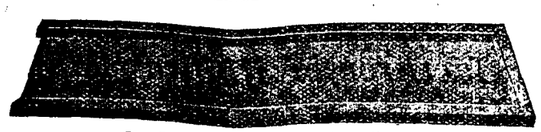


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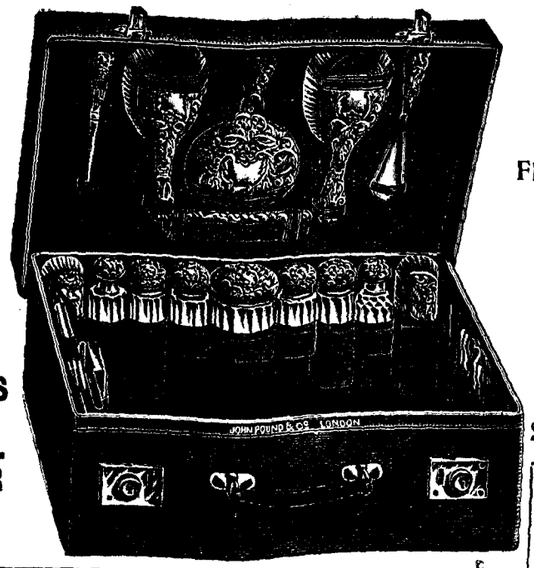
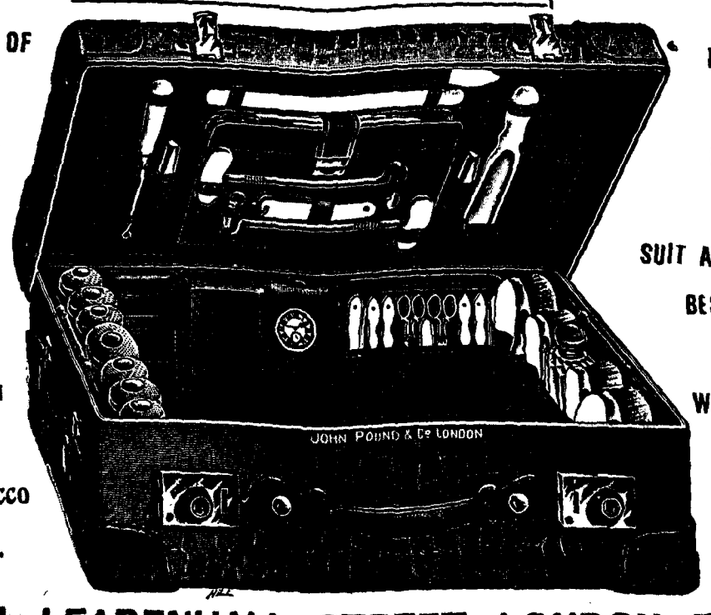


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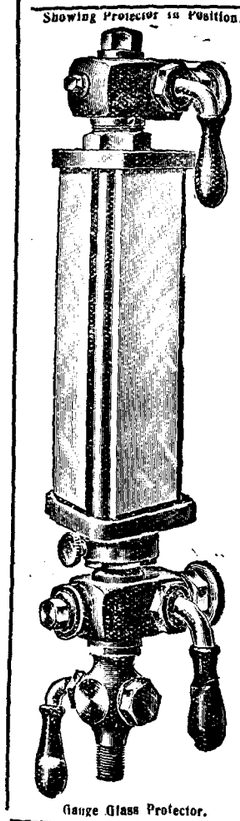
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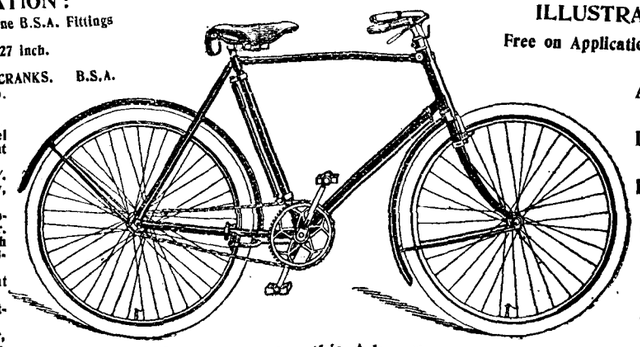
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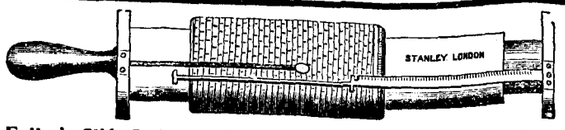
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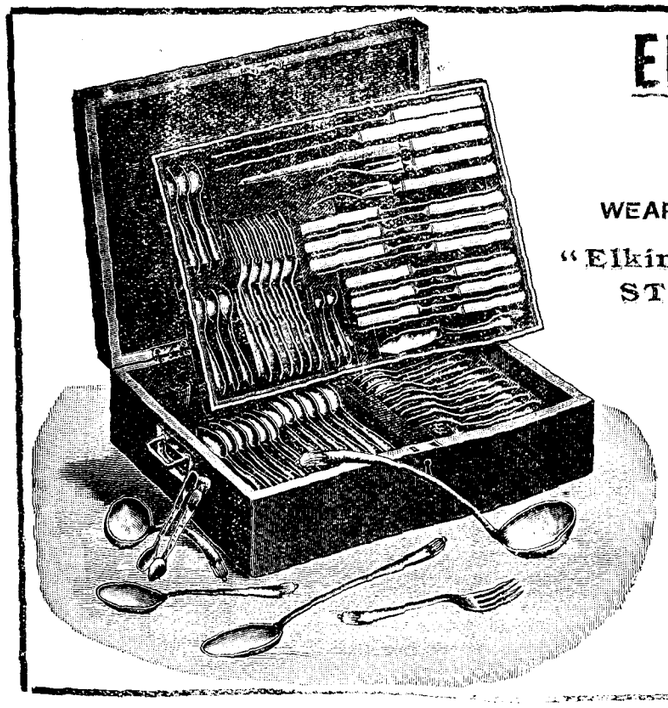
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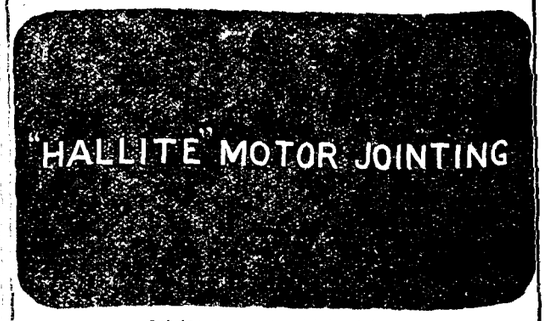
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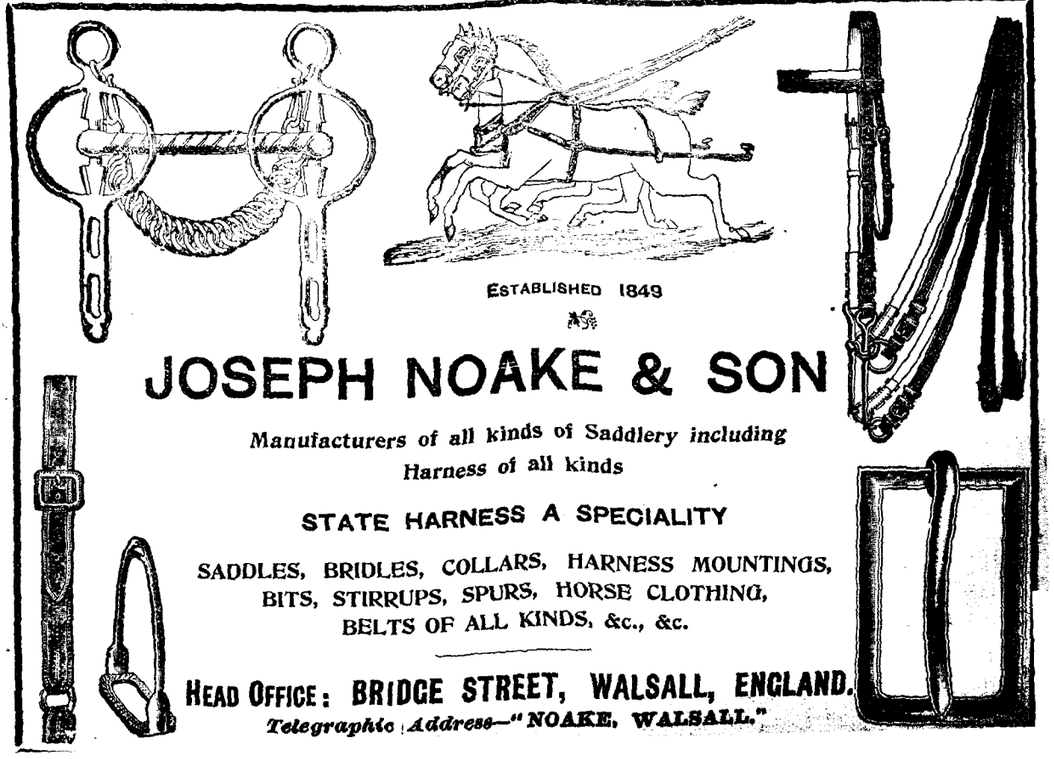
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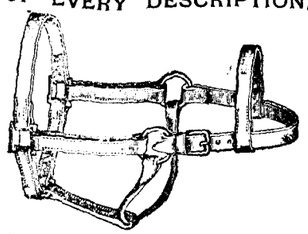
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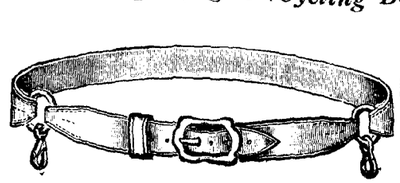
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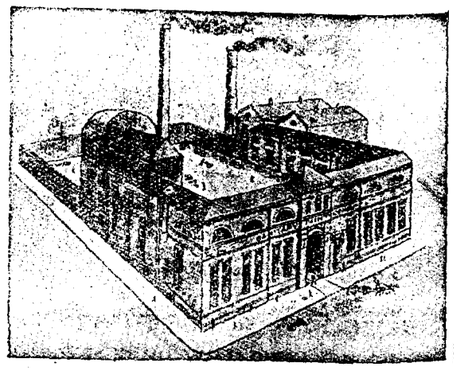
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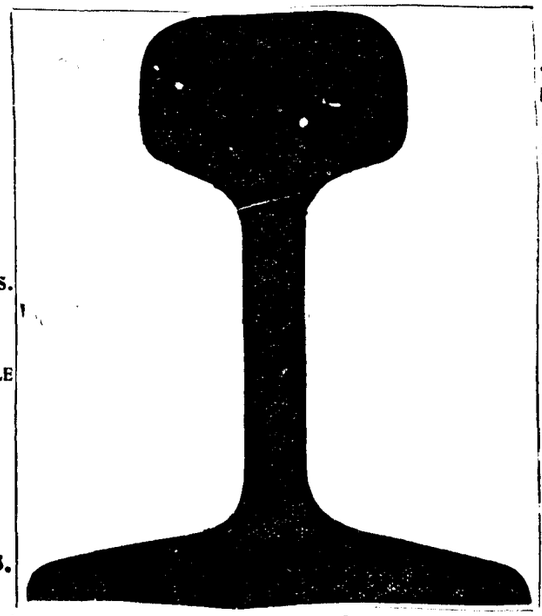
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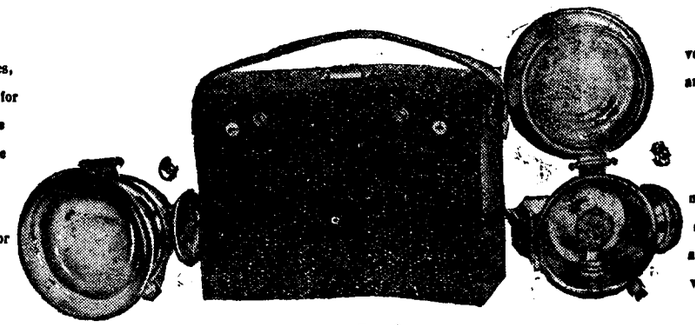
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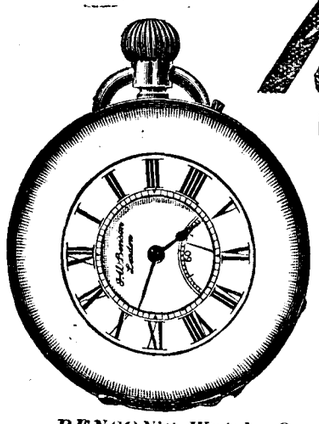
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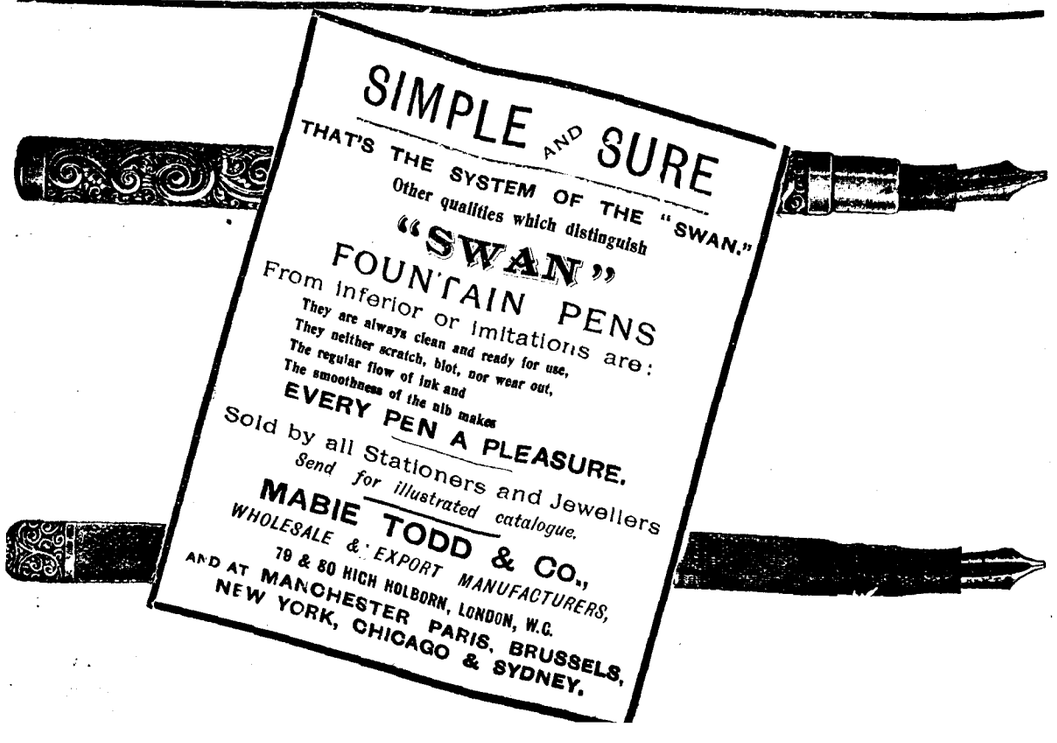
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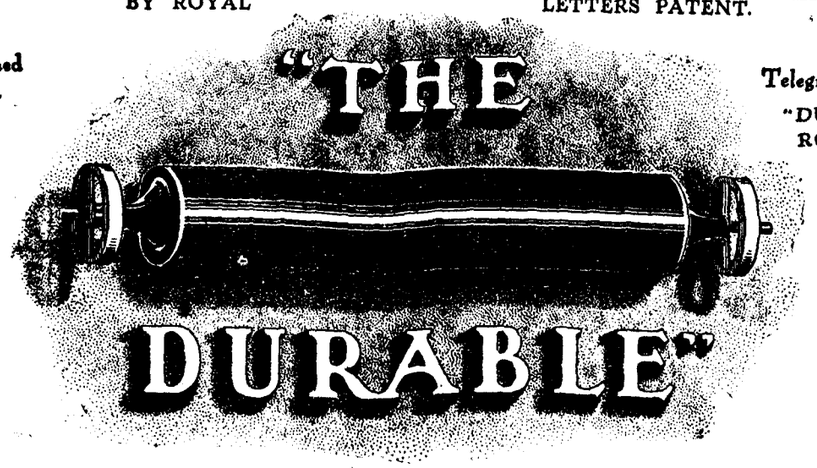
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VOL. VII. No. 88.] CALCUTTA, THURSDAY, 5th DECEMBER, 1907. [ANNAS 4.

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NOTES.

A scheme is under consideration by the **Bhopal State** for establishing a **weaving factory.** The State possesses a cotton-ginning and pressing factory.

The State-aided **date-sugar** industry has been discontinued in the **Bagli Thakurate** pending the reorganisation of the Forest Department.

We are informed that there is no truth in the statement that recently found currency in India to the effect that an important **discovery of gold** had been made at or about the **Shipki Pass,** on the Tibet border.

Some **jute** was sown by the Department of Agriculture, Bengal, during the current year at the **Dumraon and Bankipore** Agricultural Stations in the Shahabad and Patna districts, and at the Chaibassa farm in the Singhbhum district and the Deputy Director has given a favourable report of the result in each case. At Dumraon the jute, although sown on comparatively high land, grew healthily and well and averaged from 8 to 10 feet in height. At the Bankipore Station the crop was a splendid one, attaining nearly 15 feet in height. At Chaibassa the produce of a representative portion, covering one-fifth of an acre, was weighed in the Deputy Director's presence, resulting in an outturn at the rate of 20½ maunds of clean fibre per acre. These results are commended to the attention of the cultivators in those districts.

It is of interest to note that **lac** is the most important item of revenue from forests in the **Rewah State**, the receipts for the year 1905-06 having been Rs. 5,01,688.

The introduction of **lac** culture into the **Narsingarh State** has been attended with success. **Sandal** by sowing and planting has been introduced in the Chikni Karar jungle and another plot measuring about 1½ square miles has been sown with sandal trees and reserved at Bora.

Manganese ore excavated from the mines in the **Jhabua State** is exported to England. During the year 1905-06 the State received Rs. 7,609 as royalty at the rate of 4 annas per ton. Messrs. Kiddle, Reeve & Co. hold a lease of the mines at Rambhapur for 30 years, commencing from 1903.

The total number of **opium** chests exported into the **Indore State** during 1906-07, we learn from the Administration Report of that State just to hand, was 4,003½, as against 4,844½ during the previous year. Crude opium exported was 2,078 seers (seer = 2·06 lbs.) against 2,765 seers the year before. The import of foreign crude opium was 1,240 bags and 158 dharis (in vessels) against 2,687 bags during the preceding year.

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

For the week ending 30th November, 1907—

In the Calcutta market—

Behar opium—Rs. 1,291; 1,290; 1,288; 1,288; 1,284; 1,283; 1,284.

Benares opium—Rs. 1,255; 1,255; 1,250; 1,250; 1,250; 1,250; 1,250.

The prices in the time bargains for the Behar opium of the 12th sale of 1907 were Rs. 1,294; 1,293; 1,291; 1,291; 1,287; 1,286; 1,287.

In the China market—

At Hongkong (exchange Rs. 151½ to 153 per $100)

Behar opium—$872½; 872½; 867½; 865; 865; 865; 865.

Benares opium—No quotations received.

At Shanghai—(exchange Rs. 203 per 100 taels.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 23rd November, 1907—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,308 to 1,347; (new, 1905-06) Rs. 1,360 to 1,375; (old, 1904-05) Rs. 1,456; the latest prices at Hongkong and Shanghai were (new) Rs. 1,290 and 1,358; (old) Rs. 1,449 and 1,450, respectively.

We understand that the **Bushire Post Office** received orders on October 23rd to recommence acceptance and **registration of parcels and letters** containing valuables.

Money orders expressed in sterling money may now be drawn in India for payment at any of the following places in **Brazil**:—Bahia (or São Salvador), Belem (or Pará), Ceara (Fortaleza), Curitiba, Desterro (or Florianopolis or Santa Catharina), Florianopolis (or Desterro or Santa Catharina), Fortaleza (Ceara), Manaos, Pará (or Belem), Pernambuco (or Recife), Porto Alegre, Recife (or Pernambuco), Rio de Janeiro, Santa Catharina (or Desterro or Florianopolis), São Paulo and São Salvador (or Bahia). The rates of commission on such orders are the same as those generally in force in respect of foreign sterling money orders issued in India.

Some interesting statistics have just been issued concerning **labour disputes in the German textile industry** last year. In all there were 148 strikes and eight lockouts, which affected 384 establishments and 76,675 workers. The largest number of strikers at any one period was 29,215. The disputes were all short-lived, the duration in the majority of cases being less than a month. The returns give no particulars as to results of these disputes, but the Socialist and Labour newspapers admit that most of the strikes failed. The German manufacturers are well organised, and when a dispute between employer and workpeople leads to a strike in one factory a general lockout usually takes place all over the affected district. The financial resources of the German textile unions being comparatively slender this course generally starves the operatives into submission before very long.

At the meeting of the **Royal Commission on Shipping Rings** on the 12th ultimo in London, Mr. Charles McArthur, managing director of the Straits Trading Co., Ld., Singapore, gave evidence on behalf of the miners and the company as to the effect of the Shipping Conference on the **tin** trade of the *Straits Settlements* and the Federated Malay States. He stated that the tin exports from the Straits Settlements might be taken at 58,000 tons yearly. Of this total, the Straits Trading Co. contributed about 41,000 tons, which was, roughly, one-half of the world's supply of tin. The witness said the price of tin had fluctuated greatly during the last twenty years. It had advanced to the extent of between 30 and 40 per cent., but his complaint was that in the same time the **freight had advanced by nearly 300 per cent.** While Mr. McArthur had no objection to the Conference system, he objected to the deferred rebates, and thought that some such arrangement might be made as he understood was in force in Calcutta, where the shippers and the merchants met together to fix rates of freight.

New rules as to medical and other stores to be carried by **emigrant ships leaving India** are published in the *Gazette of India* of the **30th ultimo.**

A copy of a decree, dated April 17th last, laying down the regulations for **berthing steamers** in the port of **Buenos Ayres** has been received in this office and is open to inspection by those interested.

The Governor-General in Council is pleased to declare that every **Railway administration** in British India shall hereafter be liable to pay, in respect of property within any local area, every **tax** which may lawfully be imposed by any local authority in aid of its funds, under any law for the time being in force.

In accordance with the promise made by the Secretary of State for India to the deputations that waited on him in March last, from the Indian Railway Companies and from East India Merchants, a Committee was appointed to enquire and report on certain important questions concerning **Indian Railways and their administration**. It was at first arranged that a deputation consisting of Sir James Mackay, the Chairman, and Sir Walter Lawrence, one of the Members, accompanied by the Secretary of the Committee and by Mr. Brereton, the Government Director of Indian Railways, should visit India to receive evidence from officials, and from representatives of the mercantile community on the subject of the enquiry. But the Secretary of State has now intimated that the deputation of these gentlemen to India has been abandoned, and that it is considered sufficient for the Committee to receive the views of those interested in the subject in India by letter. Mr. Brereton will, however, visit India in his capacity of Government Director of Indian Railway Companies. The following are the points which have been remitted to the Committee for enquiry:—(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.

The prices of British corn per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 9th November, 1907, were as follows:—Wheat, 35*s.* 10*d.*; Barley, 27*s.* 8*d.*; and Oats, 18*s.* 10*d.*

Discussing the **wheat trade** in its issue of the 8th ultimo the *Journal* of the Society of Arts says:—Not only are the present high prices for wheat likely to be maintained, the indications point to enhanced values. There was indeed a decline in American values last week of from 1*s.* to 1*s.* 6*d.* per quarter, but this was due almost entirely to financial panic there. America will have comparatively only a small surplus for export, and much of it has already come over. Between August 1st and September 24th last we received from the United States and Canada 5,930,000 quarters, as against 5,660,000 quarters in the corresponding period of last year, and this notwithstanding the smaller available surplus this year. The explanation may be found in the high prices and monetary stringency. The shipments from Russia and the Danubian ports show a great falling-off. Taking the same period they amounted for the present year to only 4,925,000 qrs. as against 6,400,000 qrs. in the corresponding period of 1906, and 10,150,000 qrs. in 1905. Only comparatively small supplies are to be expected from Russia this season, and up to the present the supplies from Argentina have been very small only (taking the same period as above) 620,000 qrs. as against 975,000 qrs. in 1906 and 1,900,000 qrs. in 1905. Advices from Australia make it very doubtful whether there will be any surplus for export to Europe. It seems certain, therefore, that home farmers who can hold their wheat will be the gainers, for nearly every wheat-producing country in the world seems to have had abnormal weather conditions this year, causing, of course, a widespread shortage. Usually when the supplies from one country run short an abundance in another makes up the deficiency, but the United States, Canada, Russia, India, Australasia, all are short, Argentina being the one possible exception, and there the harvest has still to be gathered. And it is to be noted that whilst harvests in Europe have been poor, there is a growing demand on the Continent for wheat flour. The labouring classes in Continental cities are beginning to show preference for white bread to the dark bread made years ago, and growing prosperity is enabling some of them to indulge in the preference.

The number of bales of **cotton imported** into the **United Kingdom** during the week ended the 7th November, 1907, was 115,174 (including 67 bales British West Indian and 1,059 bales British West African) and the number imported during the forty-five weeks ended the 7th November was 3,764,922 (including 5,816 bales British West Indian and 9,917 bales British West African). As regards exports, the figures are, for the week ended the 7th November, 9,961 bales, and for the forty-five weeks 431,780 bales.

The quantity of **salt** of every description **cleared in Calcutta** during July, August, and September, 1907, amounted to 2,448,925 maunds (maund = 82⅔ lbs.), as compared with 32,21,915 maunds in the previous quarter, and 21,55,780 maunds in the corresponding quarter of the previous year. The net amount of duty levied thereon was Rs. 22,10,244, as against Rs. 28,93,923 in the previous quarter, and Rs.

29,43,586 in the corresponding quarter of the previous years. Compared with the corresponding quarter of the previous year and the same quarter of 1905-06, importations were greater by 52·4 per cent. and 40·1 per cent., respectively, and clearances by 13·3 and 11·9 per cent.

The quantity and the value of **gold** extracted from the **Indian Mines,** in October, 1907, were 45,015 oz. and Rs. 25,70,105 and those of April to October, 1907, were 315,062 oz. and Rs. 1,79,87,271. The output as compared with the corresponding periods of 1906 and 1905 was as follows :—

	Month of October, 1907.		
	1907.	1906.	1905.
Mysore . .	oz. 43,837	oz. 46,126	oz. 51,368
	Rs. 25,01,480	Rs. 26,42,137	Rs. 29,60,706
Nizam's Territory.	oz. 1,178	oz. 1,160	oz. 1,004
	Rs. 68,625	Rs. 68,053	Rs. 56,325
	Seven months, April to October, 1907.		
	1907.	1906.	1905.
Mysore . .	oz. 307,050	oz. 323,090	oz. 360,310
	Rs. 1,75,25,646	Rs. 1,85,75,306	Rs. 2,07,03,754
Nizam's Territory.	oz. 8,012	oz. 8,147	oz. 7,690
	Rs. 4,61,625	Rs. 4,68,929	Rs. 4,38,165

According to the Report on **Inland Emigration** the year ending June 30th last, the number of emigrants recruited from **Bengal, Madras,** and the **Central Provinces,** who embarked at Goalundo for the labour districts during the year under review was 24,503, against 33,949 in the previous year; the falling-off being attributed to the greater prosperity of the year as well as to the constantly increasing demand for labour in other directions than tea gardens. The number of criminal cases in connection with emigration during the year was 141 as compared with 181 in 1906, the number of persons convicted being 60 as against 131. As the outcome of the report of the Assam Labour Committee of 1906, "free" recruiting of labourers has been prohibited throughout Bengal and recruiting by contractors has been closed as regards the Patna and Bhagalpur districts. The stamp duty on labour contracts has been reduced from eight annas to one anna.

The *Manchester Guardian* of the 12th ultimo writes:—The **decline in tin prices** was fairly steady last week, but with a little tendency towards reaction in the final markets. The total loss in value was, however, nearly £10 per ton. Probably it is the rather large Eastern bull account which makes the market here nervous, for should there be any attempt to liquidate this quickly it is almost certain that prices here would have to come down still further. We have been accustomed for so long a time to dear tin that the market round about £140 looks as though it were low. Consumers, however, will do well to remember that £140 is not a low price for tin, but on the contrary a very high one. For a long series of years tin kept below £100 per ton, and indeed ranged between £60 and £80. The metal has, therefore, possibilities of a fall very different from those of copper. The steady closing down of the American tinplate mills which has been going on now for three or four months means that America is requiring smaller quantities. Undoubtedly the large demand from America sent and kept the price up. This support is practically withdrawn, and there seems no reason to believe that fancy prices for tin can be sustained without it.

The following statistics showing the value of the sea-borne foreign and Indian **trade of Aden** during the year ended 31st March, 1907, compared with the year ended 31st March, 1906, are taken from the annual Report on the Trade and Navigation Returns of Aden :—

	Imports.		Exports.	
	1905-06.	1906-07.	1905-06.	1906-07.
	Rs.	Rs.	Rs.	Rs.
Merchandise .	4,41,88,663	4,94,80,758	3,94,74 236	3,89,77,332
Treasure	49,41,670	32,40,174	54,44,184	37,92,526
Total .	4,91,30,333	5,27,20,932	4,49,18,420	4,27,69,858

The value of articles of merchandise imported from the interior of Arabia by land into Aden during the year ended 31st March last amounted to Rs. 29,11,167, as compared with Rs. 27,21,623 during the year ended 31st March, 1906, and the value of the merchandise that passed into Arabia per inland communication from Aden during the same periods amounted to Rs. 13,77,774 and Rs. 15,54,937 respectively. The value of the treasure that passed from Arabia into Aden in 1906-07 amounted to Rs. 1,63,415, as compared with Rs. 3,35,032 in 1905-06, while the treasure that passed into Arabia from Aden amounted to Rs. 1,97,162 as compared with Rs. 1,42,458.

As the result of negotiations which have been in progress for some time, agreements have been entered into which will have the effect of regulating the trade in **British methylated spirits** and industrial alcohol. The most important of the agreements is one by which the entire output of the makers of spirits of this class will be sold through one agency, at prices previously agreed upon. A company has been formed, with a nominal capital, under the style of the Industrial Spirit Supply Company, which will handle the entire output. The shares are held by the producers in proportion to their output. The object of this combination, which is described as the most important development that has taken place in the spirit trade of recent years, is to put a stop to the cutting of prices and to reduce working expenses. It is expected that great economies will be effected in distribution as customers will be supplied from the nearest distillery. The profits will not be pooled, but each distillery will be limited in the matter of production according to the proportion of capital held in the selling agency. Following upon this a meeting of the methylators of spirits has been held, when an agreement was come to which will have the effect of putting an end to the cutting of prices which has been prevalent for a considerable time. According to the latest statistics, over six million gallons of British spirits are methylated annually, while half a million gallons are used in a pure state in connection with arts and manufactures. The concerns interested in the new distributing agency are located in London, Liverpool, Bristol, Belfast, and Scotland.

The exports of British textile machinery during October continue to show progress in value. The total for October, according to the Board of Trade returns, is £752,526, as against £657,150 for the corresponding month last year and £583,883 for October, 1905. The total for the first ten months of the current year is no less than £6,630,155, as compared with £5,467,880 for the corresponding period of 1906 and £4,495,520 for January to October inclusive in 1905. The gain for the current year therefore is in an increased ratio both in the month and in the expired portion of the year. This is, of course, no doubt partly due to the necessary increase of renewals with the continual increase of plant. The distribution for the last month is shown in the following table :—

	1905.	1906.	19.
	£	£	£
Russia	37,468	32,375	35,126
Germany	103,759	72,632	127,221
Netherlands . . .	23,071	19,723	15,722
France	55,405	70,089	68,334
Other countries in Europe	96,574	136,180	172,450
China, including Hongkong	1,383	16 334	3,944
Japan	33,091	25,139	51,860
United States of America .	50,037	50,771	36,199
Countries in South America	,15,703	18,498	36,629
British India . . .	149,914	191,496	171,623
Ceylon	163	...	669
Australia . . .	3,245	964	1,736
Other countries . .	13,314	21,760	30,756

Germany's revival of demand is again notable, and the minor countries of Europe are still rather increasing than decreasing their textile plant. Japan and South America are also still active buyers of our spinning and weaving machinery.

The Directors of the **Burma Railways Co.** have decided to recommend the distribution of £1 18*s.*, subject to income-tax, per £100 stock as surplus profits for the year ended June 30th last, over and above the 2½ per cent. interest guaranteed by the Secretary of State for India, which has already been paid.

The Government of India have for the last four years awarded, on the recommendation of the Government of Bengal, a few **technical scholarships** of the value of £150 a year each tenable by statutory natives of Bengal for two years in the United Kingdom, on the Continent of Europe, or in America. Law, Medicine, Forestry, Veterinary Science, Agriculture and Engineering are excluded from the scope of the scheme, and scholarships will, in the first instance, be given preferably to students who wish to go through a course of mining instruction. A few of these scholarships are likely to be available in the coming year (1908) also, but no guarantee to that effect can be given at present. Intending candidates are required to submit their applications to the Director of Public Instruction, Bengal, on or before the 1st April, 1908, with certificates as to (1) their moral character, (2) their educational qualifications, (3) their knowledge of the language of the country in which they may elect to study, and (4) their physical fitness. Candidates must name the country to which they propose to proceed, and the course of studies which they propose to take up while in receipt of the scholarships. Candidates for Mining scholarships should state in their applications whether they have had any actual experience of mining. Government does not guarantee to provide successful candidates with employment on their return to India. One scholarship will be specially reserved for a Hindi-speaking candidate. If, however, no such candidate is forthcoming, some other qualified candidate who may apply will be recommended for this scholarship.

The Forest Service of the **United States** Government has just issued a circular deprecating the wasteful **destruction of turpentine trees.** The circular states that "in fifteen or twenty years, at the present rate of cutting the supply of the long-leaf yellow pine of the South, one of America's most useful trees, will be nearly exhausted." The turpentine of the yellow pine costs at the present time the equivalent of 2*s.* 4*d.* per gallon, while at one time it could be purchased for 1*s.* 3*d.* per gallon, these prices being for large wholesale quantities. "In face of these fast-increasing prices," continues the circular, "people are still found who say that there is yet an inexhaustible supply of yellow pine in the South and that all talk

about famine is unwarranted. Such statements are not justified by conditions, and the yellow pine lumbering industry will soon be in the face of a serious shortage unless decided changes are made in the present methods, and unless valuable products now going to waste are utilised * * * .There are at present in the woods of the South vast quantities of pine logs and tall stumps left as a result of careless lumbering in the past. This material is rich in turpentine, and could be made to yield from ten to fifteen gallons of refined spirit per cord * * *. A conservative estimate of the actual amount of turpentine alone which could be produced from the waste wood of one year would place the amount at not less than thirty million gallons." This represents an amount almost equal to the present annual production of um spirit in the United States.

The following are the comparative trade figures of the **Nushki-Seistan trade route** for October, 1907, compared with the corresponding month in 1906 :—

—	1907.	1906.	Increase.	Decrease.
EXPORTS.				
Afghanistan . .	2,777	870	1,907	...
Persia . . .	18,318	2,127	16,191	...
Baluchistan . .	26,358	25,598	760	...
IMPORTS.				
Afghanistan . .	2,570	7,565	...	4,995
Persia . . .	1,828	6,512	...	4,684
Baluchistan . .	35,905	11,826	24,079	...

The result is a net increase of Rs. 33,258 over those of the corresponding month of last year.

The *Cape Argus* publishes some particulars of a **discovery of lignite** in the Knysna district. A syndicate was formed to investigate the deposit and, on a shaft being sunk to a depth of 30 feet, three seams of the mineral were struck, aggregating 17 feet in thickness. Further tests were made at different places in the same district, and the area containing the lignite was found to be some miles in extent. Trials made with this fuel in Cape Town have given apparently satisfactory results, although, before the importance of the discovery can be fully estimated, experiments will have to be conducted on a larger scale.

Referring to the recent **discovery of magnesite** of considerable extent made by Mr. J. B. Jacquet, Chief Inspector of Mines (N. S. W.), while inspecting some platinum bearing country at Fifield, the *Australian Mining Standard* quotes some remarks by Mr. Kilburn Scott, of the Sydney University, who is conducting a series of tests with the product. Mr. Scott states that the Fifield deposit is unique in its remarkable purity, and especially in that lime is absent. All other deposits, including those of New Caledonia, the United States, and the large deposit at Euboea have considerable lime present. "For many years," Mr. Scott adds, "experts have been trying to meet the great call for a magnesite brick to withstand higher temperatures than the ordinary silica firebrick, and one difficulty in the way has apparently been due to impurities—especially lime—in the raw material. It is mainly on this account that I think the Fifield deposit promises so well."

The following particulars respecting the **mineral production of Western Australia** are taken from the Report of the State Department of Mines for the year 1906. The quantity and value of the minerals raised during the year, as compared with 1905, were as follows :—

Description of Minerals.	1905.		1906.	
	Quantity.	Value.	Quantity.	Value.
		£		£
Black tin (raised) Statute tons.	1,079	86,840	1,495	157,644
Coal (raised) Statute tons.	127,364	55,312	149,755	57,998
Copper ore (raised) Statute tons.	2,389	16,266	7,430	50,337
Gold (export and mint) Fine ozs.	1,955,316	8,305,654	1,794,547	7,622,749
Ironstone (raised) Statute tons.	3,213	1,285	1,280	512
Limestone (raised) Statute tons.	9,145	1,220	9,472	1,691*
*Pig lead (exported) Statute tons	2,730	34,471	2,681	44,460
Silver (exported) Fine ozs.	359,744	44,278	282,145	37,612
Tantalite (raised) Statute tons	73	10,515	15	2,644
Total values £ .	...	8,555,841	...	7,975,647

* Contained in bullion from the Fremantle Smelters, Ltd.

A report has just been issued by the **Western Australian** Mines Department on the **Pilbarra asbestos deposit.** The lodes are situated in the belt of serpentine country near Cooglegong, running north-east by south-west in a valley bounded north and south by large jasper dykes. It appears that two parallel lodes can be traced on the surface running for a length of about thirty chains on each side of a diorite bar. The Government inspector found in the shaft of the mine veins running from mere threads to bunches six inches wide, and found by means of trenches that, at a depth of 18 inches, the lode for a distance of 12 chains averaged about 2 feet 6 inches in width, containing about 15 per cent. of fibre.

A Review of **mining operations** in the State of **South Australia** during the year ended 30th June, 1907, issued by the South Australian Ministry of Mines, gives the following statistics of the output and value of the various metals and minerals produced in South Australia during the years 1905 and 1906 :—

		1905.		1906.	
		Quantity.	Value.	Quantity.	Value.
			£		£
Copper . .	cwt.	130,959	426,511	164,160	718,609*
Lead . . .	„	1,040	369	1,000	550
Copper ore . .	tons	2,563	28,434	†	†
Gold . . .	oz.	10,983	45,853	13,961	58,453
Ironstone . .	tons	84,483	48,577	75,226	33,852
Limestone . .	„	44,498	4,791	31,940	4,791
Salt . . .	„	32,500	13,000	55,000	27,500
Other metals and minerals . .		...	1,261	...	1,263
Total .		...	568,796	...	845,018

* Including copper ore. † Included in copper.

There is said to be no doubt whatever that the present **silk crop in Japan** will be the heaviest on record. The output is estimated at a total of 120,000 bales, being an increase of 20 per cent. on the last crop. Everywhere reports on the quality of the cocoons are good.

At a recent meeting of the Silk Merchants' Association at Lyons it was stated that the total **production of silk last year in France, Italy, Spain and Austria-Hungary** reached 5,748,000 kilos. The average annual production of the same countries for the period 1901-05 was 5,312,000 kilos. Last year the Levant and Central Asia contributed a total of 2,624,000 kilos., against an average for the 1901-05 period of 2,304,000. China, Japan, and India provided last year 12,541,000 kilos., with an average for 1901-05 of 11,476,000 kilos. The total output of all the countries named reached last year 20,913,000 kilos., against an average of 19,092,000 kilos. for the years 1901-05.

A correspondent, who writes from Prieska, Cape Colony, wishes to draw attention to the **deposits of copper** which, he claims, exist in the north-west of **Cape Colony.** He says:—"At one part of the Prieska district a line of outcrops of copper carbonate runs from north-north-west to south-south-east for a distance of over three miles. On sinking a few feet on these outcrops the carbonate gives place to sulphide (copper glance), the surrounding rock being mostly mica and other schists. Further to the north, on the same line, outcrops of malachite also occur ; and, on going down, a brittle grey ore is struck containing copper, iron, antimony, and traces of silver—tetrahedrite, I imagine. Beyond this, again, to the north copper pyrites and erubescite occur in large masses on the surface. Malachite, with sulphide (glance) beneath, has also been located on many farms further east towards Kenhart and Upington; and there is no longer room for doubt that this part of the Colony is well worthy the attention of the copper interest. Now that the Cape Treasury is in such low water, there is every probability that any one desirous of developing the mining industry in this part of the world would secure sympathetic treatment by the authorities."

H. M. Chargé d'Affaires at Lisbon, in a shor report on the trade of Portugal for 1906, remarks that, although the value of **copper exports from Portugal** increased last year, the amount was less than in 1905, the figures being 377,000 tons in 1906 and 381,000 tons in 1905. There is a remarkable increase in the amount of **wolfram** exported, *viz.*, from 9 tons in 1905 to 336 tons in 1906. The principal mines now being worked are the Penasqueira, Cabeco do Pinhao, Cabeco do Seixo, in the Castello Branco District; Mont'Alegre, in the Villa Real District ; Serra das Pedras and Villa Nova de Parva, in the Vizeu District ; and Vieira, in the Braga District. The total output in 1906 is given as 570 tons, valued at £45,000. The **export of lead** increased from 27 to 360 tons. The only two mines are those of Bracal with a production of 151 tons, and Barbedalhos, with a production of 360 tons in 1906.

In reporting on the trade of Japan, H. M. Embassy at Tokio writes :—"The natural outlet for Japan's commercial enterprise would be in the direction of China and Korea, and the advantages Japanese traders in the Far East naturally have from proximity, facility of language, mutual understanding and familiarity with their surroundings, of which they are not slow to avail themselves, make it necessary for British traders to use strenuous endeavours to maintain their position and safeguard their interests. In this connection the question of **trade marks** is of considerable importance, the imitation of those of British firms doing much to prejudice British interests, and a definite understanding on the subject with Far Eastern competitors would appear desirable. The suggestion which has been brought forward in reports by H. M. Acting Commercial Attaché that merchants should register their **trade marks in Japan** would, as he points out, prevent the subsequent adoption of such trade marks by Japanese traders ; whereas, if registered only in the United Kingdom by the rightful owners, the registration of such trade marks by others in Japan might lend colour to the assumption that they had acquir-

ed the right to use them for their own purposes. The registration therefore in Japan of British trade marks for use in the Far East is a suggestion deserving of serious consideration by those interested."

Several of the principal **German machinery companies** have just issued their balance-sheets, from which it is evident that the past year has been an exceedingly good one. Thus, the Machine Company, formerly Seck Brothers, Dresden, reports a profit of 816,984 marks, against 448,472 marks last year, and is paying 12 per cent., against 8 per cent.; the United Machine Company, Augsberg-Nürnberg, has a profit of 3,106,584 marks, against 2,413,786 marks last year, and is paying 19¼ per cent., against 17½ per cent.; the Siegen Machine Company, Limited, formerly A. and H. Oechelhäuser, Siegen, has a profit of 246,730 marks, against 94,614 marks last year, and will pay 15 per cent., against 8 per cent.; the Vogtland Machine Company, formerly J. and H. Dietrich, Plauen, reports a profit of 822,696 marks, against 417,082 marks and is paying 20 per cent., against 16 per cent.; the Kapsel Machine Company is paying 24 per cent., the Union Tool Company, formerly Diehl, Chemnitz, is paying 10 per cent., against 8 per cent.; and the German Tool Company, Chemnitz, is paying 6 per cent. In all cases it is stated that prospects for the coming year are good.

The British Commercial Agent in the United States (Mr. E. Seymour Bell) reports that attention has lately been called in both the technical and the daily press of that country to a new process by which **concrete** is said to be made **practically waterproof.** The method of doing this, which appears to be both simple and effective, consists in adding a small amount of ordinary clay to the cement; it is claimed that this not only renders the concrete impervious to water but also strengthens it. Ordinary concrete is porous, and vast sums have been expended from time to time in the endeavour to make it waterproof. Now that reinforced concrete is being so largely used, it is evident, Mr. Bell observes, that any practical method of preventing water reaching the steel rods embedded in the cement would be of the greatest value.

Sir Eldon Gorst and Mr. Llewelyn Smith, who were recently appointed to inquire into the **use and abuse of commercial attaches,** have issued an interesting report. They find that commercial attachés, as a rule, have too much of the routine work of embassies put upon them, and have consequently too little time left for their proper duties. They recommend that they should be relieved of this routine work. They are not, it is said, as a body sufficiently in touch either with home industries or foreign markets. This may account for the fact that British manufacturers seldom think of making use of commercial attachés for obtaining trade information. The Commissioners recommend that attachés should be specially instructed to visit industrial centres and acquaint themselves with the latest facts and figures. They also recommend that, with an exception in favour of Paris, commercial attachés should have their headquarters in London, and thence make expeditious abroad. This suggestion is open to question; a man on the spot is always less likely to be misled than a special commissioner. The final recommendation is to the effect "that the present temporary arrangement for commercial agents be discontinued, and the functions now performed by these agents be assigned to the members of the Consular Service, which must be increased in places where the commercial work necessitates such a course."

Some interesting figures have been issued in relation to the **work of the coal miners in the Nord (France)** whose numbers amounted to 22,044 in the case of underground workers in 1906, as compared with 20,975 in 1905, the corresponding figures for surface workers being 7,929 and 7,728. The following table shows the output per miner, the average wages received by underground workers, and the total labour cost per ton of coal produced :—

Year.	Annual Output per Underground Miner.	Average Annual Wages of Underground Miners.	Underground and Surface Labour cost per ton.
		£ s. d.	s. d.
1887 . . .	306	44 6 4	3 6
1890 . . .	337	55 12 10	3 11½
1895 . . .	308	53 16 0	4 5
1900 . . .	292	65 12 0	5 5
1901 . . .	271	67 1 8	6 0
1902 . . .	255	56 4 0	5 7
1903 . . .	290	59 8 10	5 1
1904 . . .	286	66 12 10	5 2
1905 . . .	295	59 10 5	5 1
1906 . . .	261	58 13 8	5 8½

In a report on the **coal mines of Kyushu,** Mr. W. B. Cunningham, Student Interpreter at H. M. Embassy at Tokio, reports that the total **output of the coal mines of Japan** for the years 1904 and 1905 was 10,723,796 tons and 11,542,041 tons, respectively. The average annual rate of increase in output for the last 10 years has been about 600,000 tons. The value has also increased very considerably in recent years, having risen from £3,291,226 in 1902 to £4,069,722 in 1905. The statistics of the total output for the year 1906 have not yet been issued, but it is estimated that it will exceed 13,000,000 tons. The best Japanese coal is that which is mined in Hokkaido, and the industry in

that part of the country is of the greatest value Although, however, the coal produced in Kyushu is generally of an inferior quality, the importance of the industry in the island may be judged from the fact that, of the 11,542,041 tons produced in Japan during the year 1905, 9,132,221 tons, with a value of £3,023,372, or about 79 per cent., were produced in the Island of Kyushu.

The United States Consul at Cartagena reports that the **platinum industry in Colombia** is attracting considerable attention abroad. Recently a French Company made some heavy purchases of mining properties, and intend shortly to send engineers to make a study of the platinum region. Other capitalists have also recently secured large holdings, which they expect to develop scientifically. It is said that these companies will make an effort to find whether platinum is found in quartz lodes as well as in placer ground, the latter being the only source of the present supply. The platinum of Colombia has been found only on the headwaters of the Atrato river and the Rio San Juan in the State of Cauca and near the Pacific Coast of Colombia. Most of these deposits are also gold-bearing and they have been worked for a good many years, principally for gold.

With reference to the cotton piece-goods trade in Siam, a Bangkok correspondent of the *Manchester Guardian* says that the present outlook is not very bright. "This," he says, "is partly owing to the fact that some of the principal importers and dealers have over-bought during the past two or three years, partly to the competition of Continental-made goods, and partly to the unfavourable trend of exchange. The Government rate at present for the tical is 1*s.* 6*d.*, but how long it will remain so high is rather a mystery. During the past two financial years the Royal Siamese Mint coined about £1,000,000 sterling worth of these and other subsidiary coins, and there are now £1,200,000 of Siamese currency notes in circulation. These latter have been issued by the Government for the past five years, and have proved a general boon. At first they were looked on askance by the more ignorant of the natives, but they are now in demand everywhere."

Notwithstanding a full supply of seed which is greater than anything which the trade has experienced since 1904, **the linseed oil market** remains exceptionally strong, and the demand appears to be greater than it has ever been in the history of the trade. No doubt prices have been assisted by the fact that foreign pressed oil is not reaching the United Kingdom in such quantities as was the case last year, but the difference is not nearly so great as to counterbalance the excess in arrivals of linseed. Hence it is clear that the domestic consumption of oil is greater. A point of great interest to those who desire to estimate the chances of the market during the winter is whether much artificial feeding of cattle will be required between the present time and the early spring months. Whenever there is a sharp and large demand for feeding cake both inseed and cottonseed oils are thrown upon the market somewhat recklessly, and crushing firms are more or less indifferent as to the prices at which they sell. A hard winter could scarcely fail to bring both linseed oil and cottonseed oil below their present rather high prices. The price of linseed oil during the winter of 1904-05, after the large arrivals of seed, dropped to £12 per ton at Hull which is just half the present quotation. The supply of seed is less this year, and the general demand for oil is larger, but it may be doubted whether £24 per ton at the opening of the cold season is a price which can be maintained.

NOTICES.

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, 11th December, 1907:—

Parliamentary Publications.

Agricultural Statistics of Ireland, with detailed report for the year 1906. Foreign Trade and Commerce, Monthly Accounts for October, 1907.

Colonial and Foreign Publications.

Australia—Trade, Shipping, Oversea Migration, and Finance of the Commonwealth of Australia, August, 1907,—Vital Statistics of the Commonwealth of Australia, quarter ended 31st March, 1907. Austria-Hungary—Monthly Accounts of Trade, September, 1907. Canada—Weekly Trade Report, dated 28th October, 1907. Mexico—Boletin de Estadistica Fiscal, 1st half of 1905-06. Netherlands—Annual Account of Trade, 1906, Vol. II. United States—(1) Quarterly Publications of the American Statistical Association, September, 1907; (2) American Root Drugs; (3) Comparative Tolerance of Various Plants for the Salts Common in Alkali Soils; (4) Experiment Station Record, September, 1907; (5) Cultivation of Tobacco in Hawaii; (6) Exports of Farm and Forest Products; (7) Meat Supply and Surplus with consideration of Consumption and Exports; (8) Field Operations of the Bureau of Soils, 1905.

Diplomatic and Consular Reports.

Japan—Trade of the Consular District of Kobe for 1906. China—Foreign Trade of China for 1906

CALLS FOR TENDERS.

Sugar.

The Divisional Contract Officer, Meerut, will receive tenders up to the 20th instant for the supply of sugar during 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., Ld.; 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, DECEMBER 5, 1907.

FREIGHTS AND MARKET VALUES.

A USEFUL investigation regarding the bearing of freights on the market values of various commodities was undertaken last year by Mr. Frank Andrews, Scientific Assistant in Transportation, Division of Foreign Markets, Bureau of Statistics, United States America, and is now published in pamphlet form under the title of *Freight Costs and Market Values*. Starting from the point, so well realised by shippers in India, that goods of high specific value—that is to say, whose value is high in proportion to their weight—are likely to be charged higher freights than goods of relatively low value, he proceeds to show the influence of value and weight upon the cost of carrying the two most important farm products of the United States, namely, cotton and wheat, and further shows, incidentally, that this rule of freight traffic also applies to the cost incurred by farmers in hauling their products from farms to "shipping" points, this term being used in the American sense to designate points where the goods are railed. The first point to decide was the **cost of hauling farm produce on country roads**; and, from the results of the inquiry, it is estimated that it costs an average of 8 annas per 100 lbs. to haul cotton from farms to shipping points, while the cost for wheat is only 4·5 annas. The average distance of cotton farms from local shipping points is 11·8 miles, the average weight of a wagon-load of cotton is 1,702 lbs., and the average cost of hauling the load is Rs. 8-10. The corresponding averages for wheat are 9·4 miles, 3,323 lbs., and Rs. 8-15. From these figures Mr. Andrews contends that it is plain that cotton may be profitably hauled for greater distances and in smaller loads than wheat, since the value of an average load of cotton picked in 1905 was more than Rs. 531-4, while a load of wheat was worth only Rs. 125.

Turning to **railway charges** we find that the average railway rates for cotton from local shipping points to seaports is estimated at Re. 1-4 per 100 lbs., while the corresponding rate for wheat is just about half that rate. As the author points out, this difference in railway charges between these two commodities illustrates the tendency of value to influence transportation charges, and also shows one of the several phases of the principle of railway rate-making which is often described as "charging what the traffic will bear." It is curious to note, also, that even in the matter of **ocean freights** the rules which guide charges by road and rail seem to prevail. The rates quoted for regular lines of steamers for carrying cotton from Galveston, New Orleans, and New York to Liverpool averaged, during the year ending June 30th, 1906, about Re. 1 per 100 lbs., while the corresponding rate for wheat was but one-fourth that sum, or 4 annas per 100 lbs.

The **average freight rates** on cotton to Galveston, New Orleans, Savannah, and New York from local shipping points during the period we have named was Re. 1-4 per 100 lbs., and the mean of the daily closing prices for Upland middling cotton at the four ports mentioned, and during the same period, was 5·5 annas per lb., so that in 1905-06 the value of cotton at the seaboard was twenty times the cost of transporting that product there from the farms, the freight charges plus the cost of hauling in wagons being Re. 1-12 per 100 lbs.

Of course ocean freights vary much more considerably than railway rates, being largely dependent on the number of vessels competing and the cargo space available. The **average ocean rate** for cotton from the principal ports in the United States to Liverpool in 1905-06 was Re. 1 per 100 lbs. The sum of the cost per 100 lbs. of transporting cotton on country roads, railways, and across the Atlantic is estimated at Rs. 2·13, or about 7·5 per cent. of the value of the cotton in Liverpool, where, during the 12 months ending June 30th, 1906, it averaged about 6 annas per lb. The difference in price between the four leading cotton ports and Liverpool was ·55 of an anna per lb. The ocean freight per lb. was 2 pies, leaving 4 pies per lb. for profits, insurance, selling commission and cartage.

Turning again to wheat and the average cost of 4·5 annas per 100 lbs. for haulage from farms to places of local delivery, we find that as the American wheat crop of 1905 was about 622,000,000 bushels the cost of such haulage amounted to Rs. 10,62,50,000 the total value of the crop delivered at these markets being Rs. 145·314 crores at Rs. 2-5·4 per bushel which was the price of American wheat on December 1st, 1905. The total transport charges from farm to primary markets works out at 12·25 annas per 100 lbs., or 7·35 annas per bushel. In 1905-06 ocean freights were above the average, and the mean charge from New York to Liverpool, a distance of 3,100 miles, was 1·9 annas per bushel, or ·8 annas less than it cost a farmer to haul the wheat 9·4 miles from his farm to a neighbouring railway station. The mean price at Liverpool for "No. 2 Red Winter" wheat for five months ending June 30th, 1906, was Rs. 2-14·3 per bushel.

Mr. Andrews concludes his pamphlet by pointing out that in the United Kingdom, where a large part of the wheat consumed is imported, the cost of ocean transport is an important matter. During the calendar year 1905, for instance, the wheat (not including flour) imported into the United Kingdom amounted to 182,000,000 bushels, and the average cost of ocean freight was 4·5 annas per bushel, the total cost of sea carriage being Rs. 5 crores. If shipping companies insisted on the same rates per 100 lbs. for wheat as they do for, say, cotton, the effect would be serious in such countries as the United Kingdom and Germany, who are large importers of that cereal. Large supplies of wheat are carried 10,000 miles from Australia and 15,000 miles from Puget Sound round Cape Horn at an average rate, as we have already said, of 4·5 annas per bushel, or only 1⅛ times the cost of hauling over 9 miles of country roads in the United States. Now, if the average cost of carrying cotton over the 3,000 miles or so that separate England from America were applied to the carriage of wheat over the long distances we have mentioned, the rate per bushel would be 9·5 instead of 4·5 annas, and the margin between England and countries of supply would average 5 annas per bushel more than in 1905. This, however, is a state of affairs not likely to arise in normal times, as, with improved ships and methods of handling, cargo freights are likely to decline.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 14th November, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

BRITISH INDIA.—Free Reimportation of Travellers' Samples.

AUSTRALIAN COMMONWEALTH.—Valuation of Goods for Duty. Decisions.

CAPE OF GOOD HOPE.—Rebate of Duty on Goods removed Overland to German South-West Africa.

NATAL.—Charges for Disinfecting Second-hand Clothing Imported.

EGYPT.—Revised Valuation Tariff for Provisions

RUSSIA—Russian Customs Regulations and Fines.

NETHERLANDS.—Import Duty on Calcium Saccharate.

FRANCE.—Duty Free Imports of Olive Oil from Tunis.

FRANCE-HAITI.—Ratification of the Commercial Convention between the above Countries.

SWITZERLAND.—Declaration of the value of certain Goods for Statistical purposes.

PORTUGAL-LORENCO MARQUES.—Duty on Alcohol for Pharmaceutical Purposes.

GREECE.—Customs Treatment of Samples.

UNITED STATES OF AMERICA.—Customs Decisions.

—The **chemical trade** continues to be active, but the view of the future is beginning to be less confident. Messrs. S. W. Royse and Company in their monthly trade review issued on October 25th say that the extraordinary collapse in the higher priced metals, the financial panic in America, and the threatened railway dispute at home are unsettling the market, and although the volume of trade has not so far been much affected there is a growing reluctance to buy for distant delivery. Amongst the products of special interest to the cotton industry, the heavy alkalies are moving well. Bleaching powder is steady, caustic soda is selling steadily at the advanced prices, and ammonia alkali is firm. China clay of all qualities is in demand, and there is a good inquiry for next year's delivery. Farina has advanced from 10*s.* to 15*s.* per ton during October and American and Scotch maize starches 5*s.* per ton. The position of tar products appears to be on the whole rather stronger than that of general chemicals.

CHAMBERS OF COMMERCE.

KARACHI.

An informal meeting of the Managing Committee of the Karachi Chamber of Commerce was held on November 20th, 1907, to meet and discuss **railway matters** with Mr. W. H. Wood, Member of the Railway Board.

On behalf of the Committee and Members of the Chamber, the Chairman cordially welcomed Mr. Wood whose visit to Karachi was warmly appreciated by the mercantile community. The Chairman explained that Karachi was growing, its trade steadily expanding, and it was a matter of satisfaction to the Chamber to have an opportunity of discussing the position personally with a Member of the Railway Board. The problems facing them were of two classes—the provision of adequate trade facilities (booking and terminal stations, etc.) and the extraction from Government of the funds necessary for the creation of these facilities. The subjects particularly dealt with were :—(1) the necessity for an improved and enlarged Bunder Head Station at Karachi; (2) the necessity for enlarging and multiplying trade conveniences at Karachi City Station ; (3 the necessity for more plinths or platforms at the chief North Western Railway Stations in the Chenab and Jhelum Colonies ; (4) the necessity for more platform accommodation at many of the North Western Railway Stations in the Punjab ; (5) the desirability of extending the metre-gauge system of Rajputana, etc., from Hyderabad to Karachi ; (6) the control of the Rajputana-Malwa State Railway system ; and (7) the control of the Bombay Sind Connection Railway when completed.

The above subjects were dealt with in detail informally one by one. The upshot of the discussion was as under, the replies being those of Mr. Wood. (1) The necessity is admitted ; the matter is under consideration ; but before the North Western Railway authorities can move the Karachi Port Trust must build their new Import Yard (so as to enable the North Western Railway to acquire the present "Mansfield" Import Yard), and also provide the new overbridge. (2) The necessity is recognised ; the North Western Railway have the matter under consideration. (3) The matter is being considered. It is understood that the wheat exporters of Karachi would not object to making some contribution in the form of rent for plinths or platforms at certain stations in the Chenab and Jhelum Colonies. (4 It is a question whether the Karachi Port Trust is not the key to the solution of this difficulty, the more traffic Karachi can receive, the less likelihood there is of congestion on up-country platforms. (5) Noted. The Report of the Committee which considered the question of the metre-gauge entering Calcutta was against the extension of the metre-gauge to the port. (6) and (7) Noted. Karachi's interests shall receive every consideration.

In conclusion Mr. Wood desired to impress upon the Chamber that the requirements and aspirations of Karachi had the sympathy of the Railway Board who would be pleased to do all that was reasonably possible in providing the facilities required.

The Chairman on behalf of the Chamber thanked Mr. Wood for the time and attention he had given to Karachi affairs :—

BOMBAY MILLOWNERS' ASSOCIATION.

The following extracts are taken from the proceedings of the Committee of the Bombay Millowners' Association during the month of October, 1907.

Read letter from the Officiating Director of Agriculture, Punjab, asking the Association to send him a series of samples of the **varieties of Indian cotton** usually milled in Bombay, classified and valued commercially according to the qualities of their list.

Resolution.—Mr. C. N. Wadia's kind offer to supply the samples be accepted.

Read letter from the Executive Engineer, Bilaspur, asking to be supplied with information as to the **cost per h.-p.** per annum in the various Mills in Bombay using **different quality coal,** both Indian and imported, and also as to what is considered the average cost per annum per h.-p. working 10 or 12 hours per day as the case may be in a well-conducted Mill, stating whether it includes or excludes establishment charges.

Resolution.—The writer to be informed that the information he requires is not available. He may, however, be informed that the cost of Indian coal per B.H.P. per *annum* (of 300 days of 12 hours each) is about Rs. 80 ; and 1·70 lbs. of Indian coal per hour per indicated horse-power is the average used in an economically worked steam engine.

Read letter from the Bombay Government acknowledging receipt of the Association's letter regarding the proposed representation of the Association in the forthcoming enlarged Legislative Council of Bombay.

Resolution.—To be recorded.

Read letter from the Bombay Government informing the Association that although Government, as at present advised, do not think it necessary to frame a rule for the purpose of giving the Boiler Department discretionary power to order scum-cocks, oil-filters or feed-water purifying apparatus to be provided in the case of any boiler coming under the Act, they are of opinion that the adoption of these or similar precautions for securing **boilers against** the risks incidental to the use of **impure water** is reasonable, and Engineers in charge of boilers will obviously incur responsibility under Section 24 of the Act, in the event of an accident occurring, the cause of which can be traced to the admission of foul water, if he is unable to show good cause for not having previously adopted such precautionary measures.

Resolution.—A copy of the letter to be sent to members for information with the request that it be explained to Boiler Engineers for their future guidance. Government to be informed of the action taken.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 23rd NOVEMBER, 1907.

Burma.—The rainfall of the week was confined to light showers in the Irrawaddy Delta and in the north-eastern part of the Province. The monsoon rains have been ample in Lower Burma but in the central or dry zone of Upper Burma there has been a decided deficiency. Reaping of the early portion of the main rice crop in Lower Burma is progressing satisfactorily. The standing rice crop of the Lower Province is in good condition and promises well. In Upper Burma the crops, especially those on high land, have suffered from the shortage of rainfall. In Shwebo, Sagaing and Lower Chindwin standing grain crops will be more or less a failure. Scarcity is feared in Lower Chindwin ; but cotton and ground nut crops are being gathered and conditions do not as yet warrant the opening of test works. The price of paddy has fallen in several districts owing to the reaping of the early rice crop. Prices are high throughout the Province owing to high exports.

Eastern Bengal and Assam.—There has been no rain in any part of the Province. The harvesting of winter rice has commenced and prospects are generally fair. The outturn from low lands is expected to be better than was previously estimated ; but the prospects of crops on higher lands are poor. The absence of rain is impeding the growth of spring crops ; rain is also required for tea. Mosquito blight has become severe in Cachar. Prices of common rice have fallen in seven ; and have risen in only four districts. Imports appear to be decreasing in anticipation of the winter harvest. At present there is no reason to anticipate a serious scarcity in any part of the Province.

Bengal.—No rain fell during the past week, and consequently there has been no improvement in the general prospects of the harvests which are gathered at this time of the year. Winter rice is being cut in several districts, but a poor outturn is anticipated. Prospects of spring crops are also unfavourable. Want of rain has retarded sowings and has interfered with the normal growth of the crops. The fluctuation in prices of staple food-grains do not call for special remark. Stocks of food-stuffs appear to be now sufficient. It is reported from parts of Bankura, Nadia, Murshidabad, Jessore, Gaya, Cuttack, Balasore, Puri and Manbhum that in view of abnormal weather conditions there may be scarcity after the next harvest. The fodder and water supply are generally reported to be sufficient. The price of common rice has risen in five districts ; has fallen in six, and is stationary in seventeen.

United Provinces.—No rain has fallen and the situation has altered little. Prices exceed scarcity rates and are rising in a number of districts. Importation of grain from the Punjab and Burma continues ; and markets are sufficiently stocked. There is sufficient employment for labourers at fair wages. Late autumn crops are still being harvested. Sugarcane is being pressed and cotton picked. Drought has injured both sugarcane and *arhar*. Spring sowings continue with the aid of irrigation ; and germination has been generally good. Poppy sowings and preparation of fields for poppy continue ; some early poppy sowings have failed in Etah. Earthen wells are being dug in some districts. Cattle are beginning to suffer. Fodder in many districts is dear and scarce but there is little demand as yet for hay from Government forests. The general condition of the people is on the whole satisfactory and there are few signs of distress. There is no increase of crime nor aimless wandering of people. There are 140 inmates in the poor houses at Hardoi and Bahraich. The numbers on test works in Bahraich are 1,596 ; Mirzapur 795 ; Banda 1,425 ; and Allahabad 936. A test work will be opened at Gonda on 1st December, 1907.

Punjab.—Rainfall *nil*. There are very little fluctuations in prices as compared with the previous week. Wheat is selling at or about scarcity rates ; in all districts except Mianwali and Multan where prices are between scarcity and warning rates ; prices of other staples are similarly high. Picking of cotton, pressing of sugarcane and harvesting of other autumn crops continue. Sowings of spring crops are in progress on irrigated areas ; unirrigated areas in Ambala are also being sown in hopes of rain. Prospectus of standing crops are average to bad. The outturn of autumn crops is generally below average on irrigated areas ; and poor on unirrigated areas. Rats continue damaging crops in Lahore, Shahpur and Jhang ; grass-hoppers have injured young crops in Sialkot. Cattle are suffering from over work and want of sufficient fodder in Jullundur, Sialkot and Gujranwala ; their condition is good in other districts. Fodder is scarce in Delhi, Amritsar, Sialkot, Gujranwala, Jhang and Multan ; and in parts of Gurgaon, Lahore and Shahpur. The available supply of fodder is also decreasing in Rohtak, Ambala and Jullundur. The canal has been closed in Delhi and water is urgently needed for canal irrigated areas. The supply of water is also decreasing in Ambala.

North-West Frontier Province.—Rainfall *nil*. Rain is badly wanted throughout the Province. The condition of the standing crops on irrigated areas is fair but on unirrigated lands it is generally poor. In Dera Ismail Khan standing crops are reported to be bad. Harvesting of autumn crops and sugarcane continues ; the outturn is fair in Banda. Sowing of spring crops is in progress on irrigated areas but still greatly retarded on unirrigated lands for want of moisture. Some considerable contraction in the area sown is anticipated unless rain falls within the next month. Irrigation from the Paharpur canal continues. The water supply in canals is sufficient. Fodder is sufficient except in Dera Ismail Khan. Cattle are suffering in parts of Dera Ismail Khan owing to the scarcity of fodder. Prices :—wheat $10\frac{1}{16}$ to $13\frac{1}{8}$; gram $12\frac{7}{8}$ to 18 ; maize $16\frac{1}{16}$ to 26 ; and bajra 15 to 18 seers per rupee.

Jammu.—No rain fell during the week. Prices are fluctuating. Prices—wheat from 9 to 17 and maize from 13 to 25 seers per rupee. The condition of the standing crops is bad for want of rain. Fodder is insufficient in Ranbirsinghpura, Udhampur, Kathua, Bhimber, Akhnur, Basohli, Jammu and the Kadi circle of the Sambha Tehsil. Harvesting of autumn crops is generally over and land is being prepared for spring crops.

Kashmir.—The weather is bright. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.

CROP PROSPECTS.

(By Telegram.)

Shillong, December 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 rain in Dacca, Faridpur, Rajshahi, Sylhet and the Khasi Hills.

The harvesting of **winter rice** is going on; prospects are poor on high land, but are generally fair on low land.

Prospects of **other standing crops** are also reported to be fair.

Outbreaks of **cattle disease** are reported from four districts. The prices of **common rice** have fallen in seven and risen in eleven districts.

No scarcity is apprehended at present.

—The Acting British Consul at **Bangkok** (Mr. J. Crosby) calls attention in his recent report to the item of 52 tons of **rubber**, valued at £12,214, exported from Bangkok in 1906. He adds, however, that the bulk of this consignment, though shipped from Siam, arrived from the neighbourhood of Luang Prabang in French Laos territory. Mr. Crosby states that the soil of the greater portion of Siam appears well adapted for the cultivation of rubber. Planting operations on a business scale, however, are at present confined to certain districts in the Malay Peninsula.

—A supplement to the *Brazilian Review* of 15th October contains extracts from the message of the Governor of the State of **Para** to the Legislative Assembly, in which the following figures were given:—The **rubber production** of the State in the season 1906-07 amounted to 11,467 tons, valued at £3,392,000, as compared with 11,882 tons, valued at £3,623,440 in 1905-06. The total rubber crop of Brazil in 1906-07 amounted to 37,835,000 kilos. (kilo. = 2·06 lbs.) comprising 31,542,972 kilos. rubber and 6,292,028 kilos. caucho. Of the total crop, 37,666,777 kilos. were exported to New York, Liverpool, Hamburg, Havre and Antwerp, *viz.*:—18,680,383 kilos. fine, 3,621,387 kilos. medium, 9,084,352 kilos. Sernamby, and 6,280,695 kilos. caucho. The quantity of stock on 3th June last was 168,000 kilos.

THE THREATENED SCARCITY.

Detailed Reports.

THE following is a copy of a telegram, dated 2nd instant, from the Viceroy to the Secretary of State regarding crop prospects:—

Good rain has fallen in Madras; light rain in Burma and Bombay, but more rain is wanted almost everywhere for spring crops.

Detailed reports on the situation have been received this week from the Local Governments. These show that **severe distress** is probable in about half of the **United Provinces**, and measures for coping with it are being taken promptly and liberally.

There will be **considerable shortage** of crops over large area in **Bengal** but severe distress will be confined to few districts.

In Bombay there will be **some distress in Gujarat and Deccan** and relief measures may be required later on in some of the **Rajputana** and **Central India States.**

In the **Punjab serious distress** will, it is hoped, be confined to few districts in Delhi Division, though the whole province has been adversely affected by drought.

Scarcity is feared in parts of **Upper Burma**, but it is reported that no test works are required at present.

It is hoped that in the **Central Provinces**, if the winter rainfall is favourable, **direct relief** may be required only in a limited area.

Elsewhere there is no present apprehension of serious scarcity.

Loans, suspensions and remissions are being freely given where necessary.

Some **4,800 people** are employed on **test works** in four districts of **United Provinces**, but few signs of distress have yet appeared. Test works have also been opened in Gwalior.

Prices continue high.

—The Acting Commercial Attaché to H. M. Legation at Pekin (Sir Alexander Hosie), reporting on **Chinese exports in 1906**, states that **wood oil** has come into great prominence in recent years as a varnish and paint oil, and has created a considerable amount of interest in America, Europe and other parts of the world. The tree from whose fruit it is expressed is a native of the Yangtsze and West River Valleys. H. M. Consul-General at Hankow reports the total export of wood oil from that port as 563,706 cwt. and he places the **value** (c. i. f.) in Europe or America at **£35 per ton**; while H. M. Consul at Wuchow reports that 48,329 cwt. passed through the Imperial Maritime Customs destined for foreign countries—in other words, Hongkong. Complaint is still made of the adulteration of this oil with bean and other oils, a practice whose continuance will inevitably check the development of an industry capable of great expansion.

AUSTRALIAN WOOL SALES.

WE learn from advices from Australia which reached Calcutta this week that during the week ending the 12th ultimo 32,523 bales of wool were offered, and 30,796 bales sold, in the Melbourne and Geelong markets. Among the leading sales effected at the **Melbourne** sales on the 12th November were:—Carr's Plains, merino to 16¼*d.*, Ennerdale to 15¾*d.*, Mount Koroite and Norton over Mandeville to 15½*d.*, Byrngolo crossbred and Bunker Hill comeback to 15*d.*, Thornfield comeback to 14¾*d.* For scoured merino, Jandra sold up to 24½*d.*

The following table shows the Australasian wool exports from 1st July to 31st October, 1907, compared with the corresponding period of last year:—

State.	1907.	1906.	Increase.
Victoria . . .	82,847	44,586	38,261
N. S. Wales . . .	230,318	147,380	82,938
Queensland . . .	66,838	44,991	21,847
S. Australia . . .	55,576	34,493	21,083
W. Australia . . .	16,545	9,462	7,083
Total Australia . .	452,124	280,912	171,212
New Zealand . .	28,296	26,910	1,386
Total Australasia . .	480,420	307,822	172,598

At the **Sydney** wool sales on the 12th, 8,638 bales were catalogued, and 7,885 were sold. The market all round might be quoted at fully 5 per cent. lower than the level of a fortnight ago, the decline in burry and inferior sorts being at times equal to 7½ per cent. Top prices were:—Greasy, 14½*d.*; scoured, 22¼*d.*

About 33,000 bales of wool were offered at the fourth sale of the series at **Adelaide**, which began on the 11th ultimo. The offerings constituted a record. Buying was commenced early in the morning, and continued till late at night. There was a good attendance, and some fine prices were paid. This was particularly the case when light-conditioned wools, suitable for America, were offered. The highest price of the day was 15½*d.* for eight bales of fleece from Corrytonpark, and 13*d.* and 14*d.* were fairly common prices. In this respect the market was unaltered from the previous series. Wools worth from 9*d.* to 11*d.* may be quoted from par to a halfpenny lower. Shabby wools were even lower, but, in view of the large proportion of the offerings which brought excellent rates, the sales must be regarded as satisfactory. A fair quantity of wool was withdrawn.

At the third **Geelong** sales on the 7th ultimo the selection showed a decided improvement on former offerings. Competition was brisk, and the market was firm, at the previous week's rates, for the great bulk of wools. Compared with last season, superior merinoes sold about ½lb. to 1*d.* higher than last season. Lincoln and coarse crossbreds, however, were about ¾*d.* to 1*d.* below last season's rates. Among the leading sales effected were Mount Hesse merino up to 18*d.*, Boortkoi to 17½*d.*, Lakefield cbk to 15¾*d.*, and Enfield to 15¼*d.*

FLANNELETTE AND ITS DANGERS.

An Expert's Report.

MR. WILLIAM THOMSON, of the Manchester Royal Institution Laboratory, has, at the request of the Manchester and Salford Sanitary Association, made a series of experiments with various kinds of flannelette (which is now worn by nearly everybody in moderate circumstances) with a view to determine the relative danger attending its use, especially for the clothing of children. In his report he says:—"The difference between ordinary calico or cloth and flannelette is that the latter has a nap which is produced upon it by 'raising' one or both surfaces by passing it over revolving rollers provided with steel dents or teeth, which raise upon the surface a nap which forms a better non-conducting material for heat than the original cloth, and therefore gives a greater feeling of warmth to the person using it than the unraised fabric. The common belief seems to be that this raised surface constitutes a special danger from fire." He obtained a number of samples, both of Home and Continental manufacture, and experimented on them in several ways. "With a view," he says, "of studying what happens when the clothing of a child takes fire, I made up a dummy form of a child, put over it a night dress 25 inches long, and a flame was brought into contact with the dress near the feet. It is important to observe that it was necessary to keep the flame in contact with the dress near the feet. It is important to observe that it was necessary to keep the flame in contact with the dress for quite a considerable time before it ignited—say from three to five seconds. The flame of a Bunsen burner 5 inches long could be passed leisurely over the fabric without igniting it. When, however, the fabric became ignited, the flame would reach the face of the child within three seconds in the case of the lowest class of flannelette, and in four seconds in the case of good calico. I calculated that it would be possible to save the life of the child if the flame were extinguished within three seconds of the ignition taking place, and that the child would probably be fatally burned if seven seconds elapsed between the ignition and the extinguishing of the flame.

"The conclusions at which I have arrived are it would be advisable for children's dresses to be m of woollen or a mixture of woollen and cotton o flannelette which has been treated to render it n inflammable; but, in my opinion, there is no r danger in clothing children in flannelette that the cloth previous to its being 'raised' or conve into flannelette.

"I was struck by the fact that none of the dealers whom I visited had in their shops flannelette which had been rendered non-inflammable, and I was told that very few of the custo regarded ordinary flannelette as dangerous."

BLEACHING OF FLOUR.

Upheld by Chemists.

"BLEACHING of Flour as now Practised by Millers," by Dr. J. A. Wesener and Prof. G. S. Teller, of the Columbus Laboratories, Chicago, Ill., was the subject of a paper read before the New York section of the Society of Chemical Industry at the first meeting of this year's session, held at the Chemists' Club on October 26th. The authors say in part:—

Of late several articles have appeared against the bleaching of flour as now practised by millers. Bulletin No. 72, issued by the Experiment Station at North Dakota, written by E. F. Ladd and R. E. Stallings, and a paper read by Prof. Ladd before the convention of food commissioners at Jamestown, have taken a very positive stand against the art of bleaching and have denounced such practice as unessential, undesirable, dangerous and a fraud. The authors take radical grounds in regard to the bleaching of flour.

In the interest of truth and fair dealing, it is the purpose of this article to show that the bleaching of flour does not leave in it any harmful chemical residuum and that no fraud is practised by bleaching, but that the bleaching process is a desirable adjunct to the manufacture of flour and improves the flour itself.

Does the Process of Bleaching Flour Injure its Quality?

Our earliest conclusions as to the effect of bleaching upon flour were that the only essential influence which the gases used in bleaching exert upon the flour is to change the character of the yellow colour which is characteristic of all fresh milled flours. This process of bleaching flour is well known to the miller and has been used by him for a great many years to improve the quality of his flour and is commonly called by him aging. During this process of aging, the flour is allowed to come in contact with the air, whereby the yellow colour is changed in a manner similar to what is now done more quickly by the exaggerated processes known as the bleaching process. Bakers have also taken advantage of thorough mixing of the dough by which they work into it large quantities of air, and thus alter the colour of the flour in a similar manner.

The most exhaustive analysis made of bleached flour fails to show even the slightest change of any kind in the proximate principles such as the gluten, soluble and insoluble proteids, starch, etc. The small trace of nitrites found cannot be considered as a chemical residual, because we know that flour which has been stored for a long time often contains nitrous anhydride. Furthermore, the infinitesimal trace of nitrites found here certainly from a chemical standpoint is hardly considered as being an entity even in pure chemical reagents. We have repeatedly baked large numbers of bleached and unbleached flours side by side and have been unable to recognize in them any essential difference except in some instances that difference which is due to the drying out of the flour to a slight extent by the passage of the air through the flour during the bleaching process.

We have never found any indication that any residual substance or any change in the flour produced by the bleaching process had any influence whatever upon the growth of the yeast cell, which is influenced materially by the presence of the slightest antiseptic material. The yeast cell is one of the most sensitive forms of life which we have and comes in contact with the flour before any change such as we find takes place during the baking of bread has been brought about. We have never been able to obtain an expression of opinion from a baker that he was able to detect the slightest difference in flours that had been bleached and those that were unbleached, and before the Bakers Convention in New York invited bakers to give their opinion for or against the use of bleached flours, and were unable to obtain the slightest criticism of them. From these observations and investigations we naturally must arrive at the conclusion that bleaching of flour does not injure the quality of same.

Advantages of Bleached Flour.

The colour of bread produced from flour is an important point in the minds of a great many consumers of this article. The people from one end of the country to the other demand white bread. The leading objection to flour of medium grades, such as second patents and straights, is the darker colour which they have. In many instances they can, by the bleaching process, be made quite as presentable to the consumer as unbleached flours of a higher grade. From the stand-point of food value they would always be preferred to the higher grade flours, for they contain more of the nitrogenous matter and more of the ash material, for the presence of which whole wheat flours are so highly lauded. The milling process is essentially a process of gradual reduction by which the flour material of the wheat berry is separated from the bran and other material which is sold for feed. In this process the more starchy material which is of comparatively low food value is separated out first and if put by itself constitutes a high patent flour. The other streams of flour are more or less intermingled with bran particles. By purifying, the bran is removed. The purified material is then suitable for patent flour. The outer portion of the flour material in the wheat berry is darker than the inner portion, for which reason it is objectionable to the consumer of the bread. By judicious bleaching and by perfect purification the miller can include into his patent flour of less food value a considerable portion of the same flour material, but of a higher food value than that of which the earlier separations are composed. The inferior grades of flour like second clears and low grades cannot be successfully bleached, and if they are bleached their defects are brought out more clearly by the fact that the yellow colour which formerly disguised the impurities has been removed.

Value to the Milling Industry.

From the standpoint of the commercial baker and the consumer of bread, bleached straight grades and second patents are preferable to the higher patents, because they will in many instances make a larger loaf of bread and more loaves to the barrel of flour and also have a greater food value. Such flours sell for less in the market, because of their deeper colour, in spite of the fact that they have a higher food value, and not because they are in any manner less economical for the baker to use or in any way inferior as an article of food. Such advancement in the milling industry cannot be considered as substituting an inferior article for a superior one, but as a matter of fact, it is substituting a superior article for an inferior one. This superiority has been most emphatically brought out and demonstrated by many bulletins issued by the United States Agricultural Department and the various experiment stations on the food and feed value of different food and feed stuffs treated from an economic standpoint.

It is characteristic of certain wheats that they have a very strong colour, which has made their flour decidedly objectionable to the trade. Such flours are some of the Kansas, Oklahoma and other hard winter wheat flours; also, the durum wheat flours, which latter wheat has been found specially adapted to certain sections of the West and Northwest that are unsuited to the growth of the ordinary spring varieties of wheat. By the proper bleaching of these flours the market value of the wheat from which they are produced may be greatly increased, thus benefiting the farmer in the sections in which they are grown and materially extending the wheat producing area of the country. The greatest objection which has been urged against the use of durum wheat flours in the making of bread is their strong yellow colour, and yet Prof. Ladd cries fraud because a method has been found by which this yellow colour may be removed and the material used in connection with other flours of equal food value for bread making purposes.

Conclusions.

In summing up our conclusions from the foregoing, we would give in answer to the question. "Is there left in the flour, after bleaching, a residual product harmful to health?" the reply that when looked at in the light or ordinary standards of comparison we find absolutely none. The material, which the Food Commissioner of North Dakota complains, has been found in bleached flours is present in food products made therefrom in less quantities than it is normally present in numerous other articles of food, in parts of the human body and possibly in parts of every living organism. The amount thus found is so infinitesimally small that if chemical reagent of the same delicacy were applied to the examination of food stuff of whatever kind for detecting the presence of several mineral substances of a more poisonous nature than nitrous anhydride, the results would be such that with equal fairness to all it would be necessary to exclude from use every substance which is now being used or ever has been used as an article of food for man. The fact that the yeast sale and the natural bacteria in the flour at proper temperatures, such as is used in bread-making, either for the sponge or the straight dough, removes all of the nitrites during the fermentation of the dough, is conclusive proof that any nitrites which may have been in the flour are (under normal conditions of bread-making) removed before the final baking process is commended.

The bleaching of flour does not perpetrate a fraud upon the purchaser, for it does not permit the substituting of an inferior article for a superior one. On the other hand, it does make more suitable for use articles of a superior value, which are in a measure otherwise objectionable because of a lack of that finishing step in the process of manufacture which it is the purpose of the bleaching process to bring about. The opinion which we have given in this article is corroborated by such eminent experts as Prof. Harry Snyder, of the Minnesota Experiment Station; Prof. Avery of the University of Nebraska, and Prof. Keiser, of the Washington University, St. Louis, Mo.

—The **Japanese calico-printing industry** forms the subject of a recent report by Mr. Hunter Sharp, the United States Consul at Kobe. He says that calico printing by machinery in Japan is a comparatively new industry, the first modern works having been established about twelve years ago. A few years later another company was formed, with a capital of £50,000 and factories for spinning and weaving as well as printing. In 1901 another company was formed whose capital has been increased from time to time until it reached £180,000 at the beginning of this year. These are now the largest and best works in Japan. This company has paid for the past three years a dividend of 30 per cent. per annum, the balance of profits being carried forward for improvements and future extensions. Early this year it was decided to erect an extension for the accommodation of twelve new calico-printing machines, the whole to be conducted under the same management and with a combined capital of £500,000. All other printing works within the consular district, and, the Consul believes, in all Japan, are working with less than £50,000 capital. The total number of calico-printing machines in Japan will probably not exceed 24, and half of these are said to be of Japanese construction. They are mostly engaged on the printing of flannelettes, with an annual output of from one and a half million to two million pieces, each of 30 yards. About one-tenth of this quantity is exported to China, the remainder being taken by home consumers. The value of the total exports of all kinds of cotton prints amounts to no more than £150,000 per annum.

NYASALAND AND ITS TRADE.

A YEAR'S RECORD.

WE take the following extracts from the report on the British Central Africa (Nyasaland Protectorate) for the year 1906-07, compiled by Commissioner F. B. Pearce :—

The general external trade of the Protectorate, not including goods in transit to and from surrounding territories, amounted, in value, to £293,182, which exceeds the previous year's total by £13,823.

Customs revenue amounted to £26,916 3*s.* 3*d.*, which exceeds the revenue of the previous year by £1,972 15*s.* 0*d.*, and of the year 1904-05 by £6,998. A sum of £418 12*s.* 9*d.*, which is not classed as customs revenue, was also collected by the department, so that the gross receipt amounted to £27,334 16*s.*0*d.* The estimated revenue was £22,360.

Imports and Exports.

The revenue-yielding imports show an increase of £14,773 and the total imports for home consumption a net increase of £20,354. The principal increase is in soft goods, *i. e.*, calico, printed cottons, etc., for native trade, which is £32,250. There is a decrease in the import of provisions, hardware and "free goods," the latter principally consisting of railway material.

Under exports there is a decrease of 511,981 lbs. in weight and £6,531 in value, chiefly in coffee and cotton. There is an increase of 214,321 lbs. in the quantity of tobacco exported. The partial failure of the cotton crop in the Shire Valley accounts in a great measure for the decrease in that product, the quantity exported from one plantation falling from 109 tons in 1905-06 to 60 bales of 400 lbs. each in 1906-07. The low prices now ruling in the European markets have caused the cultivation of coffee to be neglected, and the output has been declining some years. The supply of the wild rubber has also been falling off, and cultivated rubber has not yet been put upon the market, except in small quantities. The quantity of cultivated rubber exported during the year was 972 lbs. Ground-nuts and oil-seeds are not specially cultivated for export, and the trade in these articles is in the hands of Indians, as is also the trade in beeswax.

There is a decrease of £10,949 in the value on imported goods passing through the Protectorate in transit to surrounding territories. Since the opening up of alternative routes into German Nyasaland, the Congo Free State, and North-Eastern Rhodesia, the transit trade through the Protectorate had been variable. The diversion of this trade into other channels has been accelerated by the difficulty experienced in navigating the Shire river during the greater part of each year, since 1903, and consequent delays. The bulk of the trade now consists of goods sent by firms, who have their headquarters in the Protectorate, to trading branches in the surrounding countries, chiefly Rhodesia.

The transit exports trade is chiefly in rubber and ivory, of which the supply is rapidly becoming exhausted and is very irregular. In the total trade there is an increase of £13,707. Gold dust value £17,310 and weighing 4,317 ounces, from the Congo Free State, is included in the total.

Trade Prospects.

Large stocks of Manchester soft goods are at present in the country, and it is possible that the import of these goods may show a decrease. The native trade has declined to some extent owing to a large number of natives employed on railway construction last year being now without work or employed on plantations or other less remunerative labour. The prospects as regards exports are more hopeful ; the cotton, coffee, and tobacco crops show signs of improvement, while some attention is given to fibres. An extensive trade can be done in ground-nuts, beans, and maize, when cheaper communication with the coast is provided.

The vague and geographically incorrect name of this country still tends to cause mistakes ; and, as pointed out in a petition from the local Chamber of Commerce during the past year, it also tends to adversely affect business transactions, owing to the confusion which evidently exists regarding the exact identity of this country.

The difficulty and uncertainty with which produce is exported during the greater portion of the year from the protectorate seriously handicaps all enterprise and prohibits the exploitation amongst the planting community of products which might with lower freights prove commercially profitable : for instance the cost of transport of coffee from an estate to Blantyre and from Blantyre to London, including all incidental expenses such as cost of bags, packing, insurance, wharfage, commissions, home charges, hulling and so on, is about £15 per ton. Tobacco costing ginning and baling) about £18 per ton, and the easiest obtainable product would cost from £9 to £12 per ton. Taking an average of £1 per ton from plantation to Blantyre, £1 to railhead, £2 10*s.* 0*d.* to Chinde and £2 10*s.* 0*d.* to London, we have a fixed charge of £7 per ton to which has to be added cost of packing and all other charges so that £9 per ton would be an absolute minimum and £12 would be a very low average. Therefore the cultivation of any product, the selling value of which is below £12, is practically impossible.

Transport Difficulties.

Now the ratio between the transport and marketing charges of any product can be easily seen. For example, ground-nuts sell at about £12, and therefore cannot be exported except from the lower river districts ; fibres running from £16 to £20 could not pay as the transport and selling expenses would leave no margin for cultivation. Low priced tobacco would not pay as the cost of packing runs dearer and therefore the expenses for freight, etc., would cost more than 50 per cent. of the value of the product. For example, a tobacco selling at 4*d.* in London, stripped or without the midrib, would pay two pence in freight and charges, leaving 2*d.* per lb. for the grower, and as the stripped leaf is not much more than half the weight of the whole leaf it means the grower would get about 1¼*d.* per lb. Cotton at low prices would not pay for cultivation ; and coffee at present prices can hardly be calld a paying product. What is required more especially in a new country is a low freight to enable development work to be continued without undue loss. While coffee would be carried from Bombay to London at from 20*s.* to 30*s.* per ton, Nyasaland planters have to pay from 40*s.* to 50*s.* It may be said in general that any product whose selling value is 30*s.* per cwt. has to pay about half its value in transport and other charges, leaving only half the value for the producer to pay costs of cultivation, salaries, interest on capital, machinery, etc., so that it is abundantly evident what a serious bearing the present high freight rates have on the prosperity of the country and how urgently the want of railway communication to the coast is felt by the community.

Bonded Stores.

Nine privately-owned bonded stores have been established, *viz.*, three in Chiromo, five in Blantyre and one in Fort Johnston. Bonds, amounting in the aggregate to £5,200, have been deposited with the Customs as security for the duties, and other charges, due on goods deposited in such stores, and also as security for the duties due on goods passing through the Protectorate in transit, which formerly had to be deposited, and were retained by the Customs until the goods had left the country. Three transit sheds have been built by Government at Port Herald and are rented by the shipping companies, and an iron landing shed, the use of which is free, has been constructed on the wharf at Chiromo. A King's warehouse has also been built at Port Herald.

Tea.

Although tea thrives exceedingly well in the Mlanje District, no attempts have been made to cultivate it in other districts ; yet many have soils and a climate well suited for this product. The acreage at Mlange is increased. The preparation of the crop is not expensive ; the chief reason why it is neglected appears to be the necessity of expending capital, upon which no return is obtained for five or six years.

Fibres.

Planters are beginning to recognise that the cultivation of fibres, other than cotton, is a sound investment, and many are planting up both Sisal and Mauritius hemps as rapidly as possible, but the cultivation of this and similar products must be to a great extent dependent on whether cheaper means of transporting and shipping the produce will be available in the future. Although 27,250 young plants of these fibres were distributed by the Forestry and Botanical Department, thrice that number would have been eagerly taken up, had there been further supplies for distribution. Ramie fibre is only grown experimentally on a few estates at present, and the prospects of this excellent fibre in this protectorate are not good. In countries where the rainfall is better distributed throughout the year, four, or even five, crops are obtained in one season ; whereas it is doubtful whether more than one crop would be obtained in this country, unless irrigation can be maintained. Growers of this fibre would therefore meet those of other countries at a great disadvantage in the markets, whereas by cultivating Sisal and Mauritius hemps they will meet other producers on practically equal terms.

Rubber.

The possibilities of Ceara rubber are generally recognised, and many estates are planting up on a larger scale, as several samples sent home for examination and valuation have been favourably reported upon. Para rubber (*Hevea brasiliensis*), and Central American (*Castilloa elastica*) were imported from Ceylon, and planted on an estate in the lake district just over a year ago. The condition of the young plants after a few months' planting was so encouraging, that a further and much larger consignment of both species has since been obtained by the firm from the same source. Enquiries are frequently made concerning the cultivation of the native Landolphia rubbers, but no encouragement is given to intending planters, as the plants take a very long time to reach maturity, need the presence of other trees or else poles for support, and after one tapping need a rest for many years ere they can be again profitably tapped. Seeds of the Lagos rubber (*Funtumia elastica*), which has recently been discovered in quantity in Uganda, have been received ; and are now germinating freely. The plants will eventually be tried in various parts of the Protectorate, and should succeed in several districts, the less arid of which apparently closely resemble the Uganda forests in their climatic conditions.

Chillies.

The cultivation of Chillies still shows a retrograde tendency, only 3,336 lbs. (valued at £106), having been exported during the year, being a decrease of 13,955 lbs. on last year's figures, and 73,087 lbs. on those for the year 1904-05.

Ground-nuts.

A decrease of 101,029 lbs. is shown in the quantity of ground-nuts exported during 1906-07 on that of 1905-06. The following table shows the position of this industry for the past three years :—

Year.	Quantity exported.	Value for export purposes.	Valued at
	lbs.	Per lb.	£
1904-05 . .	348,895	1*d.*	1,454
1905-06 . .	588,692	1*d.*	2,453
1906-07 . .	487,663	1*d.* and 1¼*d.*	2,980

NICOTINE.

Its Manufacture and Uses.

THE production of nicotine in England is not a new industry, but within the last few years there has been a strong development in this branch of chemical manufacture, due partly to economic and partly to fiscal causes. Nicotine is manufactured from the refuse of the tobacco factories—principally the midrib of the leaf of the Virginian and Kentucky varieties of tobacco, these being used on account of their greater alkaloidal content. The preference for these particular growths by nicotine makers has led to the importation of these "stalks," as the midribs of cigar leaf tobaccos and other kinds are weaker. In consequence there has been a great accumulation of cigar stalks, which, with other refuse, has become so great that 10 tons a week are burnt in the Islington dust destructors under Customs supervision. Nicotine manufacture centres round Liverpool and London—the two great tobacco-leaf centres of the United Kingdom. There are few makers (the total number at present is about five). Four interdependent factors have contributed to extraction of nicotine on a large scale: first the enormous quantity of waste or by-products; second, the preference for nicotine over arsenical compounds for horticultural insecticides; third, tariff influence; and fourth, waste-making tobacco leaf. The Customs report for 1906-07 shows that tobacco "offal" has jumped from 1,000 to 3,000 tons in three years.

New Factories.

Last year a big competitor entered the commercial arena in the shape of the Imperial Tobacco Co., who equipped a factory with the requisite plant at Bootle. In October a Manchester firm entered the lists, while a Liverpool firm, already producing, has obtained additional bonded premises for nicotine extraction. The Committee of the Board of Agriculture, which in 1903 took evidence in regard to sheepdipping, favourably reported on nicotine dips, and the Board of Customs promised to facilitate the production of nicotine. In 1904 Mr. Austen Chamberlain imposed a high differential import duty on tobacco leaf which had been stripped of its midrib abroad. The consequence was increased importations of the entire leaf, which had to be stripped before use in the tobacco factories of the United Kingdom. Seeing that one-fifth the weight of a tobacco leaf consists of the midrib, a big quantity of nicotine-producing material became available to nicotine manufacturers without importation; but since Mr. Asquith reduced the differential import duty on stripped tobacco, a greater quantity of "strips" has been imported with the consequence of lessening somewhat the "stalk" market for the nicotine maker, and so inducing a greater importation once more of American "stalks." Notwithstanding this tariff influence on importations of whole leaf, a large quantity of "stalks" has been produced in home factories. Formerly it was cut up with the leaf blade to produce such varieties as "Bird's eye" but this form of manufactured tobacco is no longer in popular favour; besides, there has been an abnormal waste in tobacco manufacture. The nicotine manufacturer gets his tobacco material duty free, and he makes the alkaloid in bonded factories under the supervision of Crown officials, who are there for the purpose of seeing that no tobacco gets out again as such. The tobacco manufacturer deposits his bags in this bonded factory and receives the drawback thereon. Much care is exercised by the Customs in looking after these bags while in the possession of the nicotine maker. They are locked up, counted, watched, and during the macerating and extracting operations the vats are under observation. A nicotine producer must permit this official inspection under a bond penalty and forfeiture of rights to manufacture. After draining off the infusion from the tobacco the marc must be burnt in the presence of the Crown official, who certifies to this fact.

Commercial Nicotine.

Commercial nicotine must contain not less than 90 per cent. of pure nicotine, calculated on the anhydrous product, the remainder being "solids." To ascertain that this proportion is present, samples are drawn and submitted to the Government Laboratory; for should this standard of purity not be reached the product must be refined. As showing the growing importance of the nicotine industry, we may state that in 1901 792 samples were submitted to the Government Laboratory, in 1902 more than half as many again were sent, and the number for the last three years has ranged round 1,100. There is no record of the bulk quantity represented by each sample or any estimation as to the rate of growth of this industry, but there can be no doubt that it has grown to be a "big thing," and it is not surprising to those who are familiar with it that other makers are entering the field. "Nicotine" under the 90-per cent. standard is an "extract or essence," and by law all tobacco extracts are illegal and prohibited to be imported. Officially approved nicotine is not regarded as an "extract" in the statutory sense, and consequently no embargo is laid on its importation. Samples are taken by the Customs on import for "strength" ascertainment and the article detained until the analyst's approval is obtained. It has been suggested that Ireland might do worse than grow tobacco for the nicotine maker rather than for the tobacco manufacturer, as being unsuitable for smoking purposes; but Ireland is not having much encouragement to grow any kind of tobacco.

—H. M. Consul at **Malaga** (Mr. J. G. Haggard), in his report for 1906, states that **olive oil** turned out an utter disappointment to all concerned, the yield being 500,000 arrobas, (arroba = 25·35 lbs.) as compared with 1,000,000 arrobas in 1905. Consequently none has been exported, as the whole production is required for home consumption.

TRADE-MARK PIRACY IN SIAM.

Extent and Methods.

A BANGKOK correspondent writes as follows to the *Manchester Guardian*:—

Trade-mark piracy has on several occasions been alluded to in the annual consular reports from Siam, but it has never really received the attention it deserves. There are in Bangkok numerous German, Italian, and Swiss import firms, the competition amongst which is decidedly keen. And these, almost without exception, are selling goods bearing fraudulent British trade-marks. Their *modus operandi* is simplicity itself. They write to British firms for samples and prices, occasionally ordering very small trial shipments by way of proving their good faith. Then they send the samples to their Continental agents, asking at what rate they can be supplied with goods of similar appearance. Precisely the same thing is done with the labels, &c., and in many instances these are supplied really better in quality than the originals and at ridiculously low prices. In cases where too accurate an imitation would be dangerous these pirates—for they are nothing else—instruct their own people accordingly. Such frauds are most extensively perpetrated in the piece-goods, cutlery, and fancy goods trades, and in some cases even heavy machinery has been obtained for unsophisticated natives, made either in Belgium or Japan, but bearing the name-plates of well-known British makers. In nearly every case the fraud is successful, but there are occasional exceptions. A local firm not long ago ordered, on behalf of a Siamese customer, propelling machinery which was to be fitted to a number of locally built launches. The engines duly arrived from Italy, and each bearing the name of a well-known Clyde firm. A young Eurasian engineer was called in to set them up and run them, but as there was something about them that he did not understand, another engineer, a Scotsman, was called in. One glance at the specifications and working directions showed him their origin, and, curiously enough, the very firm whose name had been placed on the engines was one in which he had been employed for ten years before coming to the East. So he at once communicated with them and with the nobleman for whom the machines had been ordered, and at the same time, by means of file and acid, most carefully erased the bogus "brands." The affair, of course, caused some stir, but apparently no legal action of any kind was taken.

Fraudulent Goods.

In the wine and spirit trade the frauds perpetrated are almost beyond belief. A prominent importer the other day told the writer that he had counted sixty-eight brands of alleged Scotch whisky on the local market. He also showed a number of most ingenious fraudulent labels which he had collected, showing how well-known brands were counterfeited with slight modifications. He further exhibited a circular from a Hamburg firm which offered to supply whisky "of any brand which is well known, and with *original* corks, capsules, and labels," at three shillings and sixpence a case f. o. b. Hamburg. This precious document further stated that bottles would be furnished with corks, capsules, and labels of any design sent with order provided the indent exceeded 300 cases. A better argument in favour of total abstinence it would be hard to find. A favourite method of local pirate firms is to ask shippers for much longer credits than usually obtain, on the grounds of "local custom." They write that "we are greatly pleased with your samples, which we think quite meet our requirements, but the firms with whom we at present deal allow us (five, six, or seven) months' sight documents." This is, doubtless, in special instances the case, as German export firms generally appear to give longer credits to local dealers than do British ones. But even with them 90 days' sight is the usual thing, and considerable caution is exercised.

No Means of Protection.

Bangkok has no proper Chamber of Commerce and Great Britain has no regular and properly qualified commercial attaché at her Legation, and so these frauds are allowed to pass unchecked. Occasionally advertisements appear in the local journals with facsimiles of trade-marks and warnings against their infringement, but in the existing state of things such warnings are utterly valueless. This is not only the opinion of local business men but also of a prominent local firm of lawyers, who stated that it was a case of "first catch your hare" and, next, "would it be worth the expense to institute a prosecution."

NEW REFERENCE BOOKS.

FORAGE CROPS.
For Soiling, Silage, Hay, and Pasture. By F. B. VOORHEES, D.Sc. (The Rural Science Series.) 7¾ × 5¼, 384 pp. . . . . 6s. 6d. net.
New York: The Macmillan Company.

POCKET DICTIONARY OF THE PORTUGUESE AND ENGLISH LANGUAGES.
Including Technical Expressions of Commerce and Industry and Science and Arts. By H. MICHAELIS. 7¼ × 5½, 335 + 448 pp. . . . 15s. net.
Sir Isaac Pitman.

METHODS AND MACHINERY BUSINESS.
(Exchanges and Insurance.) By H. CLEMSON. 7¾ × 5, 236 pp. . . . . 5s. net.
Butterworth.

RAILWAY CORPORATIONS AS PUBLIC SERVANTS.
By HENRY S. HAINES. 7¾ × 5¼, 233 pp. . . 6s. 6d. net.
The Macmillan Company.

THE BOA ENTRADA PLANTATION.
S. Thome. Portuguese West Africa. "La Perle des Colonies Portugaises." Translated from the original Portuguese by J. A. WYLLIE, F.R.G.S., Lieutenant-Colonel, Indian Army. 10 × 7½, 63 pp.
Oliphant, Anderson, and Ferrier.

THE MODERN PLUMBER AND SANITARY ENGINEER.
By Sixteen Specialist Contributors. Under the Editorship of G. LISTER SUTCLIFFE. Divisional Volume IV. 10 × 7, pp. 179-859.
The Gresham Publishing Company.

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 August, 1907, inclusive, and referring in all cases to the same period, *viz.*, the eight months ended August. The corresponding figures for 1906 and 1905 are added for comparison :—

	Imports (*see* NOTE below), Eight months ended August.			Exports (Domestic) (*see* NOTE below). Eight months ended August.		
	1905.	1906.	1907.	1905.	1906.	1907.
	£	£	£	£	£	£
Belgium*	75,437,000	85,785,000	93,847,000	53,949,000	66,247,000	68,905,000
France	126,363,000	147,859,000	160,104,000	122,957,000	134,803,000	146,707,000
Spain	27,867,000	27,151,000	24,828,000	23,004,000	22,854,000	22,753,000
Austria-Hungary	58,648,000	62,984,000	62,885,000	55,183,000	61,371,000	61,665,000
Egypt	13,073,000	14,735,000	16,844,000	12,361,000	13,067,000	15,756,000
United States	160,476,000	176,177,000	208,712,000	197,371,000	225,406,000	245,059,000
Japan	36,348,000	29,396,000	34,872,000	19,708,000	24,934,000	28,611,000
British India	46,866,000	51,211,000	54,636,000	68,489,000	72,647,000	87,328,000
Canada	35,201,000	41,244,000	51,467,000	22,935,000	29,375,000	29,594,000
British S. Africa†	not available	21,854,000	18,890,000	not available	27,292,000	31,544,000
United Kingdom	312,131,000	340,600,000	363,546,000	213,045,000	247,529,000	284,125,000

* Value of *principal* articles only. † Including bullion.

A comparison of the total figures for nine months ended 30th September is possible for five countries as follows, *viz.* :—

	Imports (*see* NOTE). Nine months ended September.			Exports (Domestic) (*see* NOTE). Nine months ended September.		
	1905.	1906.	1907.	1905.	1906.	1907.
	£	£	£	£	£	£
Germany	239,519,000	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	168,583,000
United States	181,724,000	197,556,000	230,862,000	225,332,000	253,862,000	272,836,000
United Kingdom	352,621,000	380,093,000	402,898,000	242,396,000	278,054,000	319,281,000

* 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).		
	1905.	1906.	1907.	1905.	1906.	1907.
	£	£	£	£	£	£
Russia* (6 months)	26,926,000	31,133,000	34,791,000	49,397,000	47,362,000	41,821,000
Switzerland (6 months)	24,364,000	26,840,000	29,909,000	17,941,000	20,289,000	22,176,000
Italy (6 months)	38,740,000	50,298,000	57,844,000	31,454,000	37,357,000	35,829,000
Mexico† (7 months)	10,241,000	15,056,000	14,740,000	13,520,000	16,243,000	15,172,000
Australian Commonwealth† (7 months)	not available 1904.	24,493,000 1905.	28,734,000 1906.	not available 1904.	33,038,000 1905.	36,525,000 1906.
Portugal (12 months)	13,960,000	13,653,000	13,588,000	6,910,000	6,518,000	6,883,000

* European, Russo-Finnish and Black Sea Frontiers.
† Including bullion and specie.

JOINT STOCK COMPANIES.

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

No.	Class and Name.	Situation of Registered Office.	Object.	CAPITAL. Nominal.	CAPITAL. Paid-up.
	I.—BANKING, LOAN AND INSURANCE.				
	(a) *Banking and Loan.*			Rs.	Rs.
1	Pappanaickanpalayampudur Ramavilasa Nidhi.	Coimbatore, Madras	Money lending (mutual)	1,00,000	20,155
2	Agricultural Bank	Tinnevelly, Madras	Banking	30,000	...
3	National Trading and Banking Cos.	Madura, Madras	Banking and Trading	20,000	...
4	Nataraja Co.	Trichinopoly, Madras	Money lending (mutual)	49,200	...
	Total, Banking and Loan	.....	.....	1,99,200	20,155
	(b) *Insurance.*				
5	Sri Sivapriambal Vilasa Janopakara Nidhi.	Tanjore, Madras	Life Insurance	19,980	...
	Total, Banking, Loan and Insurance	.....	.....	2,19,180	20,155
	II.—TRADING.				
6	Angelo Bros.	Bengal	Manufacturing and dealing in lac and methylated spirit.	10,00,000	...
7	R. M. Guzdar and Co.	Allahabad, U. P.	General trading	1,25,000	...
8	Punjab Bharat Bhandar	Ambala, Punjab	Dealing in Indian goods	20,000	...
9	Kyanian Aërated Waters Manufacturing and Trading Co.	Bombay	Manufacturing aërated waters, etc.	30,000	...
10	Lalbhai Chinabhai and Co.	Ahmedabad, Bombay	Carrying on the agency of a mill.	4,000	...
11	Nagapatam Indian Stores	Tanjore, Madras	Dealing in Indian goods	20,000	...
12	Mangalambica Metal Industries	" "	Trading in metals and metal ware.	50,000	...
	Total, Trading	.....	.....	12,49,000	...
	III.—MILLS AND PRESSES.				
	(a) *Cotton Mills.*				
13	Nawab of Cambay Mills	Bombay	Spinning and weaving cotton, etc.	7,00,000	...
14	United Sindh Spinning and Weaving Mills.	"	Do. do.	16,00,000	...
15	Gomtipur Spinning, Weaving and Manufacturing Co.	Ahmedabad	Do. do.	2,00,000	...
	Total, Cotton Mills	.....	.....	25,00,000	...

JOINT STOCK COMPANIES—*contd.*

No.	Class and Name.	Situation of Registered Office.	Object.	Capital. Nominal.	Paid-up
	III.—MILLS AND PRESSES—contd.			Rs.	Rs.
	(b) Mills for Wool, Silk, Hemp, etc.				
16	Moradabad Spinning and Weaving Mills Co.	Moradabad, United Provinces.	Weaving, dyeing and bleaching cotton, silk, etc.	5,00,000	...
	(c) Cotton and Jute Screws and Presses.				
17	New Ginning and Pressing Factory	Chalisgaon, Bombay.	Ginning and pressing cotton.	1,32,800	...
	Total, Mills and Presses	.....	.....	31,32,800	...
	IV.—PLANTING.				
18	Krishikarmastejak Mandali	Bagalkot, Bombay	Cultivation of sugar-cane, cotton, etc.	1,00,000	...
19	Thodapuzha Rubber Co.	Madras	Planting rubber	3,00,000	...
	Total, Planting	.....	.....	4,00,000	...
	V.—MINING AND QUARRYING.				
	(a) Coal.				
20	New Kendah Coal Co.	Bengal	Coal-mining	3,00,000	...
21	Govindpore Coal Co.	"	" "	2,00,000	...
22	Burragarh Coal Co.	"	" "	5,00,000	...
	Total, Coal	.....	.....	10,00,000	...
	(b) Gold.				
23	Shimoga Gold Fields	Bangalore City	Gold-mining	9,00,000	...
	(c) Others.				
24	Sholapur Mining Co.	Bombay	Mining mineral products	5,00,000	...
	Total, Mining and Quarrying	.....	.....	24,00,000	...
	GRAND TOTAL	.....	.....	74,00,980	20,155

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

		Capital (Rs.) Nominal.	Paid-up.
4	Banking and Loan Companies	1,99,200	20,155
1	Insurance Companies	19,980	...
7	Trading Companies	12,49,000	...
3	Cotton Mills	25,00,000	...
1	Mills for wool, silk, hemp, etc.	5,00,000	...
1	Cotton Presses	1,32,800	...
1	Planting Companies	4,00,000	...
2	Coal-mining Companies	10,00,000	...
1	Gold-mining Company	9,00,000	...
1	Mining Company (other than coal and gold)	5,00,000	...
24	TOTAL	74,00,920	20,155

WEEKLY TRADE MOVEMENTS.
For the week ending 30th November, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.		915,248
	Bombay "		177,709
	Madras "		263,660
Indian— Exports by sea from	Calcutta "		346,202
	Bombay "		914,918
	Madras "		...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	20,794,680
	Bombay "	5,435,423
	Karachi "	988,886
	Madras "	1,559,795
	Rangoon "	164,429

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	5,004,174
	Bombay "	5,382,736
	Karachi "	3,050,274
	Madras "	683,122
	Rangoon "	1,126,731

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	2,743,712
	Bombay "	5,042,766
	Karachi "	1,715,945
	Madras "	1,427,142
	Rangoon "	1,611,068

Piece Goods.
(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	22,151
	Bombay* "	7,389
	Karachi "	14,639
	Madras "	4,746

Raw Cotton.

Imports into Bombay	By sea cwt.	2,683
	Coastwise "	6,747
	By rail "	142,670
Imports into Karachi by rail	"	23,188
" " Calcutta by rail and river	"	7,236

JUTE.

Arrivals by all routes in	Calcutta. cwt. †		521,180
Exports by sea from Calcutta	Gunny bags, No.		10,898,227
	" cloth, yds.		16,737,220
	Jute, cwt.		477,542
Chittagong—Jute	"		141,907

TEA.

Arrivals by all routes in	Calcutta, lbs.	5,706,231
Exports by sea from	Calcutta "	4,776,336
	Chittagong "	1,174,642

WHEAT.

Imports into	Calcutta by rail and river, cwt.	28,07
	Karachi by rail "	115,707
Bombay	By sea "	2,997
	Coastwise "	62,606
	By rail "	4,782
Exports by sea from	Calcutta "	371
	Bombay "	2,316
	Karachi "	157,210

RICE.

Arrivals by all routes in	Calcutta, cwt.	69,106
Exports by sea from	Calcutta "	42,664
	Chittagong "	...
	Bombay "	9,478
	Karachi "	6,394
	Madras "	...
	Rangoon "	96,277

LINSEED.

Imports into	Calcutta by rail and river, cwt.	13,302
Bombay	By sea "	279
	Coastwise "	98
	By rail "	4,247
Karachi by rail	"	...
Exports by sea from	Calcutta "	71,634
	Bombay "	43,345
	Karachi "	...

RAPE AND MUSTARD SEED.

Imports into	Calcutta by rail and river, cwt.	21,288
Bombay	By sea "	...
	Coastwise "	...
	By rail "	1,226
Karachi by rail	"	10,000
Exports by sea from	Calcutta "	4,544
	Bombay "	2,254
	Karachi "	8,621

COTTON SEED.

Exports by sea from Bombay,	cwt.	118,338

* B., B. & C. I. Ry. figures only. † Incomplete.

KEROSENE OIL, WEEK ENDING 30th NOVEMBER, 1907.

Imports by sea into—	From Russia.	America.	All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	40,955	1,240,217	1,281,172
Bombay	...	...	...	...
Karachi	...	...	...	...
Madras	...	...	...	...

Exports by sea from Burma to	Bengal galls.	1,434,140
	E. B. & Assam "	...
	Bombay "	...
	Sind "	...
	Madras "	574,200
	Indian Ports, Non-Br. "	...
	Foreign Ports "	...

IMPORTS OF SUGAR, WEEK ENDING 30th NOVEMBER, 1907.

Country of Shipment.	Refined sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	1	...	44	22	44	35	146
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	300	...	300
Other European Countries	...	...	...	...	...	...	...
Java	3,010	...	61,800	44,163	...	...	111,973
Mauritius	...	...	61,566	5,430	...	...	66,996
Other Non-European Countries	...	...	119	...	...	...	119
						Total refined	179,534
						Total unrefined	2,923
						Grand Total, cwt.	182,457

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 29th November.		Sold to 29th November.		Sold in sale of 30th November.		Sold to 30th November.	
	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	6,185	7 6·7	151,128	7 5·7	5,026	6 6	123,575	6 9·1
Cachar	3,533	6 8·8	119,596	6 1·6	4,733	4 7·8	110,497	4 3
Sylhet	2,723	6 7·8	93,823	6 1·3	3,661	4 10·4	84,362	4 0·4
Darjeeling	1,390	11 6	51,721	9 1·8	1,235	9 8·5	49,804	8 8
Dooars	5,419	7 3·7	147,825	6 8·8	8,231	6 0·3	141,932	5 4·5
Terai	447	6 10·4	18,745	6 3	975	5 6·8	28,476	4 3·4
Chittagong	102	6 8·4	7,612	6 2·6	690	4 7·8	10,117	4 1·7
Chota-Nagpore	...	...	609	5 2·5	...	...	539	4 2·7
Kumaon and Kangra	...	...	3,886	6 0·4	...	...	120	5 0
Madras	...	...	285	6 1·2	...	...	286	4 10·8
Dehra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	..	...	247	6 9·3	...	...	...	...
Total	19,799	7 5·7	595,681	6 10·6	24,551	5 9·5	549,758	5 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 31,629 packages Dust* sold to 29th November As. P. 6 8·4

* On account of gardens which sell only that grade on this market.

—The Board of Trade correspondent at **Durban** (Mr. A. D. C. Agnew) reports that large quantities of **maize** are being sent forward for shipment from that port. During the period 1st July to 10th October the following quantities have been shipped :—14,966,237 lbs. to the United Kingdom, 12,965,315 lbs. to the Continent, 8,647,626 lb. to Cape Ports, and 188,615 lbs. to other places.

—In a consular report to Washington Vice-Consul John W. Thomas submits a statement showing the large increase in **exports of cotton, velvets, cords, and fustians** from **Manchester** to the **United States** during the nine months ended September 30th. Dyed goods increased from 1,102,550 yards to 1,667,450 yards, and undyed goods from 1,383,938 yards to 1,933,446 yards, a total increase of 1,114,408 yards.

—A self-contained **concrete mixer** for street work is made by the Kochring Machine Company, and is claimed to combine several advantages. The machine is carried on a frame supported on trucks provided with a traction drive for moving. The mixer has a capacity of 22 to 25 cubic feet to the batch, and it discharges the concrete into a bucket which is suspended from a projecting steel beam. It can be discharged at any desired position along the beam, and the latter may be swung round to any angle.

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

QUARTERLY.

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

MONTHLY.

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

MISCELLANEOUS.

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

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., Ld., Bombay.
A. J. Combridge & Co., Bombay.
D. B. Taraporevala, Sons & Co., Bombay.
Radhabai Atmaram Sagoon, Bombay.
Sundur Pandurang, Bombay.
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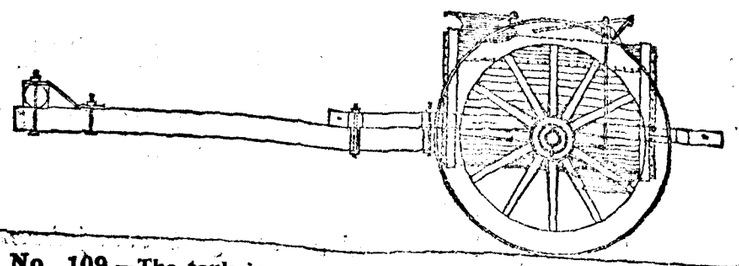
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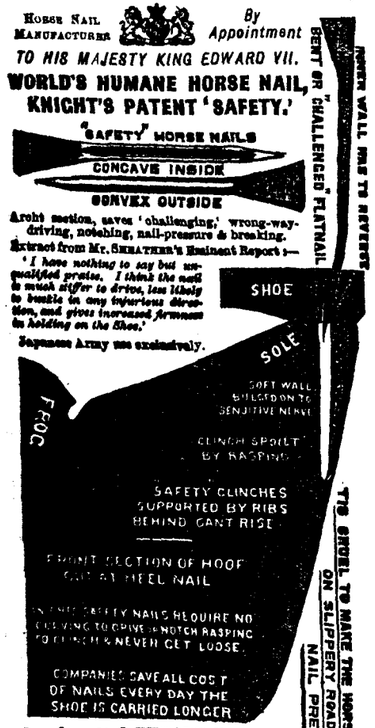
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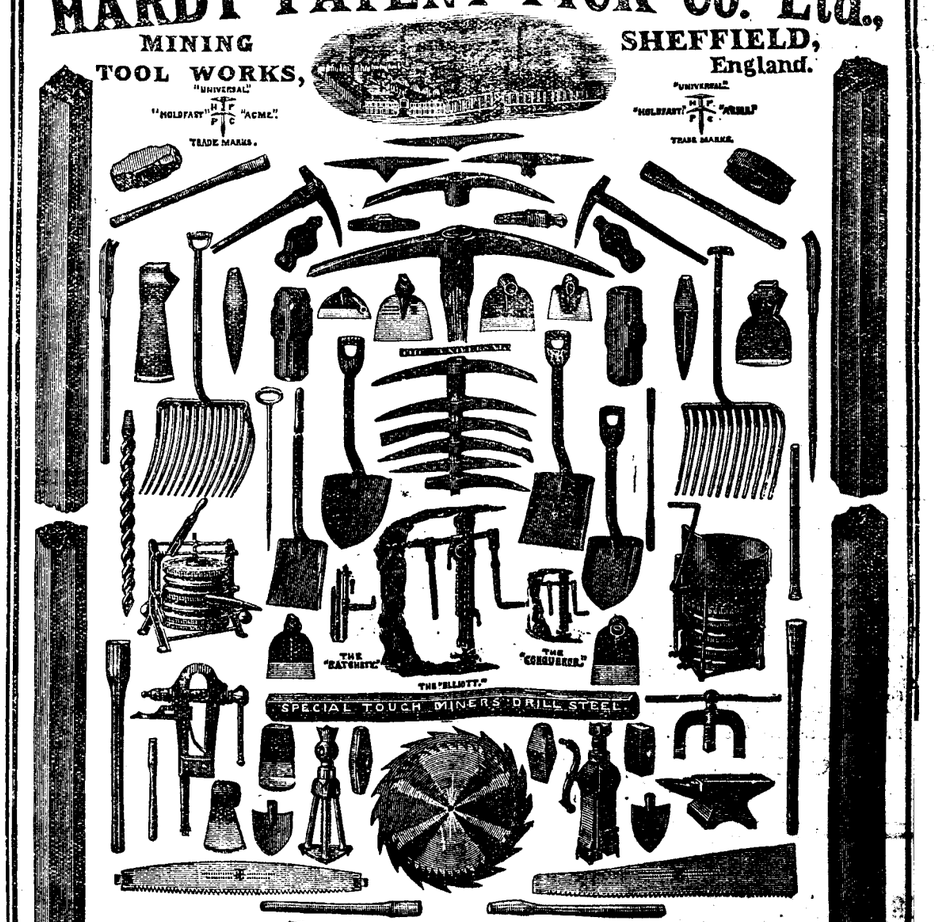
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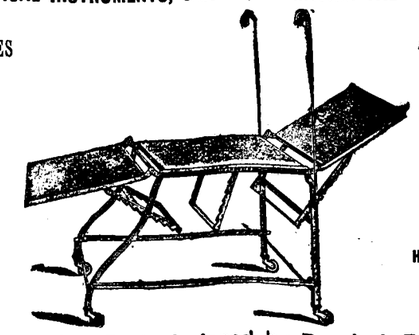
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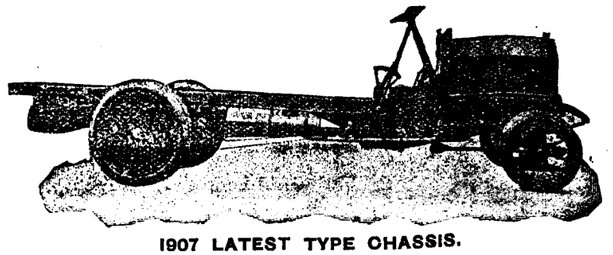
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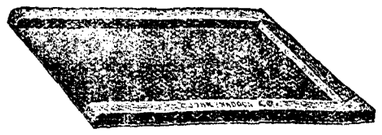
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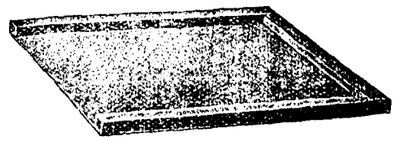


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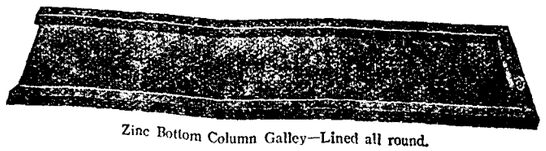


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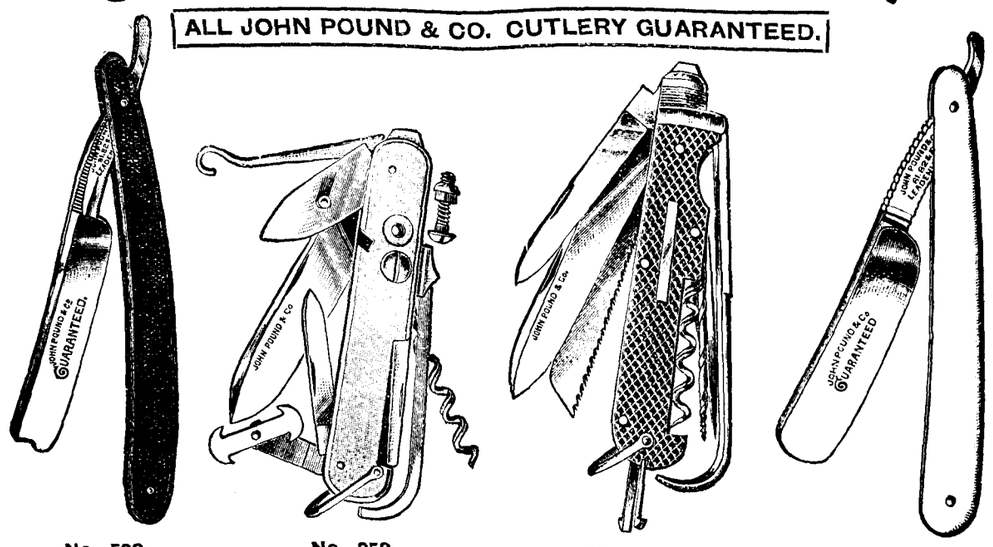
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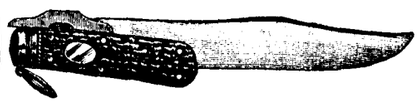
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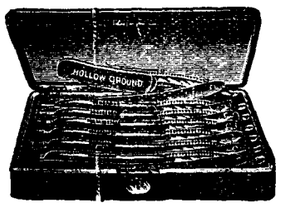
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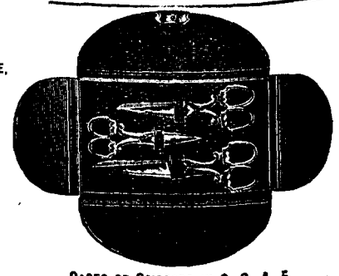
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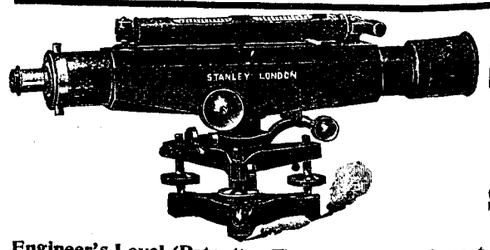
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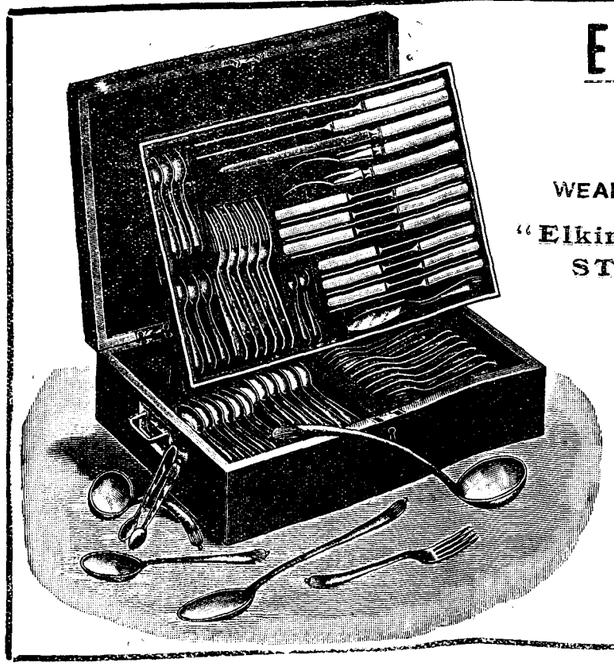
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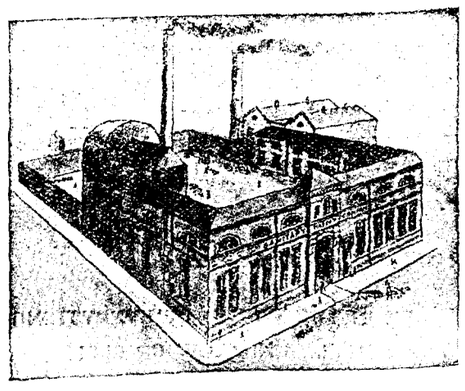
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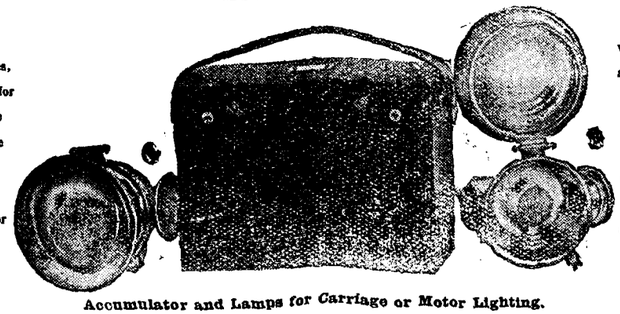
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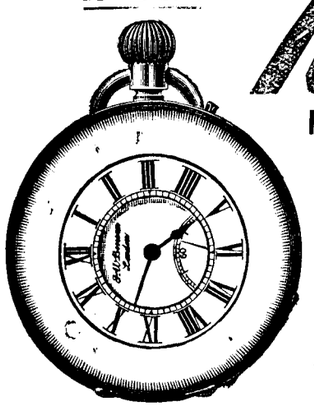
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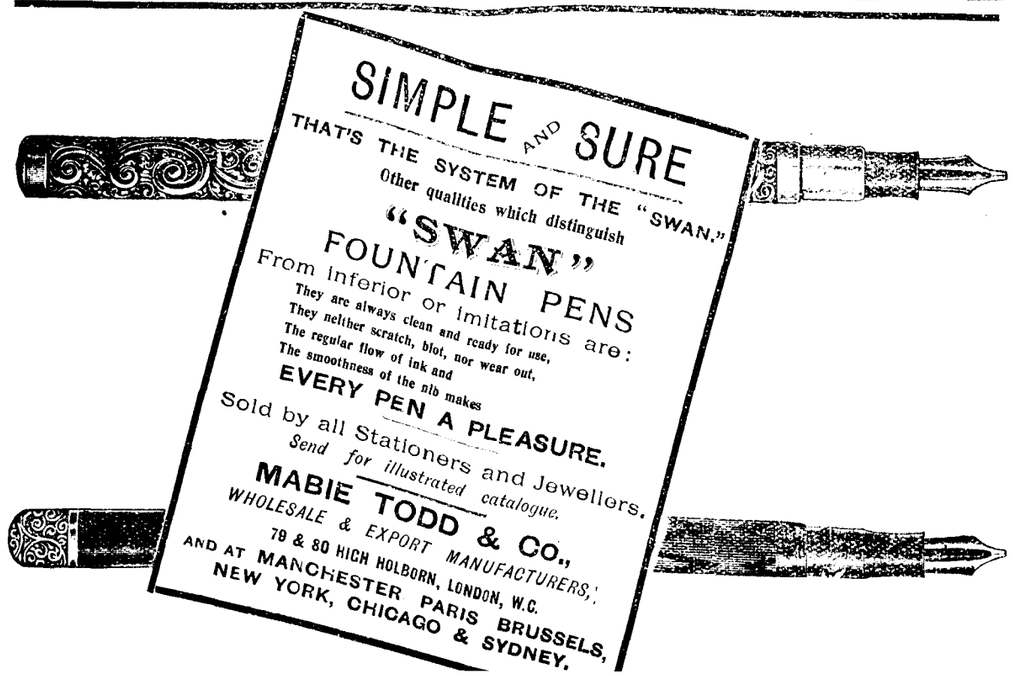
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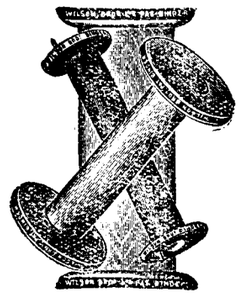
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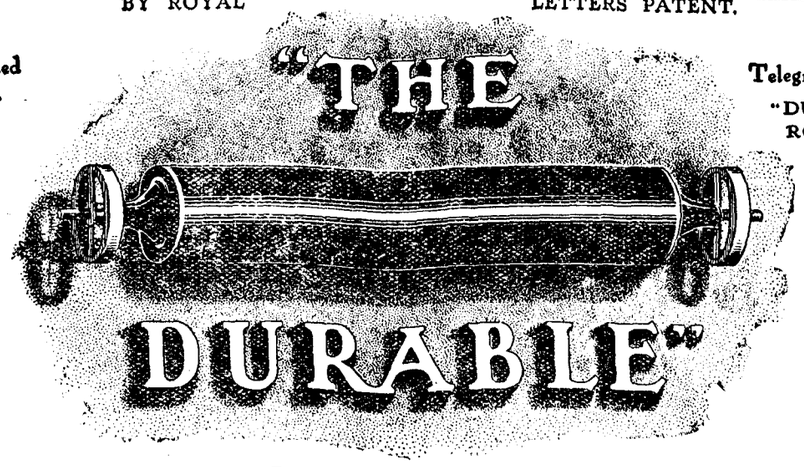
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The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 89.] CALCUTTA, THURSDAY, 12th DECEMBER, 1907. [ANNAS 4.

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NOTES.

The latest returns show that fifteen crores worth of **silver** and twelve crores worth of **gold** were **imported into India** in the seven months ending the 1st ultimo. Of the silver thirteen crores were for coinage purposes. The total face value of the rupees coined in the Indian mints during the same period was fourteen crores.

We understand that a large number of **skins** are **used for floats** for rafts in **Turkish Arabia,** but they do not last long. An American firm interested in these floats has written to Madras with a view to ascertain whether the chrome leather tanned there would be more durable. There would seem to be an opening here for any one having a suitable water-resisting leather.

General regulations for exhibitors in the **Indian Section** of the **Franco-British Exhibition** to be held in London next year are published in the *Gazette of India* of the 7th instant. Intending exhibitors desiring financial assistance from the Indian Committee should send their applications direct on the form prescribed by the Committee, copies of which may be obtained, free of charge, from the Superintendent of Government Printing, India, Calcutta.

The manufacture of **catechu** from the **kher** trees in the Bajna district of the **Ratlam State** was continued during the year 1905-06. The profits from the sale of catechu manufactured during the previous

year amounted to Rs. 1,513-15-9. For making the catechu the Kathodias first select the kher wood that is suitable for extracting catechu. They then clear off the sap-wood and cut the heart-wood into small chips. These chips are then packed into small earthen pots filled with water and the whole is then boiled for about twelve hours. When the water has boiled down to half, the chips are taken out and the liquid is boiled in other pots over a slow fire with constant stirring until the fluid attains the consistency of a syrup. These pots are then taken off the fire and stirred continuously with a wooden paddle for three to four hours till the mass cools. On cooling, the mass is put up in small tablets under shade on the ground and these tablets form, on drying, catechu. Wood of the kher tree, which has a light pinkish core, is considered best suited for making pale catechu. Wood having a darker heart-wood gives dark catechu or *kutch*, which is used for industrial purposes. The number of kher trees cut during the year for extracting catechu was 3,240.

We learn from the Administration Report o. **Ajmer-Merwara** for 1906-07, just received, that three licenses to prospect for **mica** were granted in the Merwara district, and two in the Ajmer district. In the *Istimrari* (*i.e.*, a tenure which, though the revenue is assigned, is charged with a permanently fixed quit-rent) area, nine mining contracts were sanctioned, the Government share being fixed at one anna on the net profits. The *Istimrari* area of Ajmer-Merwara comprises 819.523 acres out of a total of 1,693,728 acres. During the year under report Ajmer imported 17,602 tons of **grain** and exported 581 tons, as against 16,495 tons and 382 tons in the previous year. Beawar, another important trade centre, imported 22,572 tons and exported 4,839 tons, as against 15,491 tons and 2,122 tons during the year before. The area under **poppy cultivation** was 1,902 bighas (bigha=$\frac{1}{3}$ acre) and the yield is estimated at about 150 maunds (maund=82$\frac{2}{7}$ lbs.). Of Ajmer **opium** 632 chests were exported to the Punjab and 5$\frac{1}{2}$ chests to the North-West Frontier Province. The total amount of duty levied on opium during the year was Rs. 1,78,500, as compared with Rs. 1,23,040 for the previous year.

In June, 1906, the **Madras** Government sanctioned the payment to cultivators of a premium of two annas per acre on all pure **cotton** fields in the Kurnool and Cuddapah districts, the four principal varieties of Madras cotton being known as Yerrapatti, Telapatti, Gadag and Cocanadas. In October last the Director of Agriculture (Mr. M. E. Couchman, I.C.S.) proposed that the payment of premia be discontinued and that seed farms be opened to grow the best variety of seed for distribution to cultivators at cost price, Mr. Couchman's main ground for his proposal being that the question of encouraging any variety of cotton in preference to other varieties was one for purchasers. The Madras Government have, however, ordered that the offer of premia be continued for some time longer, the object in view being not the encouragement of the cultivation of any particular variety of cotton nor the selection of the best variety, but to induce the royts to cultivate pure crops of whatever variety they may select.

In his private **cotton** trade circular issued on the 16th ultimo last, Mr. William Tattersall, of Manchester, gives a list of further new spinning mills, *viz.*, five, which will contain 500,000 spindles and cost £600,000. His list of new factories for the last three years numbers 120, representing 10,839,000 spindles and costing about £14,000,000. These mills will find work for about 27,000 operatives.

The number of bales of **cotton imported** into the **United Kingdom** during the week ended the 14th November, 1907, was 91,484 and the number imported during the forty-six weeks ended the 14th November was 3,856,406 (including 5,816 bales British West Indian and 9,917 bales British West African). As regards exports the figures are, for the week ended the 14th November, 7,205 bales, and for the forty-six weeks, 438,985 bales.

Writing on the condition of the **Indian yarn trade in China**, Messrs. Noel, Murray & Co., Ld. in their Report dated Shanghai, 14th ultimo, say :—In spite of the general depression now prevailing over trade generally our market for these spinnings has not been entirely dormant, the transactions reported during the interval amounting to 3,039 bales. Tientsin buyers have been the chief operators and to them must be credited the bulk of the purchases of No. 10's, Tsingtau assisting to a small extent. Prices have remained fairly steady, but that is not very satisfactory considering the serious decline in the rupee rate of Exchange. The River merchants have bought the 12*s.* and 20*s.* prices showing a lower tendency. The news from Szechuen is not at all encouraging, considering that market is practically shut off from supplies owing to the height of water in the Yangtsze, and the strong current preventing goods going up.

An Alexandria correspondent writing on November 10th says :—The estimate of the **cotton crop** made by the Alexandria Produce Association in its monthly review, though considered conservative, is generally approved by those whose business it is to travel and observe in the interior. Summing up the diversified particulars it has received, the Association states that the crop would seem to be about equal to that of last year; its first estimate, therefore, is one of 6,750,000 to 7,000,000 cantars. The summary of the usual reports shows that the

temperature in the first half of October was not favourable to the plant; chill nights were frequent and this delayed the bursting of the pods for the second picking ; in certain districts damage occurred. In short, the second picking, which is still going on, does not come up to expectations. The third picking appears of very variable quality, according to locality, and the continuance of bright weather is essential for good results. The ginning yield still keeps from 1 to 2 per cent. above last year's at the corresponding period. In Upper Egypt, despite complaints of unfavourable temperatures, the crop bids fair to be much larger than last season's. The inference to be drawn from this statement is that if the total crop does in the end only equal the previous crop, then the principal cotton field of Egypt, the Delta, will betray diminished productiveness. Business in the market, both spot and futures, has been extremely slack, partly, of course, on account of the Bairam feast, but still more through the acuteness of money troubles, both local and foreign. Dealings are restricted through the dearness and difficulty of credit; January to March carry-overs now cost T.$\frac{3}{4}$, which causes holders to liquidate their positions and exchange into November, 1908, which is consequently firm at T. 1$\frac{5}{16}$ higher than the current month.

The fact that the Home Secretary (Mr. Gladstone) has appointed a departmental committee to inquire into the subject of **artificial humidity in cotton weaving factories** is now officially announced. The terms of reference instruct the Committee to inquire and report :—(1) What temperature and humidity are necessary in each case for the manufacture of different classes of cotton fabrics. (2) At what degrees of heat and humidity combined definite bodily discomfort arises under the conditions of the work carried on by the operatives, and what, if any, danger to health is involved by continuous work at those degrees. (3) What means of cooling humid sheds, where necessary, exist, whether combined with the means of humidifying or otherwise, which are both efficient and practicable, having regard to the conditions required for the manufacture of the several classes of goods. (4) What special arrangements, if any, are necessary in order to admit of the proper ventilation of dry weaving sheds without prejudice to the process of manufacture. The secretary to the Committee is Mr. Duncan D. Wilson, Inspector of Factories, to whom correspondence may be addressed at the Factory Department, Home Office.

The Census Bureau of the **United States** Department of Commerce and Labour issued on November 21st its fifth report of the amount of **cotton ginned** of the present crop. This report covers returns up to and including November 14th, and makes the total amount ginned since September 17th, 312,000 bales by 26,570 active ginneries. This compares with 8,562,000 ginned within the same period in 1906 and 7,501,000 bales ginned in 1905. The amount ginned since the last return—that is, from November 1st, is 1,115,000 bales, against 1,656,000 during the same fortnight last year. The detailed returns show decreases in nearly all the States compared with the same period last year, the most striking being the falling off in Texas, which this year is for the fortnight only. It is returned at 131,000 bales, as against over 450,000 last year. Considerable decreases are also shown in Arkansas, Louisiana, Mississippi, and the Territories, South Carolina being the only State showing any increase over last year. The following table, says the *Manchester Guardian*, gives the usual particulars per State with comparisons (in thousands of bales) :—

	Ginned to Nov. 14th.			Percentage of Total Crop.	
	1907.	1906.	1905.	1906.	1905.
N. Carolina	402	384	510	62·9	78·2
S. Carolina	847	654	913	71·7	82·0
Georgia	1,375	1,193	1,439	73·1	83·4
Florida	36	42	57	68·8	71·8
Alabama	761	835	9·4	67·3	76·9
Mississippi	792	793	667	54·3	57·1
Louisiana	350	553	283	57·9	55·3
Texas	1,710	2,996	1 826	75·7	75 1
Arkansas	337	454	309	50·7	51·6
Tennessee	141	143	156	48·7	58 0
Indian Territory	491	241	184	60 8	54·1
Oklahoma	491	244	180	51·3	56 0
Missouri	15	22	22	42·4	55·1
Virginia	4	8	11	51 0	69·6
TOTAL	7,311	8,562	7,501	65·9	71·5

A London telegram announces that **Russia** has been admitted to the **Sugar Convention.** She will be allowed to maintain her present legislation, but her export will be limited to 300,000 tons up to 1909 and to 200,000 tons thereafter.

We have received a copy of the prospectus of the **Vizagapatam Sugar Development Co., Ld.,** now about to be floated. The capital is to be Rs. 3,00,000 (with power to increase) divided into 6,000 shares of Rs. 50 each of which 1,500 shares only are now issued and payable as follows :—Rs. 10 on application, Rs. 20 on allotment, and the balance when called upon, of which one month's notice will be given. An entrance fee of Re. 1 is to be paid on each share with amount payable on application to cover flotation expenses. The concern is under the patronage of H. H. the Maharaja of Bobbili, K.C.I.E., and Sree Maharani Lady Gajapathirow, Vizagapatam. The Directors are: A. E. Jordan, A.M.I.M.E., F.S.A., Sugar Expert; Kovuru Basivireddi, Proprietor, Cocanada Rice Mills, etc., Perla Ramamurty

Chetty, Proprietor, Waltair Estate; G. Appalaswamy Naidu, Retired Military Officer; M. Venkataswamy Naidu, Retired Military Officer; and S. B. Naikulu Patrudu, Secretary. The registered offices are at Anakapalle, Vizagapatam District, Madras Presidency. The first model factory to be erected is designed for extension and will at first be capable of turning out from 2 to 3 tons of sugar per day, and working on canes for 100 days and jaggery for 200 days. Careful calculations, allowing for increase in price of raw material, show that a profit of 20 per cent. can be earned. The factory has been designed by Mr. A. E. Jordan, and will be erected under his personal supervision and the manufacture of the sugar will be carried out by specially selected, skilled men. The capital required for the erection of the first model factory is Rs. 75,000. The machinery will be supplied by a leading firm of sugar engineers in Glasgow.

In exercise of the power conferred by Section 20 (2) (*c*) of the Indian Mines Act, 1901 (VIII of 1901), the Governor-General in Council is pleased to make the following **rules for application to all mines in British India**:—(I) If the owner, agent or manager of any mine intends to extend any mining operations under his control at or to any point within fifty yards of any railway subject to the provisions of the Indian Railways Act, 1890, he shall give the Chief Inspector of Mines and the Railway Administration concerned notice in writing of his intention so to do 60 days before the commencement of such extension. (II) If the operations in respect of which notice is given under rule I are not commenced within twelve months from the expiry of the period of 60 days therein referred to, the notice shall be held to have expired and a fresh notice shall be given by the owner, agent or manager of the mine, under rule I. (III) The notice to be given under rule I shall specify the position of the working of the mine in relation to the railway in question, the manner in which it is proposed to carry out the intended new operations, the limits to which it is proposed to carry the said operations, and whether the operations are actually in progress, and shall include a plan showing the existing and the intended mining operations in so far as they affect the railway in question.

Money orders expressed in Indian currency may now be drawn on any of the Japanese Postal Agencies in Manchuria, named below, and on Karafuto (Japanese Saghalien), under the conditions applicable to money orders drawn on Hongkong:—Antoken (Antung), Choshun (Changchuen), Daikozan (Takushan), Dairen (Talien), Daisekkio (Tashichiao), Daitoko (Tatungkou), Giukaton (Newchatun), Gwaboten (Wafangtien), Hoten (Mukden), Howojo (*Fenghuangcheng*), Kanjoshi (Kwangchengtsz), Kaijo (Haicheng), Kinshu (Chinchow), Koshurei (Kungchuling), Riojun (Port Arthur), Rioyo (Liaoyang), Riujuton (Liushutun), Senkinsai (Chienchinsai), Shiheigai (Supingchief), Shinminfu (Singmingfu), Shoto (Changtu), Sokako (Tsaohokow) and Tetsurei (Tienling).

The following reduced rates of postage are now applicable to postal parcels for the United States of America, transmitted by the *Semi-official* Service:—

New York City, Brooklyn, Hoboecken, Jersey City:—

	Vid Gibraltar.	Overland
	Rs. A. P.	Rs. A. P.
Rates of postage—Not over 3 lbs.	1 15 0	2 11 0
" " 7 "	3 4 6	4 0 6
" " 11 "	4 10 0	5 6 0

For any other part of the United States—

Rates of postage—Not over 3 lbs.	2 11 0	3 7 0
" " 7 "	4 0 6	4 12 6
" " 11 "	5 6 0	6 2 0

The other conditions applicable to parcels for the United States of America transmitted by the *Semi-official* Service remain unaltered.

The Governor-General in Council is pleased to limit the operation of the Municipal Acts of the Bombay Presidency, the United Provinces and the Punjab, in so far as they relate to the **possession of petroleum**, to quantities of ordinary petroleum not exceeding 500 gallons, and to quantities of dangerous petroleum not exceeding three gallons, if contained in separate glass, stone ware, or metal vessels, each of which contains not more than a pint and is securely stopped.

Speaking about the conditions surrounding the position in the **cotton seed oil trade**, the *New York Journal of Commerce* quotes a well-known authority as saying: "Owing to the lack of ready cash the farmers who handle the cotton-seed are willing to sell their seed at almost any price, providing they get paid with currency. Two months ago seed sold at $25 per ton, and is now selling at and $10 per ton for cash and $15 for cheques. In other words, the farmer is selling his product at about 40 per cent. discount in order to get the cash. This is causing great havoc in the market for oil. Crude oil, which sold at 44c. at that time, to-day sold at 22c. It costs 8c. per gallon to refine oil and deliver to New York, which makes refined oil in New York 30c. Refiners, therefore, are making a tremendous profit, taking advantage of conditions; but the bears feel that sooner or later refined oil at New York will have to come down to the parity of crude. Refined sold to-day at 33c. for November, against 49c. in June; December at 34c. against 43½c. in June, and the January option at 34c. against 32c."

A company has been formed at **Broach**, under the name and style of the Shri Narmada Cotton Seed Co., Ld., for the purpose of installing a plant of machinery for extracting **oil from cotton seed**. The capital of the company is one lakh of rupees which, we understand, has been fully subscribed, and the Agents are Messrs. Girdharlal Raichand & Co. We also understand that the order for the requisite plant has been entrusted to Messrs. Marshall, Sons & Co., Ld., Engineers, of Gainsborough, Calcutta and Bombay, for oil mill machinery made by Messrs. Rose Downs and Thompson, Ld., of Hull. We further learn that the company has decided to get out an expert from Home for erecting and starting the plant, the crushing capacity of which is to be 13 cwt. of cotton seed per hour.

Under the title of *Rubber Share Handbook*, Messrs. Gow, Wilson and Stanton, Ld., 13, Rood Lane, London, are distributing a book giving details of companies owning rubber and other produce properties in Ceylon, the Malay Peninsula, British North Borneo, Sumatra, Java, South America and Africa. Special introductory chapters deal with the development of the industry in the Middle East, and will be read with interest by those concerned with rubber. A copy of the book may be seen at this office.

The total area **irrigated** in connection with the operations of this year's kharif (autumn) crop in the **Punjab** up to the end of September was 3,363,551 acres, as against 3,937,351 acres for the corresponding period of last year.

Among the **surveys** taken in hand in the **Gwalior State** during the year 1905-06 were the Sankh project, the Baisley project and the Tekanpore dam. The first scheme is to consist of a very high reservoir to impound five thousand million cubic feet of water with channel to **irrigate** the rich and fertile fields of twelve villages. The complete project is estimated to cost about 18 lakhs of rupees and yield an annual increase of revenue amounting to Rs. 1,75,000. The Sankh River has a catchment area of 250 square miles at the site of the reservoir. The second project was proposed by the Maharaja. The catchment of the Baisley is 648·60 square miles at the site of the dam. The river is almost perennial and consequently it has been deemed unnecessary to propose a very high dam. The capacity of the reservoir will only be about 2,000 million cubic feet, but as the river will be continuously feeding it, irrigation to the extent of at least 50,000 bighas may be expected. The cost of the whole project is roughly estimated at 10 lakhs. The survey will shortly be completed. The Tekanpore dam was commenced as early as 1898, but, the design being faulty, work was stopped. Sir T. Higham was requested to advise the State as to the best way of completing the project. The fresh plans are now ready. The estimate amounts to a little over 4 lakhs.

The Board of Trade are in receipt, through the Foreign Office, of information to the effect that the **export of barley** from any part of the **Turkish Empire** has been prohibited.

The **prices of British corn** per quarter of 8 bushels, as received from the inspectors and officers of Excise in the week ended the 16th November, 1907, were as follows:—Wheat, 35*s.* 1*d.*; Barley, 27*s.* 8*d.*; and Oats, 18*s.* 8*d.*

The Board of Agriculture have issued a preliminary statement showing the estimated total produce and yield per acre this year of the **corn, pulse, and hay crops in Great Britain.** The estimated total produce of wheat is 6,901,166 quarters, against 7,386,471 quarters last year. The acreage under cultivation this year was 1,625,436, against 1,755,609 last year, and the average estimated yield per acre is 33·97 bushels, against 33·66 last year, and an average for the past ten years of 31·22 bushels. The barley crop is estimated at 7,545,066 quarters, against 7,569,179 last year, the acreage under cultivation being 1,712,094, against 1,751,223. The average yield per acre is put at 35·26 bushels, against 34·58 last year, and an average for the past ten years of 33·14 bushels. The yield of oats is computed at 16,800,285 quarters from 3,122,590 acres, against 15,423,105 quarters from 3,043,957 acres in 1906, the yield per acre being 43·04 bushels, against 40·55 in 1906, and an average for the past ten years of 39·29 bushels.

The *Corn Trade News* gives the following summary of the **World's Crops** as on the 19th ultimo:—**U. S. A.**—Prospects for Winter Wheat continue favourable, **Canada**—It is certain the quality of the Wheat is far below last year's, but sales of No. 1 to 3 Northern continue to be made. **Argentina**—Weather now favourable, but crop is not early. **Australia**—Shippers inclined raise estimate of export surplus to 1,500,000 quarters. **India**—No rain, famine threatens. Wheat shipments practically end this week. **Russia**—Rainfall heavier but frost returned. Prospects Winter crops poor or bad. **Roumania**—Rains and mild weather favoured crops last week, but frost set in again on 18th November. Acreage is short. **Bulgaria**—Short acreage, bad condition. **Turkey**—There is no improvement. **Austria-Hungary**—Good rains have fallen, but drought damage still feared. **France, Italy, United Kingdom**—Some delay to seedings, but prospects generally favourable. **Germany**—Occasional complaint of drought, but

otherwise no adverse news of seedings. **Spain** and **North-Africa**—Seeding reports generally favourable.

The **United States** Department of Agriculture on the 8th ultimo issued its final preliminary **maize crop** report for the season. It estimates the 1907 corn harvest at 2,553,732,000 bushels, or 26 bushels per acre. The harvest of 1906 was officially given at 2,927,416,091 bushels. A month ago the Produce Exchange interpretation of the Government's report of condition was 2,491,715,000 bushels, so that there was during October an apparent improvement in corn prospects of 62,000,000 bushels during the month. It will be recalled that the *Journal of Commerce* and *Commercial Bulletin* estimate on October 8th was for a yield of corn of "not less than 2,500,000,000 bushels." Aside from 1906 this year's corn crop has been but twice exceeded, namely, by 2,707 million bushels harvest of 1905 over the 2,666 million bushels harvest of 1899.

The New York *Journal of Commerce* of November 9th writes:—Grain men here did not undergo a change of opinion when the news came from Washington that Senator McCumber of North Dakota had secured the endorsement of President Roosevelt and the Department of Agriculture for his Bill providing for **Federal grading and inspection of grain,** which failed of passage at the last session of Congress Senator McCumber now announces that he will reintroduce the measure in amplified form to carry with it an appropriation from the Federal Treasury of $850,000 which he deems "reasonable for such inspection service." He further states that "it is planned to take over the inspection service of the State and boards of trade and then to weed out the incompetents." Grain merchants are unreservedly in favour of a more rigid system of grading and inspection—it would save them a very large sum of money—but they are of full reasons why the desired state of affairs could not be brought about through the work of a bureau attached to the Department of Agriculture. The first and most potent of these reasons, they say, is to be found in the absolute failure of the Illinois State system, which has been in force long enough to prove its utter worthlessness. This question was put to five leading grain exporters of New York: "Do you buy grain in Chicago according to the grading of the State inspectors?" The answer was the same in each case: "No; we pay no attention to it further than to meet the cost. We are forced to employ inspectors of our own in order to secure reliable and acceptable grading."

Writing on November 19th the *Manchester Guardian* says:—There is a complete slump in the **West Coast hematite iron market,** and there has been less business done during the past week than for some considerable time. Indeed the actual current trade is probably not more than half of what was being done in the beginning of August, when the American demand fell off and when the shrinkage in the good orders on Continental and foreign account began, only to be followed by a lessened home demand. Perhaps there never was a time in the history of the trade when prosperity so suddenly gave way to stagnation, and the end of the downward curve is not yet in sight. Indeed it is evident that a new basis will have to be found on which to build up a new trade. The first essential for this will be such a reduction in the cost of raw material as will enable makers of iron, even at lower prices than have been ruling, to make a *profit*; and the second will be a restoration of commercial confidence. The settlement price has gone down to 68*s.* 3*d.*, and warrant iron sellers quote 68*s.* 6*d.*, with buyers at 63*s.* 3*d.* net cash. Makers, on the other hand, have reduced the price of mixed Bessemer numbers to 69*s.* net f. o. b. Stocks of iron, strange to say, are gradually being reduced, the clearance of 335 tons last week having left only 7,209 tons in hand, the lowest point reached for a decade at least. Steel makers are quiet, but the rail and plate mills at Barrow are resuming full time this week.

A belief is growing, says the *Manchester Guardian* of the 9th ultimo, that **lead** is likely soon to take an upward course again; it is based probably upon the fact that the recent heavy supplies have been cleared away. The course of the market has been steadily downward since the beginning of October, when the price stood at £21 15*s.* for English pig lead. Mr. Matton publishes the statistics of annual production for 1904, 1905, and 1906, the total figures being respectively 985,069 tons, 990,920 tons, and 975,610 tons. The fact that lead does not show any tendency towards increase, and contrasts curiously in this respect with most other metals is worth consideration; and fully accounts for the present price. The actual position of supplies for the current year is also favourable, the quantity apparently available being some 7 per cent. less than last year and 14 per cent. less than in 1905. It must, however, be remembered that the general conditions of the metal market are heavily against a rise in any department, and the special features must be extremely favourable to bring about a forward movement in the face of the troubles which are threatening the trade of the world.

The movements of **tin prices** have been erratic under the continued purchases of January and three months' deliveries on Eastern account, and also to some purchases for America, where stocks have run down. There is plenty of tin available in London, the stock on the 18th ultimo exceeding 4,000 tons. Supplies are still being held back in Singapore and Penang with the object of producing artificial scarcity in Europe, and business has been done there

at pounds below the prices named openly. The shipments for the first half of last month were 1,697 tons, as follows:- England, 1,407 tons; America, 75 tons; and the Continent, 215 tons. In the first eight months of the year the shipments averaged 4,686 tons; for September and October they averaged 4,040 tons.

The *Ironmonger* of the 23rd ultimo states that the position of the **copper market** shows no improvement. There have been ephemeral bursts of buying, due principally to the fact that dealers preferred to cover over-sold contracts by the purchase of standard copper rather than delivering electrolytic copper, naturally expecting a better premium from consumers in connection with the latter. The *Ironmonger* fears there is still a considerable margin for a fall in price. The United States consumption of copper is now about 9,000 tons a month, about one-third of the quantity used during the height of the recent trade boom. A quiet business has been passing in refined and manufactured copper. A few contracts have been booked for India for yellow metal, but a new competitor seems to have arisen in the English trade, for English yellow metal is being offered by a firm at prices below the associated makers' level. China has bought a few hundred tons of special brands of Australian ingots, paying a high price. The shipments from New York, Baltimore and Philadelphia to Europe during the week ending the 16th ultimo were 7,065 tons. The sales of Chili bars on the west Coast include 200 tons of Lota (Liverpool), 100 tons of Urmeneta (Liverpool), and 50 tons of Catemu (Continent) The private storing of accumulations is believed to be going on. At the end of October there is said to have been 4,600 tons privately stored in Hamburg and 3,600 tons in Rotterdam, to say nothing of other ports on the Continent, and there is reason to believe that copper is being stored secretly in Great Britain. For the first fortnight of last month supplies are given as 24,888 tons for North America, Spain and Portugal, Chili, Australia and other countries. It is estimated that in America the present curtailed output, including the imports, would leave a surplus for export of about 22,000 tons a month.

A Yokohama telegram, dated November 12th, states:—"The Japanese Raw Silk Trust has been broken after a month's boycott by American manufacturers. Commenting on this, the New York *Journal of Commerce* of November 13th says:—Early yesterday morning Mr. William Greenbaum, of Vivanti Bros., received the following cable message from an agent in Yokohama: "Re-reel boycott raised." The information contained in this terse sentence is full of meaning to the members of the raw silk trade, and was taken as evidence that the struggle against the discrimination shown by the proprietors of the Kanrasha, Shimanita and Usulsha brands of re-reels in favour of the Kitto Gomei Kaisha and the Mitsui Bussan Kaisha had proved successful. The following cablegram announcing the return to unrestricted trade conditions in raw silk dealings was received by the Silk Association of America: "Re-reel controversy amicably settled. Business will be done on old basis. Can accept orders from Thursday."

The **clearances of silk** at the **Lyons** Conditioning-house during the week ended November 13th, 1907, amounted to 141,643 kilos., as compared with 119,782 in the preceding week and 168,628 in the corresponding week of 1906. We append the usual detailed comparison:—

Week ended November 13th.	Thrown. Organsins. Kilos.	Thrown. Trames. Kilos.	Raw Kilos.	To l Kilos.
1907	23,967	22,986	94,690	141,643
1906	17,403	26,251	124,974	168,628
1905	21,171	25,245	87,640	134,056
1904	21,142	25,258	118,958	165,358
1903	19,279	19,189	77,738	116,206
1902	17,558	18,849	73,554	109,961

Prices for all descriptions continue to be very weak and irregular, both in the centres of production and of consumption. The American trade, paralysed by the financial crisis and the restriction of credit, is doing nothing either in Europe or in the Far East and there is a general want of confidence all round. The European consumption, however, has not yet shown signs of falling off, and manufactures of silk goods are still pressing for deliveries of their raw material.

Mr. A. Rogers, late of the Bombay Civil Service, writes to the *Times* under date November 15th with regard to the economic importance of reviving the native industries of India. "I would especially," he says, "call public attention to an industry that has hitherto been greatly neglected in many parts of the country, which, if duly developed, will provide ample employment for all classes of the people, in addition to increasing the wealth both of India and this country to an unestimated and practically unlimited extent. This industry, within the reach of all classes, high and low, educated and uneducated, is the culture of the **wild silks of India,** one of which, that of the Tassar (or Tussore) is already well known here and on the Continent, and is in ever-increasing demand. It is an industry well calculated through its simplicity, to become a *domestic institution*, throughout the length and breadth of the land, for it has been proved to be independent of all methods of culture but that provided by nature in various species of wild jungle trees. It thus does not even require the cultivation of the mulberry, on which Chinese and Japanese silkworms are fed, so that no

expense need be incurred in the provision of adventitious food. Another class of silk, that produced by the worm that feeds on the castor-oil plant, the *Palma Christi*, is practically unknown both here and in India, and will probably prove the more valuable of the two, being pure white, capable of easily taking any dye. Its food is, of course, abundantly grown all over India, and the worm has already been domesticated and its silk greatly improved in quantity and quality by a lady in the Madras Presidency. The cultivation of these silks, in addition to others locally known, it is not too much to say, may eventually revolutionise the domestic industries of India. But not only this. It is found that the empty cocoons of the worms that are now left to rot in the trees in the jungle can be converted into plush, so that nothing need be wasted, and their collection can be used as a means of giving wage-earning employment for the women and children of the labouring and agricultural classes in the time of scarcity or famine, with which a large portion of India is at this moment face to face."

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

For the week ending 7th December, 1907—

In the Calcutta market—

Behar opium—Rs. 1,284; 1,284; 1,296; 1,314; 1,307; 1,303; 1,300.

Benares opium—Rs. 1,250; 1,250; 1,275; 1,290; 1,280; 1,280; 1,275.

The prices in the time bargains for the Behar opium of the 12th and 1st sales of 1907 and 1908 were Rs. 1,286; 1,286; 1,303; 1st sales 1,908, 1,321; 1,314; 1,310; 1,307.

In the China market—

At Hongkong (exchange Rs. 150¼ to 151¼ per $100).

Behar opium—$860; 860; 865 and 870; 875 and 877½; 880; 880; 880.

Benares opium—On the 2nd, 3rd and 4th instants respectively $825; 830; 860.

At Shanghai—(exchange Rs. 200 to 201 per 100 taels).

Behar opium—On the 2nd instant 654 taels; on the 4th and 5th instants respectively 660 and 663 taels; 668 taels.

For the week ending 30th November, 1907—

In the Bombay market—

On the 24th and 26th instants (new, 1906-07) Rs. 1,308 to 1,347; and Rs. 1,246 to 1,315; on the 25th and 29th instants (new, 1905-06) Rs. 1,360 to 1,375; and Rs. 1,325 to 1,391; on the 25th and 28th instants (old, 1904-05) Rs. 1,456, and Rs. 1,456, respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,273 and 1,358; (old) Rs. 1,395 and 1,450, respectively.

It was stated in the home papers to hand by the last mail that at the sixty-seventh ordinary general meeting of the **P. and O. Steam Navigation Co.**, which was to have been held on Tuesday, last, the Directors, after providing for the usual dividend, at the rate of 5 per cent. per annum on the preferred stock, had decided to recommend a dividend on the deferred stock of 6½ per cent. for the six months and a bonus of 3 per cent., making, with the interim dividend of 3½ per cent. paid in June, a total distribution on the deferred stock of 13 per cent. for the year. The net earnings of the **Bengal and North-Western Railway** for the half-year ended June last amounted to Rs. 55,24,726, against Rs. 45,25,447 for the corresponding half of last year. A dividend of 3⅓ per cent. free of Indian, but subject to English, income-tax, has been declared. An interim report of the **Bengal Dooars Railway Co.** states that for the half-year ended June last the net earnings were Rs. 2,54,942, an increase of Rs. 26,709 on the earnings of the corresponding period of last year. The Directors have declared an interim dividend on the ordinary stock of 1½ per cent. At a meeting of the **Delhi-Umballa-Kalka Railway Co.**, held in London on the 20th ultimo, Colonel A. J. Filgate, R.E., who presided, stated that the goods traffic showed a considerable improvement, the total weight carried being 406,276 tons, as compared with 356,208 tons in 1905-06. General merchandise showed a decrease, but in regard to coal there was a satisfactory rise of 66,276 tons, the improvement in the coal traffic being due in a measure to the recent reduction in freight on that commodity. The Directors have recommended the payment of a final dividend of 3 per cent. and a bonus of 1 per cent. on the capital stock, making the total dividend for the year 7 per cent. The **Mysore West and Mysore-Wynaad Gold Co.** have issued a circular stating that development work has been stopped at the Tank Block Mine. A considerable amount of gold has been obtained. Cyaniding operations will continue until the large accumulations of tailings have been treated. Prospecting for a new mining property is proceeding, and it is hoped that a definite proposal will be submitted to the shareholders before long.

We learn from the Resolution on **immigrant labour** in the **Assam** districts of Eastern Bengal and Assam for the year ending June last that the strength of the total labour force employed on tea gardens, in the oil refinery at Digboi, in coal mines and in certain saw mills was 684,208, showing an increase of 6,801 on that of the previous year. The sexes were about equally divided in the total adult labour force. As compared with the previous year, there was a decrease of 4,652 in the number of coolies of all classes, the importations from Madras alone showing an increase, while those from Chota Nagpur, the Santhal Parganas and the Central Provinces showing the largest falling-off. The average monthly rate of wages of Act labourers rose from Rs. 5-12-9 to Rs. 5-13-1 for men, and from Rs. 4-11-10 to Rs. 5-0-2 for women. For non-Act men it was Rs. 5-0-7, as compared with Rs. 4-15-4 for the previous year; for women it rose from Rs. 3-9-2 to Rs. 3-11-10; and for children from Rs. 2-3-1 to Rs. 2-3-5. The registered rate of mortality for the total labour force was 22·0, compared with 24·0 per thousand in 1905-06, the deaths being due almost solely to cholera. Only two complaints were preferred against employers for ill treatment. During the year under report, the area under tea cultivation increased from 338,278 to 339,775 acres.

The Report on **inland emigration** in the **Central Provinces** for the year ending June last shows that the total number of labourers recruited was 866 men, 529 women and 320 dependants, as against 2,319, 1,371 and 1,265, respectively, in the previous year. This decrease is attributed to the good crops of the year and to the great local demand for labour consequent on the opening of large railway and irrigation works and the development of the manganese industry; coolies earning from Rs. 6 to Rs. 8 per month locally, while the minimum wage of Rs. 5 is offered by agents. There were 39 prosecutions in connection with recruiting operations.

We notice that the price of **T. N. Shellac** has fallen from Rs. 115 per maund (maund = 82⅔ lbs.) on April 15th last, to Rs. 60 per maund on the 28th ultimo. The drop since the American financial crisis started is about Rs. 6 per maund, though on the 7th ultimo the drop was as much as Rs. 15.

NOTICES.

CROP FORECASTS.

The following General Memoranda on crops of the season 1907-08 will be published in the *Indian Trade Journal* of the 19th instant:

Second General Memorandum on Rice.

Third General Memorandum on Cotton.

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 18th December at 4 P.M.

ENQUIRIES.

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

Sesamum Seed.

(163)—A firm in Trieste, furnishing bank references, desires to be placed in communication with exporters of sesamum seed.

Red Corundum.

(164)—A correspondent in London desires to be furnished with the addresses of firms in a position to ship to London at regular intervals large quantities of good quality red corundum, and also quotations for 10-ton lots, delivered in London.

CALLS FOR TENDERS.

Coal.

The Superintendent, Ammunition Factory, Kirkee is inviting tenders up to the 14th instant for the supply 600 tons of Indian steam coal.

Tea.

The Divisional Contract Officer, Meerut Division, is calling for tenders up to the 10th proximo for the supply of black tea for the use of the 7th and 8th divisions.

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 December, 1907:—

Parliamentary Publications.

Australia—Despatch from the Governor-General enclosing the Navigation Bill, 1907, of the Government of the Commonwealth of Australia. United Kingdom—Statistical Abstract for the —— in each of the last fifteen years from 1892 to 1906.

Foreign and Colonial Publications.

Belgium—Monthly Accounts of Trade, October, 1907. Canada—Weekly Trade Reports dated 4th and 11th November, 1907. Egypt—Monthly Accounts of Trade, October, 1907. Italy—Monthly Accounts of Trade, July, 1907. Spain—Senso De La Poblacion De Espana, 31st December, 1900, Tomos III and IV. United States—Crop Reporter, November, 1907; Monthly Consular and Trade Reports, November, 1907; Bulletin of the Bureau of Labour, July, 1907; Census of Manufactures, 1905:—Bulletin No. 73—Electrical Machinery, Apparatus and Supply; No. 81—Shipbuilding; No. 82—Musical Instruments, Attachments, and Materials; No. 83—Slaughtering and Meat Packing, Manufactured Ice and Salt; No. 84—Carriages and Wagons and the Steam and Street Railroad Car Industry; No. 85—Pens and Pencils, Buttons, Needles, Pins and Hooks and Eyes, Oilcloth and Linoleum, and Turpentine and Rosin; No. 86—Copper, Lead, and Zinc, Smelting and Refining; No. 87—Tobacco; and No. 88—Power employed in manufactures.

Diplomatic and Consular Reports

Trade of the Bahrain Islands 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., Ld.; 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, DECEMBER 12, 1907.

WORLD'S GOLD AND SILVER PRODUCTION.

WE gather from a Report that has been published by Mr. Geo. E. Roberts, Director of the United States Mint, that in the year 1905—the latest period for which complete figures are available—the yield of gold in the United States was 4,265,742 fine ounces of the value of Rs. 27,55,64,687, or a gain of 373,262 ounces on the previous year. The yield of silver amounted to 56,101,600 fine ounces of the commercial value of Rs. 10,69,43,750, reckoning at Rs. 1-14-6 per ounce, which was the average price in New York. The silver figures show a decrease of 1,581,200 fine ounces on the previous year. As in India, silver is coined in the United States on Government account only. Deposits of silver bullion, however, are received by the United States mints and assay offices to be returned to the depositor in fine or unparted bars, with the weight and fineness stamped on them. These deposits are confined almost exclusively to the assay office at New York, and the bars when returned to the depositor are sold for use in the arts or exported. The exports of gold from New York during the year were valued at Rs. 7,89,87,622 and the imports aggregated Rs. 5,42,50,325. During the same period the exports of silver to the East (India, China and Straits) amounted to Rs. 12,89,28,290. Talking of the East Mr. Roberts reminds us that, with regard to the larger part of the imports of gold and silver into India yearly, it is almost impossible to distinguish between their employment for ornaments and their use for money. It has been said, been the general rule of the past that whatever went to Asia was permanently lost to the rest of the world; but it seems that with the entrance of Japan into the circle of commercial nations and its adoption of the gold standard this saying is not entirely true, as Japan exports gold freely at times, though she furnishes no estimate regarding her industrial consumption of gold and silver.

During the period under discussion the world produced 18,243,911 fine ounces of gold of the value of Rs. 1,17,85,47,187, thus exceeding the figures of the previous year by 1,453,500 fine ounces and by 8·6 in value. Of this increase in output, Africa alone was responsible for 1,326,212 fine ounces; America being next with 373,262 and Mexico third with 169,400 fine ounces. Of the countries showing decreases, Russia takes the lead with 121,501, although in the belief that the estimates made by the United States Mint for China have been too high, the figure for that country was reduced by 131,700 fine ounces. The total output in the different gold-bearing countries in 1905 in fine ounces was:—Africa, 5,482,296; United States, 4,265,742; Australasia, 4,156,692; Russia, 1,078,356; Mexico, 779,181; Canada 700,800; and British India, 563,817 ounces. These seven countries together produced 17,026,884 fine ounces, or 93 per cent. of the world's gold yield. The British Empire leads the output with over 11,000,000 ounces, or about 60 per cent. of the total. The share of the United States was 23 per cent.

Turning to the world's silver production, we find that it totalled 167,727,934 fine ounces valued at Rs. 3.,97,31,250 at the rate per ounce quoted above. These figures show an increase of 3,391,526 ounces over those of the previous year, the price in 1905 also showing an increase of 1½ annas per ounce. As a silver-producer, Mexico held the first place with 65,040,865 fine ounces, the United States being second with 56,101,600 ounces. The other silver-producing countries were:—Australasia, 12,561,600 Canada, 5,971,875; Germany 5,820,917; and Peru, 5,169,659. The total amount of silver produced by the countries named was 150,669,546 fine ounces, or 90 per cent. of the total yield of the world.

No attempt has been made by Mr. Roberts to estimate the industrial consumption of the precious metals in Asia though estimates for most European countries are given. In Great Britain, for example, the total consumption of gold is put down at Rs. 1,53,12,500, and of silver at Rs. 1.42,96,875. It would be a tedious process to review the total consumption in every country; the curious will find all the information they may require in the Report of the Director of the United States Mint for 1905. It may suffice to say here that the commercial value of the world's production of the precious metals in the year under notice was Rs. 1,49,82,78,437, or an increase in value of Rs. 10,90,33,125 compared with the previous year's returns.

OPENINGS FOR INDIAN TRADE.

Position at Baghdad.

WE publish below a copy of a letter which Major Ramsay, H. B M. Consul-General at Baghdad, has forwarded to the Board of Trade, pointing out the facility with which agents of manufacturers and importers can visit the important markets of Baghdad, Aleppo and Beyrouth on their way between England and India.

In forwarding us a copy of this letter Major Ramsay encloses a list of what he believes to be the chief articles of import from India, but he thinks that if representatives of Indian commerce were to visit Baghdad they might find a market for produce which does not at present find its way to Baghdad. The list is published below. If some of the leading Indian Chambers of Commerce were to send a representative to visit his market, he feels sure they would be able to do a considerable business, especially if they brought samples. The things that occur to him as most likely to find a ready sale are Cawnpore (or other) woollen goods, candles, soap, fezzes and daris.

Major Ramsay's Letter.

The full text of Major Ramsay's letter is as follows:—

"You will have learnt from my various letters that, in my opinion, Baghdad offers a very promising market for many kinds of British manufactures. The chief difficulty of pushing the trade lies in bringing buyers and sellers into such close relationship with each other that each can understand the needs of the other. In certain lines of business I can act as a medium of communication, but I cannot supply detailed technical information, nor is it possible to accurately describe in writing the advantages and disadvantages attaching to Baghdad as a market.

"No Consular reports, however carefully prepared, can be as useful as a personal knowledge of the market to be exploited, and this is especially true of a country where no official statistics are published, where foreigners enjoy privileges that are denied to natives, and where the relations between the governors and the people are such as a resident of England would find it difficult to realise.

The Markets of Turkish Arabia.

"For these reasons I feel convinced that the best method of pushing our trade is to persuade firms doing a large business to send out their representatives to see things for themselves. Most people in England think that Baghdad is at the end of the earth and on the road to nowhere, and that consequently its advantages as a possible market can only be examined at the cost of a considerable expenditure of time and money. I do not, however, think that this is the case. An agent of a firm travelling to India could examine the market, not only at Baghdad, but also at Beyrouth and Aleppo, (both important commercial centres) with the expenditure of a very little money and time. I need not remark on the trade of the places that I have mentioned, because such information as is available is published in the Consular Reports. The object of this letter is to turn the thoughts of manufacturers in this direction and to persuade them that there are no serious physical difficulties to be overcome.

How to Reach Baghdad.

"Manufacturers will know that there is no difficulty in getting from England to Constantinople or Port Said. From either of these places there are numerous steamers running to Beyrouth. From Beyrouth to Aleppo there is a railway, and a branch from this railway would enable a traveller to visit Damascus. From Aleppo to Baghdad a service of post-carriages has recently been started. These carriages do the journey in about eight or nine days. From Baghdad to Busrah there are British steamers at least once a week, and there are several Turkish steamers. From Busrah to Karachi and Bombay there is the weekly mail steamer of the British India Steam Navigation Company, as well as other steamers.

"The cost of a carriage from Aleppo to Baghdad is about £15, and a quarter of this sum for one seat. The cost of a first class ticket by steamer from Baghdad to Karachi is about £10.

"I enclose a list of the places in England where first-hand information about Baghdad is likely to be obtainable."

Indian Imports.

The following is the list of principal Indian products and manufactures imported into Mesopotamia referred to above:—Yarn and twist, unbleached

cotton goods, dyed cotton goods, medicinal roots and drugs, spices of all kinds, turmeric, tea, timber of various kinds, gunny bags and cloth, Indian silks, leather and leather shoes, coir and hemp rope, Indian pickles and preserves, silk and cotton thread, soap, sugarcandy, tamarind, indigo, rice, twine, coffee, perfumery.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 21st November, in the section relating to Tariff Changes and Customs Regulations, gives particulars about:—

Australian Commonwealth.—Tariff Amendments. Repacking of Unmanufactured Tobacco. Drawback on Oil, &c. Marking of Socks and Stockings. Marking of Essences.

Dominion of New Zealand.—Tariff Act of 1907 passed.

Orange River Colony.—Regulations under the Explosives Ordinance, 1907.

France-Servia.—Ratification of the Commercial Convention between the above Countries.

Bulgaria.—Importation of Caviare and Fish from Non infected Russian Ports.

Costa Rica.—Import Duties on Revolvers, Revolver Cartridges, &c.

—The **United States** Sub-Committee on **Denatured Alcohol** of the National Fire Protection Association, which recently held some conferences with representatives of a committee of manufacturers, now submits through their chairman, Henry A. Fiske, the following as their deductions as to the hazard of denatured alcohol: "Without making any formal report at this time, the meeting seemed to develop the following points: The low grade kerosine required in the Government formula may be ignored, in that it is no more hazardous than the wood alcohol, which latter constitutes the chief denaturant, so far as percentages are concerned. The hazard of denatured alcohol must be classed somewhere between ordinary alcohol and wood alcohol, and flash point tests, while indicating only one phase of the hazard, tend to show that denatured alcohol is nearer ordinary alcohol than the more volatile wood alcohol. The committee hopes to make additional tests in order to, if possible, more definitely fix the hazard in comparison with the two types of alcohol. If, as it now appears, denatured alcohol is at least somewhat safer to use than wood alcohol, it would not seem necessary to advocate more stringent regulations than for the latter. Furthermore, when we consider that denatured alcohol will not only replace wood alcohol in many cases, but also may replace more hazardous compounds, such as benzine and gasoline, it appears that its general introduction, under proper restrictions, should tend to reduce the fire loss rather than increase it."

CHAMBERS OF COMMERCE.

KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on November 26th, 1907, the following matters came up for consideration:—

Read letter, dated London, 1st November 1907, from the Chairman, Indian Committee, intimating that it has been settled to form an Indian Section at the **Franco-British Exhibition** to be opened in London in May 1908, and that the Indian Committee are anxious to make the most of the limited space at their disposal and to provide free space for articles accepted by them; and requesting the intending exhibitors to send in their applications at once.

Resolution.—To be acknowledged, circulated and recorded.

Read Report, dated 26th November 1907, of the Sub-Committee for Local Affairs, on the revised draft Bill for the **Registration of Partnerships**, No. 9, of 12th November 1907. The Sub-Committee are of opinion that the provisions of the Bill if passed into Law will be of advantage to the mercantile community in general; they suggest that the Act be made applicable to the towns of Lahore and Multan, and point out that no penalty is named for non-registration.

Resolution.—The Committee concur in the Sub-Committee's Report. The Bengal Chamber of Commerce to be informed accordingly.

Read letter No. 7124, dated 11th November 1907, from the Director-General of Commercial Intelligence, intimating that he has under consideration the **revision of the list of Cotton piece-goods**, enumerating certain items which it has been suggested to him should be added to the list and stating that it is proposed that the word 'Cotton" should be added to the item "towels" and the words "in woven pieces" to the item "shawls." The Director-General requests the Chamber to express its opinion on the additions proposed; also read report of the Sub-Committee for Piece-Goods and Yarns to whom the above letter was referred. The Sub-Committee approve of the additions suggested.

Resolution.—The Committee agree with the Sub-Committee's Report. The Director-General of Commercial Intelligence to be informed accordingly.

Read letter, dated 12th November 1907, from the Honorary Secretary, Karachi Merchants' Association, stating that the **imports by rail** having now very much fallen off there is no fear of any congestion in the Railway Import Yarn if the time of **free delivery** were made 48 hours as before, and requesting to be informed whether the Chamber will move in the matter.

Resolution.—The Karachi Merchants' Association to be informed that the Chamber do not propose to take any further action in the matter at present.

Read letter, dated 26th October 1907, from the Secretary, Burma Chamber of Commerce, Rangoon, stating that the question of the **mutilations and miscarriage of telegrams for Europe** has for some time been engaging the attention of the committee of his Chamber in consequence of numerous complaints made by members; that representations on the subject were made last year to the Director-General of Telegraphs who, in reply, stated that measures were being taken to ensure safe and accurate transmission of messages and that the introduction of the Baudot system should greatly reduce the number of errors, and adding that in spite of these measures the improvement effected was not perceptible, and his Committee are therefore desirous of making further representations to the Director-General with a view to the appointment of European Telegraphists on the Home lines. The Secretary, Burma Chamber of Commerce, further states that his Committee are of opinion that the support of the Indian Chambers is necessary to such a recommendation and are therefore desirous to know whether the Committee of this Chamber are willing to give their support to the proposal. Also read remarks by the Members of the Chamber to whom the above letter was circulated with the request to mention instances of mutilation or miscarriage of messages which might have come to their notice.

Resolution.—The Burma Chamber of Commerce to be informed that in the experience of the Members of this Chamber, most mutilations occur on the Indian lines. There does not therefore appear any necessity for a representation in the direction proposed.

Read letter, dated 15th November 1907, enclosing copies of correspondence the writers had with the Chief Collector of Customs in Sind *re* the refusal of the Customs authorities under the **drawback rules** to allow them to mix a parcel of 522 bags rapeseed imported by them from Sonmeani with another lot in order to make up a shipment of uniform quality.

Resolution.—The Government of India (Department of Commerce and Industry) to be again approached with a view to the exempting from duty of seeds and other produce imported from Native States. Failing this, the Customs authorities should afford facilities for mixing such seeds or other produce on which duty is paid with duty-free seed without making it impossible to recover drawback on exportation.

Read letter No. P. T-14603, dated 20th November 1907, from the Chairman, **Karachi Port Trust**, stating that the Board have under consideration the provision of a **ten-berth wharf** on the west side of the channel, the possible cost of which is estimated at about 1¼ crores, and that the Trust's revenues will perhaps not be able to entirely bear the burden of such a loan, and adding that it is anticipated, however, that when the scheme is completed and working the Board will be able to meet all obligations in this respect, but as in the meantime the Chamber is asked to express its views as to whether the mercantile community would willingly accept such increase in charges as might be found necessary to carry out a scheme which will undoubtedly effect great savings directly to merchants seeing that it will put an end to the existing difficulties and delays at the busy time of year.

Resolution.—The draft reply (expressing the willingness of the Members of the Chamber to accept an increase in charges should such become necessary), as amended, is approved. The corrected draft to be circulated for the approval of Members.

Hon. Mr. Finlay at Karachi.

An informal meeting of the Managing Committee of the Karachi Chamber of Commerce was held on November 26th to meet and discuss certain matters with the Hon. Mr. J. F. Finlay, C.S.I., Member for Commerce and Industry of His Excellency the Governor General's Council.

The Chairman (the Hon. Mr. M. de P. Webb, C.I.E.) opened the proceedings by cordially **welcoming the Hon. Mr. Finlay** on behalf of the Committee and Members of the Chamber. The Mercantile Community were honoured in receiving so soon a personal visit from the Minister of Commerce and Industry; they realised that meetings such as the present were excellent means of making known to Government the difficulties and wants of the commercial public, and they felt that only good could result.

A variety of matters were discussed informally with Mr. Finlay. The subjects dealt with and Mr. Finlay's replies are given below:—

A rapidly expanding trade has necessitated the multiplication and development of all existing **transport and shipping facilities.** The Karachi Port Trust have several large schemes in hand, but before they could proceed further they have to await (1) the sanction of Government to the raising of a 50 lakh loan, and (2) the amendment of the Karachi Port Trust Act so as to permit of extended borrowing powers. Both these matters were now nearly a year old. Would Government kindly expedite sanction to the same?

Mr. Finlay replied that (1) sanction to the raising of the 50 lakh loan had just been received in Karachi, and (2) with regard to the amendment of the Karachi Port Trust Act, he believed that legislation would shortly be undertaken.

The Chamber represented that in view of the facts that many of the improvements now being taken in hand by the Karachi Port Trust were of a permanent character such as land reclamation, harbour enlargement, &c., and moreover as the Port Trust at present provides out of current revenues a Depreciation and Replacement Fund and a Reserve Fund, as well as a Sinking Fund to limit the period of the loans to 30 years was to unduly burden current trade for the benefit of posterity. The Chamber therefore begged that the period of the new loans might be made 60 years instead of 30 years.

Mr. Finlay replied that he noted the Chamber's views. He mentioned the reasons in favour of restricting the terms of loans, and said that the term for each

loan proposed would be settled on consideration of the circumstances disclosed in each application, but expressed a hope that the Trustees would be content with the shorter term unless the burden was clearly beyond the abilities of the revenues to bear.

The minutes of the informal meeting of the 20th instant with Mr. Wood of the Railway Board were handed to Mr. Finlay and the several points explained. The desirability of extending the **metre-gauge from Hyderabad to Karachi** now that space was available in Karachi, and before the new schemes of improvement were completed and the City of Karachi further developed, was brought to notice.

Mr. Finlay recognised the Karachi point of view and promised to give the matter his attention.

The **difficulties of obtaining justice** through the agency of the law courts of the Punjab was explained in detail—the months and years that elapsed before cases could be brought to a conclusion—the similar delays that occurred before the judgments of the courts could be executed—the small proportion of cases in which judgments ever were executed—the indifference with which dishonest native traders regarded threats of legal action—the frequency with which dishonest merchants altogether ignored their contracts if the market were against them—the frequency and regularity with which European merchants were forced to accept serious losses without going to law at all owing to the generally recognised practical inefficiency of the machinery of the Courts—the heavy cost of litigation where such a course was deemed essential in order to establish the recognition of some important principle, and the general lowering of the standards of honesty and respect for British Administration which resulted from the above—these matters were all fully explained, with illustrations from actual court cases past and present.

Mr. Finlay much regretted to hear of the difficulty which he promised to bring to the notice of the Department of Government immediately concerned. He also suggested that the Chamber should again bring the matter to the notice of the Punjab Government.

The **necessity of a lighthouse** on the Hajamrao mouth of the Indus was explained.

Mr. Finlay took note of the matter which he pointed out was one primarily for the Local Government to consider.

The **unfairness of the present Customs Law** whereby shipowners are made to pay the ordinary Custom duties on goods short-landed by their steamers was explained. It was suggested that the levy of such duties should be made optional at the decision of the Customs Authorities, and that where there was no question of fraud or collusion, no duty should be levied from shipowners.

Mr. Finlay promised to give the matter his attention.

The Committee urged that **oil-seeds** or produce **imported from Native States** should be exempted from all duty. Failing this, the Customs Authorities should afford facilities for mixing such seeds or produce on which duty is paid, with duty-free seeds without making it impossible to recover drawback on exportation.

Mr. Finlay took note of the Chamber's representation.

The fact that the gold value rupee (T. T. on London) had sunk to 1/3$\frac{7}{32}$ notwithstanding the existence of a **Gold Standard Reserve,** was discussed at some length. It was urged on behalf of the Chamber that a large portion of the Gold Standard Reserve should be held in gold in India and should be always available to the public when required at Rs. 15 to the sovereign in order to obviate a **collapse in exchange** such as was then being experienced. In this matter the Karachi Chamber concurred with the views expressed by the Bombay and Bengal Chambers early in the present year.

Mr. Finlay replied that this subject was one which fell primarily within the cognisance of the Finance Department of the Government of India, and he consequently asked the Committee to take anything he said with full reserve. He felt justified in assuring the Committee that the Government of India would consider this very serious question with care, and would use the stock of gold in the Currency Reserve and the sterling investments of the Gold Standard Reserve in the manner which seemed likely to produce the greatest effect towards the support of exchange. He expressed his personal doubts whether the unlimited issue of sovereign to the public, when exchange fell and the sale of Council Bills stopped, would produce the greatest possible effect in restoring the rate to 1*s.* 4*d.*

In conclusion the Chairman on behalf of the Committee and Members of the Chambers warmly thanked Mr. Finlay for the opportunity he had given them for personally discussing the above matters with him.

PUNJAB.

At a Committee meeting of the Punjab Chamber of Commerce, held on November 13th, the following matters came up for consideration :—

Read further correspondence from a firm in Europe regarding **Indian yarns.** The correspondence is forwarded by the Director-General of Commercial Intelligence with a request that the information contained therein may be conveyed to members interested in the Indian Yarn Trade.

Resolution.—Copies of correspondence to be sent to all members likely to be interested.

Read (1) Copy letter No. 2787 Home General, dated 4th October 1907, from the Hon. Mr. E. D. Maclagan, Chief Secretary to Government, Punjab, to the Commissioner, Lahore Division—forwarded by the Deputy Commissioner, Lahore District, to the Honorary Secretary, Lahore Branch of the Chamber, for favour of opinion on the **proposal for the division of Lahore district into two districts.** (2) Letter from the Honorary Secretary, Lahore Local Branch, dated 9th November 1907, in which he expresses his Committee's general approval of the proposed division.

Resolution.—Letter to be addressed to the Deputy Commissioner, Lahore District, informing him that the Lahore Local Committee of the Chamber approve of the proposed division of Lahore District generally, but that time has not admitted of their going into the details of the scheme.

Read letter from the Gocla Ginning Mills, dated 12th November 1907, pointing out that this year for the first time a rule has been enforced under the **Steam Boilers and Prime movers Act, Punjab,** whereby only engineers or engine drivers who are holders of certificates under the Punjab Act are allowed to be in charge of boilers, whereas previously holders of certificates under the Act of the U. P. of Agra and Oudh or the Bombay Act were allowed to take charge.

It is stated that this now rule is a great inconvenience as the number of Punjab men is limited and their services difficult to secure, with the result that certain factories are unable to work.

Resolution.—Letter to be addressed to the Chief Secretary to Government, Punjab, on the subject.

MANCHESTER TRADE.

Outlook in Cotton.

AT a meeting of the Manchester Chamber of Commerce, held on November 15th, the Chairman (Mr. Langdon) reviewed certain of the questions now engaging the attention of that body.

The question of **time contracts,** Mr. Langdon said, had progressed no further. The Board had thought it advisable that their suggestions for a scheme to secure compensation in the Indian trade for unpunctuality of delivery in a rising market should be submitted to the Indian Chambers of Commerce, and so far no reply from those Chambers had been received. There had been no progress also with regard to the settlement of the regulations for **trade marks in China.** The trouble, however, in respect to trade marks in China was not so much the imitation of foreigners' marks by the Chinese as by other foreigners trading in China, and especially the Japanese; this was all the more serious as the Japanese Government had so far declined to join Great Britain, the United States, Germany, and Italy in their agreement to afford their subjects mutual protection in the matter of trade marks.

The Chamber's efforts to obtain the remission of the tax levied by the New Zealand Government as income tax on non-resident principals had not succeeded. The Natal Government's proposal to tax every agent visiting Natal with the sum of £25 for each firm represented, instead of the tax hitherto levied of £25 irrespective of the number of firms represented, had been withdrawn, most likely in consequence of the very strong representations his Chamber made in the proper quarter.

Chambers and a Charter.

As to the proposal to confer an official status on Chambers of Commerce, Mr. Langdon said :—

"If by an official status is meant that Chambers of Commerce should be incorporated by Royal Charter, I believe no legal impediment exists which prevents any Chamber obtaining such a Charter ; but unless the next step is taken, and by that I mean the supporting or subsidising Chambers out of the public purse, I cannot see what advantages such incorporation would bring. I see no likelihood of British Chambers ever receiving grants from national funds. I should be very sorry to see a departure from the present system, under which our influence and weight depends on the activity of our members and the efficiency of our committees and staff. Abroad the duties and functions of Chambers of Commerce are strictly defined; they are financed out of public taxation paid by traders. In some countries even they can be disbanded by the Minister of Commerce, and a public functionary may attend their meetings and take part in the discussions.

"Moreover, we do not find abroad that political parties are so strictly defined as in this country, and should ever our Chamber of Commerce receive Government assistance the political element which is already the bane in our municipal life would at once enter into our proceedings. Although in Germany Chambers of Commerce are constituted under regulations passed by Parliament and approved of by the executive, the Government is under no legal obligation to consult them before introducing measures, nor are Chambers of Commerce compelled to submit their reports on any proposed legislation. A continuous dispute exists between the German Chambers and the Government; the latter absolutely refuse to recognise any right on the part of the former to demand that all decrees or legislative enactments must before being put into operation be accepted by the Chambers of Commerce as being in accordance with their wishes.

"If we wish to retain our prestige and increase our authority, it can only be by retaining our independence from all Government interference and at the same time, as a free institution, continue to attract to our boards and committees the services of men who are willing to give the benefit of their experience to the commercial community. These services are not likely to be refused because Chambers of Commerce have no official status."

A New Registry.

Alluding to Mr. Lloyd-George's recent visit to Manchester, he said that the President of the Board of Trade was greatly impressed by the order and method employed by the Keeper of Trade Marks. Mr. Llewellyn Smith, the Permanent Secretary of the Board of Trade, remained for some time engaged in investigating some of the details of the working of the office, and he believed the result would be that Manchester would shortly obtain the establishment of a registry of designs, alongside the one existing for trade marks.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 30th NOVEMBER, 1907.

Rajputana.—There was no rain during the week and sowings are generally restricted to irrigated lands and where they have germinated are doing well. Cattle are in good condition except in one district of Mewar. The fodder and water supply are generally sufficient. Prices have risen in Bikaner, Jaisalmer, Shahpura, Bundi and Kotah; and have fallen slightly in Kishangarh. In other respects the situation has altered little since the previous week and no distress exists at present. There is no emigration or immigration.

Central India.—Rain *nil* in Gwalior and Bundelkhand; and partial in other Agencies. Spring sowings continue but are restricted to irrigable lands in Gwalior, Bagelkhand and Bundelkhand; they are practically completed in Indore, Bhopal, Malwa and Bhopawar. The condition of the standing crops is fair to good in Indore, Bhopal, Malwa, and parts of Bhopawar. Harvesting and threshing of autumn crops are in progress. Dry autumn crops have been seriously damaged by drought. The condition of agricultural stock is fair to good except in parts of Bhopal and Bhopawar. Fodder is sufficient. Prices of food-grains continue very high; they are steady in Gwalior and Bhopawar; are fluctuating in Malwa; and are rising slightly in Bundelkhand. Opium sowings continue in Bhopawar and fields are being prepared in Bhopal. The numbers on test works in Nagode are 882; in receipt of gratuitous relief 137; total on relief 1,019. In Jaso 320 on test works; and *nil* on gratuitous relief. The general situation has improved in parts of Indore, Bhopal, Malwa and Bhopawar by the timely fall of rain.

Central Provinces.—Light rain fell during the week throughout the Provinces. The rainfall in Chhindwara, Betul, Wardha, Amraoti and the Mahasamund tahsil of Raipur ranged from 2 inches to 1 inch; elsewhere the amount received did not exceed 84 cents. Harvesting of autumn crops and picking of cotton continued throughout the Provinces; and threshing and winnowing were also in progress. The recent rainfall has much benefited the standing spring crops and stopped withering; and more land is likely to be sown in Damoh, Jubbulpore, Betul, Chhindwara, Wardha, Nagpur, Drug and Amraoti. Cotton plants in Wardha have considerably improved by the rain and are expected to give an extra picking in many fields. In the Brahmapuri tahsil (Chanda) spring crops have been damaged by insects; and in Betul grasshoppers are still injuring crops; *tur* has suffered slightly in parts of Yeotmal from clouds. No insufficiency of work is reported anywhere. Fodder and water are sufficient except in parts of Akola and Yeotmal where fodder is getting scarce. Prices:—Wheat in Mandla and Chhindwara and rice in Bilaspur became cheaper by half a seer; the price of *juar* fell in Chhindwara by $1\frac{1}{6}$ seers and rose in Chanda by $\frac{3}{4}$ seer and in Bhandara by 2 seers. The price of gram rose in five districts; elsewhere prices of food-grains remained stationary or fluctuated but slightly.

Native States.—During the week Kawarda received $1\frac{1}{2}$ inches of rain; and nearly $1\frac{3}{4}$ inches fell in Dongargarh and in Khairagarh. Chhuikhadan, Raj-Nandgaon, Kanker and Bastar had light showers not exceeding 82 cents. Harvesting of autumn crops continues. The recent rain has improved the condition of the standing spring crops, but more rain is required. Fodder and water are adequate. Rice became cheaper by 2 seers in Bastar.

Bombay.—Slight rain fell during the week in parts of Colaba, Ratnagiri, Kanara, East Khandesh, Poona, Sholapur, Satara and the Karnatak. More rain is generally needed for germinated spring crops and for further sowings. Standing crops are withering in parts of Sind, Ahmedabad, Kaira, Broach, Khandesh, Nasik, Ahmednagar, Poona, Sholapur, Bijapur and Baroda; otherwise they are in good condition, except for slight damage by locusts, grass-hoppers and other insects in parts of Broach, Nasik, Poona, Bijapur and Dharwar. Harvesting of autumn crops generally continues. Threshing is in progress in parts of Sind, the Konkan, West Khandesh, Nasik, Ahmednagar and Rewa Kantha. Spring sowings are in progress in parts of Sind, Ahmedabad, Broach, Surat, Kanara, Khandesh, Nasik, Bijapur, Kathiawar, Baroda, Palanpur, Cutch and Rewa Kantha. Cotton picking continues in parts of Sukkur, Hyderabad, Thar and Parkar and the Deccan. The supply of fodder and drinking water is generally adequate. Agricultural stock is generally in good condition. Water for irrigation is sufficient except in parts of Sind, Surat, West Khandesh, Nasik, Sholapur, and Satara. The quantity of food-grains purchasable per rupee is in the Karnatak 35 to 44 per cent; in the Deccan 21 to 48 per cent.; in the Konkan 19 to 30 per cent.; in Gujarat 20 to 56 per cent.; and in Sind 30 to 38 per cent. less than the normal. During the week ending the 23rd November 27 persons were relieved gratuitously in Belgaum. Local showers fell during the week and were beneficial to crops in parts of the Karnatak. Stocks of grain are sufficient. Prices are rising. Test works are being opened in the Panch Mahals. The cultivation and labouring classes are in fair condition and sufficient employment is available.

Hyderabad.—Slight rain fell in all districts during the week except in Aurangabad, Usmanabad and Adilabad; the average fall being 18 cents. Agricultural prospects have generally improved and much benefit has been derived from the cloudy weather. More rain is urgently required in parts of the Warangal district where the rainfall exceeded one inch. Castor seeds and other spring crops in the district have much improved. The autumn harvest is over; it is good in parts of Warangal; only fair on the whole in the greater portion of the dominions; and bad on higher lands on the western frontier. The early rice harvest which is not yet completed still promises a fairly good outturn. Prices:—Wheat $5\frac{1}{2}$; coarse rice $6\frac{1}{4}$; and *juar* $11\frac{1}{4}$; seers per rupee. In Hyderabad City *juar* is selling at $11\frac{1}{2}$ seers; while the highest price in 6 talukas of the districts is between 8 and $8\frac{1}{2}$ seers.

Mysore.—Very slight rain fell throughout the Province during the week. Prices of food grains have slightly risen in Hassan; they are steady elsewhere. The standing crops are in good condition and are being harvested. Prospects of the season are good. Cattle are healthy. Water and fodder are available.

Coorg.—Rainfall 35 cents. Coffee picking continues. Prices of food-grains are normal. The public health is fair. Water and fodder are sufficient. Agricultural prospects are good.

Madras.—The rainfall during the week was heavy in Nellore and Madras; good in Cuddapah, Godavari, Chingleput, Kurnool, Kistna, Anantapur and Guntur; *nil* in the Vizagapatam Agency and South Arcot; and light to fair elsewhere. Irrigation supplies are insufficient in parts of all districts except Chingleput, Coimbatore, Trichinopoly, Tanjore, Tinnevelly, Malabar, South Canara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress in parts. The standing crops have been benefited by the recent rain in Guntur and the Deccan; they are generally fair elsewhere, but some in parts of Ganjam, Vizagapatam and Cuddapah are withering; and some in parts of Kistna, Bellary and Coimbatore require more rain. Harvests continue with outturn poor to normal. Pasture is sufficient except in parts of the Circars, the Deccan and Tanjore. Fodder is scanty in parts of Ganjam, Godavari, Kistna, Nellore and Tanjore. The condition of cattle is generally good. The price of rice is stationary in twelve districts; has fallen in two; and has risen in nine. The prices of millets have fluctuated as follows:—*Ragi* is stationary in six districts; has fallen in four; and has risen in eleven. *Cholam* is stationary in three districts; has fallen in one; and has risen in ten. *Cumbu* is stationary in three districts; has fallen in four; and has risen in eight. The public health is generally good. Prospects are fair, but more rain is required in parts of some districts. The condition of the labouring classes is generally good and employment is available. Prices are high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

—The Ministry of Finance, says the Paris correspondent of the *Morning Post*, is expected to lay before Parliament shortly a project to supersede the present bronze coinage by nickel pieces of five, ten, and twenty-five centimes. The new coins will be rendered easily distinguishable from silver pieces of the same size by having a hole pierced in the middle.

EASTERN BENGAL AND ASSAM.

CROP PROSPECTS.

(*By Telegram.*)

Shillong, December 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 slight rain in Chittagong, Noakhali, the Chittagong Hill Tracts and all the districts in Assam, except Goalpara and the Khasia, Jantia and Garo Hills.

The harvesting of **winter rice** is in progress and prospects generally are fair. The cultivation of the **rabi crops** is going on and prospects are fair, except that of **mustard** in Assam, whesethese are generally bad.

The plucking of **cotton** is going on.

The **tea season** is practically closed in Cachar and Sibsagar; prospects are reported to be poor in Sylhet and Darrang, and fair in Jalpaiguri and Lakhimpur.

Cattle disease is reported from four districts.

Prices of common rice have fallen in eight and risen in three districts, and no scarcity is apprehended at present.

THE THREATENED SCARCITY.

A Slight Improvement.

THE following is a copy of a telegram, dated 9th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

Good rain has fallen again in Southern India and moderate rain in the Central Provinces, Central India and Hyderabad has benefited the **spring crops.** There has been light rain in parts of Bengal, Eastern Bengal and Assam, the Punjab and Bombay.

Prospects are unchanged, except that rain has somewhat improved the situation in the Central Provinces and Central India, and will enable spring sowings to be extended. More rain is wanted however, in all affected areas. The **condition of the people** remains generally satisfactory. Employmen is still available and few signs of distress are yet apparent.

Fodder is becoming scarce in parts of Northern India, but arrangements are being made to stimulate transport by reduction of railway rates. Supplies from Government forests will also be made available.

Some 6,000 people are now employed on **test works** in five districts of the United Provinces, and 1,200 people in two of Central India States. Test works will be opened shortly in parts of Bombay and the Central Provinces.

Prices continue high with a tendency to rise in places, but are stationary on the whole.

IRRIGATION PUMPS IN MADRAS.

Cheap Fuel Engines.

IN the course of his Report of the Department of Experiments in Irrigation in Madras by pumping for the year ending March 31st, 1907, Mr. A. Chatterton says :—

In many river channels there are perennial or almost perennial supplies of water and although a good deal of this is used by the system of spring channels, an enormous quantity of water remains unutilized and engines and pumps can, in many cases, render it available for irrigation. On the Advar river, for instance, several engines and pumps are at work and all over the Presidency it requires but little search to find similar unutilized sources of water. The main difficulty to be overcome is due to the gradual slope of the land on each side of the river which necessitates either the erection of high banks to carry the water or pumping through long and consequently expensive mains. The most economical solution is usually to carry the water from the river by a low level channel to some distance into the high bank and then to lift it into a high level channel by means of the pump. In some cases the lift may be conveniently divided into two stages as has been done at the Government experimental farm at the Hagari river.

During the year under review the following installations have been erected and got into working order in addition to the completion of those mentioned in last year's report as under construction :—

A 3½ h.p. engine and a 3-inch pump have been set up at Kuhur for M. R. Ry. T. Nataraja Pillai ; a 16 h.p. engine and a 10-inch pump at Manoor Lanka for M. R. Ry. Duggirala Sundarasive Row ; a 14 h.p. engine and a 6-inch pump at Laccavaram for the Zamindar of Laccavaram ; a 7½ h.p. engine and a 3-inch pump at Dorigalla for M. R. Ry. Venkata Reddi ; a 24 h.p. engine and an 8-inch pump at Tatapudi Lanka for Messrs. Innes & Co., Cocanada ; a 16 h.p. engine and a 6-inch pump at Chinta Lanka for Messrs. Innes & Co., Cocanada ; a 12 h.p. engine and a 4-inch pump at Tatapudi Lanka for Messrs. Innes & Co., Cocanada ; a 7½ h.p. engine and a 3-inch pump at Kotipalli for Messrs. Innes & Co., Cocanada ; a 12 h.p. engine and a 6-inch pump at Surapet for Messrs. Tawker & Sons ; and a 5 h.p. engine and 3-inch pump at Panankuppam near Valavanur for M. R. Ry. Srinivasa Gounder.

In addition to the above, the several installations mentioned below have been decided upon and the machinery purchased, but in most cases it is not yet erected :—

A 5 h.p. engine and a 3-inch pump for M. R. Ry. K. S. Srinivasa Pillai, Tanjore ; a 7½ h.p. engine and a 4-inch pump for M. R. Ry. Ginjappa Gounder, Nanjaipuliampatti near Satyamangalam ; a 5 h.p. engine and a 3-inch pump for M. R. Ry. T. Subramania Iyer, Timmanacharikuppam ; a 5 h.p. engine and 3-inch pump for M. R. Ry. Muthukumaraswamy Pillai of Cuddalore ; a 7½ h.p. engine and 4-inch pump for M. R. Ry. Vaidyanatha Aiyar of Valavanur ; a 7½ h.p. engine and 6-inch for M. R. Ry. Ratnasabapathy Mudaliar in Tondiarpet ; a 5 h.p. engine and 3-inch pump for M. R. Ry. Muniappa Gramany in Tondiarpet ; a 7½ h.p. engine and 4-inch pump for M. R. Ry. Balagurumurthy Chetty of Punjevikuppem ; a 5 h.p. engine and 3-inch pump for M. R. Ry. V. P. Rajappa Gounder of Unjalur ; a 3½ h.p. engine and piston pump for the Mysore Fruit Growers' Association ; and a 5 h.p. engine and 3-inch pump for the Maharaja of Bobbili.

All the above are Hornsby cheap fuel engines and though the majority have been ordered through the Pumping Department, it is satisfactory to note that several have been purchased independently.

Although twelve pumping stations have been erected with funds borrowed under the Agricultural Improvement Loans Act, this *method of obtaining* capital is by no means popular and ryots are beginning to avail themselves of the hire-purchase system which has been introduced by Messrs. Massey & Co. and which seems likely to prove satisfactory.

AUSTRALIAN WOOL SALES.

Record Prices.

ADVICES from Australia which reached Calcutta this week state that for the week ending November 19th 37,135 bales were offered and 32,241 bales sold in the Melbourne and Geelong markets. This means that in Victoria alone wool to the value of about half a million sterling is being sold every week, in addition to the much larger quantities being sold each week in Sydney, Adelaide, and Brisbane combined. Among the leading sales effected at **Melbourne** were :—Fernbank *merino* to 15*d.* ; J. F. over Pines, Greenvale over Noradjuha, and Springfield over Burrowa, to 14¾*d.* ; Kangaroo Lake, to 14½*d.* ; Ghin Ghin, to 14¼*d.* ; Lansdowne, to 14*d.* For crossreds Glenaroua sold up to 14¾*d.*, and J. W. B. over Ridge to 13¾*d.* For scoured wool J. C. over Keri sold to 21*d.*

The sales to date show an increase of 166,449 bales as compared with the sales to the corresponding period of last year. The 580,000 bales already sold in Australia to date probably represents a cash value of about £9,000,000, and this is being added to at the rate of about £1,000,000 per week.

The arrivals for the previous week in Victoria amounted to 37,000 bales. As compared with the week before, this shows a decrease of 3,000 bales. For the corresponding week of last year the arrivals amounted to 46,000 bales, which is thus 9,000 bales ahead of the figures for the previous week.

At the **Sydney** wool sales on the 19th ultimo 8,386 bales were catalogued, and 5,976 sold. For light-conditioned free lines the market ruled firm, but the irregularity for medium and faulty descriptions was even more marked than at the previous sales. Greasy brought to 14¼*d.* and scoured to 23½*d.*

At the **Geelong** sales on the 14th ultimo a purchase was effected of the top lot of 11 bales of R. over Carngham greasy merino fleece at the extreme price of 19¾*d.* Another feature worth noting is that this wool, as well as 26 bales at 19¼*d.*, and the super lambs' at 20¾*d.* were brought neither for America nor the Continent, but for a well-known firm of spinners at Alloa, in Scotland.

Among the notable sales effected were :—In Greasy, Carngham fleece to 19¾*d.*, and lambs' to 20¾*d.* ; Leslie Manor, to 18¼*d.* ; Barunah Plains, to 18*d.* ; GR (Golf Hill), to 17*d.* ; Minjah comeback, to 17¾*d.* ; and Larra merino, to 16¾*d.*

INDIAN RAILWAY STRIKES.

Conciliation Boards.

THE Secretary of the Railway Board has addressed the following letter to the various railways concerned :—

The Railway Board have had under their consideration the advantages of taking steps to prevent in the future the occurrence of railway strikes which are so detrimental both to trade and the railways themselves. The action taken recently in England indicates a course which has every prospect of good results and the Railway Board have come to the conclusion that it would be sound policy to adopt for India the arrangement that has been come to in England.

I enclose for your information a copy of the agreement arrived at in England by the companies and the employees, which generally seems applicable to Indian railways. The action the Railway Board think should be taken is as follows :—

Agents of companies and managers of railways other than State lines should address their Boards by telegram and ascertain if they are willing to agree that the English arrangement of Conciliation Boards should be adopted on Indian railways.

As regards State railways the Railway Board are prepared to agree to the introduction of Conciliation Boards.

Assuming that the Boards are willing to accept such an arrangement, the President of the Indian Railway Conference Association should as soon as possible convene a meeting of all agents and managers to consider

(1) What slight modifications are necessary to adapt the arrangement generally to Indian conditions ; and (2) the details connected with the formation of the Conciliation Boards.

Having decided on a standard arrangement for "Conciliation Boards for Railways" each agent and manager should circulate the proposals among his staff and invite them to select delegates to consider the scheme with the object of securing the agreement of the whole of the staff of a railway, European and native, to its adoption.

This part of the business will require careful handling and it will probably be advisable for each agent or manager to personally visit each district headquarters and carefully explain the object of the arrangement and the details under which it will be carried out.

It is obviously impossible to prescribe in detail how the scheme should be handled by each railway, but the Railway Board think that it is of the highest importance that early steps should be taken to show that Railway Administrations are willing to introduce a method of settling points of dispute between companies and employees of all classes without strikes, and the course followed in England seems to be one that should secure the desired result.

INDIAN YARNS FOR EUROPE.

Manufactures' Requirements.

IN continuation of the article on this subject which appeared in our issue of the 28th ultimo, we append some additional information received from manufacturers and others in Germany and Austria.

Germany.

A Chemnitz firm is interested in cotton yarns No. 6's to 24's, and states that it uses only mule cops on through-going shuckles. A firm in Stuttgart-Cannstatt writes that the yarns principally used *in that district are : warp-yarn 1a ; 1a* best quality in Nos. 20 and 22 ; weft-yarn, medium twisting, in Nos. 20, 22 and 24, both in cross reels. A Plattscheid manufacturer wants Nos. 16-1 and 8-1 ; also in 4-1 ply, yarns to be made in hand twisting. A manufacturer at Cassel would like particulars about Nos. 6 to 20 water twist on warp cops with short bobbins, also in 2 ply cotton thread Nos. 8 to 20 in hanks. A Gladbach correspondent states there is a demand for weft-yarn from No. 4 to 12, the yarn being used only in cops and for water yarns of good quality Nos. 20 to 24 only on cross spools. An Elberfeld firm writes that the best qualities used are No. 4 to 40, especially throstle yarn in 1 ply and 2 ply cross reel and cross spools. A firm in Krefeld requires single yarns from No. 6 to 40-1, made up in *Hag Siebe*, but principally in cross spools. A firm of manufacturers in Zwickau is in a position to use Nos. 8, 10, 12 and 14 in mule, medium and partly warp twisting, and Nos. 16 to 42 in warp and partly mule twisting. *An enquiry from Muehlhausen* has been received for Nos. 12, 14 and especially 16 for hanks and cops. A firm in Muenchberg (Bayern) writes that yarns are required in throstle water and mule ; but, so far as it knows, Indian yarns are used only in mule. This firm is also interested in No. 12-2 to 40-2 ply supplied by India. A Bocholt firm has use for weft cops of good Indian cotton Omra or Khandesh from 4's Engl. to 12's or 16's Engl., spun on half-size bobbins.

Austria.

A communication from Vienna states that Nos. 4-12 Engl., in single water yarn, and Nos. 10-20 in 2 ply twist would suit local requirements. A firm in Deutsch-Ord is interested in yarns Nos. 8 to 20 mule, medium in warp-cops or hanks. A manufacturer in Andrichau invites offers for the following yarns in hanks for hand-weaving, Nos. 12, 14, 16, 18, 20, 22, 24 warp and weft yarns.

—According to present arrangements the cost of using the **Port Commissioners' ferry service** is one anna for the shorter and two annas for the longer trips each way. The Commissioners have now decided, subject to the sanction of Government, to issue monthly season tickets at Rs. 2-8 and Rs 5, respectively.

SERICULTURE IN BENGAL.

Cold Storage Experiments in Calcutta.

AN interesting experiment has recently been carried out by Mr. A. K. Ghosh, Sericultural Superintendent to the Bengal Silk Committee, on the cold storage of *deshi* or *chhotapalu* (*Bombyx fortunatus*) seed. It has been found difficult to meet the demands of the different rearers who apply for seed at different times according as their mulberry supply is ready. For instance, the Superintendent may have a supply of seed that will hatch out in the ordinary course on the 10th of September, but all the rearers are not ready to take it then; some will not be ready till the 15th and some till the 20th. If by cold storage, cutting out and hatching can be delayed for five or ten or fifteen days, so as to supply the different rearers just at the time they want the seed, a serious difficulty would be overcome, with the assistance of the Linde British Refrigeration Company at Balliaghatta Road, Calcutta. Mr. Ghosh has been able to test the possibility of this method.

Mr. Ghosh had a supply of *deshi* worms at the Babulbana Nursery near Berhampore that spun on the 23rd of May. He left about half at Babulbana to cut out and lay eggs in the usual way. The other half of the seed cocoons he brought down to Calcutta. These were divided into three lots. They were kept in No. 2 ice tank room at 68 degrees Fahrenheit for the first two days from 11 A.M. of 20th May to 11 A.M. of the 27th May. From 11 A.M. of the 27th May to 11 A.M. of 28th May they were kept in No. 3 cold store-room at 55 degrees Fahrenheit. From 11 A.M. of the 28th May to 11 A.M. of the 29th May they were kept in No. 2 cold store-room at 40 degrees Fahrenheit. From 11 A.M. of the 29th to 11 A.M. of the 30th they were kept in No. 3 cold store-room at 55 degrees Fahrenheit. From 11 A.M. of the 30th May they were kept in No. 2 ice tank room at 68 degrees Fahrenheit in different batches till the 2nd June, the 7th June and the 9th June, respectively. The first batch was sent back to Berhampore on the 2nd of June. The second batch, taken out on the 7th June, was removed to the Manager's office at 11 A.M. The worms cut out next day, the 8th June, at 6 A.M., pairing and laying eggs during the day and the following night. The eggs were removed to No. 2 ice tank room at 68 degrees Fahrenheit on the 9th of June, each moth being separately bagged and numbered for microscopic examination. The third batch was taken out on the 9th of June and removed to the manager's office. The worms cut out, paired and laid eggs on the 10th June, and the eggs were removed to No. 2 ice tank room at 68 degrees Fahrenheit on 11th June, after bagging and numbering each moth for microscopic examination. In this way the cutting-out of the seed cocoons was kept back in the case of the third batch from the 23rd May to 10th June, that is to say for nineteen days, whereas in the ordinary course they would have cut out on the tenth day if they had been kept at Babulbana.

The eggs of the first batch were taken back to Berhampore on the 2nd June. The eggs of the second batch were taken back to Berhampore on the 15th of June: these hatched out at Babulbana on the 18th and 19th of June. The eggs of the third batch were kept in No. 2 ice tank room at 68 degrees Fahrenheit from the 11th June to the 26th and 27th June (dividing them into two lots). The worms hatched out on the 28th and 29th June. In this way the hatching-out was kept back from the 10th to the 29th June, or for about twenty days, whereas in the ordinary course at Babulbana they would have hatched out by the tenth day.

Effect of Low Temperatures.

Mr. Ghosh says that the lowest temperature the seed cocoons could stand was 40 degrees Fahrenheit for 24 hours. He is making further experiment as to the temperatures which the eggs will stand. He states that all the seed cut out and hatched out most evenly, and that as good a crop was obtained as usual. He thinks he has been able to solve the problem of rearing worms by stages.

It is stated that the worms produced from the seed kept in cold storage look stronger and healthier than those reared in the ordinary way. The nurserymen have noticed this, and so have the rearers, apparently, as they are now specially asking for seed of this kind. The cocoons spun by worms for this seed have also been found to be heavier than cocoons spun by worms reared according to the ordinary practice. These are also very important considerations, but the experiments will have to be continued for a much longer period before any definite conclusions can be drawn.

Previously to this Mr. Ghosh had made somewhat similar experiments in Nepal. There he managed by utilizing colder temperatures to make the seed cocoons take up to a period of twenty-three days (at the longest) to cut out. He also managed to prolong the time of hatching out up to twenty-two days.

Mr. Ghosh's experiments will be of interest to many concerned in the development of the silk industry in this Province.

—The first test case brought to decide the question of the **liability of insurance** companies for damages caused by fire in January last on the day of the great earthquake was concluded at Mandeville, **Jamaica**, on the 16th ultimo. After a hearing which lasted 17 days, the jury returned a unanimous verdict in favour of the policyholders and found the insurance companies liable. The jury found on the evidence that the conflagration started some minutes before the occurrence of the earthquake, the evidence also pointing mostly to the fact that all the damage was done by one central fire.

THE JAPANESE CAMPHOR MONOPOLY.

Its Failure.

WRITING to the *Economist* from Kobe on October 11th, a correspondent asserts that there can no longer be any doubt that the attempt of the Japanese Government to monopolise the production of camphor has proved a failure. "When camphor in Formosa," he says, "was made a monopoly in 1899, four years after the island came under the dominion of Japan, those who advised this policy were under the impression that Formosa necessarily ruled the market, and that it would be impossible for production elsewhere to break down the price fixed by the rulers of the island. Not only was this to ignore the possibilities of China, but even of Japan proper, for the monopoly established in Formosa was not extended to undertakings on the Japanese mainland. The world's production of camphor, said the financial experts of Tokyo, amounts to about five million *kin* (9 *kin* equals 12 lbs.), and, as of this amount 4,390,000 *kin* comes from Formosa, it is evident that Japan can fix the market price if the product is made a Government monopoly. It was further declared that in Japan proper most of the camphor trees had been destroyed, while in China, Java, and Borneo the production was so insignificant as to be a negligible quantity.

"The course of events has proved that the law of supply and demand operates in the matter of camphor as in other products. As soon as the monopoly in Formosa succeeded in raising the price, the output from Japan proper began to increase. Thus the export of camphor from Japan, which in 1896 was only 1,600,000 *kin*, valued at £111,000, increased in two years after the monopoly was established to 4,160,000 *kin*, valued at £390,000. The result of this competition between the main islands and Formosa was, of course, to decrease the export of the monopolised article, which could not compete with the free production in Japan. Consequently, while the export of Formosan camphor had amounted in 1896 to 4,390,000 *kin*, valued at £224,000, in 1901 it had declined to 870,000 *kin*, valued at £78,000.

"Instead of recognising that this proved the failure of the monopoly policy, it was now determined to extend the monopoly to Japan proper, and a law providing the necessary machinery was passed. The effect of this was merely to postpone the inevitable collapse. Export from Formosa has varied since then between values of £280,000 and £200,000, the tendency being to diminish rather than increase. So far as the price has been maintained, it has had the effect of inducing the planting of camphor trees in China, Indo-China, and elsewhere, while new sources of supply have been tapped with the result that Japanese camphor is now suffering materially from the competition which it has to face. The Japanese Consul at Foochow, in a recent report on the camphor industry in China, says:—"The Chinese have begun to take a lively interest in the manufacture of camphor as a profitable industry, and production is increasing in the provinces of South China. Owing to the improvement in the methods of manufacture, Chinese camphor now commands a price about five times greater than a few years ago. Last year's export from Foochow amounted to 1,100,000 *kin*. The heavy decline of the market in May last has damaged the interests of producers; nevertheless, it is estimated that the total output for the year will reach about four million *kin*. During the first half of the year 1,350,000 *kin* have been exported from Foochow.

The World's Supply.

"The amount of camphor which Japan has been supplying to the world annually is some four to five million *kin*, and, unless the use of camphor materially increases, it is evident that the camphor monopoly in Japan, considered as a revenue-producing instrument, is doomed. At the same time the trade in Japan, which was beginning to grow rapidly with the increasing demand for camphor, ceased expansion when the Government took it over and made it a monopoly. Before that date the export (in 1901) reached a value of £390,000; the year after the monopoly was instituted export dropped to a value of £310,000, and the following year to £250,000. Last year there was a recovery to £360,000 owing to the high prices which prevailed, and for the present year figures seem likely to be maintained. But it is evident that with the increasing production of camphor in other parts of the world, Japan has lost the power of fixing the price, and cannot, therefore, look to this article as a means of raising revenue to an extent that will repay taking it into Government control. The whole question of Government monopolies is beginning to excite dissatisfaction in Japan as an improper invasion of the field of legitimate enterprise, and the agitation against the interference of the State in Commerce appears likely to attain considerable dimensions."

—Speaking in London the other day on **aerial navigation**, Mr. Eric S. Bruce, honorary secretary of the Aeronautical Society, said that the motor and screw propeller were paving the way to the day when the gasbag would be eliminated and the aeroplane substituted. Before man would be able to master the air he would have by his intellect to do what the seagull did instinctively, and be able quickly to alter his wings and position so as to counteract the disturbing forces which upset the equilibrium of his machine. Where the flying machine failed was in lack of stability to withstand the unseen forces of the air which threw it off its balance. He believed they were on the dawn of a new hope in the application of the gyroscope, the rotary motion of which counteracted another motion. Mr. Bremen believed there was a future in the application of the gyroscope to preserve the stability of the aeroplane.

TRALE OF BANGKOK.

IN his report on the trade of Bangkok for the year 1906 Mr. Acting Consul Crosby writes that the value of the import and export trade of Bangkok during 1906 has surpassed all totals attained in previous years. The 1906 total (£11,948,990) exceeds that of 1905 (£9,982,735) by £1,966,255 and that of 1904, the previous record year (£10,014,141), by £1,934,849. As a consequence of the recent rapid rise in value of the tical, however, this increase is less marked if expressed in local currency. The total for 1904 represented a sum of 179,693,143 ticals converted into sterling at an average rate of 1 tical equal to 1*s.* 1⅜*d.* That for 1905 represented a sum of 171,900,028 ticals converted at an average rate of 1*s.* 1 15/16*d.* During the course of 1906 the tical reached the high average exchange value of 1*s.* 3·368*d.*, and the total for that year in local currency amounts to 186,605,806 ticals.

If the item of treasure be eliminated it will be seen that the actual movements of merchandise only in 1906 were valued at £11,253,282 (175,740,931) ticals as against £9,283,999 (166,853,159 ticals) in 1904 and £9,544,386 (164,351,795 ticals) in 1905.

The following table shows the total value of imports and exports respectively for the three years 1904-06 :—

Year.	Imports.		Exports.	
	Currency.	Sterling.	Currency.	Sterling.
	Ticals.	£	Ticals.	£
1904 . .	78,306,687	4,363,966	101,386,456	5,650,175
1905 . .	68,769 329	3,993,635	103,130,659	5.989,100
1906 . .	76,004,954	4,866,849	110,600,852	7,082,141

It should be noted in connection with the above figures that, whereas the exports during 1906, in spite of the unfavourable rate of exchange ruling, show a substantial increase in both sterling and in local currency as against the total of the two previous years, the increase in the value of the imports during 1906 as against 1904 appears only on a comparison of the respective sterling amounts. A comparison of the totals in local currency shows a falling-off in the matter of imports during 1906 of 2,301,733 ticals as against the record total of 1904. It is satisfactory to note, however, that even when expressed in local currency the imports during 1906 show an increase on 1905 of no less than 7,235,625 ticals and that they constitute a record for all previous years, 1904 alone excepted.

Exports.

Of the total exports for 1906 the one item of **rice** accounts for 78 per cent. **Teak** accounts for 11¼ per cent., whilst 7½ per cent. is contributed by the following commodities in the order named :—Marine products, hides, pepper, sticklac, raw silk, silk piece-goods, treasure, bullocks, and woods other than teak. Articles other than those mentioned make up only 3 per cent. of the whole ; 38 per cent. of the exports were received or distributed by the port of Hongkong and 37½ per cent. by that of Singapore ; 85 per cent. of the total exports were consigned to ports within the British dominions. In the absence of any figures to show the ultimate destinations of articles consigned from Siam to the distributing centres of Hongkong and Singapore, it is not possible to state the proportion actually shared by various countries in the exports from Bangkok during 1906.

The following table affords a comparison between export of rice during 1905 and 1906 respectively :—

Year.	Tons.	Value.		Exchange.
		Currency.	Sterling.	
		Ticals.	£	*s.* *d.*
1905 .	820,864	79,222,001	4,600,653	1 1 15/16
1906 .	917,682	86,626,358	5,546,926	1 3·368
Increase .	96,818	7,404,357	946,273	...

The record export of rice during 1906 exceeds the average of the previous five years by as much as 170,753 tons, valued at £1,698,982.

The quantity of teak exported during 1906 shows a falling off as against 1905 (the record year) of 4,560 tons. Though the value of the export for 1906 shows a slight sterling increase as against 1905, a comparison of the totals in local currency indicates a decrease in 1906 of 1,286,443 ticals :—

Year.	Quantity of Teak Exported.	Value.
	Tons.	£
1904	77,531	560,174
1905	101,397	817,396
1906	96,837	819,647

The output of teak for 1906, of which India took 67,027 tons, constitutes a record, however, for all previous years, 1905 excepted, and exceeds the five years' average by 29,345 tons and by £338,036 respectively. To the figures included in the above table must be added a total of 74,494 bundles (about 621 tons) of teak shingles exported. It is an interesting question as to how far the Siam teak trade, in common with that of other countries, is likely to be affected in future by the increasing export of this timber from Java. Java teak, though said to compare unfavourably with Burma and Siam teak in the matter of lengths and texture, appears to be gaining an established footing in the United Kingdom. An informant states that though the figures available regarding the export of Java teak in recent years are vague, the safe conclusion may be drawn from them that "the export of Java teak is increasing by leaps and bounds and that the supplies will admit of the export being multiplied three or four times, as the demand for the wood becomes more established."

An equally important consideration from the point of view of the Siam teak exporter is the action which, it is rumoured, the Government of Burma contemplate taking to relax certain of the restrictions hitherto placed on lessees of their forests, and more particularly to extend the period of leases from 6 to 15 years. The increased facilities for extracting timber which will result from such action, if taken, may have the effect of placing forest lessees in Burma in a favourable position as compared with those in Siam, unless Siamese Forest Conservancy regulations are altered *pari passu* with those of Burma.

The export trade in **hides** continues to show a marked increase. The value of hides exported during 1906 (£119,321) is in excess of the 1905 figure by £48,093, the five years' average being more than doubled. **Sticklac** (497 tons valued at £43,480) shows a decrease of 242 tons (valued at £4,850) as against 1905. A comparison with the five years' average shows a decrease of 19 tons in the quantity exported, but an increase in value of £17,257.) This is due to the greatly enhanced price of the article in question. Whereas the average value of sticklac exported in 1900 was, roughly, only £24 per ton, the figures for 1906 show an average value of over £87 per ton. This latter figure shows an increase of no less than £36 per ton as against the average for the preceding five years. **Silk piece-goods** (£27,381) are in excess of the 1905 figure by £10,724 and are behind the five years' average only to the extent of £1,427. The export of raw silk shows an advance of 11 tons (£8,074) on 1905 and is in excess of the five years' average by £13,069. This is a matter of congratulation to the Siamese authorities in view of their recent efforts to foster sericulture by the employment of Japanese experts. Attention may be called to the item of 52 tons of **rubber,** valued at £12,214, exported from Bangkok in 1906. The bulk of this consignment, however, though shipped from Siam, arrived from the neighbourhood of Luang Prabang in French Laos territory. The soil of the greater portion of Siam appears well adapted for the cultivation of rubber. Planting operations on a business scale, however, are at present confined to certain districts in the Malay Peninsula.

Imports.

Cotton goods head the list of imports. In 1906 the value of the import of cotton goods (£886,663) exceeded the previous record (that of 1904) by £6,933 and was in advance of the 1905 figure to the extent of £34,076. The five years' average was exceeded in 1906 to the extent of £192,965. The import of cotton yarn (14,781 bales, valued at £137,761) exceeds the 1905 import (12,613 bales, valued at £120,689) by £17,072 and is in excess of the previous five years' average by £46,893.

The following table shows the percentage of the cotton import (yarns excluded) contributed by each of the various countries and ports :—

Place of Origin.	Percentage.		
	1904.	1905.	1906.
Singapore . . .	37¼	41¼	44¾
United Kingdom . .	33½	35½	32½
India . . .	8¼	8½	8¾
Hongkong . . .	1½	1½	2
Switzerland . . .	9¾	6½	4
Germany . . .	6½	4½	3½
Netherlands . .	1½	1½	3½
Other countries . .	1½	1½	1½

The nature and description of the cotton garments and piece-goods imported and the extent to which British possessions have participated in their supply are shown in the following table :—

Articles.	Value.	Remarks.
	£	
Palais (colour printed nether garment).	31,479	87 per cent. from India.
Papoons (colour woven nether garment).	92,315	54 per cent. from United Kingdom and 24 per cent. from Singapore.
Sarongs (Malay skirt) .	32,319	67 per cent. from Singapore, 21 per cent. from United Kingdom.
Slendangs (narrow shawl)	34,205	80 per cent. from United Kingdom.
Patas (nether garment, colour printed in checks or crosses).	3,103	50 per cent. from United Kingdom, 32 per cent. from Switzerland.
Prints and chintzes .	67,102	70 per cent. from United Kingdom, 20 per cent. from Singapore.
Shirting—		
White . . .	188,183	88 per cent. from Singapore.
Grey . . .	99,692	74 per cent. from Singapore and 23 per cent. from United Kingdom.
Turkey-red cloth . .	9,491	60 per cent. from Singapore.
Piece-goods other than above.	208,579	46 per cent. from United Kingdom and 32 per cent. from Singapore.
Singlets . . .	11, 925	50 per cent. from United Kingdom and Singapore.
Unenumerated . .	108,270	64 per cent. from United Kingdom and British possessions.
Total .	886,663	

The increase in the import of cotton goods is shared by the following :—Sarongs, white and grey shirtings and piece-goods other than shirting, prints and chintzes. The last-named class of article (£208,579) shows an increase of £44,932 as against the 1905 figure (£163,647). On the other hand palais, papoons, slendangs, patas, prints and chintzes, Turkey-red cloth and singlets all show decreases when compared with 1905. The decrease is most marked in the case of papoons (1905 import £140,886, 1906 import £92,315), and it is evident that the market has not yet recovered from the recent heavy over-importation in this class of goods.

The Report states that 24,927 bales of **gunny bags,** valued at £223,877, were imported during 1906, an increase of 1,252 bales as compared with 1905 and of 3,191 bales as compared with the previous five years' average. Of the 1906 total Singapore contributed 14,574 bales, India 10,313 bales and Hongkong 40 bales. **Silk goods**, valued at £170,493, show an increase of £36,468 on the 1905 figure and are in excess of the five years' average by £40,388. Included in the 1906 total is a sum of £7,458 represented by raw silk and piece-goods of silk and cotton mixed to the value of £12,531.

The import of **opium** is characterised by a remarkable decline as compared with 1905. The 1904 import was an abnormally high one and consisted of no less than 2,389 chests. The fall to 1,506 chests in 1905 may be explained by the excessive import of the previous year, but the same explanation will scarcely account for the further drop to only 541 chests in 1906. In view of the considerable quantity of opium which is consumed annually in Siam, the obvious conclusion is that large supplies have been smuggled into the country without passing through the customs. The large and increasing import of morphia and kindred preparations of the drug must also be considered as an important factor in the decreased import of the drug itself. Measures were taken during the year to impose similar restrictions on the import of morphia to those placed by treaty upon the import of opium. The entire import for 1906 arrived by way of Singapore.

The **kerosine** figures indicate a decrease of 329,849 gallons as compared with 1905; 5,403,349 gallons, valued at £89,497, were imported in 1906 :—

Place of Origin.	Quantity.	
	1905.	1906.
	Gallons.	Gallons.
Sumatra	5,062,384	3,432,556
Singapore	96,464	289,822
United States	574,350	1,301,768
Borneo	...	379,179
Cochin-China	...	24
Total	5,733,198	5,403,349

The import from Sumatra shows a great falling-off as against 1905, whilst the quantity imported from the United States, which in 1904 amounted to only 18,134 gallons, rose to 1,301,768 gallons in 1906. As pointed out in last year's report, the establishment in 1905 of an agency of the Standard Oil Company doubtless explains these figures. The value of kerosine imported in 1906 shows a considerable falling-off in the average price per gallon as against 1905 (1905, 36 ticals per gallon; 1906, 26 ticals per gallon).

The import of **sugar** in 1906 (£219,784) exceeds that of 1905 by £30,500 and is in excess of the five years' average by £89,230. The total for 1906 was received from the following places :—

Place of Origin.	Value.
	£
Singapore	192,371
Hongkong	22,622
Java	3,334
Germany	1,289
Other countries	168
Total	219,784

The following table shows the total value of **coal** imported into Bangkok from foreign countries during the years 1905 and 1906 :—

Country.	1906.		1905.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£
Singapore	8,493	9,124	2,650	3,250
Japan	1,770	1,772	4,594	3,766
India	1,586	1,521	2,292	1,922
Australia	1,350	1,967	1,575	2,105
United Kingdom	1,010	1,728	3,935	5,243
Austria-Hungary	800	929	...	...
Borneo	750	813	...	...
Germany	300	726	100	236
Dutch possessions	100	96	...	...
Hongkong	31	36	40	58
Belgium	...	...	100	239
Denmark	...	...	100	218
Total	16,195	18,712	15,386	17,037

NOTE.—In addition charcoal was imported to the value of £11,435 in 1906 and £9,137 in 1905.

Shipping.

As regards shipping, 804 vessels, representing a total of 746,155 tons, entered the port of Bangkok in 1906 as against 754 vessels, representing a total of 685,294 tons, in 1905. The sailing ships in 1906 numbered 11 as against 15 in the previous year. German shipping occupies the first place with 418,431 tons, being 56 per cent. of the whole. Norwegian shipping (158,052 tons, equal to 21 per cent. of the whole) once more retains the second place, whilst British comes third with 110,889 tons (15 per cent. of the whole).

THE COTTON GOODS TRADE.

Short-length Complaints.

It is reported that India merchants at home are hearing a good deal at present from their correspondents both at Calcutta and Bombay on the subject of **short-length pieces in shipments of white goods.** It may be recalled that in the year 1902 a meeting of shippers dealing with Bombay was held in Manchester, and the following conditions of contract and "rules of survey" were then agreed upon. The rules were as follows:—All contracts for the sale of white cotton piece-goods, sold by the piece, shall be subject to the following conditions :—(*a*) In the case of all plain white goods, except white shirtings, if the number of short-length pieces, exclusive of pattern-cut pieces (bearing correct stamp), does not exceed 5 per cent. of the total number of pieces in any shipment, delivery shall be accepted with an allowance in respect of the shortage calculated at the rate of the sale prices. (*b*) In the case of white shirtings, if the number of short-length pieces, exclusive of pattern-cut pieces (bearing correct stamp), does not exceed $7\frac{1}{2}$ per cent of the total number of pieces in any shipment, delivery shall be accepted with an allowance in respect of the shortage calculated at the rate of the sale price. (*c*) In the case of fancy white goods, if the number of short-length pieces, exclusive of pattern-cut pieces (bearing correct stamp), does not exceed 10 per cent. of the total number of pieces in any shipment, delivery shall be accepted with an allowance in respect of the shortage calculated at the rate of the sale price. (*d*) If the total number of short-length pieces exceeds the proportions in (*a*), (*b*) and (*c*) the indentor shall have the option of returning all pieces in excess of such proportions. (*e*) If the total number of pieces in two parts does not exceed 5 per cent. of the total number of pieces in any shipment, delivery shall be accepted at the usual rate of allowance, if any. In case of white shirtings and Doria stripes of 30 to 56 yards the allowance for pieces in two parts shall be 3*d*. The buyer shall have the option of returning pieces in two parts so far as they exceed 5 per cent. (*f*) The number of pattern-cut pieces should not be more than five of each stamping in any shipment, and not more than one of each design in fancy goods, which shall be accepted at the usual allowance, if any. (*g*) A shipment may be an entire lot or an instalment of a lot.

The rules further provide that if an allowance of 10 per cent., or more, be granted by arbitrators it shall be optional on the part of the dealer either to take the goods with the allowance offered or to cancel. Disputes regarding stamping, ticketing, folding, heading, or border are to be decided by arbitration, and the indentor shall have the option of refusing damaged or cut pieces which are also short in length in the case of dhooties, scarves, woollen shawls, tape-bordered nainsooks, and tape-bordered mulls, grey or white. Although several of the larger shippers did not sign this document there were forty Manchester signatories. The contract and rules, says the *Manchester Guardian*, were a counter-blast to a series of new conditions and rules of survey drawn up by the Bombay Piece-goods Dealers' Association, which were not generally accepted in Manchester. It was understood by the signatories that they should, pending a settlement of the controversy, do one of two things—*viz.*, continue to accept business on the conditions prevalent up to that period, or else under the new conditions and rules set forth above. In case of a wish on the part of a shipper to retire from this agreement notice was to be given to the other signatories. The representations now being made from India with regard to the permissible proportion of short pieces raise the question how far this agreement has been observed by the signatories and accepted by their correspondents.

NEW REFERENCE BOOKS.

THOMAS ALVA EDISON.
Sixty Years of an Inventor's Life. By F. A. JONES. 8×5½, 375 pp. (Much of the story has been so told to Mr. Jones by the inventor himself) 6s
Hodder and Stoughton.

TRADERS AND RAILWAYS.
(The Traders' Case.) By I. WAGHORN, Barrister-at-law. 7¼×5, 233 pp. . . . . 4s. net.
E. Wilson.
[The object of this is to call the attention of traders to the statutory provisions existing for their benefit (with many references to cases between traders and railways which have come before the Courts, the Railway Commissioners, or the Board of Trade) and to suggest steps for their enforcement and their codification.]

AN EPITOME OF THE LAW AFFECTING MARINE INSURANCE.
By L. DUCKWORTH. Second Edition, revised and enlarged. 7¼×5, 186 pp. 3s. 6d
E. Wilson.

TARIFF REFORM LEAGUE: SPEAKERS' HAND-BOOK.
New and Revised Edition. 8¼×5½, 241+xxvi pp. 1s.
The Tariff Reform League.

FISCAL QUESTION SIMPLIFIED
And Its Principles Explained. By the author of "British Industries in Danger," etc. Third Edition . . . . . 6d.
"Pall Mall" Press.

THE SIGNALLERS' POCKET-BOOK.
By G. W. BROWNE . . . . . 6d. net

THE COMMERCIAL ASPECT OF RAND "PROFITS."
By G. A. DENNY . . . . . 1s. net.

—A **Singapore** message dated 15th ultimo states that the dulness in the export trade and the stringency in London have led to the local **exchange** falling to 2*s.* 3¾*d.*, which is the rate at which the Government are willing to sell to the banks in order to maintain the rate of exchange. The banks have availed themselves of this facility to the extent of £500,000, which has been remitted to London. This withdrawal of currency will have an effect eventually upon the local money market. The tin exports are trivial owing to a fall in price. The Chinese have been overspeculating in the China exchange, but generally trade is healthy though dull.

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in the Indian mills in October, 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 October			Seven Months, April to October		
	1905	1906	1907	1905	1906	1907
British India.						
Bombay	37,994,751	40,092,412	39,871,147	292,421,885	286,892,026	270,681,917
Madras	2,878,561	3,662,306	2,702,266	21,122,372	21,261,731	21,810,758
Bengal	3,845,331	4,246,407	2,460,034	29,634,537	27,384,914	23,162,665
United Provinces of Agra and Oudh (also Ajmer-Merwara)	2,812,350	2,832,059	3,259,374	19,330,547	20,016,828	20,968,982
Punjab	1,095,462	1,042,901	1,100,064	8,135,135	8,234,657	7,410,069
Central Provinces and Berar	2,360,903	2,156,463	2,138,384	17,286,900	15,841,159	16,282,203
TOTAL	50,987,308	54,032,548	51,531,269	387,931,376	379,631,315	360,346,434
Foreign Territory.						
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon, Kishengarh, and Ujjain	2,101,228	1,901,099	2,030,758	15,158,014	13,999,128	14,057,453
GRAND TOTAL	53,088,536	55,933,647	53,562,027	403,089,390	393,630,443	374,403,947

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 1906 and 1907.]

		Month of October			Seven Months, April to October		
		1905	1906	1907	1905	1906	1907
British India.							
Bombay	pounds	11,918,167	12,840,832	13,778,344	80,255,393	80,660,190	90,623,765
	yards	38,585,139	55,313,629	59,799,025	280,158,211	356,303,758	396,854,927
	dozens	65,812	64,022	63,262	198,447	362,289	416,134
Madras	pounds	692,218	676,040	692,905	4,880,506	4,591,102	4,562,086
	yards	1,369,825	2,282,990	2,294,485	7,451,811	15,583,829	14,897,234
	dozens	...	1,912	1,119	...	7,498	8,530
Bengal	pounds	53,738	82,495	47,539	382,183	744,767	883,313
	yards	194,054	356,121	184,021	1,405,892	3,313,528	3,812,014
United Provinces of Agra and Oudh (also Ajmer-Merwara).	pounds	643,783	549,800	715,102	4,337,659	4,266,334	4,759,018
	yards	2,474,116	2,163,051	2,673,344	16,537,774	17,583,940	18,920,305
	dozens	...	2,156	2,541	...	21,394	27,954
Punjab	pounds	19,257	21,702	39,780	159,674	218,544	256,138
	yards	53,410	69,995	115,953	448,127	651,812	705,816
	dozens	...	20	2	...	114	937
Central Provinces and Berar.	pounds	830,996	669,117	648,260	4,976,517	4,186,403	4,532,291
	yards	2,663,314	2,767,230	2,644,304	14,692,373	16,983,900	18,561,457
	dozens	...	187	1,027	...	2,104	5,506
TOTAL	pounds	14,158,154	14,840,526	15,921,930	95,000,932	94,667,390	105,616,941
	yards	45,339,868	62,953,316	67,711,242	320,694,188	410,426,767	453,751,753
	dozens	65,842	68,297	67,951	198,447	393,399	459,061
Foreign Territory.							
Native States of Indore, Mysore, Baroda, Nandgaon, Bhavnagar, Hyderabad, and Wadhwan.	pounds	612,194	609,910	660,421	4,096,246	3,961,037	4,263,372
	yards	2,426,048	2,375,670	2,432,100	16,174,894	15,447,823	16,320,576
GRAND TOTAL	pounds	14,770,348	15,450,436	16,582,351	99,097,178	98,628,427	109,880,313
	yards	47,765,916	65,328,986	70,143,342	336,869,082	425,874,590	470,072,329
	dozens	65,842	68,297	67,951	198,447	393,399	459,061

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 eight months, April to November, of									
	1898-99	1899-1900	1900-01	1901-02	1902-03	1903-	1904-05	1905-06	1906-07	1907-08
SEA CUSTOMS.										
IMPORTS.										
Special Import Duties.										
Arms, ammunition, and military stores	2,24	1,95	1,80	2,05	2,21	2,10	2,72	2,63	2,69	3,54
Liquors—										
Ale, beer porter, cider and other fermented liquors	1,22	1,28	1,26	1,35	1,48	1,67	1,81	1,80	1,97	1,88
Spirits and liqueurs	41,24	42,65	42,01	41,66	44,72	48,61	49,03	51,93	48,43	59,93
Wines	2,34	2,21	2,18	2,17	2,53	2,39	2,23	2,19	2,38	2,51
Opium	2	2	1	2	2	2	3	2	2	3
Petroleum	28,95	25,55	28,75	34,75	36,65	29,85	29,25	26,05	23,15	29,92
Sugar (countervailing duties, 1899)	—	3,53	11,98	19,54	16,23	1,97	10	1	1	...
Sugar (countervailing duties, 1902)	—	—	—	—	3,21	14	8	...	...	...
General Import Duties.										
Articles of food and drink (excluding sugar)	8,29	9,05	9,97	9,45	8,88	9,43	10,97	12,18	12,66	15,56
Sugar (ordinary duties)	10,96	10,10	18,13	18,29	16,58	18,42	20,23	22,01	32,42	29,18
Chemicals, drugs, medicines and narcotics, and dyeing and tanning materials	6,77	7,02	6,73	7,64	7,48	8,91	8,68	9,28	9,69	12,15
Cotton manufactures—										
Piece goods, grey	29,79	32,66	29,72	33,63	35,00	30,44	36,93	41,69	43,26	45,26
" white	11,17	12,30	11,83	18,81	10,71	12,54	17,89	18,68	15,88	25,49
" coloured	12,52	16,57	12,94	16,23	14,85	18,60	21,43	21,93	22,26	25,33
Other goods	1,07	1,99	1,77	2,12	1,66	2,63	3,81	4,23	4,54	4,72
Metals and manufactures of—										
Silver bullion and coin	23,56	16,41	8,31	19,47	28,25	25,05	26,26	18,32	29,48	33,46
Other metals and manufactures of metals	12,96	10,48	13,81	15,19	19,98	20,63	24,40	20,67	22,36	26,60
Oils (excluding petroleum)	1,22	88	1,01	1,28	1,03	65	58	78	1,38	1,84
Manufactured articles	31,67	37,63	38,11	41,67	40,01	46,85	55,84	56,15	55,65	65,28
Raw materials and unmanufactured articles	5,57	3,84	6,59	6,42	5,97	5,81	6,67	8,02	7,55	9,26
TOTAL IMPORTS	2,31,56	2,36,20	2,47,21	2,91,74	2,97,45	2,86,71	3,18,94	3,18,87	3,35,78	3,91,94
EXCISE DUTY ON COTTON GOODS	8,49	8,65	7,37	10,68	11,14	12,57	13,47	15,98	16,28	18,31
EXPORT DUTIES—										
Rice and Rice-flour	59,02	50,20	48,06	50,09	67,07	62,68	74,48	65,87	54,64	52,94
LAND CUSTOMS AND MISCELLANEOUS	4,36	4,66	5,04	5,42	5,46	6,29	6,45	5,60	6,05	6,79
GRAND TOTAL	3,03,43	2,99,71	3,07,68	3,57,84	3,81,12	3,68,25	4,13,34	4,06,32	4,12,75	4,69,98

—There are indications, says the *Manchester Guardian* of November 22nd, that before long Parliament may be called upon to consider the **operation of existing laws bearing upon life assurance** with a view to their reform in the public interest. It is generally admitted that the Life Assurance Companies Act, 1870, was a valuable piece of legislation, so far as it went, as a means of preventing the formation of unsound or fraudulent companies. But, as has often been pointed out, it was not sufficiently stringent, inasmuch as it permitted objectionable companies to set the Board of Trade at defiance with impunity, while at the same time it failed to compel them to give their assets in detail in their published accounts. But perhaps a still more pressing demand for fresh legislation arises in connection chiefly with industrial assurance. What are sometimes called "gambling" policies, *viz.*, those effected by persons who have no insurable interest in the assured life, were forbidden by an Act passed in the reign of George III., which is still in force. Yet year after year this question comes before the courts, in the shape of claims repudiated on that ground by a company or society. As a rule the office gets off scot-free, although in many instances the plaintiff may have been misled by the company's own agent. Moreover, it is too often evident that the company itself has been aware all through that the insurance was illegal. Judge Hans Hamilton, in a case just tried in the Preston County Court, animadverted strongly—but many will consider not too strongly—on the position of the company in such cases. Why, it is asked, should not the company be held responsible for the breach of the law and be compelled to refund the premiums paid, if not subjected to a fine?

FOOD-GRAINS AND SALT.

Retail Prices of certain food-grains and salt at selected stations for the first half of November, 1907. (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 2	...	...	...	...	...	...	0 11
Toungoo	1 10	...	...	...	...	...	...	1 5
Eastern Bengal and Assam—								
Rangpur	2 6	2 6	...	...	...	...	...	1 4
Backerganj	2 6	...	...	...	...	...	...	1 0
Bengal—								
Calcutta	2 0	2 2	...	...	...	...	...	0 10
Patna	2 0	2 0	1 4	...	...	...	...	0 10
United Provinces—								
Cawnpore	...	2 2	1 6	1 6	1 8	..	1 5	0 9
Fyzabad	...	2 0	1 9	1 5	...	...	1 7	0 11
Meerut	...	1 11	1 5	1 4	1 7	...	1 5	0 8
Punjab—								
Delhi	..	1 11	1 5	1 5	1 8	...	1 5	0 9
Amritsar	...	1 8	1 0	1 2	1 4	...	1 2	0 7
Rawalpindi	...	1 7	1 2	1 0	1 2	...	1 3	0 7
Sind—								
Karáchi	...	2 0	...	1 3	1 3	...	1 4	0 7
Bombay—								
Belgaum	...	1 9	...	1 1	1 2	...	...	0 10
Ahmadnagar	...	2 2	...	1 4	1 2	...	...	0 9
Bombay	...	2 6	...	1 8	1 6	...	...	0 11
Ahmadabad	...	2 2	...	1 4	1 7	...	...	0 7
Central Provinces—								
Jubbulpore	...	1 11	...	...	...	...	1 8	1 0
Nagpur	2 0	1 9	...	1 9	...	...	1 8	1 1
Raipur	1 10	1 10	...	...	...	...	1 7	1 2
Madras—								
Bellary	2 6	...	...	1 2	...	...	...	1 0
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 0	...	...	1 2	1 4	1 2	...	0 10

—Reference was made in a note in our issue of the 28th ultimo regarding a claim that **natural indigo** could now be produced at Rs. 60 per maund (maund = 82⅔ lbs.) of 65 per cent. indigotine, the cost of producing a maund of **synthetic indigo** being believed to be Rs. 90. It is of interest to note in this connection that Mr. R. J. Friswell, chairman of the London Section of the Society of Chemical Industry, holds that the prospects of Indian indigo are not bright, though he believes that it will for some years to come find a place in the world's market. Speaking at Burlington House the other day, Mr. Friswell suggested that British manufacturers should commence to make the synthetic dye, as all the raw materials were to be obtained in the United Kingdom as cheaply as in any other country. He illustrated the continual falling-off in the production of natural indigo by the following statistics. For the five years ended 1904-05 the total acreage in India devoted to this cultivation was 755,000 acres. In 1905-06 this had fallen to 330,400 acres, or to less than 44 per cent. of its former area. By 1906-07 it had fallen further to 329,800 acres. Probably similar changes had taken place in the Dutch colonies and in South America. Meanwhile the production of synthetic indigo was advancing by leaps and bounds. No statistics were available as to the actual quantity made by the foreign factories; but the imports into the United Kingdom might be taken as a fair index. In 1905 synthetic indigo amounting to 32,246 cwts. was imported. In 1906 this increased to 39,042 cwts., an increase of 21 per cent. During the same years the imports of natural indigo were 8,201 cwts. and 7,641 cwts., respectively, a decrease of 6·8 per cent.

WEEKLY TRADE MOVEMENTS.

For the week ending 7th December, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign—Imports by sea into	Calcutta, lbs.	482,113
	Bombay „	230,191
	Madras „	20,000
Indian—Exports by sea from	Calcutta „	522,502
	Bombay „	3,789,052
	Madras „	...

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	19,079,568
	Bombay „	4,269,263
	Karachi „	70,319
	Madras „	1,344,521
	Rangoon „	96,414

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	5,353,835
	Bombay „	4,219,938
	Karachi „	907,548
	Madras „	486,450
	Rangoon „	840,985

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	1,991,705
	Bombay „	2,722,594
	Karachi „	846,023
	Madras „	375,883
	Rangoon „	797,210

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, cwt.	22,501
	Bombay* „	5,733
	Karachi „	14,743
	Madras „	6,083

Raw Cotton.

Imports into Bombay	By sea cwt.	2,624
	Coastwise „	7,444
	By rail „	161,638
Imports into Karachi by rail	„	37,382
„ „ Calcutta by rail and river	„	19,351

* B., B. & C. I. Ry. figures only.

JUTE.

Arrivals by all routes in	Calcutta, cwt.	538,905
Exports by sea from Calcutta	Gunny bags, No.	8,317,559
	„ cloth, yds.	12,102,460
	Jute, cwt.	390,553
Exports by sea from Chittagong	Jute „	68,718

TEA.

Arrivals by all routes in	Calcutta, lbs.	4,474,247
Exports by sea from	Calcutta „	4,611,837
	Chittagong „	348,100

WHEAT.

Imports into Calcutta	by rail and river, cwt.	64,568
Imports into Karachi	by rail „	81,600
Imports into Bombay	By sea „	3 989
	Coastwise „	34,342
	By rail „	5,121
Exports by sea from	Calcutta „	1,201
	Bombay „	47
	Karachi „	63,389

RICE.

Arrivals by all routes in	Calcutta, cwt.	72,261
Exports by sea from	Calcutta „	49,021
	Chittagong „	...
	Bombay „	6,567
	Karachi „	48,785
	Madras „	42
	Rangoon „	67,165

LINSEED.

Imports into Calcutta	by rail and river, cwt	32,173
Imports into Bombay	By sea „	...
	Coastwise „	117
	By rail „	2,496
Imports into Karachi	by rail „	...
Exports by sea from	Calcutta „	11,507
	Bombay „	25,792
	Karachi „	...

RAPE AND MUSTARD SEED.

Imports into Calcutta	by rail and river, cwt.	27,615
Imports into Bombay	By sea „	...
	Coastwise „	86
	By rail „	1,250
Imports into Karachi	by rail „	4,492
Exports by sea from	Calcutta „	2,225
	Bombay „	6,009
	Karachi „	...

COTTON SEED.

Exports by sea from Bombay,	cwt.	22,979

KEROSENE OIL, WEEK ENDING 7th DECEMBER, 1907.

Imports by sea into—	From Russia.	From America.	From all other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	82,005	...	82,005
Bombay	721,412	...	...	721,412
Karachi	...	...	...	...
Madras	...	...	...	...

Exports by sea from Burma to	Bengal	galls.	999,600
	E. B. & Assam	„	410,700
	Bombay	„	...
	Sind	„	...
	Madras	„	...
	Indian Ports, Non-Br.	„	...
	Foreign Ports	„	...

IMPORTS OF SUGAR, WEEK ENDING 7th DECEMBER, 1907.

Country of Shipment.	Refined Sugar imported into						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	8	...	103	16	16	...	143
Germany	...	...	...	...	...	...	
Austria-Hungary	...	...	2,224	38,634	...	...	40,858
Other European Countries	...	...	...	...	...	301	301
Java	154,292	...	18,189	5,993	...	...	178,774
Mauritius	1,076	...	58,118	...	...	...	59,194
Other Non-European Countries	...	...	119	...	...	1,794	1,913
						Total refined	281,183
						Total unrefined	3,155
						Grand Total, cwt.	284,338

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08.				Season 1906-07.			
	Sold in sale of 6th December.		Sold to 6th December.		Sold in sale of 7th December.		Sold to 7th December	
	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	4,839	7 7	155,967	7 5·7	5,807	6 10	129,382	6 9·1
Cachar	3,784	6 8·2	13,400	6 1·8	4,663	4 11·4	115, 60	4 3·4
Sylhet	4,039	6 9·2	97,862	6 1·7	2,258	4 11·1	86,620	4 0·7
Darjeeling	1,183	11 6·4	52,904	9 2·5	721	13 9·4	50,525	8 8·9
Dooars	5,629	7 4	153,469	6 9·1	7,252	6 3 5	149,184	5 5
Terai	176	6 9·5	18,921	6 3·1	695	4 10·4	29,171	4 3·6
Chittagong	377	6 7·1	7,989	6 2·8	351	4 11·1	10,468	4 2 1
Chota-Nagpore	82	6 4	691	5 4·1	331	4 4·5	870	4 3·4
Kumaon and Kangra	227	6 7 3	4,113	6 0·8	...	...	120	5 0
Madras	...	...	285	6 1·2	...	...	286	4 10·8
Debra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	..	...	247	6 9·3	...	...	...	...
Total	20,336	7 4·5	616,052	6 10·8	22,078	6 1·9	571,836	5 6

(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 32,452 packages Dust* sold to 6th December — As. 6, P. 8

* On account of gardens which sell only that grade on this market.

— According to the report on the **foreign trade of China** for the year 1906 by Sir Alexander Hosie, the Acting Commercial Attaché to His Majesty's Legation at Pekin, one of the most salient features of the import trade during that year was the increase in the quantity of foreign **opium**. This statement, says the *Times*, will come as an unfortunate surprise to those interested in the anti-opium movement, more especially in view of the fact that Sir Alexander, in his report for the previous year, 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 amount imported last year was over 300,000 lbs. in excess of the amount imported in the previous year, and the increase is accounted for by the fact that 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 (issued on September 20th, 1906) had the effect of bringing the price of the cheaper varieties of Indian opium much nearer the price of the product of China. The increase in the quantity imported does not necessarily imply that a larger quantity of opium was actually consumed, but it seems to indicate that, owing to considerations of price, native opium was to some extent replaced by Indian opium.

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

QUARTERLY.

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

MONTHLY.

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

MISCELLANEOUS.

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

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.
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In India.

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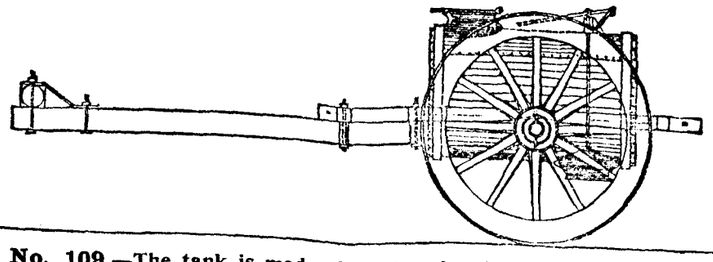
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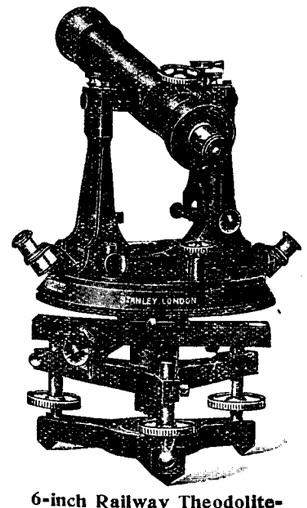
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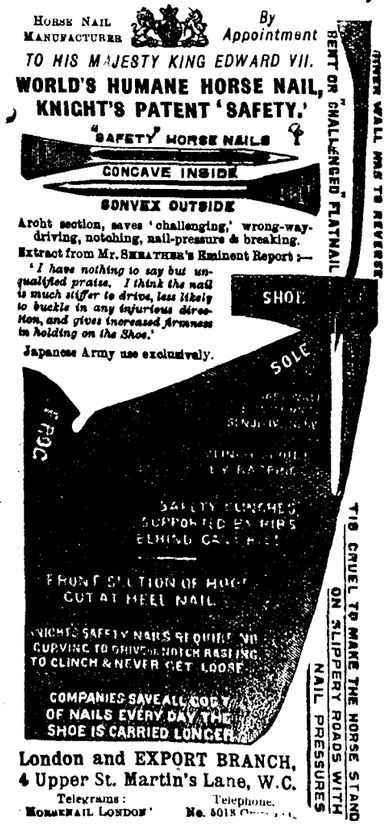
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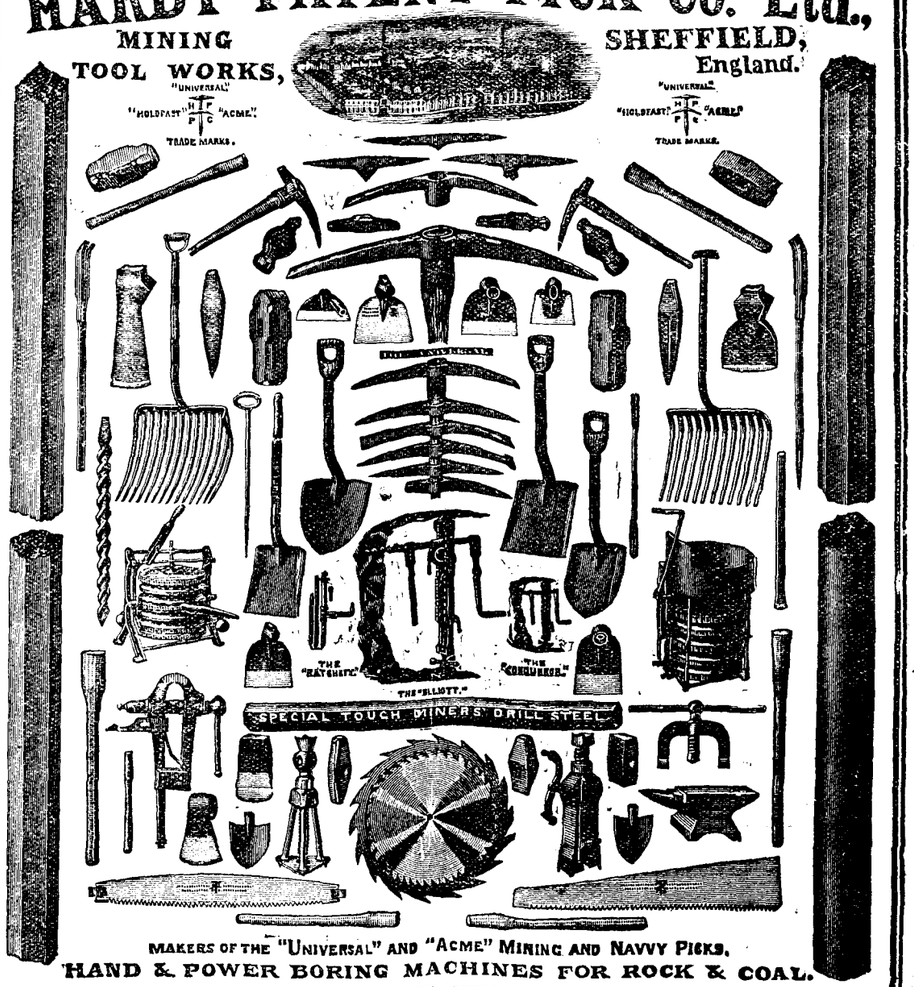
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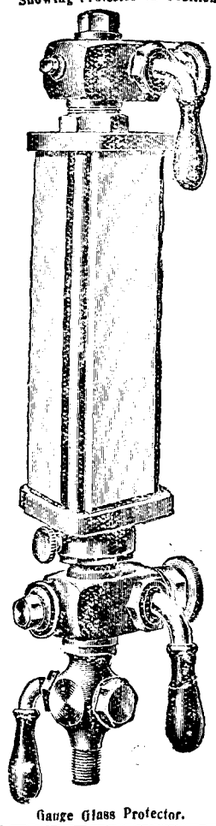
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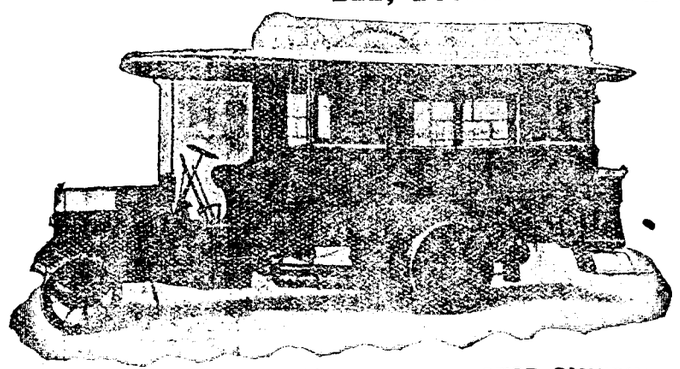
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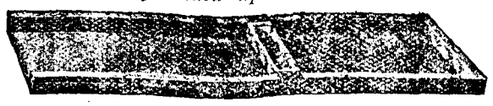
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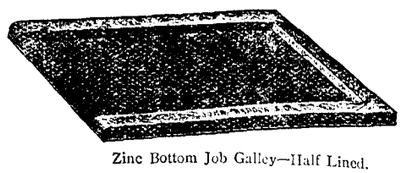
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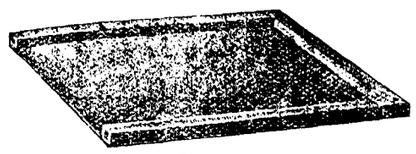


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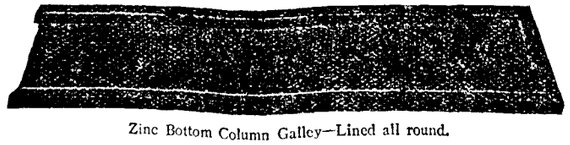


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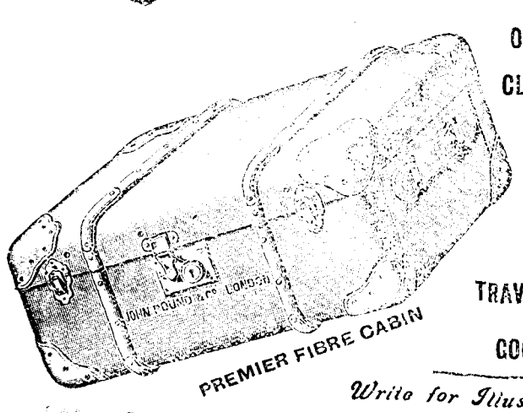
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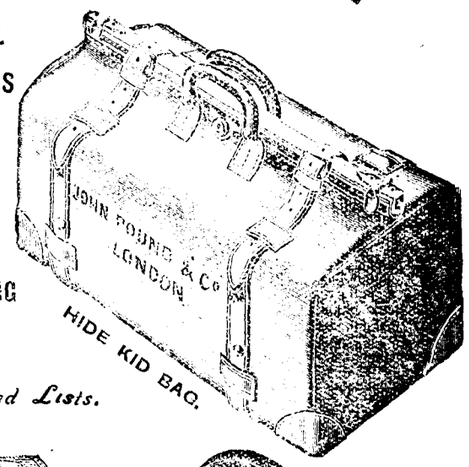
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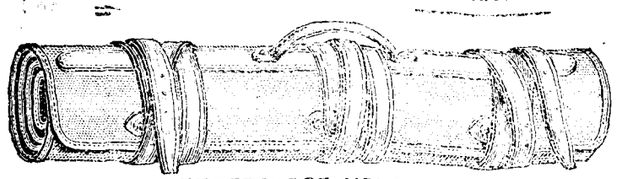


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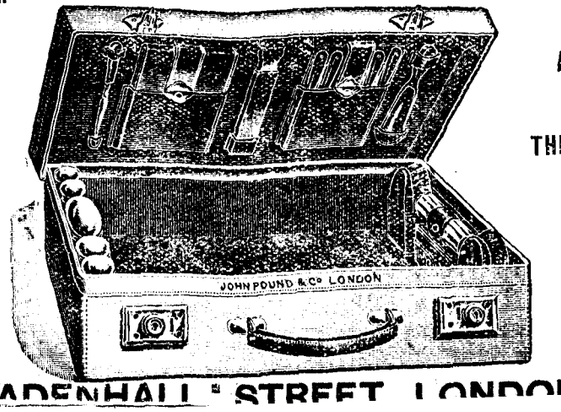


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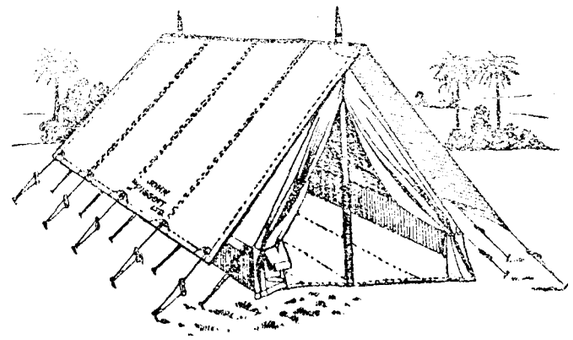
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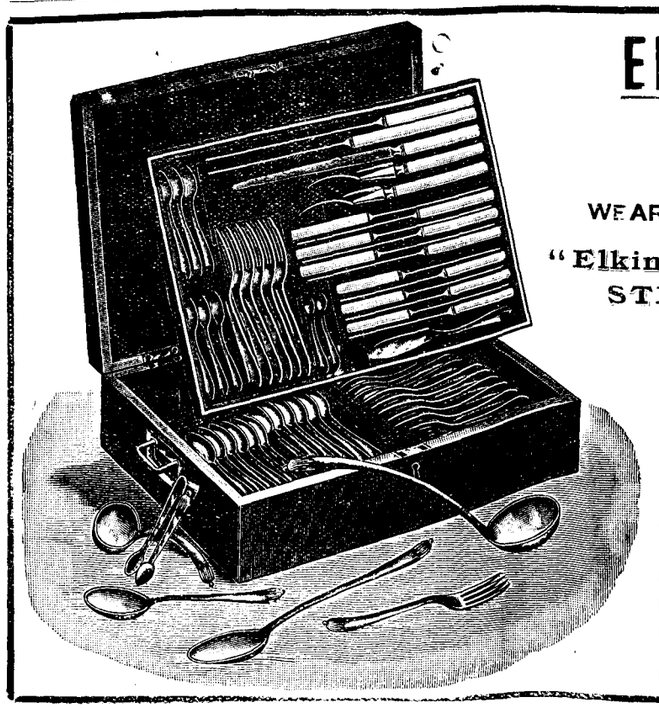
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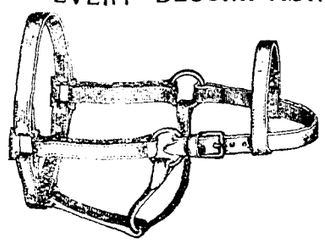
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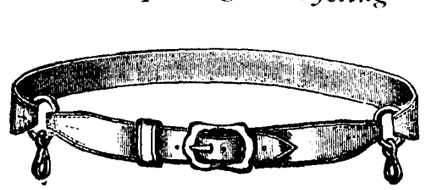


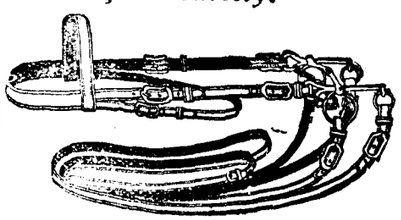
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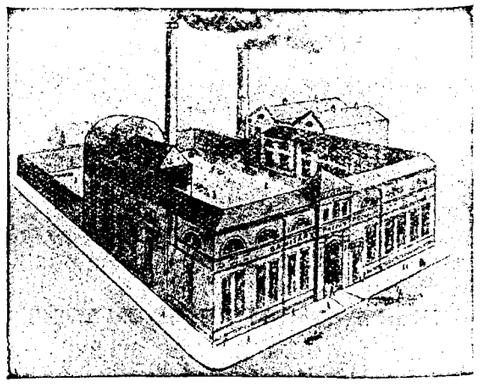
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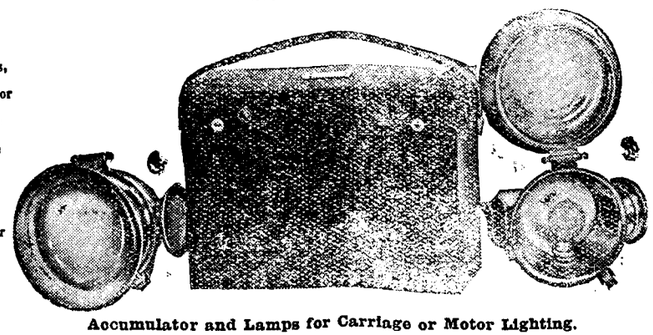
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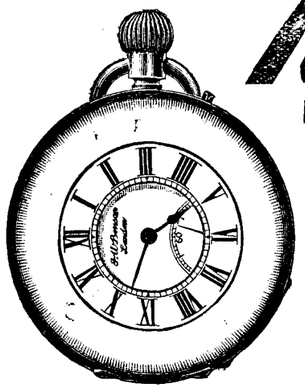
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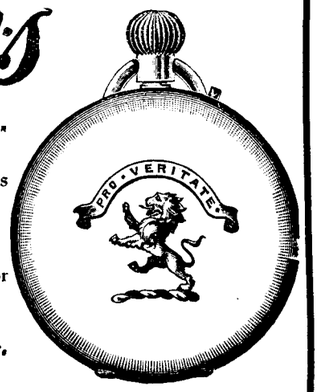
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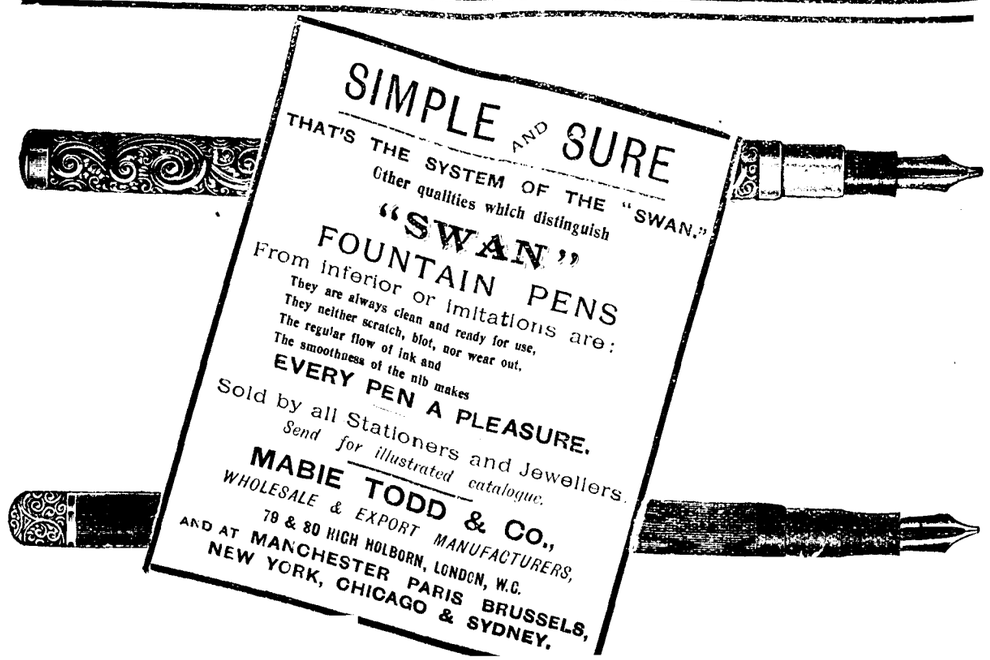
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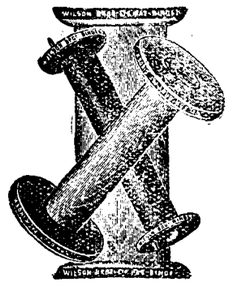
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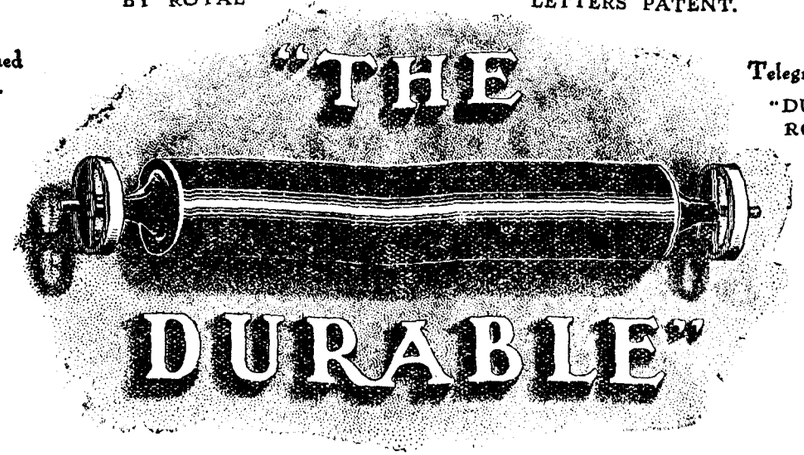
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CROP FORECASTS: COTTON, RICE.

23-12-07

PUBLISHED WEEKLY. REGISTERED.

The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 90.] CALCUTTA, THURSDAY, 19th DECEMBER, 1907. [ANNAS 4.

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NOTES.

The **Gadag Cotton Spinning Mills,** Dharwar district, have added a weaving shed to their establishment.

We are informed that a **second pilot vessel** for the **Bay of Bengal** has been ordered from England by the Government of Bengal at a cost of £63,150. The vessel is expected to reach Calcutta in June next.

Particulars of the electric license to be granted to the **Rangoon Electric Tramway and Supply Co., Ld.,** are published in the *Burma Gazette* of the 7th instant.

A Turkish subject has been empowered to spend £T4,000 (£T=Rs. 13-8) on a **petroleum refinery at Qayara,** which is on the right bank of the Tigris, some distance below Mosul, **Persia.** In this connection it is proposed to start a **carriage service between Aleppo and Qayara** and to arrange for small steamers to proceed up the Tigris above Baghdad. The sum of £T2,000 is also to be spent on **exploiting cost mines,** probably at Harbul.

Draft rules under the provisions of the **Indian Fisheries Act** have been issued by the **Madra** Government prohibiting the erection and use o fixed engines, the construction of *weirs* and the us of nets of which the meshes are less than one an

a half inches square for the capture and destruction of fish; and also prohibiting all fishing between the 15th March and 15th September in the following waters; the Bhayni river (with its tributaries) from its source to the inflow of Taimaloi stream below Niralai; the Moyar river with such tributaries as are within the Nilgiri or Coimbatore districts, from the Pykara falls to the Gazzalhatti Chattram; and the Siruvani and the Gopanari rivers and their tributaries, in the Malabar and Coimbatore districts. These rules will be taken into consideration after January next.

In the Bombay Custom House it has been the practice to regard the application of the term **"velvet"** to material made only of cotton as amounting to **a false trade description** under the Indian Merchandise Marks Act, unless it were qualified by the use of the word "cotton." This practice of the Bombay customs authorities recently formed the subject of a protest by the Manchester Chamber of Commerce, who contended that the use of the term "velvet" to describe cotton fabrics is recognised by trade usage. In Calcutta the term has always been accepted as covering all kinds of mixed velvets. The Government of India, on the point being raised by the Government of Bombay, have accepted the Calcutta practice as correct and, with a view to ensure uniformity, have ordered that it be followed at all Indian ports.

Shanghai advices dated 21st ultimo, to hand by the China mail that reached Calcutta this week, state that the market for **Indian yarns** has shown a distinctly firmer tone, a good general enquiry prevailing. The volume of business has assumed respectable proportions, and as clearances are going on satisfactorily it may be inferred that actual consumptive requirements are responsible for the improved demand. No. 20's have after a long interval taken first place in point of quantity once more, being in good request for **Hankow**, where stocks are said to have been allowed to run very low. Prices on the whole are fairly well up to previous quotations, which, however, do not allow much for the depreciation in exchange. In point of quantity No. 10's come next, they having been in quite active demand for **Tientsin** and **Szechuen**, but as regards prices no more can be said than for the higher count. As regards quantity No. 12's run the lower count very closely, and in proportion to the stock there make a much favourable showing, which possibly accounts for the slightly firmer prices in some cases, and generally steadier tendency. As usual the bulk of that count is intended for **Kiukiang.** The sales in all amounted to 5,158 bales, the market closing steady.

A company for working a new patent long collar for **cotton spinning machinery** has just been registered under the title of "Machinery Components, Ld.," with a capital of £30,000. The advantages claimed for the new "collar" include lightness and improved lubrication. The signatories to the memorandum and articles of association include Sir W. H. Houldsworth, Bart. (Fine Spinners' Association); Mr. Henry Higson (Higson Brothers, Blackburn); Mr. Alfred Crewdson and Mr. I. Crewdson Waterhouse (Horrockses, Crewdson, and Co., Ld.); Mr. E. Tootal Broadhurst Tootal Broadhurst Lee Co., Ld.); Mr. Henry Bell (J. and A. Leigh Ld., Preston); Mr. J. R. Barlow (Barlow and Jones, Ld.); Mr. Frank Calvert and Mr. William Parker (William Calvert and Sons, Ld., Preston); Mr. J. S. Hoyle, Mr. E. L. Hoyle, Mr. J. C. Hoyle, and Mr. E. Hoyle (Joshua Hoyle and Sons, Ld.); Mr. E.L. Oliver (Fine Spinners' Association); Mr. John Taylor and Mr. F. A. Hargreaves (joint secretaries, North and North-east Lancashire Spinners' and Manufactures' Association). No shares are offered for public subscription. The Company, whose registered offices are at 18, Exchange-street, Manchester, have, in addition to the British patents, acquired the patent rights for the new "long collar" in India and in most foreign countries where textile machinery is in use. The directors of the Company include Mr. Henry Higson (chairman), Mr. I. Crewdson Waterhouse, and Mr. Henry Bell.

Mr. R. Larmour Neill writes to the *Manchester Guardian* from New Orleans, under date November 17th, with reference to his estimate of this season's American cotton crop:—"You will doubtless think this estimate too small, as the figures (11,395,000) are less than any I have seen. I have expended all my energy to get at the facts, and my long years of training in the office here of my late uncle, Mr. Henry M. Neill, have, I believe, peculiarly fitted me for the work. I have just this moment received the following telegram from a friend at Fort Worth, Texas, who has been travelling all over North-west Texas:—'North and North-west Texas unopened cotton bolls destroyed by frost and rainy weather.'" With regard to the holding of cotton by producers, Mr. Neill's observation and information are that in Texas, considering the small size of the crop, such holding back is quite large, but that elsewhere it is greatly exaggerated. If it had not been for the financial stringency the movement, outside of Texas, would, he believes, have been well up to former years. People who expect an avalanche of cotton to descend on the market as soon as the wheels of trade again turn freely forget, so Mr. Neill says, that "two portentous changes have taken place throughout the South during the last four years; first, the wonderful increase in the wealth of the farmers, and secondly the growth amongst them of an astounding faith that at last they can by united action control prices. This faith has assumed the character of a national sentiment. It impresses me, and I think the time near when the cotton consumers of the world will be called on to reckon with it seriously. By this I mean that unless cotton

advances considerably this and next month the movement by the 1st of January will be that of a crop of 10½ millions or less, and should farmers not consider the price obtainable in 1908 satisfactory Mr. Hester's next figures for the commercial crop will be in the neighbourhood of eleven millions."

The Secretary of State has sanctioned the construction, at the cost of the Baroda Durbar, of a line of **railway** on the 2′ 6″ gauge **from Kosamba**, a station on the Bombay, Baroda and Central India Railway, **to Zankavav**, a distance of 26·43 miles. The line will be known as the Kosamba-Zankavav Railway.

The Railway Board have sanctioned a **survey** being carried out by the agency of the Bengal-Nagpur Railway Company for a line of **railway** on the 2′ 6″ gauge **from Nagpur to Chindwara**, a distance of about 80 miles. The survey will be known as the Nagpur-Chindwara Railway Survey.

With effect from the 1st January 1908, the document presented at a post office for the purpose of obtaining a **certificate of posting** must contain in addition to the particulars already prescribed an entry of the actual number (in words) of the articles in respect of which the certificate is required. This entry should be made at the foot of the document.

The total area leased for **irrigation** in **Bengal** in the official year 1907-08 up to the end of October last was 828,409 acres as against 791,414 acres for the corresponding period of last year.

The total area under **irrigation** in connection with the operations of this year's kharif (autumn) crop in the **North-West Frontier Province** up to the end of September was 94,722 acres, as against 79,736 acres for the corresponding period of last year.

H. M. Commercial Attaché at Yokohama (Mr. E. F. Crowe) reports that an Imperial Ordinance appeared in the *Japanese Official Gazette* of 28th October announcing the **opening of the Port of Nagoya** to foreign trade on the 10th November. This port, remarks Mr. Crowe, has lately become quite an important industrial centre, but hitherto most of its imports and exports have had to find their way by rail to and from Kobe. It is expected that the opening of the harbour will have the effect of diverting much of the trade of Yokkaichi, which has developed rapidly of recent years, to Nagoya. The principal industries of Nagoya are cotton spinning and weaving, the making of cloths (for the Chinese market) and pottery and cloisonné (for the American and European markets).

Although an improvement has taken place during the week in **copper prices,** says the *Manchester Guardian* of the 25th ultimo, and at one time standard warrants were done at £60 15*s.* for cash, the actual situation remains as doubtful as ever. According to the *Ironmonger* it is the small difference between standard and electrolytic copper which has induced a certain amount of buying in warrants. There is besides a scarcity of the commoner grades of copper suitable for delivery against contracts for standard. The curious feature is that warrants advanced on the London Metal Exchange, while at the same time lower prices were being cabled from America. The statement that the present rate of consumption of copper in America is only 9,000 tons per month is, if true, very serious for the prospects of the market. It means that the falling off in the consumption is not 25 per cent. or 50 per-cent., but nearer 70 per cent. No market could stand such a tremendous change in the normal conditions, and the accumulation of stocks must be going on to a disastrous extent.

The following statement, showing the weight of **tin and tin ore** (tin exported in the form of ore having been taken at 70 per cent. of the gross weight of the ore) **exported from the Federated Malay States** during the nine months January to September, 1906 and 1907, is taken from the *Selangor Government Gazette*:—

	Nine months ended September, 1906.			Nine months ended September, 1907.		
	Tin.	Tin exported in the form of Ore.	Total.	Tin.	Tin exported in the form of Ore.	Total.
	Piculs.	Piculs.	Piculs.	Piculs.	Piculs.	Piculs.
Perak . .	97,099	226,655	323,754	78,947	245,302	324,249
Selangor . .	86,147	114,734	201,181	66,410	136,138	202,548
Negri Sembilan	36,426	21,571	57,997	29,493	26,273	55,766
Pahang . .	5,864	19,585	25,449	9,503	14,430	23,933
Total .	225,836	382,545	608,381	184,353	422,143	606,496

NOTE.—1 Picul=133⅓ lbs.

At the half-yearly meeting of the **Bengal and North-Western Railway** held in London on the 26th ultimo Colonel T. Gracey, the chairman, moved the adoption of the report, and stated that the manufactured cotton traffic for the first half of 1907 was 14,482 tons, compared with 14,625 tons in the corresponding half of last year and 15,431 tons in the first half of 1905. The value was about Rs. 500 less than in 1906 and Rs. 1,034 less than in 1905. The passengers carried were one and a quarter million more than in the first half of 1906, earning about 5½ lakhs more

and 128,000 more tons had been lifted, producing increased earnings of about 11 lakhs. The improvement in the passenger traffic was mainly due to general development, but the same rate of improvement must not be counted on in future. The final result of the half-year was an increase of about £43,000 in the net earnings of the Company's line over the corresponding period of 1906. The prospects of the current half-year led the directors to anticipate that in May next a bonus would be paid in addition to the ordinary dividend of 3½ per cent. for the period. The report was adopted.

The Administration Report of the **Indo-European Telegraph Department** for 1906-07 shows that the earnings were Rs. 15,40,115, or a decrease of Rs. 1,26,117 in comparison with those for the previous year. The expenditure during the year was Rs. 10,81,556, or an increase of Rs. 1,89,692 on that of the preceding year. The net result of the Department's operations is a profit of Rs. 4,58,559 for the year under report, as compared with Rs. 7,74,368 for 1905-06. A dividend of 3 per cent. is declared. The total length of the various cables on the Persian Gulf section on the 31st March, 1907, was 1948·568 knots, as against 1950·799 knots in the previous year. The Central Persia telegraph line from Kashan to the frontier near Malik Robat, a distance of little over 798 miles, was completed on the 15th March, 1907. The cable laid in October, 1905, between Henjam and Bunder Abbas has not yet been opened for traffic.

According to statistics compiled by the United States Geological Survey, the total production of **coal** in the **United States** during 1906 amounted to 369,783,284 tons (of 2,240 lbs.), of which 306,138,274 tons were bituminous and lignite, and 63,645,010 tons were Pennsylvania anthracite, other anthracite being classed as bituminous. Of the bituminous production 46,156,301 net tons (of 2,000 lbs.) were converted into coke. The total production of **coke** from the beehive and by-product ovens of the United States in 1906 surpassed all previous records, amounting to 36,401,217 tons as compared with 32,231,129 tons in the previous year. The value of the total coke product increased in even greater proportion, rising from 72,476,196 dols. in 1905 to 91,608,034 dols. in 1906. The value of the **gold** production of the United States in 1906 was 94,373,800 dols. against 88,180,700 dols. in 1905. The principal increase was in Alaska. The total production of **silver** is given as 56,517,900 fine ounces of the commercial value of 38,256,400 dols. as against 56,101,600 fine ounces valued at 34,221,976 dols. in 1905. The output of **petroleum** during 1906 amounted to 126,493,936 barrels, having a total value of 92,444,735 dols. California, which furnished nearly one-fourth of this total, holds first place as regards quantity supplied, Kansas and Indian Territory with Oklahama (jointly) coming next.

We learn from the **Punjab** Government's review on the Report on the working of **Co-operative Credit Societies** in that province for the fifteen months ending with June last that the total number of societies was 328, of which more than half were in fullworking order. At the close of the period under report 174 societies, with a capital of Rs. 2,85,000, were able to show profits of over Rs. 26,000. Of the capital raised (Rs. 2,37,000), Rs. 85,000 were contributions towards shares, Rs. 93,000 represented deposits and Rs. 43,000 were advances by Government or Sir D. M. Hamilton; Rs. 2,60,000 were lent by societies. and Rs. 60,000 lent were repaid.

The Report on the working of **Co-operative Credit Societies** in the **Madras** Presidency for fifteen months ending June 30th shows that 36 new societies were registered, 24 rural and 12 urban. The aggregate number of members rose from 2,733 at the end of the previous year to 6,439 at the end of the period under report. Altogether 58 societies carried on operations; and 43 societies had a paid-up share capital of Rs. 75,875. An aggregate sum of Rs. 3,45,242 was borrowed by way of deposits by 43 societies; of this sum Rs. 1,59,183 was repaid. Loans amounting to Rs. 3,85,692 were granted. The Government state that the period under report was one of satisfactory progress and that the results raise hopes of the ultimate success of the co-operative movement in the Presidency.

In addition to the calcium nitrate manufactured by the Norwegian company, **another artificial fertiliser** will, it is said, shortly be placed on the market. The patents relating to this product were taken out by Frank and Caro, and were acquired some time ago by the German Cyanide Company, and plant has been installed at their works in Mühlthal, near Bromberg, Germany. The process is quite different from that which is being worked in Norway, and consists in passing hot air over finely powdered and heated calcium carbide, under which conditions the nitrogen is absorbed and a nitrogenous compound is formed which is said to have very valuable fertilising properties. It contains about 20 per cent. of available nitrogen and 60 per cent. of lime. The Mühlthal plant is practically complete, and it is expected to be working early in the new year, whilst new works are being built in Southern Germany, near Trostberg, where the power of the river falls will be utilised. When both places are working it is expected that the annual output will be nearly sixty thousand tons.

In the course of an interesting Bulletin of the U. S. A. Department of Agriculture (No. 295) on potatoes and other root crops as food, some interesting comparisons have been made between the composition and the nutritive value and **digestibility of sweet and white potatoes,** and the following conclusions are drawn:—Considering both composition and digestibility, it may be said that the nutritive value of sweet potatoes is much the same as that of white potatoes, and that they are well fitted to occupy the same place in the diet and furnish a palatable substitute for white potatoes.

Most farmers who are accustomed to feed **juwar** (great millet) to their cattle are aware that occasionally an animal is attacked with symptoms of **poisoning.** This, says the *Quarterly Journal* of the Department of Agriculture, Bengal, is due to a poisonous glucoside which occurs in other fodder as well as *juwar*. There is still considerable difference of opinion as to the quantity of this poison in different varieties of *juwar* and at different times of growth. But it is generally recognised now that as the crop matures the amount of poison becomes less and less, and that when the seeds begin to form the amount is so small that the fodder is perfectly harmless. Such fodder should, therefore, be used with great caution when in an immature state of growth. It is also believed that *juwar* of very rank growth is more dangerous in this respect than an ordinary crop. It is a well-known practice in parts of Bihar, at any rate, when an animal shows symptoms of poisoning after eating *juwar*, to give it a heavy drink of milk. This practice is justified by scientific enquiry, and this treatment should be adopted in such cases, or else a drink of molasses diluted with water should be immediately given to the animal.

In a Bulletin (No. 187, Office of Experiment Stations) on "Studies on the Digestibility and Nutritive Value of Legumes at the University Tennessee," Professor Wait demonstrates the richness in **nutrient constituents of certain legumes,** and the extent to which they are digested and absorbed in the body. That legumes deserve a high rank as important food staples has long been recognised and has frequently been scientifically tested; but Professor Wait has drawn special attention to the value of the **cow-pea.** He points out that this pea has a distinctive and pleasing flavour; that it can be prepared for the table in many appetising ways, and that it compares favourably with other legumes in respect of both nutritive value and digestibility. Its wholesomeness and possible place in the diet is shown by its long and general use in the Southern States of America. It seems only fair to conclude, he writes, that the cow-pea deserves to be more generally known and used as a staple food, both for its high food value and for the additional variety in the diet which it would help to secure. The cow-pea thrives in most parts of Bengal, and very similar considerations will apply. The plant is probably a native of India or Central Asia, and was introduced into America some two centuries ago.

Slightly better results were obtained at the Illinois Station, U. S. A., when **oats** were **harvested** while still green and the kernels mostly in the dough stage than when the straw was mostly yellow and the kernels hard. When the oats were allowed to mature thoroughly, the results were distinctly less satisfactory. When the sheaves were bound and shocked at once, the yield was somewhat better than when the cut straw was allowed to dry thoroughly before the sheaves were bound. At the Kansas station, oats cut in the dough stage yielded 17·85 bushels, cut in hard dough 21·8 bushels, and when ripe 26·37 bushels per acre. As a general rule, oats should be harvested when the lower part of the stalk has turned yellow, at which time the plant has ceased to draw nutriment from the soil and further growth consists in the maturation of the seeds. It is generally conceded that if the grain is cut at this time, the straw is better for fodder and other purposes. If the cutting is delayed until the seeds are entirely ripe, considerable loss is liable to occur from shelling, and the quality of the straw for feeding purposes is considerably impaired.

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

For the week ending 14th December, 1907—

In the Calcutta market—

Behar opium—Rs. 1,297; 1,297; 1,293; 1,301; 1,291; 1,275; 1,279.

Benares opium—Rs. 1,280; 1,280; 1,275; 1,285; 1,275; 1,260; 1,265.

The prices in the time bargains for the Behar opium of the 1st sale of 1908 were Rs. 1,303; 1,303; 1,299; 1,307; 1,297; 1,281; 1,285.

In the China market—

At Hongkong (exchange Rs. 145 to 148 per $100).

Behar opium—$885; 890; 897 and 900; 890; 890; 890; 890.

Benares opium—On the 9th, 10th and 11th instants respectively $870; 875; 870.

At Shanghai—(exchange Rs. 192½ to 197 per 100 taels).

Behar opium—On the 9th and 11th instants 675 and 685 taels, respectively.

Benares opium—On the 9th and 11th instants 665 and 675 taels, respectively.

For the week ending 7th December, 1907—

In the Bombay market—

For the entire period (new, 1906-07) Rs. 1,246 to 1,315; (new, 1905-06) Rs. 1,325 to 1,391;

(old, 1904-05) Rs. 1,456; the latest prices at Hongkong and Shanghai were (new) Rs. 1,273 and 1,363; (old) Rs. 1,395 and 1,424, respectively.

With reference to the notice relative to the **Sicilian sulphur industry**, H. M. Consul at Palermo (Mr. S. J. A. Churchill, M.V.O.) now reports that through the ex-Minister for Finance, Signor Luzatti, fresh negotiations with the Union Sulphur Company have been initiated in order to arrive at an understanding by means of which competition between United States and Sicilian sulphur will be avoided. Mr. Churchill adds that the Director-General of the Sicilian Consorzio has proceeded to Rome for the purposes of these negotiations.

The **American tea trade**, says the *Journal of Commerce* (New York), seems to be an exception to the general reactionary tendency, for though overtaken by the financial storm in the midst of a particularly active demand from all sections of the country, it has not yet developed any serious weakness. This is due, according to some of the best known members of the trade, to the strong statistical position resulting from a deficiency in importations for two successive years, occasioned by short crops. Even the likelihood of marked business depression, with the entailed reduction in consumption of commodities, causes little worry, it being pointed out that tea in the past has always held its own during hard times. Admitting that prices are higher than a year ago, except for the medium grades, the shortage in importations, brokers say, justifies prevailing firmness.

At the last meeting of the Association of Chambers of Commerce in Great Britain a resolution was adopted urging that the Government should take steps to obtain for British Chambers of Commerce and other representative commercial institutions full information of the contents of all **Bills** and other proposals introduced into the Legislatures of the **British colonies** the provisions of which are likely to affect the interests of British manufacturers, shipowners, or traders. It was suggested to the Colonial Office that probably the end might be served if copies of bills of this character were published in the *Board of Trade Journal* as soon as received. Replying to this communication, the Colonial Office has intimated that steps have now been taken to secure the earlier transmission to Great Britain of colonial bills affecting commercial interests, and that these will be published in the *Board of Trade Journal* as soon as received.

A Persian correspondent states that reports have recently been received at Bunder Abbas, **Persia**, of **repeated robberies** (involving large sums of money) committed by Fars tribesmen on British Indian traders on the Meshed-Kerman road, more particularly between Haraz and Rahdar. In one case a caravan of 400 pack animals from Bunder Abbas was attacked at Gule Anjir, near Baft, and 82 animals with their loads were carried off. Four of the drivers were killed and several wounded. In another case a caravan of 250 pack animals laden with opium, piece-goods, etc., was attacked on the Shiraz-Ispahan road between Yezd-Khast and Shulgistan and 84 animals with their loads were captured.

The **German Imperial Budget** for 1908 authorises the raising of approximately £13,025,000 by borrowing. Credits authorised in former Budgets have not yet been realised to the amount of £6,705,000, and the present Budget therefore sanctions the borrowing of altogether £19,730,000. It further authorises the Imperial Chancellor to raise temporarily a sum not exceeding £17,500,000 at the Reichsbank upon Treasury Bills as needs may require. Owing to the unfavourable state of the Imperial finances, the Government has decided to postpone the operation of the Sinking Fund measure until a different arrangement be made. The memorandum attached to the Budget urges the necessity for new taxes in order to balance revenue and expenditure. The Budget shows that the total Imperial debt amounted on October 1st of this year to £200,175,000.

The proprietors of the *British Trade Journal* have published the first number of a **new publication** they are issuing in the **Chinese language**, the *Chung Ying Shang Pao* (Anglo-Chinese Trade Journal), thus carrying out the suggestion frequently made by British Consular officials, that buyers in China should be approached in their own language. The new journal is printed and published at their offices in Shanghai, with branches at Tien-tsin and Hongkong. The contents of the first number, consisting of 32 pages of reading matter and 18 pages of advertisements, are devoted entirely to the furtherance of trade between the United Kingdom and the Chinese Empire. Among the contents are articles on the openings for new industries and new goods in China, on the English cotton trade, the sources of raw materials and manufactured goods likely to be of use in China, the work of a sugar factory, illustrated by the plan of a modern sugar mill, and there are descriptions of machinery and apparatus of Western origin the practical value of which is discussed in relation to Chinese requirements. The London office is at 24, Mark-lane, E.C., which is also the London office of the *Nichi Ei Shogyo Zasshi*, a similar paper, devoted to the promotion of Anglo-Japanese trade. It first appeared some 12 years ago, and so great has been its success that the celebration of its 12th birthday at the Maple Club,

Tokio, last summer was attended by a number of distinguished persons, amongst whom were Count Okuma, late Minister for Foreign Affairs, etc.; M. Takaaki Kato, late Japanese Minister in London; Baron Kaneko, Privy Councillor, late Minister for Agriculture and Commerce; and Mr. Henry C. Lowther, His Britannic Majesty's Chargé d'Affaires (in the absence of Sir Claude Macdonald), who all delivered congratulatory addresses.

NOTICES.

CROP FORECASTS.

The following general memoranda on crops of the season 1907-08 will appear in the *Indian Trade Journal* of 26th December, 1907:—

Final memorandum on Indigo.

First memorandum on Wheat.

First memorandum on Spring Oilseeds.

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 25th December at 4 P.M.

CALLS FOR TENDERS.

Miscellaneous Stores.

Tenders are invited up to the 14th January, 1908, by the Superintendent, Ammunition Factory, Dum-Dum, for the supply of cordage, cloth, coal, soft soap, timber and other miscellaneous stores.

The Store Officer, Supply and Transport Corps, Cawnpore, is inviting tenders up to the 6th proximo for the supply of boots for native troops and followers, putties, blankets, jerseys, sheets and other miscellaneous articles.

The Superintendent, Government Harness and Saddlery Factory, Cawnpore, will receive tenders up to the 13th proximo for the supply of cordage, gunnies, web cotton, bran, coke, gallnuts, tallow, lime, bricks, deal scantlings and firewood.

Tenders are being invited up to the 20th proximo by the Superintendent, Gun Carriage Factory, Jubbulpore, for the supply of petty stores, castor, linseed and kerosene oil, straw and cotton waste.

The Superintendent of the Rifle Factory, Ichapore, will receive tenders up to the 15th proximo for the supply of timber, coal, coke, oil, gunnies and other miscellaneous stores.

ENQUIRIES.

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

Tea.

(165)—A firm in Constantinople desires to be placed in touch with exporters of Indian tea.

Gunnies.

(166)—A firm doing business in Turkey wishes to be placed in communication with firms exporting gunnies.

Continental Business.

(167)—A firm in Marseilles giving bank references wishes to be furnished with the names of firms who desire to open up business relations with continental houses.

Cocoanut Fibre.

(168)—A firm in France requires the addresses of firms exporting cocoanut fibre.

Chillies.

(169)—A French firm requires the addresses of exporters of chillies.

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 December, 1907:—

Parliamentary Publications.

Colonial Reports—Annual Series—No. 548—Fiji, 1906. Statistical Abstract for the Principal Foreign Countries in each year from 1895 to 1904-05. Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions, 1906, Supplement to Vols. I and II.

Foreign and Colonial Publications.

Austria-Hungary—Budapest Fovaros: Statisztika Havifuzetei, July, August, and September, 1907. Canada—Monthly Account of Trade, August, 1907. Ceylon—Customs Returns, October, 1907. France—Statistique Internationale du Mouvement De La Population D'apres Les Registres D'etat Civil Jusqu'en 1905. Germany—Monthly Account of Trade, October, 1907. Netherlands—Monthly Account of Trade, October, 1907. United States—Monthly Summary of Commerce, September, 1907; Bureau of Statistices—Bulletin No. 67—Ocean Freight Rates and the conditions affecting them; Bureau of Entomology—Bulletin No. 72—Information concerning the North American Fever Tick with notes on other Species; Office of Experiment Station Bulletin No. 194—Review of Investigations in Soil Bacteriology; Experiment Station Work Vol. III, No. 3; Bureau of Soils—The Action of Water and Aqueous Solutions upon Soil Carbonates; Forest Service—Circular No. 114—Wood Distillation; Office of the Secretary—Cir. No. 25—The Unproductive Farm.

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., Ld.; 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.

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The Indian Trade Journal.

THURSDAY, DECEMBER 19, 1907.

INDUSTRIAL DEVELOPMENT OF AFGHANISTAN.

IN search of new openings for trade a special Commercial Agent from the United States (Mr. W. A. Graham Clark) paid a visit to Afghanistan a few months ago, and, as the result of careful inspection, has come to the conclusion that that far-off country offers a fair field for American machinery and cotton piece-goods, particularly American drills. In Mr. Clark's opinion, Afghanistan is the only kingdom in Central Asia that is likely to require foreign goods at an early date. Its industrial development is being fostered with care and judgment, "is destined to rank higher in the future, and is worthy of careful study." The Afghans, whom he designates "Asiatic Highlanders," owing to the mountainous nature of their country, number between 5,000,000 and 10,000,000, and claim descent from the lost tribes of Israel, calling themselves "Bani Israel" and tracing their lineage back through Sulaiman and Daud (Solomon and David) to Musa (Moses) and on to Izac, Yacoob and Ibrahim. Many of them are said to have marked Jewish features, and ancient Jewish names are very common among them. However that may be, they are keen tradesmen, one of the most important occupations being horse raising. Herat is one of the greatest trading cities, other cities of importance being Kandahar, Ghazni, Taskhkurgan, Balkh and Jalalabad. The safety of travel is ensured by making every district responsible for any disturbance within its bounds.

Commercial development is now regarded in many parts of Afghanistan as a matter of course, but that was not always the case. When the late Amir, not so long ago, attempted to introduce foreign goods and to establish manufactories, he was violently opposed. He persevered, however, first introducing hand-power, then steam-power equipments, till to-day at Kabul there are engines of 100 horse-power, transported over rugged mountain passes at great labour. Within the past fifteen years many new industries have been started, particularly at Kabul, and these are now chiefly manned by Afghans, who have displaced the experts first introduced to work them. Next to the elaborate machinery for making war-materials—cannons, rifles, and cartridges—the Government of the country is said to be most interested in machinery for mining and extracting ores, and the demand for this class of machinery is likely to largely increase. The reason for this is not far to seek. Afghanistan, says Mr. Clark, may some day be one of the world's great mining districts. It is known to have mines of rubies, topaz, lapis-lazuli, marble, and other stones; iron, lead, copper, antimony, and other metallic ores; sulphur and several of the earthy alkaline and metallic salts. Coal is also found, and is believed to be extensive near the iron mines. The lead, iron, and precious stones mines are partially worked by the Government with modern machinery, but the mining of the country is mostly carried on by very crude processes, and the bulk of the mineral wealth is as yet not touched. According to the few European geologists who have had access to the country, the mineral deposits of various kinds are rich and extensive, and there are to be found both gold and silver in paying quantities. In addition to large coal, iron and other mines, Afghanistan has numerous waterfalls available for power. "If," adds Mr. Clark, "the Government would grant railway and mining concessions to foreigners, the country would develop rapidly, for its mines alone would attract many prospectors, and, if found to be as extensive as currently believed, much capital would follow. The Government and people, however, are united in opposing any concessions to foreigners."

At the present moment the following are some of the industries that are being started or fostered in Afghanistan: Machine shops, boot and shoe making, soap and candle making, Persian and Indian carpet weaving (both hand and machine), electro-plating and gilding, brick making, stone in-laying, enamelling, paper making, glass making, saw-milling, oil mills, acid making by machinery, book-binding, biscuit and cake making, wine distilling, electric light plants, telephones, etc. There are now at work, besides boilers and condensing engines of 100 horse-power, 28-foot lathes, heavy steam hammers, stamps and dies for making coin at the Kabul mint, and a traction engine for hauling heavy guns. Over 100,000 men are also regularly employed mainly by Government in various manufactures and in road making. Prior to twenty years ago manufacturing and road making were alike unknown in Afghanistan. Improved roads will mean a vast improvement in the present method of Afghan transport, which is at present worked by camels and other pack animals.

The copper coins of the country are the anna and two-anna pieces; the silver coins are tongas ($\frac{1}{8}$ rupee), kirans ($\frac{1}{4}$ rupee), the rupee and five rupee pieces. The value of the rupee is officially reckoned at 12 annas, but the exchange rate at Peshawar is about 58 Indian rupees for 100 Afghan rupees. In many parts of Afghanistan, however, cotton cloth and sheep are the only means of exchange, and taxes are paid in kind. The post office system is working well and letters are now delivered by mail to almost any part of the country. The country is also in possession of a regular frontier customs service, and $2\frac{1}{2}$ per cent. duty is levied on all imports and exports. This is the usual course, but a system of protective tariffs seems to be growing up; and, as soon as an article can be made at a reasonable price in Afghanistan, its importation is either prohibited, or a high duty is levied. The exports are wool (ordinary white), the fine black sheep-skins known as "Astrakhan," horses, raw silk, madder, asafœtida (used for cooking purposes in India), opium, tobacco, rubies, gold, lapis-lazuli, various kinds of fruits, Persian carpets, ghee, skins, etc. The imports are arms and ammunition, piece-goods, calicoes, muslins, chintzes, merinos, woollen and broad cloth, silks, indigo, salt, drugs and patent medicines, knives, scissors, thread, paper, machinery, iron-ware, etc.

Notwithstanding the commercial awakening of the country, the mass of the people are still agricultural and pastoral. Irrigation is so extensively employed that some of the larger streams are practically absorbed before they reach the borders of the country. There are two harvests every year in most parts of the country. The first consists of wheat, barley, peas, beans, etc., and is sown at the end of autumn and reaped in the summer. The other comprises rice, millet, maize, etc., and is sown at the end of spring and is reaped in the autumn. The wheat crop is, of course, the most important, being the main food crop of the people. The present trade routes for agricultural and other produce are: (1) From Persia by Teheran and Meshed to Herat; (2) from Khiva (Russian) by Moro and Kushk to Herat; (3) from Samarkand and Bokhara (Russian) by Balk to Kabul; (4) from Yarkand and Kashgar (Chinese) by Chitral to Kabul; (5) from India by the Khyber, Kuram Valley, Tochi, and Gomal Passes; and (6) from Sind (India) by the Bolan Pass and Quetta route.

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CROP FORECASTS.

COTTON.

Third General Memorandum on the COTTON crop of the season 1907-08.

This memorandum summarises the provincial reports of the cotton crop up to 30th November, and compares them so far as possible with those for the two preceding years. The report for Ajmer-Merwara* has not been received in time for inclusion; but since that province on the average for the five years ending 1905-06, represented only 0·2 per cent of the Indian cotton area its omission is unimportant.

The season has generally been very unfavourable. Over large tracts the rains failed almost completely. In other regions where sufficient rain was received its unequal distribution was scarcely less harmful, as heavy excess at sowing time was in many places followed by an abrupt drought which lasted practically throughout the period of growth. Of the nineteen tracts for which reports have been received fourteen report contractions of area and sixteen report a reduced outturn.

The **total area** under cotton in all territories reported is 20,314,600 acres as against the revised estimate of 22,175,300 acres as at the same date in 1906. This marks a net decrease of 1,860,700 acres or 8·4 per cent. But owing to the unfavourable character of the season the net decrease in yield is estimated at some 1,956,200 bales or 40 per cent. It must, however, be borne in mind that last year's crop was exceptional. The **total outturn** is now estimated at 2,923,400 bales as against 4,879,600 computed at the same date last year.

British territory which usually represents 67·7 per cent of the total area returns 12,334,000 acres and 1,758,000 bales as against 13,372,000 acres and 2,891,000 bales last year, the contraction being 7·8 per cent in area and 39·2 per cent in yield.

In **Native States** the area has contracted from 8,803,300 to 7,980,600 acres and the outturn from 1,988,600 to 1,165,400 bales, the shrinkage being 9·3 per cent in the one case and 41·4 per cent. in the other.

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%)*.—The total area under both early and late cotton in the British districts is now reported to be 3,137,000 acres—a decrease of 786,000 acres or 20 per cent as compared with the corresponding date of last year. The Native States (excluding Baroda) report 2,514,000 acres as against 2,767,000 acres last year—a decrease of 9 per cent. In Gujarat and North Deccan the rain was generally deficient for the sowing of the early crop. In July and August there was incessant rain for about six weeks which interrupted sowings of the late crop in Gujarat, and in some places ruined the seedlings. Late rains closed abruptly, and the crop has suffered through want of moisture at the bearing period. In Satara and most parts of the Karnatak rain for sowing was generally favourable though in places excessive. The yield is at present estimated to be 282,000 bales in the British districts as compared with 692,000 bales for last year—a decrease of 59 per cent, and in the Native States 425,000 bales which is only half the 846,000 bales of last year. It has, however, to be borne in mind that the high figure of last year was due to abnormally favourable conditions.

The State of **Baroda** *(3·1%)* reports 552,000 acres compared with 693,000 acres last year—a decrease of 141,000 acres or 20 per cent. As in the adjoining British districts, sowings were impeded at first by excessive and subsequently by deficient rain. The crop is withering in most places. The yield is estimated to be 103,000 bales as against 224,000 last year, this representing a decrease of 54 per cent.

Sind *(1·1%)* now reports a total area of 221,000 acres as compared with 250,000 acres at the same date last year—a decrease of 11·6 per cent attributed to low inundation. The crop is reported to be fair. The yield is estimated to be 100,000 bales as compared with 155,000 bales of last year—a decrease of 35 per cent. An area of 5,092 acres is reported to be under **Egyptian cotton**, which is estimated to yield 1,782 bales.

Central Provinces and Berar *(23·4%)* now report a total area of 4,456,000 acres (1,386,000 in the Central Provinces and 3,070,000 in Berar) as compared with 4,678,000 acres (1,389,000 in the Central Provinces and 3,289,000 in Berar) for the same date in last year—a decrease of 4·7 per cent. The sowing season was late but otherwise favourable. The rainfall in July and August was not only heavy but was so continuous as to afford little or no opportunity for weeding. After the last fortnight of September there was little or no rain, and the plants have suffered not only from want of moisture but also from abnormal heat. Their growth was consequently stunted. Light rain fell at the end of November throughout the Provinces and the condition of the plants has somewhat improved. The total yield is estimated to be 595,000 bales (224,000 in the Central Provinces and 371,000 in Berar) compared with 881,000 bales (328,000 in the Central Provinces and 553,000 in Berar) expected at the same date last year, the decrease being one of 32 per cent.

Madras *(8·8%)*.—The total area sown in *raiyatwari* villages (about two-thirds of the province) up to the end of November is reported to be 2,388,000 acres—a decrease of 4,000 acres as compared with the corresponding date of last year, but 9 per cent above the average of the preceding five years. The crop is generally in good condition owing to recent rain. The yield is at present estimated to be 125,000 bales as compared with 145,000 bales estimated at this date last year—a decrease of 13·8 per cent. Villages other than *raiyatwari* report a total area of 136,000 acres with an estimated yield of 16,000 bales; but the returns are incomplete.

Panjab *(7·9%)* reports the actual area sown to be 1,311,000 acres, which exceeds last year's area by 52,000 acres or 4 per cent. It should, however, be remembered that the ravages of boll-worm in 1905-06 led to a contraction of some 600,000 acres in 1906-07, this being entirely in the irrigated area. There has been only a slight recovery in the current year, and this may be attributed to a number of causes. The prevalence of plague in most of the irrigated tracts of the Central and South-West Panjab at sowing time, caused a shortage of labour. The monsoon broke rather late in the east of the province, and it was therefore impossible to bring the entire unirrigated area available under cotton. Lastly, the apprehension of a recurrence of boll-worm had a deterrent effect. The untimely withdrawal of the monsoon current proved disastrous to the unirrigated area in the Delhi division. The irrigated crop has also suffered throughout the province from deficient rainfall and the early cessation of the inundation canals. Injury by rats and insects has also been reported. The gross outturn is estimated at 319,000 bales as against 303,000 bales for last year—an increase of 5·3 per cent. Native States report a total area of 157,000 acres and an outturn of 35,000 bales compared with 154,000 acres and 54,000 bales for last year.

United Provinces *(6·4%)* report the area sown to be 1,443,000 acres as compared with 1,473,000 acres last year—a decrease of 2 per cent. Rain continued favourable until the last week of August, when it stopped altogether in the chief cotton-growing tracts and dry west winds began to blow. The irrigated crop received little or no injury from the prolonged drought, and the yield has been good; but the dry crop withered in most places and the outturn has been very poor. The total yield is estimated to be 261,000 bales compared with 634,000 bales for last year—a decrease of 58·8 per cent. The Native State of Rampur reports 18,000 acres and 2,000 bales as against 16,000 acres and 5,000 bales last year.

Burma *(0·9%)* now reports the area to be 183,000 acres as compared with 187,000 acres for last year—a decrease of 2 per cent. The rainfall of the last two months has been disappointing and the monsoon has given short rainfall over the greater part of the cottton-growing area. Prospects of the crop are poor. The yield is estimated to be 29,000 bales compared with 36,000 bales last year—a decrease of 19 per cent.

Bengal *(0·4%)* reports the total area sown to be 71,000 acres as compared with 75,000 acres last year, but sowing of the late crop is reported to be still going on in parts of Orissa. Both early and late crops have suffered greatly through want of rain in September and October. The crop in Cuttack has also suffered from floods. The total yield is at present estimated to be 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 the area sown to be 78,000 acres as compared with 76,000 acres last year. Owing to suitable weather at the time of sowing the area this year slightly exceeds that of last year. The almost complete absence of rain which characterised the month of October was all that was wanted to complete a very favourable season for cotton. The yield is estimated to be 24,000 bales as against 17,000 bales last year—an increase of 41 per cent.

No report of outturn has been received from **Ajmer-Merwara** *(0·2%)* which in October last reported the area sown to be 39,000 acres compared with 34,000 acres for last year.

North-West Frontier Province *(0·2%)* now reports the same area as estimated in October last, namely, 48,000 acres, as compared with 61,000 acres of last year—a decrease of 21 per cent. Owing to drought in September and October the yield is below average on unirrigated lands. On irrigated lands, however, the crop is about average. The total outturn is estimated at 9,000 bales compared with 13,000 bales last year.

Hyderabad *(13·3%)* now reports the total area to be 3,100,000 acres as against 3,480,000 acres last year—a decrease of 11 per cent. The season has been unfavourable, and the crop in the Mahratwara districts is expected to be under the average. In the Carnatic districts, where cotton is grown as a *rabi* (spring) crop, the outturn

* Report just received shows the area sown to be 41,000 acres and the yield 52,000 bales compared with 40,000 acres and 51,000 bales for last year.

still be a good one. The total yield is at present estimated at 386,000 bales as against 449,000 bales of last year—a decrease of 14 per cent. This estimate may have to be revised later, as a little rain would improve prospects.

Central India *(4·1%)* reports the total area to be 1,218,000 acres as compared with 1,174,000 acres last year—a decrease of 4·8 per cent. The yield is estimated to be only 63,000 bales as against 228,000 bales last year—a decrease of 72 per cent.

Rajputana *(2·1%)* reports the total area to be 436,000 acres compared with 428,000 acres last year—an increase of about 2 per cent, but the yield is estimated to be 134,000 bales as against 172,000 bales last year—a decrease of 22 per cent.

Mysore *(0·4%)* reports 84,000 acres and 17,000 bales compared with 89,000 acres and 10,000 bales for last year.

FREDERICK NOEL-PATON,
Director-General of Commercial Intelligence.

December 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)	5,651,000	707,000	6,690,000	1,538,000	5,934 000	1,009,000
Central Provinces and Berar	4,456,000	595,000	4,67[illegible],000	881,000	4,849,000	818,000
Madras (b)	1,388,000	125,000	1,392,000	145,000	1,416,000	133,000
Panjab (a)	1,448 000	3[illegible],000	1,413,000	357,000	2,019,000	192,000
United Provinces (a)	1,461,000	263,000	1,489 000	639,000	1,372,000	394,000
Sind (a)	220,600	100 400	250,300	154,600	283.000	85,000
Burma	183,000	29,000	187,000	36,000	183,000	85,000
Bengal (c)	71,000	14,000	75,000	16,000	71,000	16,000
Eastern Bengal and Assam	78,000	24,000	76,000	17,000	61,000	15,000
Ajmer-Merwara (d	...	...	...	...	...	...
North-West Frontier	48.000	9,000	61,000	13,000	59,000	13,000
Hyderabad	3,100,000	386.000	3.480,000	449,000	2,537,000	303,000
Baroda	552 000	103 000	693 000	224,000	730 000	189,000
Central India	1,218. 00	63 000	1,174,000	228,000	979,0 00	124,000
Rajputana	436,000	134,000	428.000	172,000	231,000	61.000
Mysore	84,000	17,000	89,000	10,000	75,000	6,000
TOTAL	20,314,600	2,923,400	22,175,300	4,879,600	20,859,000	3,393,000

N.B—A bale contains 400 lbs. of cleaned cotton

(*a*) Including Native States within provincial boundaries

(*b*) For *raiyatwari* area only; the reported area sown in the current year (1907-08) in the remaining area (about a third of the province) is 136,000 acres as compared with 108,900 acres reported at this date last year; the yield is estimated to be 16,000 bales; but the reports are incomplete

(*c*) Excluding Native States, for which the yield is roughly estimated at 700 bales as against 750 bales at this date last year

(*d*) Report not received.

RICE.

Second General Memorandum on the Rice crop of the season 1907-08

On the average of the five years ending 1905-06 the area under rice in the Provinces to which this memorandum relates represented 78·3 per cent of the entire rice acreage of British India.

The October memorandum showed a contraction of 1·2 per cent as compared with the same date in 1906; and the later figures now received, while showing an improvement, mark a net contraction of 1 per cent. The summer crops in Bengal and in Eastern Bengal and Assam show expansion to the extent of about 70,000 acres, while the crop in Lower Burma and the autumn crop in Bengal have also extended. But the winter crop in Eastern Bengal and Assam shows a considerable contraction; that in Bengal is also less; and declines in the Madras crop and in the autumn crop of Eastern Bengal and Assam further diminish the total. The **total area** is 52,216,500 acres as compared with 52,746,200 acres at the same date last year, and the contraction is therefore one of 529,700 acres or 1 per cent.

Burma alone reports a favourable season, and the surplus available for export from that Province is estimated at 2,514,000 tons of cargo rice, equivalent to 42,610,000 cwts of cleaned rice.

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.

Bengal *(34·8 %).*—The area under **autumn** rice is reported to be 4,446,200 acres compared with 4,309,000 acres last year—an increase of 3·2 per cent. The season, on the whole, was not a favourable one owing to unseasonable and ill-distributed rainfall. Taking the estimated outturn to be 72 per cent of the normal, the gross yield of cleaned rice may be estimated at 23,519,500 cwts, against 22,160,600 cwts of last year.

The area under **winter** rice is reported to be 19,845,300 acres as compared with 20,043,400 acres last year—a decrease of 1 per cent. The latter part of the season has been peculiarly unfavourable for the winter rice. The rainfall in May and the first part of June was below the normal, but in the latter half of June it was sufficient to bring on the seedlings. In July the crop suffered greatly from want of moisture except in North Bihar; and it was not till late in August that the rain fell, and in most districts transplantation was greatly delayed. After having suffered from drought, the crop in Orissa, Chota Nagpur and portions of South Bihar and South-West Bengal suffered severely from floods in August. In September some districts got rain, but October was practically rainless. There was, therefore, a total failure of crops on high lands, and the average outturn per acre is estimated to be only 53 per cent of the normal. On this basis the total yield would amount to 115,627,000 cwts, as compared with 172,291,400 cwts for last year.

An area of 181,700 acres and an outturn of 1,014,600 cwts were reported in March last for **summer** rice, as compared with 163,600 acres and 1,093,800 cwts in the preceding year.

Eastern Bengal and Assam *(23·1 %).*—The total area under **autumn** rice is estimated to be 3,450,000 acres compared with 3,481,900 acres of last year—a decrease of 0·9 per cent. There has been practically no rain in any part of the Province since the preliminary forecast was issued in October; but by that time the bulk of the crop had already been reaped. Further inquiries have confirmed the previous report that except for some damage done by early floods which affected comparatively small areas, and some injury by insect pests, the weather was favourable for autumn rice. The average outturn per acre is estimated at the full normal or 100 per cent. On this basis the gross yield could come to 24,150,000 cwts compared with 16,249,000 cwts last year—an increase of 49 per cent.

The area under **winter** rice is estimated at 11,325,000 acres as compared with 12,012,100 acres last year—a decrease of 5·7 per cent. Except in the comparatively small areas where irrigation is possible, the crop has had to depend for moisture entirely on dew. The prospects of all the rice transplanted later than the middle of July have been seriously affected by the scarcity of rain, which characterised the month of August. This was only partially relieved by light showers in September which have been followed by complete drought. Broadcast rice which was sown between February and April and such rice as was transplanted before the middle of July are expected to yield a normal and in some places a bumper crop. But the rice transplanted later on high lands is very light in the ear and in some places has altogether withered and been given to the cattle. Taking the average outturn per acre to be 77 per cent of the normal, the gross yield would amount to 87,203,000 cwts against 102,103,000 cwts last year—a decrease of nearly 15 per cent.

The area and outturn of **summer** rice (in Eastern Bengal districts only) were reported in May last to be 281,300 acres and 1,798,000 cwts, respectively, as compared with 229,500 acres and 1,483,800 cwts in the preceding year.

Madras *(10·6%).*—The total area under rice in raiyatwari villages (about two-thirds of the Province) up to the end of November is reported to be 5,391,000 acres, which is 142,000 acres or 2·6 per cent below the area at the corresponding date of last year. Villages other than raiyatwari report a total area of 349,000 acres or about 2½ times the area reported for the corresponding period of last year, but the returns are incomplete. The general condition of the crop is reported to be from fair to good, but rain is needed in places. The average outturn is at present estimated to be 79 per cent of the normal.

Lower Burma *(9·8%)* reports the total area under rice in the 15 chief rice-growing districts to be 7,296,000 acres—an increase of 322,300 acres or 4·6 per cent over last year's area. Prospects are good. The surplus available for export is at present estimated at 2,514,000 tons of cargo rice equivalent to 42,610,000 cwts of cleaned rice.

FREDERICK NOEL-PATON,
Director-General of Commercial Intelligence

CHAMBERS OF COMMERCE.

BENGAL.

WE take the following particulars from the Abstract of the Proceedings of the Bengal Chamber of Commerce for the month of November, 1907 :—

It was stated in the Abstract for September that the Director-General of Telegraphs had drawn attention to the recent great increase in the number of **mutilated telegrams.** At their meeting on the 12th November, the Committee had the subject again before them in connection with a letter, dated 26th October, from the Burma Chamber of Commerce. Numerous complaints had, it appeared, been made in Rangoon; and the Burma Chamber thought that European telegraphists should be appointed for the home lines. They were of opinion that the support of the Indian Chambers was necessary to such a recommendation; and they enquired if this Chamber would be disposed to support it.

The Committee were of opinion that it would be better to await the introduction of the typewriting system which would, they hoped, lead to a material improvement in the present unsatisfactory state of matters. They informed the Burma Chamber of Commerce accordingly; and at the same time they enquired of the Director-General of Telegraphs as to the progress that had been made in the installation of the mechanical typewriter. In his letter, dated 6th September, 1907, the Director-General had mentioned that before very long this instrument would be in use on most of the main lines.

In the Abstract for September it was mentioned that the opinion of the Committee had been invited by the Director-General of Commercial Intelligence on a proposal with reference to a list of articles specified in the **Sea-borne Trade Returns.** Some changes were made in the list in 1905, with the object of splitting up certain sub-heads, mainly "Other sorts." But the Director-General considered that this process had not been carried far enough. The heading "Other sorts" had very little value for practical purposes, and its use should be, he thought, reduced to a minimum.

After consulting the Calcutta Import Trade Association on the subject, the Committee replied to the Director-General on the 20th November. They approved of a suggestion which he had made that the exports of piece-goods should be sub-divided in the same way as the corresponding classes of imports. But they did not think there was any demand on the part of the trade for a further detailed classification under the head of "Other sorts of Manufactures" of piece-goods, either import or export. Raw copper (imported) was not specially mentioned in the Director-General's list, but the Committee suggested that it was a heading which might be usefully sub-divided. They considered that the following sub-heads might be introduced—tiles, ingots, cakes and bricks. Such classification would be, they believed, of considerable service to importers of copper.

At their meeting on the 12th November, the Committee had before them a letter, dated 1st idem, from the Post Master General of Bengal, with reference to a proposal for the introduction of two new descriptions of **embossed one-anna envelopes.** The existing oblong one-anna embossed envelope ($5\frac{3}{4}'' \times 3\frac{1}{4}''$) issued by the Post Office was thought to be too small. And the suggestion was that one measuring $6'' \times 3\frac{1}{2}''$—the size of the new half-anna commercial envelope recently introduced—would be suitable. The introduction of a stout one-anna envelope, measuring $9'' \times 4''$, which would hold papers up to the maximum weight allowed for the one-anna rate of letter postage had also been proposed.

It was mentioned in the letter that in addition to the little envelope which is sold for its face value, embossed half-anna envelopes, measuring $4\frac{3}{4}'' \times 3\frac{3}{4}''$ and $6'' \times 3\frac{1}{2}''$, had been recently provided, and had been welcomed by the classes for whom they were intended. But it seemed to be doubtful to the Director-General whether there was any substantial demand for the introduction of a new one-anna embossed envelope. The demand for an envelope of this value had been always exceedingly small; and with the increase in the half-anna rate of letter postage from $\frac{3}{4}$ to 1 tola, the one-anna rate of postage on ordinary business and private letters would be less used than formerly.

The Committee also were doubtful as to whether there would be sufficient demand for the descriptions proposed to warrant their introduction. The sizes were such as were not likely to be of much service for private correspondence; and it was improbable that they would be extensively used for commercial purposes, as most firms prefer their own stationery. A reply in this sense was addressed to the Director-General on the 20th November.

It was mentioned in the proceedings of the last meeting that the Committee had considered a request, which had been made to them by the Punjab Trades Association, with reference to the **Octroi Schedules in force at Lahore and Simla.** The request was that they should support a protest which the Association had made against these schedules. It did not seem to the Committee that the matter was one in which they could very well interfere, and they replied to the Association to that effect. On the 12th November, the Association asked them to reconsider the matter to the extent of recording an opinion on the broad question involved, namely, that Octroi is an undesirable form of taxation from the point of view of commerce and trade. This further request was discussed by the Committee at their meeting on the 26th November. They did not, however, see their way to express any opinion on the subject, and they informed the Association to that effect on the 27th idem.

The question of the appointment of a **barrister as Chief Presidency Magistrate** has engaged the attention of the Committee during the month. And on the 2nd December they addressed the Government of Bengal, renewing the protest which they made in 1903 against the selection of a Civil Servant for this office. The letter was published for general information, and it is understood that the question is being considered by the Local Government.

It was stated in the Abstract for August that the Hon'ble Judges of the Calcutta High Court had decided to take action with the object of preventing in future the recurrence of cases in which **books and documents** are **detained in the criminal courts** for an unreasonable time. On the 6th November, it was announced in the *Calcutta Gazette* that a new rule had been framed by the Court to deal with the matter. The rule is to be inserted in the High Court's General Rules and Circular Orders, Criminal, and is as follows:—

41A.—When an entry in a public register, or in a private account book, or other bulky record, not being itself an entry in respect of which an offence has been committed, or is alleged to have been committed, is produced in evidence, and made an exhibit in the case, and the retention of such register, account book, or record would cause inconvenience to the public, or the person producing the same, such register, book, or record shall not be retained by the Court, but shall be returned to the person by whom it has been produced. Before returning the register, book, or record, the Court shall mark, for the purpose of identification, such entry or entries as have been exhibited in evidence, and shall cause a certified copy of the entry or entries to be filed with the record of the case. The person to whom the register, book, or record is returned shall be bound to produce the same before the Court when required to do so, and may be required to enter into a bond to that effect.

BURMA.

At a meeting of the Committee of the Burma Chamber of Commerce, held on the 28th ultimo, the following matters came up for consideration :—

Read letter No. 2979-339-G., dated the 12th November, 1907, from the Secretary to the Government of Burma, Public Works Department, forwarding copy of Report of the Committee appointed by the Government of India to consider the question of amending the **Indian Electricity Act,** 1903, and asking to be favoured with the opinion of the Chamber on the important point raised by the Committee in their recommendation under Section 3 of the existing Act, that the administration of the special law governing electrical enterprise should, for the present, be assumed by the Government of India, and that any remarks or suggestions the Chamber may wish to offer on other parts of the Committee's proposals may be communicated separately later.

Resolved—That the proposal that the administration of the special law governing electrical enterprise should, for the present, be assumed by the Government of India is approved of.

Read letter, dated the 1st November, 1907, from the Director of Agriculture, Burma, saying that the Imperial Mycologist, Dr. E. J. Butler, from the Pusa Research Institute, is to visit Burma in January, 1908, to investigate the **fungoid diseases of crops,** and asking whether there are any problems of this kind the Chamber would care to bring before the notice of Dr. Butler, who would no doubt be glad to discuss any point with the Chamber as a body, or with individual Members; also saying that it would be a great help if a collection of actual samples from the various mills could be made for Dr. Butler's examination.

Resolved—That further particulars on the subject be obtained from the Director of Agriculture.

Read letter, dated the 13th November, 1907, from Messrs. Finlay, Fleming & Co., suggesting that the Chamber should approach the Port Trust authorities with a view to the introduction of more satisfactory and adequate means for the delivery of goods on the wharves in order to avoid a repetition of a **cooly labour strike** which has caused serious inconvenience to merchants.

Resolved—That the Port Trust Authorities be asked for some assurance that such a crisis will not recur, and what measures have been taken to prevent a recurrence.

Read letter, dated the 29th October, 1907, from the Bengal Chamber of Commerce, enclosing copy of letter sent to the Government of India with revised draft Bill for the **Registration of Partnerships,** and saying that, in view of the long delay in connection therewith, they did not think it advisable to consult the various Chambers again before submitting the Bill to Government, but that should Government decide to attempt legislation, all interested will have an opportunity of offering such further objections and criticisms as may be deemed necessary. Also letter, dated the 6th November, 1907, from the Marwari Association, Calcutta, asking for the views of the Chamber on the above draft Bill.

Resolved—(1) That the Chamber's legal advisers be asked for their opinion of the revised draft Bill. (2) That the Marwari Association be referred to the Bengal Chamber of Commerce.

Considered letter, dated 26th November, 1907, from Messrs. Binning & Co., regarding the proposed establishment of a **City Court in Rangoon** with jurisdiction in civil cases to the extent of Rs. 5,000, against which there are several objections, the main one being that the judge will probably be a Member of the Indian Civil Service not trained to try civil cases of the nature of those that will be brought before him, and whose appointment will not be a permanent one; and suggesting that particulars be asked for, and that Government be requested to hold over a final decision until the Chamber have had an opportunity of expressing their views in the

matter; also mentioning that Madras is the only city where such a court exists and that its success there is doubtful.

Resolved—(1) That Government be asked whether it is proposed to establish a city court in Rangoon. (2) That the Madras Chamber be asked for particulars regarding the city court in Madras, and that the Bengal Chamber be asked whether such a court ever existed or was proposed, in Calcutta, and for full particulars with regard thereto.

UPPER INDIA.

The following items are taken from the Abstract of the Proceedings of the Upper India Chamber of Commerce during October, 1907 :—

In connection with a representation from the Madras Chamber regarding the question of legislating to penalise imported dyed textile fabrics, labelled and described as of "**fast**" **colour**, but which have no title to be so designated—it was decided, in accordance with the opinion of most of the other Chambers, to take no action, until a test for "fastness" can be framed which will not impose undue restrictions on the trade.

In connection with a communication from the Government of India in the Foreign Department, it has been decided to recommend that the local merchant who is in charge of the **sample depôt at Kerman** should be asked to communicate direct with the firms and concerns in India who make use of the depôt with a view to his services being utilized as a commission agent.

The East Indian Railway Company having definitely declined to consider any proposals for the employment of **private wagons** on the ground of the administration's ability, unaided from outside, to overtake all traffic offering: the question of the employment by Railways of private wagons was brought to the notice of the Railway Board and formed a subject of discussion at the Railway Conference held at Simla in September. It is understood that a basis of arrangement has been arrived at between Government and the representatives of the Railway Companies and the proposals have been referred to the Home Boards for consideration.

The Department of Commerce and Industry was addressed as to whether in charging **Octroi** on the invoice value of goods, the gross value or the net value should be taken, where discounts are allowed in the invoice. A representation had been made to the Chamber in regard to a case in which the Chairman of a Municipal Board insisted on assessing value on the gross amount of the invoice.

CAPE TOWN.

We take the following figures from the proceedings of a meeting of the Cape Town Chamber of Commerce held on the 18th ultimo :—

Customs Returns of Cape Colony for the nine months ended 30th September, 1907, as compared with the same period of 1906 :—

	January-September. 1907. £	1906. £
IMPORTS.		
Merchandise oversea	11,161,419	13,130,315
Stores for other S. A. Govts.	223,442	99,889
	11,384,861	13,230,204
Less exported to other S. A. Cols.	3,955,329	4,679,208
Retained for consumption in Cape Colony	7,429,532	8,550,996
For the Govt. of Cape Colony	339,741	346,877
Specie	354,088	243,076
	8,123,361	9,140,949
EXPORTS.		
Oversea	32,506,393	29,805,319
Less imported from other S. A. Cols.	24,589,344	21,475,056
Oversea exports of Cape Colony produce	7,917,049	8,330,263
To other Colonies in S. Africa	2,278,937	2,124,047
Imported goods re-exported oversea	300,893	295,649
Specie	370,306	353,193
Total value of ports	10,867,185	11,103,152

The following returns show the value of Merchandise imported at the several ports of Cape Colony from oversea, during October, 1907, as compared with October, 1906, as conveyed by telegram :—

PORT.	Value of Merchandise. October. 1907. £	1906. £
Cape Town	390,428	535,433
Port Nolloth	12,724	437
Simons Town	8,184	13,114
Mossel Bay	30,300	29,114
Knysna	1,635	1,392
Port Elizabeth	487,036	504,213
Port Alfred	...	...
East London	237,468	313,441
St. John's	83	210
Total	1,167,858	1,397,740

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 28th November, in the section relating to Tariff Changes and Customs Regulations, gives particulars about :—

BELGIUM.—Budget Bill.—Proposed Tariff Modifications.

DOMINION OF CANADA.—Importation of Settlers' Clothing.

AUSTRALIAN COMMONWEALTH.—Patent Medicines Bill introduced. Drawback of Duty on Parchment Paper.

SOUTH AFRICA.—Regulations respecting the Importation of Second-hand Clothing. Decisions.

TRANSVAAL.—Importation of Cattle. Importation of Plants from Cape Colony.

GERMANY.—Importation, &c., of certain Articles under "Improvement" Trade Conditions.

TURKEY.—Prohibition of Export of Barley.

CRETE.—Exportation of Horses.

PHILIPPINE ISLANDS.—Importation of Silkworms, Cocoons, &c., Prohibited.

MEXICO.—Declaration of the Value of Goods in Consular Invoices.

CUBA.—Customs Duties not to be levied on Lost Merchandise.

CHILIE.—Free Importation of Bridge and Building Material.

ARGENTINE REPUBLIC.—Exemption from Customs Duty of Materials for the Mining and Metallurgical Industries.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 7th DECEMBER, 1907.

Burma.—The rainfall of the week was general it was heavy in the Deltaic districts of Lower Burma and in the Northern Shan States; and generally moderate elsewhere. In one district of Lower Burma the rainfall has caused some damage to the standing autumn rice crop but in Lower Chindwin the present rain will benefit the standing grain crops. The crop prospects in Lower Burma are good; eight of the chief rice-producing districts reporting crops of or exceeding the normal. In Upper Burma the recent rain will no doubt benefit the crops, but no important change in the agricultural situation in the precarious districts is yet reported. The price of paddy has risen in five districts; and has fallen in the same number of districts.

Eastern Bengal and Assam.—Slight rain fell in Chittagong, Noakhali, the Chittagong Hill Tracts and all the districts in Assam except Goalpara, the Khasi, Jaintia and Garo hills. Harvesting of winter rice is in progress and prospects are generally fair. The cultivation of spring crops is going on and prospects are fair except that of mustard in Assam where these are generally bad. Plucking of cotton is going on. The tea season has practically closed in Cachar and Sibsagar and prospects are reported to be poor in Sylhet and Darrang; and fair in Jalpaiguri and Lakhimpur. Prices of common rice have fallen in eight; and have risen in three districts. No scarcity is apprehended at present.

Bengal.—The week has been rainless except for some very light showers in Puri, Angul and Singhbhum. Over the whole Province rain is urgently needed for the germinating of the spring crops already sown, and it is reported from all directions that without rain the prospects of the spring crop will be very bad indeed. The harvesting of winter rice and the sowing of spring crops continue. Sugarcane-pressing is going on; and in the irrigated tracts in Shahabad poppy is being sown. The outturn of winter rice is reported to be bad in almost all districts. In portions of Patna and Gaya, the crop has been cut for fodder. The prospects of sugarcane are reported to be fair provided there is rain. Damage from insects is reported from Patna, Gaya and Bhagalpur. The condition of agricultural stock throughout the Province is good. The supply of fodder and water is sufficient except for a small area in Murshidabad where water is scarce, and in Shahabad and Balasore. Prices are practically stationary, but in six districts show a slight tendency to rise. Scarcity is apprehended in the districts of Bankura, Nadia, Murshidabad, Ranchi, Palamau and Puri, in the Jamui sub-division of Monghyr, and in two thanas of the Saran district. In Birbhum, Jessore, Gaya and Shahabad scarcity is apprehended if no rain falls. Stocks of food-grains are reported to be sufficient except in Bankura, Nadia, Murshidabad, Cuttack, Balasore, Ranchi, and Palamau.

The report received from the Feudatory States of Orissa for the week ending 30th November show that rain fell throughout the area. The harvesting of winter rice and the pressing of sugarcane continued. The prospects of the spring crops are good except in Baramba.

United Provinces.—No rain has fallen during the week. Prices considerably exceed scarcity rates in almost every districts but are generally stationary. Markets are sufficiently stocked and there is considerable import of grain. The demand for labour at good wages still continues. The harvesting of autumn crops is nearing completion. Cotton picking and pressing of sugarcane continue. Spring crops are still being sown and there will probably be a larger area sown than was originally anticipated. Germination in most districts has been unexpectedly good though rain is urgently needed this month. Poppy sowings continue. The condition of agricultural stock is fair but fodder is dear and scarce. There are no general signs of distress and no increase in crime except in a few districts. Test works which have been opened in nine districts have attracted 8,886 workers; in poorhouses the numbers aggregate 368. Famine has been declared in Bahraich and Gonda; and gratuitous relief has commenced in those districts and in the Benares City.

Punjab.—Rainfall *nil*. Prices are still rising in some districts. Wheat is selling at above scarcity rates in all districts except Mianwali and Multan where prices are between warning and scarcity rates. Prices of other food-grains are equally high. Cotton picking and sugarcane pressing are in progress. Sowings of spring crops continue on irrigated lands but are very restricted on unirrigated lands. *Toria* is being harvested in Lahore and Amritsar. Irrigated crops are good to below average; while unirrigated crops are bad. The outturn of irrigated crops is about average and of unirrigated crops poor. Rats are damaging crops in parts of Ambala, Siakot, Gujranwala and Shahpur; unirrigated crops have

been injured by white ants in parts of Ambala; young crops have been attacked by grasshoppers in parts of Sialkot. Cattle are suffering from overwork and scarcity of fodder in Jullundur, Lahore and Sialkot. Pasturage and fodder are scarce in Delhi, Sialkot, Gujranwala, Shahpur, Jhang, Multan and parts of Gurgaon and Lahore. The supply of fodder is also decreasing in Ambala and Jullundur; in Amritsar green fodder is scarce but dry fodder is sufficient. Sugarcane is being used as fodder in parts of Sialkot. The water supply is insufficient in Delhi and Lyallpur; the supply is also decreasing in Ambala.

North-West Frontier Province.—Rainfall *nil*. Rain is still badly wanted throughout the Province. The condition of the standing crops on irrigated lands is fair, but on unirrigated areas it is generally poor. Harvesting of autumn crops continues with outturn fair in Bannu. Sowings of spring crops are in progress on irrigated lands, but are still greatly retarded on unirrigated areas for want of rain. In Dera Ismail Khan spring sowings are finished. The water supply in canals is sufficient. In the Paharpur canal water is still running. Fodder is getting scarce in some parts of Dera Ismail Khan. The condition of cattle is generally good. Prices are rising owing to the failure of rain. Prices:—wheat 9 $\frac{2}{15}$ to 13$\frac{1}{2}$; gram 12 $\frac{3}{16}$ to 18; maize 13 $\frac{7}{16}$ to 26; and *bajra* 13$\frac{3}{4}$ to 18 seers per rupee.

Jammu.—Rain *nil*. Prices are rising. Prices:—Wheat from 9 to 16; and maize 12$\frac{1}{2}$ to 25 seers per rupee. The condition of standing crops is bad for want of rain. Fodder is insufficient in Samba, Ranbirsinghganj, Bhimber and Udhampur. Sowings of spring crops are in progress in the Kandi Circle of Jasmirgarh and in the Akhnur, Jammu, Kathua and Basohli tehsils.

Kashmir.—The weather is generally bright but becoming very cold. Prices are almost stationary.

EASTERN BENGAL AND ASSAM.

CROP PROSPECTS.

(By Telegram.)

Shillong, Dec. 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 has been slight rain in all districts, except Chittagong, Dinajpur, Jalpaiguri, Goalpara and Darrang.

The harvesting of **winter rice,** the plucking of **cotton** and the cultivation of the **rabi crops** are in progress.

The prospects of the **standing crops** are generally **fair. Cattle disease** is reported from five districts.

The **prices of common rice** have fallen in eleven and risen in three districts.

No scarcity is apprehended at present.

THE THREATENED SCARCITY.

Viceroy's Telegram.

The following is a copy of a telegram, dated 16th instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

There has been general rain in **Burma** which will benefit the standing crops in the precarious tracts, while in Lower Burma prospects of crops are distinctly good. **Good rain** has fallen in parts of **Madras. Hyderabad** and **Central India,** and light showers in **Bengal** and **Eastern Bengal** and **Assam.** Elsewhere the week was rainless.

Last week's rain has much improved the prospects of the spring crops in the **Central Provinces**; and, since the provincial reports were submitted, moderate rain has fallen over a considerable area in Bengal.

Rain is much wanted in **Northern India.**

Test-works, employing 8,990 people, are now open in nine districts of the **United Provinces** and famine has been declared in two districts. Some 600 persons are being relieved gratuitously and in poor-houses; 5,000 persons are employed on test-works in three of the **Central India States,** and 469 persons in the **Panch Mahals** district of Bombay.

Prices continue stationary on the whole.

The forecast of the **cold weather rainfall,** just received, is to the effect that rainfall in the earlier part of the cold weather is on the whole more likely to be below than above the average, but the evidence is insufficient to justify any definite conclusions.

AUSTRALIAN WOOL TRADE.

Prospects and Outturn.

Correspondents in the Riverina district of New South Wales continue to send the *Manchester Guardian* very gloomy accounts of the state of things obtaining throughout the most important sheep-breeding and wool-producing area in Australia. On October 19th, one leading pastoralist wrote:—"The season keeps very dry; rain is constantly threatening, but nothing comes of it. The first draft of 6,300 sheep for the mountains went away yesterday from here and from one of my other stations, being the wethers. The mobs will join about forty miles from here; 8,000 ewes from the other place start next week, and the rams will be sent up by train in about a month's time. I think there is every likelihood that I shall have to send a further draft of from 6,000 to 8,000 ewes from here in about a month from now. They can get to within sixty miles of the mountain country by rail, whence the rest of the journey is comparatively easy, but no doubt I shall have to send supplies of feed for nearly the whole of that sixty miles, because all the Manenoo country (which usually gets such wet seasons) seems to be in a deplorable state for want of rain and sheep are dying in great numbers. The country I hear is at present under snow, but immediately the snow goes there is a big spring of green feed, upon which the sheep do very well because it is so healthy, the snow destroying all disease germs. They get into splendid condition whilst there, and indeed many grow fat; but of course they get a punishing when they have to face the roads on their return." This correspondent considers it extraordinary that the weight of wool has been so deficient throughout the Riverina, but the great scarcity of food all through the winter has no doubt been the cause. "Everybody I see or hear of," he says, "seems to be about one and a half pounds of wool short per sheep, and the lambings were simply wretched, running from 10 to 30 per cent., whilst on some properties they have none at all. There is no doubt at all in my mind that there will be a tremendous deficiency in the wool exports from New South Wales during the present wool year. I put it down in my own mind at 80,000 bales, but others put it down at more. I shall be about 660 bales short on the 4,000-odd bales I had last year, although I have shorn younger and better sheep, all the old ones having been sold off last year." Very different reports come from South Australia, where the season is one of the best on record and where the clip of wool will largely exceed that of last year. One station which had finished shearing had cut 1,000 bales from only 32,000 sheep, and wool was selling at such extraordinary prices at the Adelaide auctions that it was thought the whole would average 12*d.* per pound, although it was from an outside property. In the lower north shearing was progressing rapidly under the most favourable conditions, and one leading pastoralist whose property lies in this district writes that on one day in his shed nineteen men shore 2,100 sheep which, at 24*s.* per hundred, means that each man earned in one day about £1 6*s.* The weather was splendid and fat stock abundant, but owing to the bad season in both Victoria and New South Wales fat sheep were in strong demand at rapidly rising prices for eastern markets. Thus the South Australian sheep and wheat farmers are having most prosperous times.

Wool Sales.

We learn from advices from Australia which reached Calcutta this week that for the week ending the 26th ultimo 33,944 bales of wool were offered, and 31,053 bales sold, in the Melbourne and Geelong markets. Among the leading sales effected at **Melbourne** on the 26th were Mt. Widderin over Austin and C in circle over TH (Tuise Hill), merino to 17*d.*; Woodside, comeback to 14$\frac{3}{4}$*d.*; Rockbrook and Dowan Hill, merino to 14$\frac{1}{3}$*d.*; Redrock and Bellavista, to 14$\frac{1}{4}$*d.*; Ballinapark, to 14*d.* For scoured, HW over H sold up to 21$\frac{1}{3}$*d.* At the Sydney wool sales on the 26th, 7,686 bales were catalogued and 6,071 sold. The top price for greasy was 15$\frac{1}{4}$*d.*, and for scoured 18$\frac{1}{2}$*d.* The fifth series of wool sales were held at **Adelaide** on the 25th ultimo. Thirteen thousand bales were offered. Prices were irregular, with a downward tendency. A noticeable feature of the **Geelong** sales on the 21st ultimo was the large purchases of very good merino wools for Bradford spinners and topmakers. Among the leading sales effected at Geelong on that date were:—Leslie Manor (Cressy) and Gums (Penshurst), merino to 18$\frac{1}{4}$*d.*; Nerrin Nerrin (Streatham), merino to 18*d.*; and Elder (Rokewood), merino to 17$\frac{1}{2}$*d.* For crossbreds, Ingelby (Geelong) sold up to 18$\frac{1}{2}$*d.*, and DC over Argyle (Wickliffe) to 17$\frac{3}{4}$*d.*

WORLD'S HARVESTS.

Probable Yield.

According to Beerbohm's last estimate of the world's wheat crop, the probable yield is put at 383,850,000 qrs., as compared with 441,580,000 qrs. last year. This estimate takes into account the latest official estimates then received from Russia, Roumania, France, and the United States. The Argentine Minister of Agriculture has issued his preliminary estimate of the new crops (1907-08), as compared with last year (1906-07): wheat area, 14,291,000 acres against 14,059,000; yield, 4,920,000 tons against 4,245,000. Oats area, 553,000 acres against 395,000 acres; yield, 460,000 tons. One of our correspondents thinks, however, that the Argentine wheat crop may amount to 25,000,000 qrs. (or 5$\frac{1}{2}$ million tons). In the current issue of the Board of Agriculture's *Journal*, some important statistics are given relative to foreign crops. In France it is officially reported that 1,774,000 acres is the area of barley sown this year, as compared with 1,752,000 acres last year; and the yield is given as 5,463,000 qrs. against 4,426,000 qrs. The area sown with oats is 9,542,000 acres, 20,000 more than in 1906; and the yield is 38,050,000 qrs., an increase of 6,925,000 qrs. The Russian winter wheat crops of 1907 amounted to 3,825,000 tons; in 1906 the total was 6,391,000 tons. The spring wheat crop is estimated at 8,885,000 tons, against 7,392,000 tons in 1906. The total produce is 12,710,000 tons in 1907, compared with an average of 15,745,000 tons during the preceding five years. The areas sown in Roumania, compared with 1906, were as follows:—Wheat 4,234,000 acres, against 4,996,000; rye 362,000 acres, against 454,000; barley 1,259,000 acres, against 1,380,000; oats 871,000 acres, against 943,000. The production is officially given as follows:—Wheat 5,116,000 qrs., against 13,793,000; rye 309,000 qrs., against 1,088,000; barley 2,430,000 qrs., against 4,063,000; oats 2,161,000 qrs., against 3,169,000. It will thus be seen that the areas sown were all smaller than those last year, and that the crops, especially in the case of wheat and rye, show an alarming decrease. The yield of wheat, in fact, is little more than one-half the average of the preceding five years, and that of rye is only about one-third of the average. Barley and oats are each about 20 per cent. below the five years' average. We learn also that in the United States the

preliminary estimate of the yield per acre of spring wheat is 13·1 bushels per acre, and the total yield is put at 216,067,000 bushels. The yield of winter wheat has already been calculated at 409,500,000 bushels, so that the official figure for the total wheat yield of 1907 is 625,567,000 bushels, compared with 735,261,000 bushels in 1906. The preliminary returns indicate an oats crop of about 741,521,000 bushels, or an average of 23·5 bushels per acre, as compared with 31·2 bushels in 1906. The average quality is 77·0. Barley is estimated to yield 23·9 bushels per acre, and to amount to 147,192,000 bushels. The production of oats in 1906 was 964,905,000 bushels, and of barley 178,916,000 bushels. The preliminary returns of the production of maize gave a total yield of 2,553,732,000 bushels, or an average of 26 bushels per acre, as compared with an average of 30·2 bushels in 1906. The yield is thus about 400,000,000 bushels less than last year. The general average of quality is 82·8 per cent., as compared with 89·9 per cent. in 1906. The total yield of potatoes is estimated at 292,427,000 bushels, against 308,038,000 bushels in 1906.

Crop Prospects.

The *Corn Trade News* gives the following summary of the world's crops as on the 26th ultimo :—**U. S. A.**—Wheat plant small owing to dryness, but appears healthy. **Argentina**—Big crop confirmed, but dry weather wanted for northern harvest. **Australia**—Sydney cables marked improvement late districts. **India**—No rain, preparing for famine. **Russia**—Sharp frost prevented seedings deriving benefit from recent rains; prospects bad generally. **Roumania**—Weather propitious, mild, rainy. Opinions of crops vary. **Turkey**—Weather generally favourable in European provinces. **Austria-Hungary**—Insufficient rains still complained of, but the seeds are germinating and outlook generally more favourable. **France, Italy, Spain, United Kingdom & North Africa**—Crop news generally favourable. **Germany**—There are complaints of drought, sharp frost without snow and vermin damage from various parts of the Empire, but these apparently not yet taken seriously. Official estimates of condition wheat and rye seedings in mid-November maintained. **Sweden**—Weather bad for northern oats harvest. **Belgium & Holland**—Weather seasonable, no complaints.

Buenos Ayres Maize Crop.

Reuter's Buenos Ayres correspondent says:—The League of Agricultural Defence has already succeeded in overcoming the locusts in the Province of Buenos Ayres, and the abundant rains which have fallen are improving the state of the maize crop. The Minister of Agriculture estimates that the damage to the maize crop will not exceed 15 per cent. Minister declares that the wheat and linseed harvests are assured. The export of wheat will exceed 4,000,000 metric tons, and linseed will reach 1,200,000 metric tons.

ALCOHOL FUEL TESTS.

An American Report.

The United States Department of Agriculture has recently issued a pamphlet (Bulletin 191) on "Tests on Internal-Combustion Engines on Alcohol Fuel," by Mr. C. E. Lucke, Assistant Professor of Mechanical Engineering, Columbia University, and Mr. S. M. Woodward, Irrigation Engineer, office of Experiment Stations. The authors state that during the last ten years, owing to the high price of petroleum oils used as fuel in internal-combustion engines, alcohol as a fuel has been receiving much attention and a considerable number of specially designed engines have been run on this fuel in Germany. As it is not improbable that with improvements in agriculture and in manufacturing processes the cost of alcohol may be diminished, and when it is borne in mind that the supply of crude oil in the United States must ultimately be reduced and a corresponding increase in price must occur, the question of the extended use of alcohol as a substitute for petroleum oils is necessarily one of increasing importance. We learn from the Bulletin that the tests described were all conducted in New York City between October 1st, 1906, and February 1st, 1907; the principal object of Messrs. Lucke's and Woodward's investigation being to determine whether the gasoline and kerosine engines used in America could be run on alcohol. This involved the determination of the manipulation to be followed in making the engines run on alcohol, the measurement of the relative maximum powers of the engines when using alcohol and the fuels for which they were originally made, and lastly the relative consumptions of the different fuels. The engines used were as follows:—A 15-horse-power, 2-cylinder, vertical 4-cycle gasoline engine; a 6-horse-power, horizontal, 4-cycle gasoline; a 6-horse-power, horizontal, 2-cycle kerosine; a 40-horse-power, 4-cylinder, automobile, gasoline; a 40-horse-power, 4-cylinder, automobile, gasoline; and a 2-horse-power, vertical, 2-cycle, marine gasoline; the last three being high-speed engines.

The relative weights of the different fuels are shown in the table below :—

Substance.	Specific gravity.	Pounds per gallon.
Gasoline	0·71	5·9
Kerosine	·80	6·7
95-per cent. ethyl alcohol	·82	6·8
90-per cent. ethyl alcohol	·83	6·9

The two most important properties of a liquid fuel, which determine its availability or adaptability for use in an engine, are its heat of combustion and its volatility. The useful work which can be obtained by burning a definite amount of any fuel is

in general approximately proportional to the amount of heat generated by the combustion of the fuel. In this amount of heat the various fuels differ greatly. Moreover, a liquid fuel must be converted into a gas or vapour before it can be burned in an explosion engine. Hence the ease or difficulty of vaporizing the fuel has a great effect in determining the form and complexity of the vaporizing apparatus, and also has considerable influence upon the economy of the engine and the general difficulties that may be encountered in its satisfactory operation.

Liquid fuel before use in the usual form of explosion engine must be vaporized, and this vapour must be mixed with air in proper proportions. Thus, the preparation of the combustible mixture involves three steps: First, vaporization of the fuel; second, mixture of the fuel vapour and air, and, third, the proper adjustment of the proportions of fuel and air. The differences in the devices used in engines to accomplish these objects constitute the widest variations in the detailed design of existing engines. In some of these devices the fuel is boiled in a separate chamber, called a vaporizer, from which the vapour flows into a stream of air entering the engine, the amount of vapour being regulated by a valve just as in the case of an engine using illuminating or producer gas. In another type of vaporizer the fuel is dropped on a hot plate over which the air flows, the proportion of fuel being regulated by the amount of liquid fuel forced against the plate. Kerosine requires a high heat to vaporize it completely, since its boiling point is high, and hence it is much used with vaporizers of the hot-plate type. Alcohol will work satisfactorily with a vaporizer of this type if the temperature of the hot plate is properly regulated.

Gasoline is easily vaporized at ordinary atmospheric temperatures and hence requires no hot plate or heated vaporizing chamber. Usually the liquid gasoline is admitted directly into the air entering the engine through a device known as the carbureter, which is intended to regulate the proportion of fuel and to spray it uniformly through the mass of air so that as the liquid spray turns into vapour it will produce a homogeneous mixture of air and vapour. Alcohol can also be used in a gasoline carbureter.

The pamphlet under notice runs to 89 pages, all the tests with the various engines being described in detail with diagrams. The report is full of facts and data which will be invaluable to any one interested in this question.

Conclusions.

The conclusions drawn by the investigations are of special interest and are given as follows :—

(1) Any gasoline engine of the ordinary types can be run on alcohol fuel without any material change in the construction of the engine. The only difficulties likely to be encountered are in starting and in supplying a sufficient quantity of fuel, a quantity which must be considerably greater than the quantity of gasoline required.

(2) When an engine is run on alcohol its operation is more noiseless than when run on gasoline, its maximum power is usually materially higher than it is on gasoline and there is no danger of any injurious hammering with alcohol such as may occur with gasoline.

(3) For automobile air-cooled engines alcohol seems to be specially adapted as a fuel, since the temperature of the engine cylinder may rise much higher before auto-ignition takes place than is possible with gasoline fuel; and if auto-ignition takes place than is possible with gasoline fuel; and if auto-ignition of the alcohol fuel does occur no injurious hammering can result.

(4) The consumption of fuel in pounds per brake horse-power, whether the fuel is gasoline or alcohol, depends chiefly upon the horse-power at which the engine is being run and upon the setting of the fuel supply value. It is easily possible for the fuel consumption per horse-power hour to be increased to double the best value, either by running the engine on a load below its full power or by a poor setting of the fuel supply valve.

(5) These investigations also showed that the fuel consumption was affected by the time of ignition, by the speed, and by the initial compression of the fuel charge. No tests were made to determine the maximum possible change in fuel consumption that could be produced by changing the time of ignition, but when near the best fuel consumption it was shown to be important to have an early ignition. So far as tested the alcohol fuel consumption was better at low than at high speeds. So far as investigated, increasing the initial compression from 70 to 125 pounds produced only a very slight improvement in the consumption of alcohol.

(6) It is probable that for any given engine the fuel consumption is also affected by the quantity and temperature of cooling water used and the nature of the cooling system, by the type of ignition apparatus, by the quantity and quality of lubricating oil, by the temperature and humidity of the atmosphere, and by the initial temperature of the fuel.

(7) It seems probable that all well-constructed engines of the same size will have approximately the same fuel consumption when working under the most advantageous conditions.

(8) With any good small stationary engine as small a fuel consumption as 0·70 pound of gasoline, or 1·16 pounds of alcohol per brake horse-power hour may reasonably be expected under favourable conditions. These values correspond to 0·118 and 0·170 gallon, respectively, or 0·95 pint of gasoline and 1·36 pints of alcohol. Based on the high calorific values of 21,120 British thermal units per pound of gasoline and 11,880 per pound of alcohol, these consumptions represent thermal efficiencies of 17·2 per cent. for gasoline and 18·5 per cent. for alcohol.

But calculated on the basis of the low calorific values of 19,660 British thermal units per pound

for gasoline and 10,620 for alcohol, the thermal efficiencies become 18·5 for the former fuel and 20·7 for alcohol. The ratio of the high calorific values used above is: gasoline to alcohol, 1·78. The corresponding ratio of the low calorific values is 1·85. The ratio of the consumptions mentioned above is: alcohol to gasoline, 1·66 by weight, or 1·44 by volume.

THE RECENT COTTON CONFERENCE.

Text of the Resolutions.

THE Committee of the International Cotton Conference which met at Atlanta last October have issued to members a copy of the resolutions adopted at the Conference. The text of the resolutions is as follows:—

Buying and Selling Cotton.

That all the Governments of such States that have cotton future markets be approached to come to an international agreement to the effect that only orders coming from such parties that are legitimately interested in cotton and are entered on the register of such exchange be executed, and orders from outsiders and speculators shall be considered unlawful and shall entail the removal from the exchange of such brokers who undertook to execute the same.

Closer Trade Relations between Cotton Grower and Spinner.

That the International Convention of Cotton Growers and Manufacturers is of the opinion that by closer trade relations between grower and spinner a great deal of the present expense in handling cotton can be saved and the evils attendant on violent fluctuations of the market be mitigated. We are further of the opinion that the extension of the warehouse system in the Southern States and the creation of selling offices will tend to bring about closer trade relations, and are therefore worthy of encouragement by both producer and spinner.

Classification of American Cotton.

That standard types should be adopted either by the United States Government or by an association of delegates from cotton exchanges, cotton growers and cotton spinners, and that the classification should be made upon grade and colour alone, and not upon staple.

Contracts of Cotton Exchanges.

That standard contracts of 50,000 pounds net weight should be adopted in place of the present custom of 100 bales; that the net weight tenderable shall not exceed 1 per cent. above or below the standard weight contracted for; that in ascertaining net weight actual tare canvas and bands (bagging and ties) be allowed; that the present 1 per cent. rule clause be abolished; and that whereas the question of the excessive amount of damp in American cotton and the inadequate allowance for same under existing various cotton exchange rules are of serious importance to spinners, this Conference is of opinion that steps should be taken by the various associations here represented with a view to remedying the evil of excessive damp, and placing the question of claims as adjusted under the present rules of the exchanges on a more equitable basis.

Growing and Handling of Cotton.

Whereas the Bureau of Biological Survey, United States Department of Agriculture, has been engaged for many years in studying the habits and distribution of wild birds and mammals for the purpose of determining their economic value to the agriculturist; and whereas it has been discovered by the said Bureau of Biological Survey that many of our non-game and song birds and certain of our mammals are most valuable assistants in destroying worms and other insects injurious to growing crops, fruit and forest trees, and the bulletins on this subject issued from time to time by the Bureau are a practical and valuable aid to farmers and planters; and whereas the Bureau of Biological Survey has investigated the relations of birds to the boll weevil in Texas and other cotton-growing States, and has issued several publications on the subject, naming the species that destroy the weevil and giving information as to their habits, with practical suggestions for increasing their numbers, and whereas the work of game preservation by this Bureau has resulted in a more general uniformity of State laws relating to open seasons, licences, and other details, while the enforcement of the Federal statute known as the Lacey Law has resulted in a more general observance of State laws regulating the export of game and animals; and whereas all of this work is of direct and positive benefit to the cotton grower—therefore be it resolved that the conference recognises fully the value of the work of the Bureau of Biological Survey, and most respectfully petitions the United States National Congress at its forthcoming session to make a sufficient appropriation for the support of this Bureau to enable it to continue and broaden its work along the lines indicated; and be it further resolved that a copy of this resolution be furnished by our Secretary to every senator and representative in Congress from the cotton-growing States.

Resolved, that we recommend that all planters, farmers, and growers of cotton give more attention to the selection of seed for planting purposes by selecting from typical stalks with well-matured bolls of the type of cotton desired, that every gin should be put in the best order possible. For the reason that much of the cotton when first picked is green and immature, we recommend that all such cotton be housed in good pens for at least thirty days before being ginned. By this process of curing the immature fibre continues to grow, evens up in staple,

and by the absorption of its oil from the seed is given a rich, creamy colour, is much stronger, more flexible, and has a much greater commercial value. It should be thoroughly dried or cured before ginning, and never ginned while green or damp. Especially does this apply to staple cotton which also should not be ginned in damp weather. We further recommend that in ginning staple cotton the saws be set shallow, in order that the brushes may take the cotton from the saws as fast as ginned to prevent kinks or knapping, and a smooth sample will be made; that we condemn the bagging now in use—first, because of its rough and coarse nature it invites rough treatment; second, it does not hold the marks; third, on account of its great weight and bulk it entails heavy loss in freight. We therefore recommend the use of a light burlap or covering made of cotton such as Osnaburg, 10 oz. weight per yard, 40 in. wide. That we recommend that all planters, wherever practicable, put in as rapidly as possible gin compresses; that the square type of bale is preferred by the great majority of spinners, and that the Egyptian character of bale is the best type; that the ties upon the standard bale be ten in number, the length of the bale be 48 in., the width 24 in., the weight 500 pounds, the density 35 pounds, the bale to be marked upon both ends with weight, grade, and staple.

Warehousing.

That it is to the interest of all parties, from the grower to the consumer, that great care be exercised in preserving cotton in transport from the effect of weather, and to enable this to be done, this Congress feels that every effort should be made to extend warehouse accommodation for cotton in America.

Country Damage.

That in the opinion of this Conference the adoption of labels, stating the grower, the warehouse, the gross, tare, and net weight, is conducive to the reduction of country damage.

Bills of Lading.

That this Conference strongly feels that all shippers of cotton from America to Europe and others interested be advised of the terms of the circular issued by the Liverpool Clearing Bankers' Association, dated 29th August last.

Manchester Ship Canal Company.

That the attention of the planters and others interested in the shipment of cotton from American ports to England be directed to the Manchester Ship Canal as a medium for direct delivery of cotton from the grower to the consumer.

Insurance.

That it be of the highest importance that in entering into c. i. f. contracts for the current season buyers should stipulate that their goods shall be insured with companies whose policy does not include the clause—"It is further understood and agreed that this policy shall not insure by any one steamer a sum exceeding §100,000 or more than §125,000 against the risk of fire in any one place at one time."

Permanent Organisation.

That this Conference become permanently organised by the appointment of an international committee of cotton growers' and manufacturers' associations, and that the Southern Cotton Association, the Farmers' Educational and Co-operative Union, the American Cotton Manufacturers' Association, the National Association of Cotton Manufacturers, the British Master Cotton Spinners' Association, and the European Continental Cotton Spinners' Associations affiliated to the International Federation, be represented by two delegates each on such Committee; each association to appoint its own delegates in due course, and notify the secretary of the present Conference, Mr. C. J. H. Woodbury, 45, Mil-street, Boston, Mass., of their nomination; the twelve members of this Committee to appoint a president out of the members of any one association forming part of this Conference, and that the Committee have power to appoint a permanent secretary to assist the president, and that all expenses connected with the work of the Committee, be defrayed by the associations represented; this organisation to be subject to the approval of each association.

This resolution was amended to the effect that, in addition to the above associations, the Sea Island Cotton Association be entitled to nominate likewise two delegates on the Committee, and that this Association would also bear the proportion of its expenses of the work. This International Committee will therefore consist of 15 members.

TRADE OF BELGIUM.

Tea.

IN his annual Report on the **Trade of Belgium** for the year 1906-07 we notice that Consul-General Sir Cecil Hertslet states that tea is gradually becoming more popular in that country, and there are many retail houses which supply it to retail dealers. It is, however, not so easy to obtain really good tea as might be expected, and there is room for a good deal of enterprise in this connection. There is no import duty on tea, so the retail selling price should not be high.

Jute.

As regards **jute spinning**, prices of raw material ruled high, although quality gave little satisfaction. The cultivation and the retting of jute no longer seem to receive the care formerly given to them, and

this principally caused difficulty in this industry and raised the price of the manufactured articles. The total production was quickly absorbed by the weavers, and considerable speculation and markets therefore became so uncertain that regular transactions were almost impossible. Towards the end of the year, however, there was a certain improvement, and prospects for 1907 are more encouraging.

Cotton.

THE **cotton industry in Ghent** largely profited by the great increase of business in 1906. The shutting down of spinning in 1904 caused by the deficient crop, and the stoppage of a great number of spindles in 1905 due to strikes, produced an exhaustion of stock at the beginning of the year, and the scarcity of thread resulted in great difficulty in fulfilling orders. In the United Kingdom, where the total increase of weaving looms in 1906 amounted to some 80,000, several important ones were obliged to close for want of thread. Prices in the United Kingdom and Germany attained such heights that many Ghent spinners sold the greater part of their output to those countries. The price of raw cotton fluctuated considerably; on the other hand, the present cotton season beginning on September 1st shows this peculiarity, that, in spite of the assurance of one of the largest crops ever seen, prices are keeping wonderfully high, accounted for, in the first place, by the enormous requirements caused by the great increase in number of spindles all over the world, and in the second place the lack of the best grades; for the crop of 1906-07 was more remarkable for quantity than quality. The total number of spindles in the Ghent district in 1906 was 1,108,952, being an increase of 53,315 over 1905, and of twisting spindles 196,091, being an increase of 5,993 over 1905. Prospects for 1907 are very fine unless spoiled by over-production.

BALAGHAT AND ITS PRODUCTS.

A New Book.

WE have received a copy of a work on "Balaghat District (Central Provinces District Gazetteers)" by Mr. C. E. Low, I.C.S. The book gives particulars regarding almost everything pertaining to the district and its illustrations and maps are an additional attraction. The chapters with which we are more directly concerned are those on agriculture, loans, prices, wages, manufacturers, trade and communications, forests, and minerals and some details of these are noted below.

Trade.

A brief outline of the trade of the District will be of interest. The main line of communications is the Satpura Railway, and the various roadways, with the exception of the Balaghat-Gondia road, serve as feeders to it. Generally speaking—, the traffic converges on the Satpura Railway. The export and import figures of the principal classes of merchandise for stations in the Balaghat District from 1905-06 are given below :—

Exports.

Stations.	Wheat.	Rice.	Harra.	Timber and bamboos.
Bālāghat . .	508	10,142	21,750	30,875
Lāmta . .	360	595	34,701	175,360
Nagarwāra . .	1,027	652	6,588	19,296
Pādriganj . .	146	8	35	10,537
Sammāpur . .	39	156	14	27.004
Charegaon . .	56	67	204	40,670

Imports.

Stations.	Cotton Twist.	Cotton piece-goods.	Salt.	Sugar.	Metals.
Bālāghat . .	1,469	2,457	9,021	1,806	2,606
Lāmta . .	...	137	6,890	473	508
Nagarwāra .	9	35	2,264	52	...
Pādriganj . .	...	6	162	5	...
Sammāpur . .	...	...	...	5	...
Charegaon . .	...	...	95	32	14

Minerals.

The most important mineral in the district is **manganese**. From June 1st, 1905, to June 3rd, 1906, 60,311 tons were exported from Balaghat station. From April, 1904, up to the end of May, 1905, 25,779 tons were despatched. The entirely commercial character of the exports from Balaghat District is specially noteworthy, **timber, myrabolam** and manganese making up almost the entire volume, agricultural products being unimportant. The recent exports of manganese were as follows :—1904-05, 20,977 tons; 1st quarter of 1905-06, 10,337 tons.

The **bauxite** deposits in Baihar are being investigated, and, if it proves possible to work them at a profit, will prove of more importance to the District than manganese, as the metal (aluminium) will be extracted locally. **Mica** has not been worked, though several concessions have been applied for. **Iron** is extracted from laterite in the Bhanpur and Kinhi zamindaris, but to an insignificant extent. **Lime** is principally procured from the limestone nodules that are found in black or brown soil in most parts of the District. A white **shale** useful as chalk or china clay is found in Saletekri. A **Marble**, white or white with green veins, occurs at Godri near Bhanpur.

Forests.

The Government forests of the District are exceedingly important and the Balaghat Forest Division produces a large revenue. The total area in 1904-05 was 972 square miles. The receipts and charges for the year were, respectively, Rs. 1,92,411 and Rs. 1,83,893.

In recent years the rise of the trade in **lac** in the District has been remarkable. In connection with this Mr. Low mentions the interesting fact that the net income of a certain zamindar from lac amounts to no less than Rs. 32,000 a year. **Harra**, or myrabolam, is a valuable forest product, of which a full crop is expected once in every two years. Mr. Low describes other varieties of the forest produce of the District, such as *Katthā* (an extract of *Acacia Catechu*), Baichāndi (the tuber of a yarn of *Dioscorea Daemona*), used as a sweetmeat after preparation; *Tikhur* (*Curcuma angustifolia*), which is eaten, boiled with milk; *Banslochan*, used both as a medicine and a stimulant; and *chironji* the fruit of the *Buchanania latifolia*.

COTTON DUTIES.

Tariff Valuations.

IN exercise of the power conferred by section 7 (1) of the Cotton Duties Act, 1896 (II of 1896), and in supersession of the Notification in the Commerce and Industry Department, No. 10098—11, dated the 21st December, 1906, the Governor General in Council is pleased to fix, for the descriptions of cotton goods hereunder specified, tariff values as follows, with effect from the 1st January, 1908 :—

Grey Goods, Plain or Bordered.

	Tariff value per lb. a. p.
1. Bedcovers, bedsheets and chadars, twilled not having borders over ½"	8 6
2. Chadars and bedsheets, plain, or having only borders not over ½"	8 6
3. Dangari or Khadi cloth	7 6
4. Dhuties, cholas, dupattas, and lungis, plain, or having only borders not over ½"	9 0
5. Dhuties, cholas, dupattas, and lungis, plain, or having only borders over ½" but not over ¾"	9 6
6. Dhuties, cholas, dupattas, and lungis, plain, or having only borders over ¾" but not over 2"	10 6
7. Dhuties and patals with headings over 4" wide and coloured borders	9 0
8. Domestica, T. cloths, shirtings, longcloth, sheetings not having borders over ½"	8 9
9. Drills and jeans, plain	8 6
10. Fents	7 3
11. Printers	8 6
12. Printers (bhagavad)	8 3
13. Shirtings, twilled, unbleached	10 0
14. „ „ bleached	11 0
15. Tent, sail, commissariat, and double threaded cloth (dosuti)	8 0
16. Zanzibar cloth	8 6

Provided that for calendered grey goods 3 pies shall be added to the above values.

Figured or Coloured Goods.

	Tariff value per lb.
17. Bedcovers, quilts, and table-cloths, with borders not over ¼"	8 9
18. Bedcovers, quilts, table-cloths, twilled sheets and chadars, coloured warp or weft.	9 6
19. Bedcovers, quilts, table-cloths, twilled sheets and chadars, coloured warp and weft	10 0
20. Bed ticking, plain or drilled	8 9
21. Chadars, twilled, coloured (shawl checks)	10 9
22. „ not twilled, coloured, calico wove (shawl pattern).	10 0
23. Check gumchas and glass checks	10 0
24. Cholis and saris (coloured)	12 0
25. Cotton tweed commonly called hunting cloth plain or striped, including leheria, Thana susi, Thana twill, and Thana check	10 0
26. Cotton tweeds, others and English checks, trouserings and coatings	11 0
27. Drills and jeans, striped	9 6
28. „ „ „ checked	10 0
29. „ „ „ dyed	11 0
30. Fancy dobby pattern checks, coloured warp and wept	11 6
31. Fents	8 3
32. Flannel pattern susi and dobby susi, grey weft	10 0
33. Flannel pattern susi and dobby susi, coloured weft	10 9
34. Lungis, coloured	10 9
35. „ unbleached, coloured stripes and borders	9 3
36. Napkins, unbleached	10 0
37. „ bleached	11 0
38. Susi check, English, grey ground	11 0
39. „ checks, ordinary, grey ground	10 6
40. „ „ „ coloured warp and weft	11 3
41. „ checksheets, ordinary, grey ground	10 6
42. „ ordinary, coloured stripes, grey ground	9 6
43. „ „ „ weft	10 0
44. Tent cloth, blue and red	9 3
45. „ „ khaki	10 3
46. Towels, Turkish, unbleached	10 6
47. „ „ bleached	11 6
48. „ „ honeycomb, unbleached	8 6
49. „ „ „ bleached	10 0
50. Zephyr cloth	9 9
51. „ striped and checked	11 3

Provided that any goods specified in the foregoing lists shall, when woven with borders of silk, be assessed to duty *ad valorem*.

OIL FUEL IN STEAMERS.

THE advance made in practical application of oil fuel to ship propulsion during the last decade has been very great, and economy as low as 0·9 lb. of fuel per indicated horse-power per hour has been regularly realised in some mercantile vessels by the system of spraying the liquid for combustion by means of hot air. It is well understood that no economical combustion can be carried out except the liquid is first "pulverised" into fine spray to facilitate its combustion, and the method of so pulverising the liquid is of the utmost importance. The steamers of the Shell Transport Company are, for the most part, using a system of pulverisation

by high-pressure steam-blowers, the steam itself being chemically decomposed after it has done its work, and entering into combustion in the furnace. Upon American steamships, which have largely used oil fuel during the past three years, pulverisation is obtained by hot air at considerable pressure. This air is compressed by Root blowers, and the liquid after pulverisation is exposed to the further action of heated air under more moderate pressure for the purpose of directly assisting combustion. This combined system of high and low-pressure air respectively, for the purpose of pulverisation and of forced-draught combustion, although somewhat complicated, has proved highly successful and economical. Steamers of 14,000 tons displacement have regularly and successfully made voyages the whole distance from Singapore to the United Kingdom around the Cape of Good Hope, and vessels of even greater displacement have made equally successful voyages from New York to San Francisco around Cape Horn under the system of high and low pressure hot air. These long voyages show the practical solution of the problem of the use of liquid fuel for ship propulsion. Most of the vessels now being built for the British Navy are constructed, as regards the double bottom and other suitable spaces, upon an oil-tight system, so that such spaces may be made available for stowing liquid fuel when the system has become more fully developed. In large warships oil fuel is used as an auxiliary to coal. In torpedo-boats and destroyers oil fuel alone is used. The question of available supplies of oil is one of primary importance to its extended use as fuel.

THE COTTON PLANT.

The following criticism published in the *Manchester Guardian* of November 27th, of certain conclusions advanced in Sir George Watt's book on cotton, should be read along with Mr. Gammie's Monograph. It shows how gravely experts differ as to the classification of cottons and the objections raised by the writer, Mr. Fletcher, now Principal of the Khedivial College of Agriculture, Ghizeh, acquire weight from his Indian experience which terminated only a fewmonths ago:—

Probably every agriculturist who has grown more than one of the very many existing varieties of cotton must have had forced upon him the extraordinary state of chaos that exists in the nomenclature of the group of plants that goes by the generic title of *Gossypium*. This state of affairs, however regrettable, is not difficult of explanation even when we consider how well classified are varieties of crops grown in temperate regions that cannot for an instant compare in value with it. It is undoubtedly due to the fact that tropical and sub-tropical agriculture even in European possessions has but recently—and even now in a few cases only—become the subject of investigations at the hands of competent scientists. That this lack of knowledge on the botany of the cotton plant has led to serious errors in attempts at the improvement of indigenous and acclimatisation of foreign varieties—noticeably in our Indian possessions, involving loss to experimenters and cultivators alike, no one will deny who is acquainted with the history of past experiments. By far the most successful attempt so far made to obtain really solid information on the varieties of the cotton plant was made by Todaro, who published his monograph in 1877-78. This attempt owes its success to the fact that it was made in the only possible practicable method, *viz.*, by working on living plants grown from samples of seeds received from many parts of the world. It is only by thus growing the different varieties under the same conditions that the effects induced by differences in soil and rainfall on the appearance of the plants can be eliminated. Many attempts to classify even the commoner plants producing cotton made before and after Todaro's time have failed completely, since, being based on dried herbarium specimens for the most part, they have differentiated between plants which differed considerably in size and shape of the leaves and in other points owing solely to the fact that they have been grown under widely different conditions.

Dr. Watt's Book.

The latest monograph on the cotton plant is "The Wild and Cultivated Cotton Plants of the World," by Sir George Watt, just published by Messrs. Longmans, Green, & Co. (pp. xiv, 406, 30*s.* net). The work contains many excellent photographic reproductions (some in colours) of original types of species and of early drawings of these. In the present notice we have space only to refer to a very few points bearing on the commercial varieties of cotton in contradistinction to varieties that are of purely botanical interest. This course appears legitimate, as the author in his preface expresses a hope that the work will be of use to "planters and seed-producers throughout the world," and not merely to botanists. The work is unfortunately based almost entirely on herbarium specimens, and it will perhaps suffice to collect together some of the errors into which this method of working has led the author in regard to the Egyptian, American, and Indian crops. "Many of the Egyptian cottons, such as the Ashmouni, Mit Affifi, Zafiri, and Abassi," are stated (p 214) to be races or hybrids of the species *Gossypium peruvianum*, while, again (p. 256), "some of the Egyptian long staples" are assigned to the species *vitifolium*. Now the plants producing the only Egyptian varieties grown at present, *viz.*, Mit Affifi, Abassi, Yannovitch, and Ashmouni, cannot be distinguished from one another or from Sea Island when grown under the same conditions—except Ashmouni, and that only in living plants—until the fruit is ripe and the cotton appears. Yet these Egyptian varieties are stated to belong to the species *peruvianum*, while the Sea Island variety is assigned to a different species, *viz.*, *barbadense* (variety *maritima*). Todaro, working on living plants, had previously and correctly grouped them all together as one species, *viz.*, *maritimum*. When further we turn to the beautiful photographic reproduction in colours of a sketch of Ehret's which forms the frontispiece to the volume, and is said by the author to represent *G. vitifolium, Lamk.*, we find a densely hairy plant figured, which differs not only in this characteristic but also in the shape of the leaf-lobes from any plant grown in Egypt. Moreover, this sketch does not represent the plant to which Lamarck gave the name *vitifolium*, Lamarck's plant being definitely stated by him to be characterised by, *inter alia*, having the undersides of its leaves glabrous, while our author states (p. 256) that the species *G. vitifolium, Lamk.*, has leaves which are "more or less pilosetomentose below." Again, on p. 224 we find descriptions of isolated dried plants of the Mit Affifi and Abassi varieties which claim to differentiate between them. The present writer has examined hundreds of acres of these varieties growing in the field, both in India and in Egypt, and can affirm that the distinctions drawn in the passage referred to are due to differences in the amount of water that the specimens received when growing, or—what amounts to the same thing—to differences in the age of the plants from which they were taken.

American Cotton.

With regard to American cotton, our author has similarly been led into many pitfalls by the examination of herbarium specimens. He states (p. 194) that of "some sixty botanical specimens of the cotton plants at present being cultivated ... seven are accepted by me as forms with a strong strain of *G. hirsutum* whereas something like forty approximate even more nearly to *G. mexicanum*, while the balance are forms of *G. punctatum*, *G. barbadense* &c." Now, it is admitted (p. 183) that "Dharwaa saw-ginned" belongs to the species *hirsutum*, while "American uplands" is stated to be the produce of newly created varieties. It is undoubtedly a fact, that a few of the American upland varieties, such as Bragg long staple, Griffin, etc., have been recently created by hybridisation of pre-existing sorts with Sea Island, but it is equally certain that the great mass of the upland varieties have been subjected only to continued selection, and when grown under the same conditions as saw-ginned Dharwar—introduced into India from America in 1829—are indistinguishable from the latter in all points except those for which they have been specially selected. If, therefore, we admit that saw-ginned Dharwar belongs to the species *hirsutum*, we must also assign the bulk of the American upland crop to this species. The latter certainly does not belong to the species *mexicanum* of Todaro (as our author thinks), if for no other reason than that Todaro gave this name to a variety that grew alongside many examples of the American upland crop, all of which he stated to be varities of the species *hirsutum*.

Erroneous Statements.

Of the erroneous statements made with regard to Indian cotton it will suffice to give one example, *viz.*, that of Gujarat cotton (Surat and Broach). This is assigned (1,143) to the species *obtusifolium* (of Roxburgh), and designated a specially created variety of that species, *viz.*, *wightiana*, which is stated to be synonymous with the species *wightianum* of Todaro. It is almost sufficient to say that Gujarat cotton is neither Roxburgh's species *obtusifolium* nor yet Todaro's *wightianum*, and that the two latter are not synonymous. To prove the whole of this statement would take too long, but, apart from any botanical consideration, the identity with Todaro's *wightianum* is sufficiently disproved by a reference to the localities from which and names under which Todaro obtained seed giving rise to the plants that received this name from him: these were "Cotone Hingunghatt di Bombay," Oomrawatt di Bombay," "Howeis Barree (*sic*) di Bombay," "Khandeish (*sic*) from American seed di Bombay," "Cotone Hingunghatt Barree" (*sic*) and "Old Dhollera, provenienza di Bombay." Now, in none of the places mentioned (Hingunghatt, Oomarwatt, barree Khandeish, Dhollera) will Gujarat cotton grow except in Dhollera; and, curiously enough, Todaro mentions that another sample of Dhollera seed, received directly from India, gave rise to plants belonging not to the species *wightianum*, but to the species *herbaceum*, and giving *un prodotto di bellissima qualita*. This latter statement is further interesting inasmuch as Dhollera cotton has deteriorated more, probably, than any other growth in India, and this owing simply to the replacement of the species *herbaceum* by *wightianum*—a process which, beginning just before Todaro's time, has resulted, as the present writer has seen in the fields of Dhollera, in the two crops being grown side by side. As a matter of fact, all the varieties included under the term "Gujarat cotton" belong to the species *herbaceum*, and were so placed by Todaro.

Conclusion.

The foregoing examples constitute only an extremely small proportion of the errors contained in the volume. The whole system of classification adopted is based primarily on the absence or presence of "fuzz" (as distinct from cotton) on the seed, although no character shows a greater tendency than this one to fluctuate with the conditions of growth. We cannot, therefore, share the author's hopes as to the practical usefulness of the book, extremely interesting though it is to a student of the subject on account of the excellent reproductions of some of the type specimens in the Kew and Linnæan herbaria on which species have been named. No monograph on cotton can be of much use to planters and growers that makes no attempt to state the conditions of growth demanddt by each of the varieties described or to indicate the

character of the cotton produced under given conditions. We look in vain through the thirty-one pages devoted to the "improvement of the cotton plant" for any trace of information or advice that can be utilised by those of us who are engaged in attempts towards this end.

GYROSCOPES IN SHIPS.

Another Invention.

An engineering correspondent writes as follows on this interesting subject to the *Times* Engineering Supplement :—

On three days recently interesting trials were made off Tynemouth to demonstrate the effect of the gyroscopic apparatus devised by Dr. Schlick on the rolling motions of ships in a seaway. The system was fully described by Sir William White in a paper read in March last before the Institution of Naval Architects, and results were then given of observations made of the behaviour of a vessel of the torpedo-boat class named the *See-bar*, to which Dr. Schlick had fitted a gyroscope. Since the date of the trials off the mouth of the Elbe, Messrs. Swan Hunter and Wigham Richardson have acquired the concession for the use of Dr. Schlick's patents in other countries than Germany, and have purchased the *See-bar*, which was the vessel used in the trials. Representatives of many cross-Channel and coasting lines of steamers attended the trials, and Dr. Schlick himself was present.

The Trials.

The weather on each of the days was sufficiently rough to enable the steadying effect of the gyroscope to be demonstrated. The *See-bar* is 116 ft. long, about 11¼ ft. broad, and of 56 tons displacement; so that a moderate amount of sea for a vessel of her dimensions represented the action of waves of considerable magnitude upon ships of large size. On one of the days the conditions were most severe. A gale had been blowing during the night, and the waves encountered by the *See-bar* had heights of from 6 ft. to 8 ft. and lengths of from 60 ft. to 100 ft. Vessels of much larger dimensions than the *See-bar* were rolling through considerable angles at the time when the tests were made. They were conducted in the following manner :—The vessel was placed broadside on to the waves, or nearly so, with the gyroscope fixed; and was allowed to roll freely. The *maximum* inclinations to the vertical attained were on several occasions 15 deg. on each side. The motion of the vessel was very quick; the period of oscillation for a double roll with the gyroscope fixed slightly exceeded four seconds. When a considerable oscillation had been attained the gyroscope apparatus was set free by releasing the breaks, by which it had been previously held, and was permitted to oscillate longitudinally about a transverse horizontal axis, the bearings of which were attached to the hull of the vessel. The effect upon the rolling was most remarkable. It was "damped" immediately, and after a few oscillations was practically extinguished, the deck remaining almost horizontal, while the vessel heaved up and down. Some of the nautical representatives on board were of opinion that, if the rolling could be extingnished in this manner and the deck kept nearly horizontal, there would be a risk of the waves breaking on board to a greater extent than when the vessel was rolling. Observation, however, proved that the contrary was true; the deck kept perfectly dry as the vessel heaved up and down with the gyroscope in action, and the conditions were much more comfortable than they were when the gyroscope was fixed and the vessel permitted to roll broadside on to the waves.

Satisfactory Results.

These results absolutely confirmed those previously obtained in Germany, and greatly impressed the representatives of the steamship lines who witnessed them. It is anticipated that the result of the demonstration will be the practical adoption of the system in certain steamships almost immediately. Messrs. Swan Hunter and Wigham Richardson have decided to make the first applications of the system in vessels of the coasting and cross-Channel type, where its advantages will be greatest; and for this purpose, in conjunction with Dr. Schlick, are working out a standard pattern of gyroscope which would be applicable to such vessels of which the displacement ranges from about 1,000 to 2,000 tons. The advantages in regard to cost and speed of production of having a standard pattern of gyroscope will be obvious. All that will be needed is to vary the rate of revolution appropriately in order to secure sufficient steadying effect in vessels of different sizes and weights. Even in the smaller vessels to be dealt with the weight and space required for an effective gyroscope will be but moderate in amount; and the comfort of passengers in vessels, which from their small dimensions must have a quick period of rolling if they are endowed with adequate stability, will be very great. The future of the system will be watched with interest. Already the Hamburg-American Company are constructing a gyroscope to be fitted in their pleasure steamer *Silvana*, which runs between Hamburg and Heligoland. In that case, for special reasons, as in the *See-bar*, the gyroscope will be driven by steam turbine; but it is preferable when electric power is available to have electric rather than steam-driven gyroscopes, and the design which has been prepared by Messrs. Swan Hunter and Wigham Richardson provides for the adoption of that method.

IRON AND STEEL SUPPLIES.

Output in Principal Countries.

The following particulars of the output of iron ore, pig-iron and steel in the principal producing countries of the world are extracted from a Return* relating to Iron and Steel recently issued by the Board of Trade :—

The total output of iron ore in the world probably amounted in 1905 to about 114 million tons, the principal producers being the United States, Germany, the United Kingdom, and Spain, in the order given, these countries accounting for about 78 per cent. of the total output of the world. From the preliminary figures so far available for 1906 it is estimated that the world's output amounted to about 125 million tons.

Production of Iron Ore.

The following statement shows the total output of iron ore in the principal countries in which it is mined, or in which the smelting of iron is an important industry, in the years 1904 and 1905, figures for 1906 being added where such are available :—

Country.	1904.	1905.	1906.
	Tons.	Tons.	Tons.
United States of America	27,644,000	42,526,000	49,670,000†
Germany (including Luxemburg)	21,693,000	23,067,000	26,305,000†
United Kingdom	13,774,000	14,591,000	15,500,000
Spain	7,837,000	8,931,000	9,982,000†
France	6,910,000	7,276,000	not
Russia	5,187,000	6,400,000	available.
Sweden	4,019,000	4,295,000	4,429,000
Austria-Hungary	3,191,000	3,518,000	4,085,000†
Belgium	204,000	175,000	197,000†

Over 3 million tons of iron ore are produced in countries other than those given above, the greater part of which is destined for exportation. The following statement shows the quantity produced in a few of the more important of these countries in each of the years 1903-5 :—

Country.	1903.	1904.	1905.
	Tons.	Tons.	Tons.
Newfoundland	589,000	590,000	690,000
Canada	236,000	196,000	259,000
Italy	373,000	403,000	361,000
Greece	523,000	415,000	458,000
Algeria	579,000	461,000	559,000
Cuba‡	624,000	387,600	561,000

* Iron and Steel, 1906. 350. Price 3*d*. Obtainable from Messrs. Wyman & Sons, Limited, Fetter Lane, E.C.

† Provisional figures.

‡ These particulars are described as "Shipments from the Mines" in the Province of Santiago de Cuba.

Production of Pig-iron.

The total quantity of pig-iron produced in the world in 1905 probably amounted to about 53½ million tons, the principal producers being the United States, Germany and the United Kingdom in the order named, the three countries together accounting for about four-fifths of the total output of the world. Preliminary figures so far available for 1906 indicate a production not far short of 58½ million tons.

The following statement shows the total output of pig-iron in the principal producing countries in the years 1904-1906. The figures given include in some cases a small quantity of castings obtained directly from the blast furnaces :—

Country.	1904.	1905.	1906.
	Tons.	Tons.	Tons.
United States	16,497,000	22,992,000	25,307,000*
Germany (including Luxemburg)	9,896,000	10,700,000	12,096,000*
United Kingdom	8,694,000	9,608,000	10,149,000*
France	2,926,000	3,028,000	3,266,000*
Russia	2,930,000	2,660,000	2,619,000*
Austria-Hungary	1,354,000	1,516,000	1,650,000*
Belgium	1,262,000	1,289,000	1,408,000*
Sweden	520,000	531,000	595,000
Spain	380,000	387,000	373,000*

Very little pig-iron is produced in any of the countries not included in the tables. Some reference may be made, however, to the production in Canada, which has increased considerably in the last decade. The figures for the three last years were 271,000 tons in 1904, 471,000 tons in 1905, and 534,000 tons in 1906.

Production of Steel.

At the present time the greater proportion of the pig-iron consumed is utilized in the production of steel, the use of steel having increased very markedly in recent years. The total steel production of the world in 1905 may be put at about 43,000,000 tons, and that for 1906 at nearly 49,500,000 tons.

The following statement shows the quantity of steel produced in the years 1904-5, figures for 1906 being given where such are available, in the countries for which similar information is given with regard to pig-iron :—

Country.	1904.	1905.	1906.
	Tons.	Tons.	Tons.
United States	13,860,000‡	20,024,000	23,365,000*
Germany (including Luxemburg)	8,786,000	9,905,000	10,956,000*
United Kingdom	5,027,000	5,812,000	6,462,000
France	2,054,000	2,204,000	2,333,000*
Russia	2,711,000	1,623,000*	1,735,000*
Belgium	1,502,000	1,638,000	Not available.
Austria-Hungary	1,176,000	1,169,000	1,176,000*
Sweden	327,000	362,000	391,000
Spain	191,000	234,000	254,000

* Provisional figures.

WEEKLY TRADE MOVEMENTS.

For the week ending 14th December, 1907.

COTTON GOODS.

Twist and Yarn.

Foreign— Imports by sea into	Calcutta, lbs.	423,830
	Bombay "	215,227
	Madras "	1,500
Indian— Exports by sea from	Calcutta "	519,504
	Bombay "	3,185,817
	Madras "	..

Grey Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	16,194,853
	Bombay "	2,635,993
	Karachi "	992,871
	Madras "	240,644
	Rangoon "	142,976

White Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	4,529,486
	Bombay "	4,026,165
	Karachi "	3,080,666
	Madras "	83,659
	Rangoon "	1,296,416

Other Piece Goods.

Imports by sea from Foreign ports into	Calcutta, yds.	2,724,465
	Bombay "	4,209,374
	Karachi "	1,642,969
	Madras "	121,494
	Rangoon "	1,395,186

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta, owt.	21,139
	Bombay* "	5,033
	Karachi "	13,888
	Madras "	4,661

Raw Cotton.

Imports into Bombay	By sea owt.	5,257
	Coastwise "	8,727
Imports into Karachi by rail	"	235,875
" " Calcutta by rail and river	"	40,565
	"	14,226

JUTE.

Arrivals by all routes in	Calcutta, owt.	494,743
Exports by sea from Calcutta	Gunny bags, No.	8,117,102
	" cloth, yds.	19,478,240
	Jute, owt.	528,761
Exports by sea from Chittagong	Jute "	42,600

TEA.

Arrivals by all routes in	Calcutta, lbs.	4,172,900
Exports by sea from	Calcutta "	3,160,471
	Chittagong "	1,302,005

WHEAT.

Imports into Calcutta	by rail and river, owt.	28,020
Imports into Karachi	by rail "	159,263
Imports into Bombay	By sea "	4,840
	Coastwise "	24,630
	By rail "	4,902
Exports by sea from	Calcutta "	431
	Bombay "	834
	Karachi "	78,701

RICE.

Arrivals by all routes in	Calcutta, owt.	105,387
Exports by sea from	Calcutta "	23,212
	Chittagong "	...
	Bombay "	9,471
	Karachi "	20,834
	Madras "	...
	Rangoon "	63,241

LINSEED.

Imports into Calcutta	by rail and river, owt.	36,144
Imports into Bombay	By sea "	...
	Coastwise "	336
	By rail "	5,332
Imports into Karachi	by rail "	...
Exports by sea from	Calcutta "	24,012
	Bombay "	37,191
	Karachi "	...

RAPE AND MUSTARD SEED.

Imports into Calcutta	by rail and river, owt.	24,745
Imports into Bombay	By sea "	...
	Coastwise "	851
	By rail "	490
Imports into Karachi	by rail "	5,310
Exports by sea from	Calcutta "	...
	Bombay "	4,902
	Karachi "	8,320

COTTON SEED.

Exports by sea from Bombay,	owt.	22,395

* B., B. & C. I. Ry. figures only.

KEROSENE OIL, WEEK ENDING 14th DECEMBER, 1907.

Imports by sea into—	From Russia.	From America.	From All other foreign countries.	Total.
	galls.	galls.	galls.	galls.
Calcutta	...	135,743	60,994	196,737
Bombay	...	...	...	...
Karachi	...	..	...	...
Madras	...	...	...	...
Exports by sea from Burma to Bengal				2,000
" E. B. & Assam				...
" Bombay				...
" Sind				...
" Madras				551,600
" Indian Ports, Non-Br.				...
" Foreign Ports				...

IMPORTS OF SUGAR, WEEK ENDING 14th DECEMBER, 1907.

Country of Shipment.	Refined sugar imported into Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	Total.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	20	...	66	10	4	65	165
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	50	7,607	...	...	7,657
Other European Countries	...	...	...	...	...	...	...
Java	12,522	...	70,231	77,552	...	44,723	205,028
Mauritius	...	...	27,561	13,329	...	...	40,890
Other Non-European Countries	...	...	447	...	...	51	498
					Total refined		254,238
					Total unrefined		182
					Grand Total, cwt.		254,420

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

Districts.	Season 1907-08. Sold in sale of 13th December. Packages.	Average price per lb. A. P.	Sold to 13th December. Packages.	Average price per lb. A. P.	Season 1906-07. Sold in sale of 14th December. Packages.	Average price per lb. A. P.	Sold to 14th December. Packages.	Average price per lb A. P.
Assam	5,135	7 9·1	161,209	7 5·8	5,263	6 9·2	134,645	6 9·1
Cachar	3,939	6 9·6	127,339	6 2	3,114	5 1	118,274	4 3·7
Sylhet	2,937	6 10·3	100,856	6 1·9	2,662	4 11·2	89,282	4 1
Darjeeling	705	12 4·1	53,609	9 3	1,130	11 9·1	51,655	8 9·7
Dooars	5,504	7 5·4	159,087	6 9·4	7,850	6 4·3	157,034	5 5·6
Terai	419	7 3·7	19,340	6 3·4	1,046	4 8·5	30,217	4 3·7
Chittagong	117	6 9·4	8,106	6 2·9	337	5 7	10,865	4 2·6
Chota-Nagpore	342	6 5·5	1,033	5 8·5	...	...	870	4 3·4
Kumaon and Kangra	306	6 8·7	4,419	6 1·3	...	...	120	5 0
Madras	..	...	285	6 1·2	...	...	286	4 10·8
Debra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	..	...	247	6 9·3	217	3 7	217	3 7
Total	19,404	7 5·4	635,734	6 11	21,619	6 3·1	593,455	5 6·3

(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 33,699 packages Dust* sold to 13th December As. P. 6 7·7

* On account of gardens which sell only that grade on this market.

—The general purposes committee of the Birmingham Chamber of Commerce, having instituted an inquiry relative to the proposed compulsory adoption of the **metric system,** reports that opinion is divided on the question. The strongest opposition to compulsory adoption so far as the Birmingham and Midland district is concerned is to be found in the engineering trades. "It is stated," the committee reports, "that practically all engineering standards are based upon the inch, and it follows that all British-made ships, rolling stock, machinery gauges, and tools, etc., are constructed according to these standards, the equivalents of which it is impossible to specify accurately in metrical measure. English-made machinery now in use in every part of the world made to our standard gauges on the interchangeable principle can have spare parts sent out of stock, but if any other standard is set up it would be necessary for the user of such machinery when ordering spare parts to specify whether the machinery was made before the passing of the proposed Act, and would cause endless confusion and annoyance with customers at home and abroad." Whilst recognizing that the metric system is now much more widely used by traders in foreign transactions than was the case a few years ago, the committee seriously urge every trader interested in foreign trade to make use of the metric system wherever it may appear to be to his interest to do so. They are convinced that the commercial interests of the country will be much better served by gradual and voluntary adaptation than by legislation of a compulsory character.

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

QUARTERLY.

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

MONTHLY.

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

MISCELLANEOUS.

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

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, Westminister, 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., Ld., 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, Lahor
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 (per copy)	10	0
Postage :—		
Abroad (per copy per annum)	5	0
In India (per copy per annum)	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 (per copy)	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
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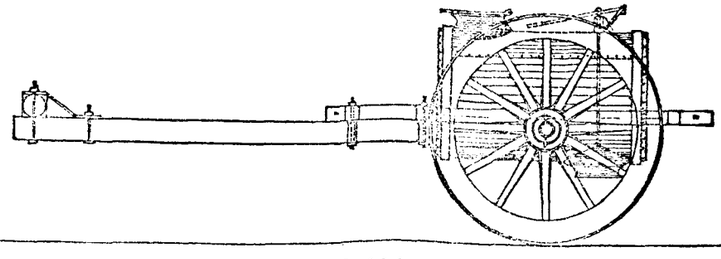
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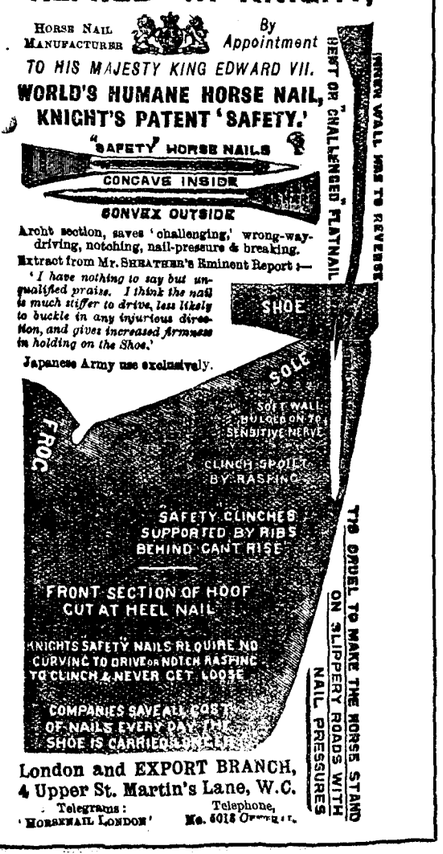
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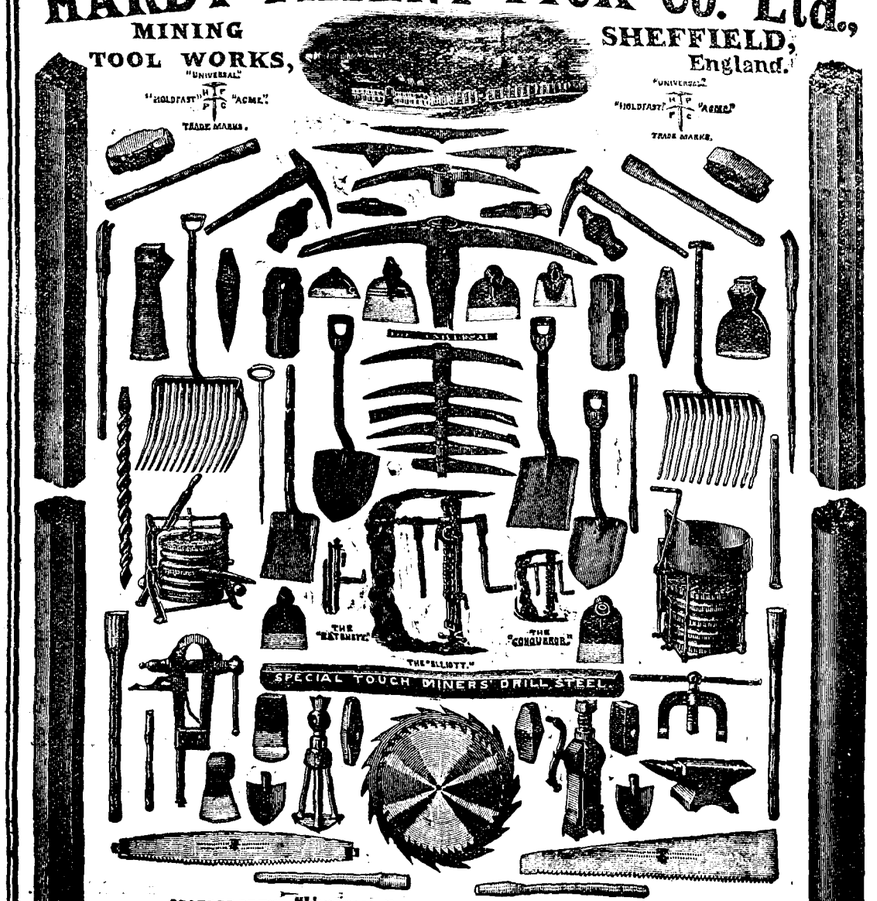
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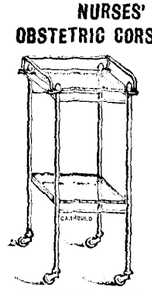
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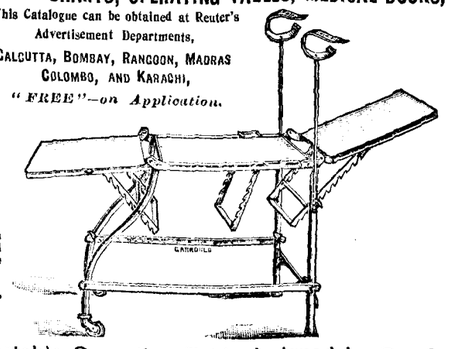
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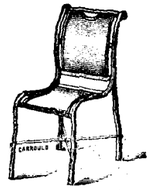


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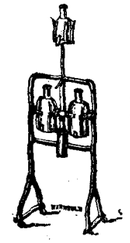




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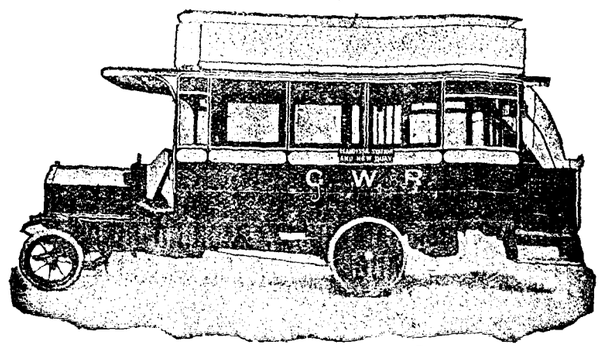
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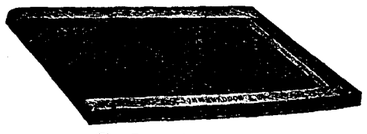
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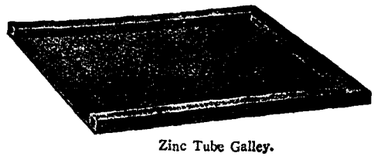


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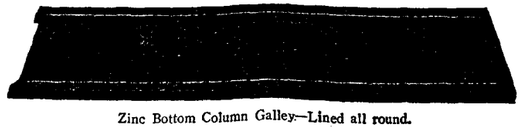


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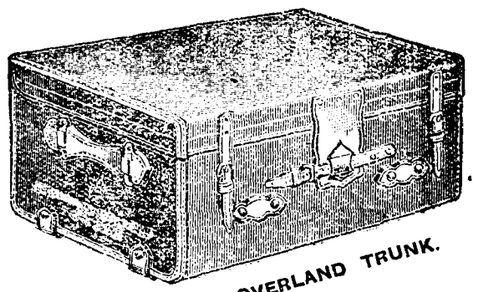
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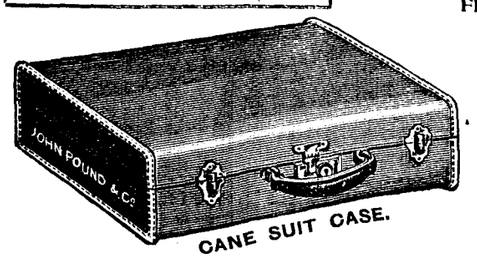
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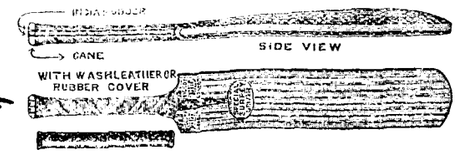
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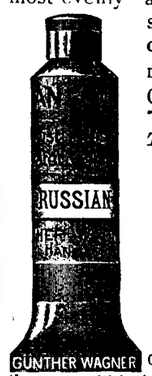
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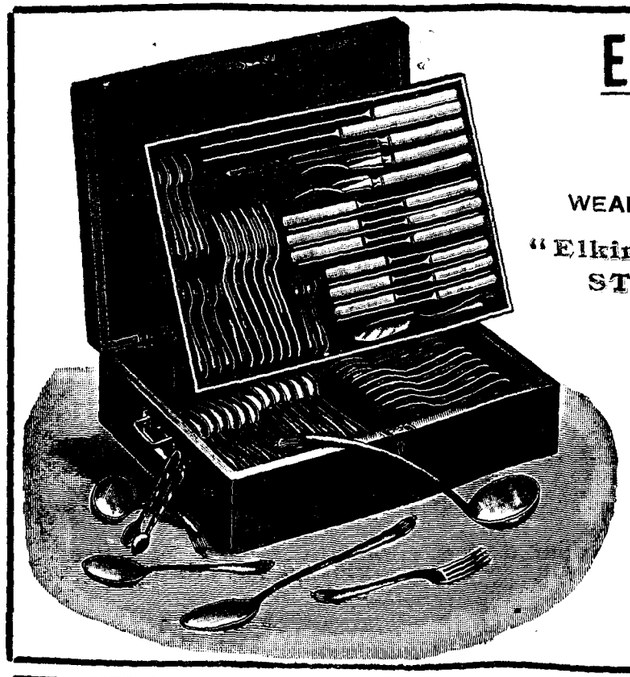
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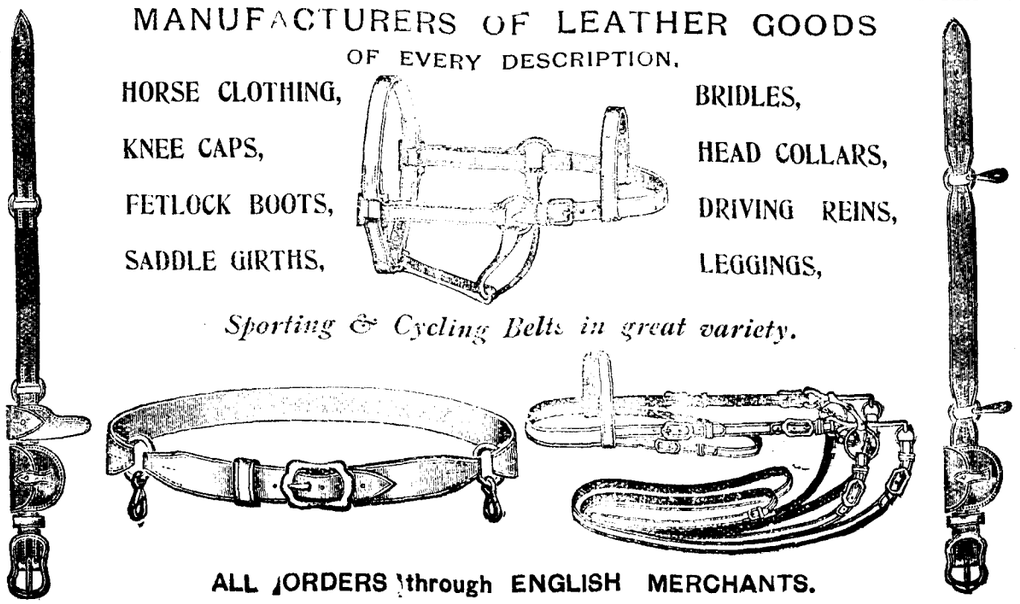
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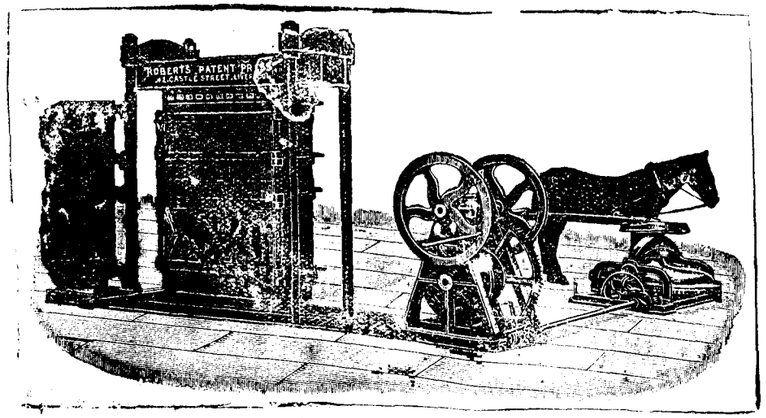
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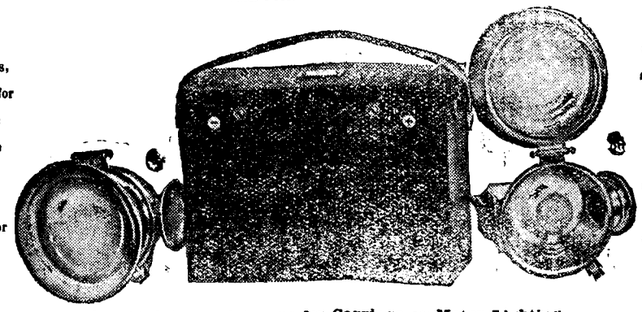
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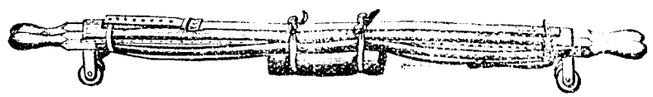
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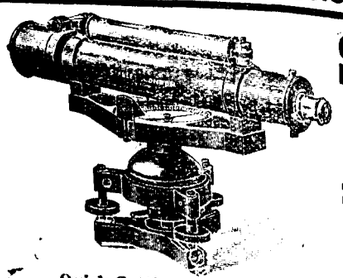
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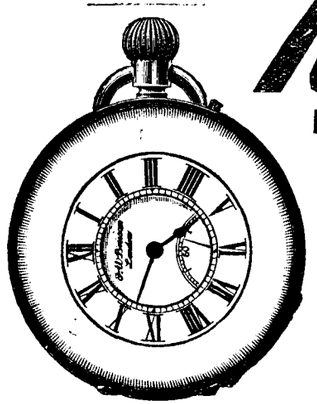
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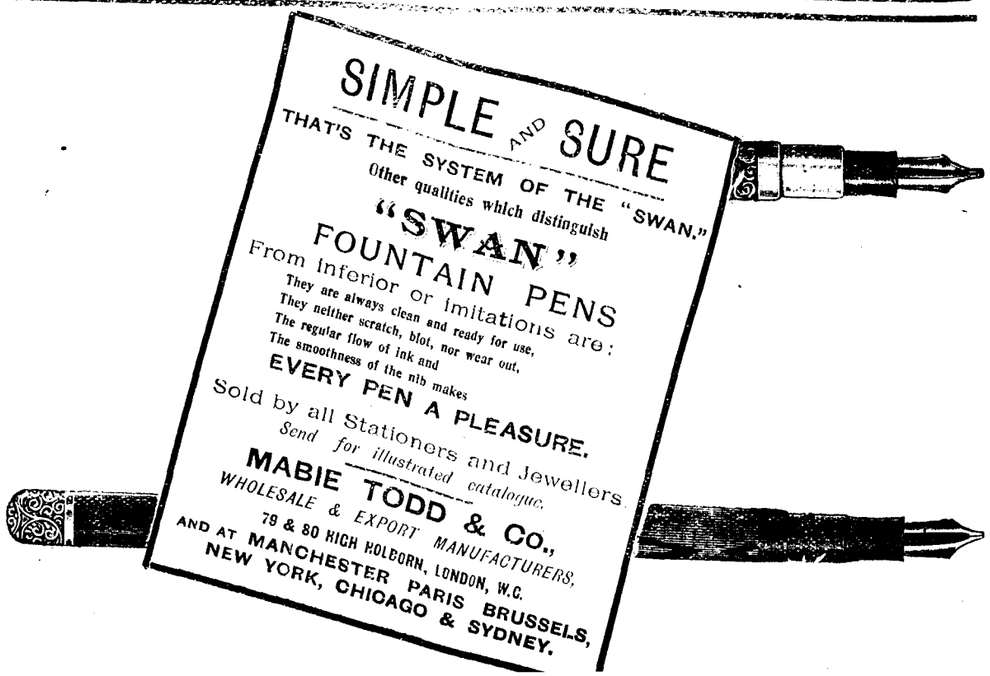
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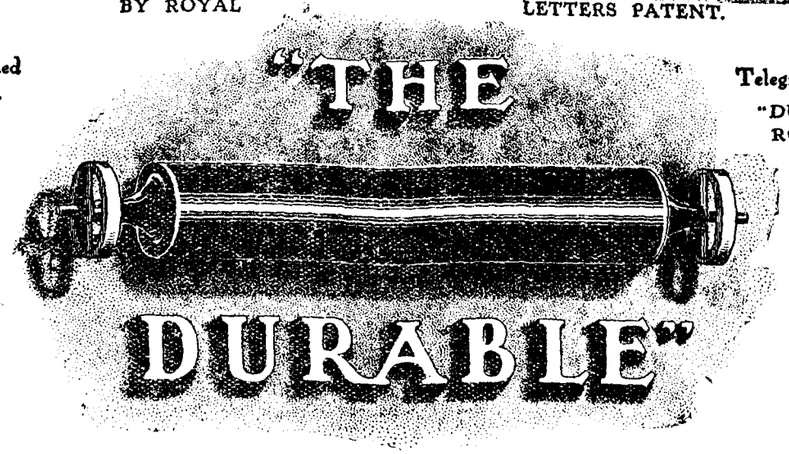
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The Indian Trade Journal.

Issued by the Commercial Intelligence Department of India.

VOL. VII. No. 91.] CALCUTTA, THURSDAY, 26th DECEMBER, 1907. [ANNAS 4.

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NOTES.

With reference to the article on openings for **Indian Trade in Mesopatamia** which appeared in our issue of the 12th instant, we are informed that a service of motor cars will soon be running between Baghdad and Damascus. The arrangements are being made with contractors in Constantinople and are said to be almost complete.

It is notified by the Government of the **Straits Settlements** that the tolls payable on account of **light dues** in that colony are to be reduced from one anna and half an anna per ton, respectively, to half an anna and a quarter of an anna, with effect from the 1st proximo. Further details are published in the *Gazette of India* of the 21st instant.

The Alexandria General Produce Association, in its record of answers, regarding the **Egyptian cotton crop,** received during last month, says:—Excepting the last ten days the weather in November has been favourable to the cotton plants, but owing, however, to the small quantity of cotton remaining unpicked on the plants, this had little influence on the total results of the crop. The third picking has been irregular, some districts reporting good results, others only moderate, and even some of no account. The ginnings still maintain 1 per cent. to 2 per cent. better yield than last season. Reports generally are slightly less favourable than those issued at the end of October, and we therefore consider it necessary to reduce the earlier crop estimate and now fix it at 6,750,000 *cantars*.

The number of bales of **cotton imported** into the **United Kingdom** during the week ended the 28th November, 1907, was 109,770 (including 153 bales British West African) and the number imported during the forty-eight weeks ended the 28th November was 4,150,442 (including 5,961 bales British West Indian and 10,485 bales British West African). As regards exports, the figures are, for the week ended the 28th November, 9,674 bales, and for the forty-eight weeks 457,037 bales.

Shanghai advices for the week ending November 28th, to hand by the last **China** mail, state that the market for **Indian yarns** has remained fairly steady on the whole, the advances that have been made being counteracted by the decline in the rupee rate of exchange. The bulk of the business done has been for Szechuen and the river markets, Tientsin taking a few of her favorite No. 10's. The Newchwang market is in a demoralized condition owing to financial disasters, the exchange on this being in the proportion of eight Shanghai taels to ten Newchwang taels. The sales reported amount to 1·534 bales in all.

The marked tendency to smaller estimates of the **American cotton crop** is discussed by Messrs. Hubbard Brothers and Co., in their cotton letter dated New York, November 19th. During September and October the trade generally looked forward to a crop of 12½ to 13 million bales, but as time passed the estimates became smaller, as the following list, in chronological sequence, shows:—

A. J. Buston	12,000,000	maximum.
John Swanson	11,840,000	"
Habersham King	11,750,000	"
Weil Bros.	11,650,000	"
Neill Bros.	11,600 000	"
R. L. Neill	11,395,000	"

"Should the American crop be anywhere near as small as the average of these estimates would indicate there will at some time," we are told, "come an active competition for its distribution among the spinners of America, England and the Continent." Nevertheless, the majority of traders and spinners in America are still looking for lower prices in the belief that the crop is underestimated and that the present depression in business will cause a large reduction in consumption. Messrs. Hubbard, on the other hand, think that a revival of confidence will come more quickly than is generally expected and that the prosperity of the agricultural population and the reserve wealth in the country will bring about first a slow and then a rapid recovery.

Messrs. Hubbard Brothers and Co. in their **American cotton** letter dated November 26th continue to take a hopeful view of the cotton market. All through the decline, they say, Continental spinners have been the best and at times the only support to prices; they have been much larger buyers than English spinners, whilst American spinners have kept out of the market, and have still to buy their requirements for the coming year The exceptional attitude of the Continental spinner is attributed by Messrs. Hubbard to the prospective shortage in the supply from India on the necessary substitution of low-grade American cotton. Their view of the future is summed up in the following paragraph:—"We find spinners have waited and waited for different reasons before buying; we see the demand yet to come, and we believe that the demands upon our crop, in view of the decrease in the India crop, have been lost sight of during the past month. We expect the movement to increase with a better condition in the exchange and money markets, but we think it will represent the demand from spinners and not the pressure of cotton for sale by the farmer, who, with the knowledge of reduced crop estimates, has held his cotton at a time when the spinner could not buy during the past month."

In view of the increased demand for turpentine in connection with the **synthetic camphor industry**, the development of the Indian turpentine is instructive. The *Oil and Colour Trades Journal* publishes some statistics showing the progress made in the year 1906-07. In the Naini-tal division there has been an increase in the output of nearly 25 per cent., and of about 20 per cent. in the average return from trees tapped, but in the Jaunsar division there is a decrease of about 12 per cent. in the output and of 30 per cent. in the average per tree. The Naini-tal division, however, is far more important than the Jaunsar, the total output of the latter being very small. The profits of the enterprise are satisfactory and hence it may be hoped that further development will take place, but the trade would like to see it progress a little more rapidly. At present, of course, the high price of American spirit is distinctly favourable to the growth of this infant industry, but such a price cannot be expected to last for ever, and it is to be hoped that Indian turpentine will be thoroughly established before a general fall in prices takes place.

Judge Platt, in the United States Circuit Court on November 25th, affirmed the action of the Board of General Appraisers in permitting **synthetic camphor** to enter free of duty. The controversy arose over the fact that artificial camphor was not an article of commerce at the time the present tariff schedules were drawn up in 1897. The contention of the Government was that the synthetic article should be assessed at 6 cents. per pound as "refined" camphor. The importers in the case, Schering and Glatz, of New York, claimed free entry for the merchandise as crude camphor. In his decision Judge Platt writes: "The Government acquiesced in a decision of the Board of Appraisers in 1902 which classified an importation of natural camphor from Formosa as crude; and a like product has been coming in since then free. That merchandise was in a pretty fair condition of purity with a high melting and boiling point, and quite clean-looking. It would be unfair to levy tribute on such artificial camphor as that in issue and permit such a product as the improved Formosa to come in free."

The following passage occurs in an order by the Government of Madras dealing with **emigration to the Straits Settlements**:—It has has been brought to the notice of Government that printed circulars advertising the Straits Settlements as a field for labour for Indian coolies are displayed in Post offices, Deputy Tahsildars' offices and other public buildings in many districts. The intention of Government in their various orders requesting Collectors and district officers to afford the emigration agent of the Straits Settlements Government in India such assistance as may be found possible was that district officers should give the agent such help as lay in their power in obtaining food supplies or means of locomotion and such matters, and that no needless or improper obstacles should be placed in his way in procuring recruits. It is not the intention of Government that special official assistance should be given to any particular recruiting agency, or that emigration to any particular locality should be specially encouraged. The exhibition of posters in public offices is likely to be believed by ignorant persons to indicate that the Government accord special approbation to emigration to the Straits Settlements, and complaints have been received that they are so regarded. The Postmaster-General, Madras, and all Collectors will be requested to issue orders that circulars of the nature referred to should not be displayed in public buildings.

It is notified in the *United Provinces Gazette* of the 21st instant that the **duty on "plain spirit"** removed from any licensed distillery for consumption in the Punjab and the North West Frontier Province is to be at the rate of **Rs. 4** per imperial gallon of the strength of London proof, the duty to be increased or reduced in proportion as the strength of the spirit exceeds or falls below that standard.

The **Hide Commission**, which was referred to in the *Indian Trade Journal* of the 28th ultimo, has returned to Cawnpore. It is stated that the results obtained are more than gratifying, and will be of great benefit to the trade generally. Major Forrestier-Walker, Superintendent, Government Harness and Saddlery Factory, who was at the head of the Commission, accompanied by Mr. W. E. De Noronha, is compiling a report which is likely to be of much value to the trade and of interest to the general public. No pains have been spared to attain the most reliable data on the important question of curing and tanning hides with a view to a better selection for Government use, and to reduce the risks involved in dealing with inexperienced contractors.

The total **area sown with castors** in ryotwari villages, **Madras**, up to the 30th ultimo. is 480,400 acres or about 6 per cent. more than the area sown in the corresponding period of 1906. It also exceeds the average of five years by about 6 per cent., but is less than the average of ten years by three per cent. The increase. as compared with 1906, is most marked in the districts of Coimbatore and Guntur and is attributed to seasonable rainfall. It is reported that the crop was sown generally in July or August, the months in which it is usually sown. The crop is generally in fair to good condition, but is in need of rain in parts. It is expected to yield 70 per cent. of a normal crop.

The **clearances of silk** at the **Lyons** Conditioning-house during the week ended November 27th amounted to 141,183 kilos., as compared with 137 893 kilos., in the preceding week and 161,576 in the corresponding week of 1906. We append the usual detailed comparison:—

Week ended	Thrown.			
Nov. 27.	Organsins.	Trames	Raw.	Total.
	Kilos.	Kilos.	Kilos.	Kilos.
1907	24,267	23,936	92,980	141,183
1906	18,263	22,655	120,658	161,576
1905	18,536	22,825	79,974	118,335
1904	18,157	26,320	137,923	182,400
1903	16,720	16,109	77,033	109,862
1902	18,165	21,207	85,524	124,896

The tone of the market is still very flat, and prices, under the prolonged absence of demand, have been betraying weakness.

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

For the week ending 21st December, 1907—

In the Calcutta market—

Behar opium—Rs. 1,270; 1,270; 1,252; 1,235; 1,231; 1,234; 1,232.

Benares opium—Rs. 1,250; 1,250; 1,230; 1,215; 1,210; 1,215; 1,210.

The prices in the time bargains for the Behar opium of the 1st sale of 1908 were Rs. 1,275; 1,275; 1,257; 1,240; 1,236; 1,239; 1,236.

In the China market—

At Hongkong (exchange Rs. 136 to 141½ per $100).

Behar opium—$900; 905; 910; 912½ and 915; 915 and 920; 915; 915.

Benares opium—On the 16th to 19th instants $885; 885; 885; 890, respectively.

At Shanghai—(exchange Rs. 180½ to 186 per 100 taels).

Behar opium—On the 16th instant 695 taels.

Benares opium—On the 16th instant 690 taels.

For the week ending 14th December, 1907—

In the Bombay market -

On 8th and 10th instant (new, 1906-07) Rs. 1,246 to 1,315 and Rs. 1,220, respectively; on the 9th and 13th instants (new, 1905-06) Rs. 1,325 to 1,391 and Rs. 1,256 to 1,315, respectively; on the 9th and 12th instant (old, 1904-05) Rs. 1,456 and Rs. 1,350 to 1,420, respectively; the latest prices at Hongkong and Shanghai were (new) Rs. 1,263 and 1,363; (old) Rs. 1,343 and 1,424 respectively.

A statement of **irrigation** operations in the **Punjab** in connection with the **Rabi** (spring) crop of 1907-08 up to 31st October last shows that the total area irrigated on major works was 980,684 acres, as against 1,181,420 acres for the preceding year. The total area on minor works was 348,426 acres, as against 530,624 acres for the corresponding period of the previous year.

Advices from **Winnipeg** state that the **grain receipts** at the various points on one only of the Canadian railway systems—namely, the Canadian Pacific Company's—on November 21st amounted to 419,000 bushels, including 301,000 bushels of wheat and 118,000 bushels of other grains. On the corresponding day of last year these receipts were 214,000 bushels of wheat and 18,000 bushels of other grains. The total grain receipts this season to date are 15,732,000 bushels of wheat and 3,259,000 bushels of other grains. Western Canada's total crop for 1907 is estimated to be worth $21,000,000 more than that of last year. It is also reported that the total shipment of apples from Canada for the past season is 626,000 barrels, an increase over the figures of 1906 of 224,000 barrels. The annual crop report of Nova Scotia shows large crops in spite of the unfavourable weather experienced. The estimated value is $16,750,000. The yield of potatoes was 6,000,000 bushels and the hay crop amounted to 7,000,000 tons.

The *Corn Trade News* gives the following summary of the world's crops as on the 3rd instant:—**United States of America**—Weather seasonably favourable, no complaints of Winter Wheat crop. Green bugs reported in Illinois, but no appearance of insects elsewhere. **Canada**—Estimate of 70,000,000 bushels for Western Wheat crop again mentioned by officials. Last year 97,000,000 bushels of good quality were harvested. **Argentina**—Moderate complaints of Northern Wheat crop, elsewhere favourable. Quality of Northern crop medium. **India**—Very slight rains centre and west, but soon ceased. To-day's reports say no rain. Kurrachee sent more hopeful report for Upper India last Friday, but all depends on cold weather rains. **Australia**—Surplus for export now estimated about 2,000,000 qrs., of which about half for Europe. **Russia**—Weather rather better south, but crop news bad, in east sharp frost without snow. **Roumania**—Weather mild and rainy, favourable for weak seedings. Generally considered seedings all right, but nothing certain will be known till next spring. **Austria-Hungary**—Weather favourable till yesterday, when frost returned. Hungarian officials estimate 20 per cent. decrease acreage, but unofficial reports more optimistic. **Turkey**—Excellent rains, seed grain being distributed. **France, Italy** and **North Africa**—Weather favourable, crops satisfactory. **United Kingdom** and **Spain**—Some complaints, but crop outlook generally favourable. **Germany**—Weather has improved, no recent complaints of new crops.

The **prices of British corn** per quarter of 8 bushels as received from the inspectors and officers of Excise in the week ended the 30th November, 1907, were as follows:—Wheat, 34*s.* 7*d.*; Barley, 27*s.* 5*d.*; and Oats, 18*s.* 7*d.*

The recent Government estimate of the coming **Argentine linseed crop** is somewhat serious for the prospects of linseed oil prices during the winter season. The total crop (1,200,000 tons) is about 6,000,000 quarters, but the question to be decided is what proportion of this enormous quantity will reach British markets. The last bumper crop of linseed in the Argentine was that of 1903-04, and Great Britain received out of it 1,494,328 quarters. The total receipts during that year were 2,785,983 quarters, so that the Argentine supplied about half the total receipts. The quantity was about 800,000 quarters more than the average receipts, and its effect upon the linseed oil market was to bring down prices to £12 per ton. Taking into consideration the fact that the trade of the United States is thoroughly disorganised and unlikely to be very active during the next twelve months, it appears not improbable that a still larger proportion of the Argentine seed will be shipped to Great Britain than was the case in 1904; and if this be so the only thing which could save the market from a fall would be a serious shortage in the Indian supply. In 1904 that supply reached the large figure of 1,025,089 quarters; but in 1905 and 1906 it was scarcely half as much. This year the Indian shipments will probably be not more than 700,000 quarters.

The great difficulty hitherto in connection with the use of **ramie for textile purposes** has been the softening and degumming of the fibre, which has rendered it almost impossible to weave a pure ramie warp. A process has recently been discovered by Mr. W. McGregor Smith, Shanghai, by means of which, it is reported, the ramie fibre, direct from the market, becomes a soft filasse, far superior to cotton yarn and very much like silk. "The process lasts but ten minutes (says the *Shanghai Mercury*, in its report of a demonstration by the inventor), and is most simple. The ramie is first placed in a vessel containing boiling water, to which is added some secret composition, and after boiling four and one-half minutes it is washed, bleached, and thoroughly degummed. The fibre comes out almost snow-white and is very much like silk. The fibre is not in the least injured by the process, but rather strengthened."

There is a strong agitation in **France, Germany,** and **Belgium** in favour of a **reduction of the hours of labour** in all textile factories. In France there is a legal maximum of 60 hours a week, but in Germany and Belgium the maximum is 72, and in certain districts in both countries 80 hours are worked. About two years ago the Millerand law for the ten-hour day came into force in France, and it has worked very smoothly, but the operatives declare that they will not rest satisfied until they have succeeded in reducing the working day to eight hours. An animated debate is now being carried on in the Belgian press on the subject of factory hours, and on behalf of the workpeople all the well-known arguments in favour of the shorter day have been put forward. The employers, on the other hand, point out that Belgium is a very small country, surrounded on all sides by powerful manufacturing rivals, who are unceasing in their efforts to capture her trade and commerce. Belgium, they contend, must depend upon her export trade, and whilst she is compelled to compete with England, France, and Germany in all the foreign markets her manufacturers dare not do anything which might increase the cost of production. Nevertheless, says the *Manchester Guardian*, there seems to be a good deal of public sympathy with the operatives, and there can be little doubt that sooner or later Continental manufacturers will bring themselves, or be brought, more into line with Great Britain as far as hours of labour in the textile industries are concerned.

A Brussels message dated the 5th instant states:—Doubts have arisen with regard to the interpretation to be placed upon that clause of the protocol providing for the adhesion of Russia to the **Sugar Convention,** which permits Russia to export 300,000 tons of sugar during two years from September 1st, 1907, until September 1st, 1909. It is, however, perfectly clear that although a portion of the quantity allowed may be sent out of Russia at once, not a single ton can be imported into Great Britain before September 1st, 1908, the prohibitive clauses of the Brussels Convention remaining in force until that date.

The **Permanent Sugar Commission** brought its labours to a satisfactory termination at Brussels on the 3rd instant. The various delegations had received from their respective Governments the necessary authorisation to conclude an agreement and permission to accept the conditions, which had been unanimously approved. Pending the publication of the basis of agreement which has thus been concluded, it may be stated (says Reuter) that the compromise which has been adopted as to the amount of sugar which Russia may put on the foreign market will safeguard the interests of that country without compromising those of the other contracting countries. Considerable difficulty was experienced in arriving at a satisfactory formula, but the spirit of conciliation which has prevailed among the members of the Commission throughout its laborious task has been such as to render failure almost impossible.

The report of the **P. and O. Steam Navigation Co.** states that the net surplus for the year ended on September 30th last amounted to £226,929. The general trend of Eastern freights was unfavourable to shipping, with the exception of the Australian trade. The dearness of coal was operating slightly towards a rise, but the quantity of cargo forthcoming was not abundant. The passenger revenue showed continued expansion, the receipts being approximately £63,000 above those of the preceding year. As mentioned in a previous issue, a total distribution of 13 per cent. on the deferred stock has been made. The report of the **South Indian Railway Co.** for the half-year ended June 30th states that the total revenue earnings were Rs. 71,19,301. The net revenue was Rs. 37,09,287, an increase of Rs. 7,01,403 as compared with the corresponding half of last year. A dividend of £3 5*s.* for the half-year, or equal to the rate of 6½ per cent., has been declared. The report of the **Bombay, Baroda and Central India Railway** for the first half of this year shows a net revenue of Rs. 1,58,89,966, an increase of Rs. 10,92,626 on that for the corresponding period of 1906. At the meeting of the **Singapore Electric Tramways Co.** held in London on the 3rd instant, Sir Frank A. Swettenham, who presided, said that the net result of the working of the business was a loss of £7,623, but this could not be regarded as any criterion of the prospects of the Company, as the traffic receipts had already so increased that the payment of interest on the £350,000 of debentures was well assured, and the receipts per car mile had gradually risen and the expenses per car mile had gradually gone down.

The *Manchester Guardian* of the 2nd instant writes:—The situation in the **copper market** has been very puzzling throughout the past week. The rise in prices as between the two Fridays amounts to £2 17*s.* 6*d.* per ton, which is, of course, not much considering the position of the metal, and yet there does not seem any adequate basis for any improvement. The *Ironmonger* suggests that the movement is connected with Stock Exchange operations, and if this be the case one need not look to commercial circumstances in an endeavour to account for it. The shipments of the previous week to Europe from

New York, Baltimore, and Philadelphia amounted to the enormous total of 10,378 tons—more than equivalent to the whole production in the United States in the most active times. That this rate of shipment can go on for any length of time is of course impossible, and it suggests great anxiety to get metal out of the country by all and every means. Some better business has been done during the week in refined copper, and India has given some orders for yellow metal and copper. The demand for locomotive tubes has also been more active. These are little points which may have contributed in some slight degree to help the market, but it is difficult to see that there is any definite improvement in the general situation.

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 November, 1907 :—The total imports of gold were 147,305 oz valued at Rs. 90,61,143; of these 72,701 oz. valued at Rs. 46,70,011 represented bullion; and 71,713 oz. valued at Rs. 42,26,031 represented sovereigns and other British gold coin; and 2,891 oz. valued at Rs. 1,65,101 represented other coined gold. The total exports of gold were 47,821* oz. valued at Rs. 27,12,056; of these 46,529* oz. valued at Rs. 26,37,700 represented bullion; and 1 oz. valued at Rs. 45 represented sovereigns and other British gold coin; and 1,291 oz. valued at Rs. 74,311 represented other coined gold. The total imports of silver were 4,942,736 oz. valued at Rs. 94,69,480; of these 4,726,053 oz. valued at Rs. 89,74,395 represented bar; and 116,645 oz. valued at Rs. 311,055 represented Government of India rupees; and 100,038 oz. valued at Rs. 1,84,030 represented other coin. The total exports of silver were 855,480* oz. valued at Rs. 22,00,669; of these 82,605* oz. valued at Rs. 1,75,544 represented bullion; and 720,749 oz. valued at Rs. 19,22,001 represented Government of India rupees; and 52,126 oz. valued at Rs. 1,03,124 represented other coin. In this month the net imports of gold amounted to 63·49 lakhs of rupees, and of silver to 72·69 lakhs. The figures marked with an asterisk * are defective, the weight of certain postal parcels not being declared by Post Office.

Advices from **Australia** which reached Calcutta this week state that for the week ending the 3rd instant 42,439 bales of **wool** were offered and 34,621 bales sold at the **Melbourne** sales. The sales up to the 3rd amount to 703,552 bales, showing an increase of 112,000 bales as compared with those for the corresponding period of last year. Among the leading sales effected were :—Eurambeen East, greasy merino lambs' to 19¾*d.*, and fleece to 15¾*d.*; Warrock, merino fleece to 15¾*d.*; F. over Tarcombe, to 15½*d.*; F. McI. over Glencoe and T. E. S. over Springdale, crossbred to 14¾*d.*; Bryngola, merino to 14½*d.*; R. Bros. over Studall, to 13½*d.* Scoured merino sold up to 22½*d.* for Gnohtayn. At the **Sydney** wool sales on the same date 7,578 bales were catalogued, and 6,710 bales sold. An improvement in scoured was noted. Top prices were :—Greasy, 15½*d.*; scoured, 21¾*d.* The first wool sale of the season at **Auckland** opened on the 27th *ultimo* when 4,375 bales were offered, prices showing a decline of ½*d.* to 3*d.* on coarse and fine wools on last season's rates. At the **Geelong** sales on the 29th ultimo the leading prices were :—Mount Elephant (Lismore) merino to 18¾*d.*, Langi over Kal kal (Trawalla) to 18¼*d.*, Leslie Manor (Cressy) and Bushy Creek (Glenthompson) to 17½*d.*, B. L. (Birregurra) and Stoneleigh (Beaufort) to 17¼*d.*, Bolac Plains (Darlington) and Springbank (Skipton) to 17*d.* For crossbreds, Fingalpark (Skipton) sold up to 16¼*d* Prices are still much above the average of former years.

Holders of **Colonial wool,** says the *Manchester Guardian* of 6th instant, cannot derive much satisfaction from what is happening at the London auctions. On the first night of the sales an all-round average drop of 10 per cent was established, in spite of the fact that over 2,000 bales were bought in. Since then there has been no improvement in prices, and withdrawals continue on a large scale. Wasty and faulty parcels of merinoes, both scoured and greasy, show great weakness, Any attempt to realise parcels, bought in the Australian markets, results in heavy losses, the like of which have not been suffered since the disastrous year 1900. The sensation of the series, so far, however, was created on the 3rd instant when Messrs. Schwartze announced that about 1,000 bales of wool belonging to Mr. J. S. Horsfall, of Widgiewa, had to be passed, as a cablegram had that day been received from the owner ordering them to be taken off the market. This proceeding did not improve the feeling of the room, and the sale passed off with a flat tone. Cablegrams report lower prices and a very irregular market in both the Australian and New Zealand selling centres. At Bradford the values of wool and tops tend downwards, both for merinoes and crossbred. So far as the lower classes of crossbred tops are concerned, the situation may be judged from the report that a good buyer for cash can get a 40's tops as low as 14*d.* This top was to be at 20*d.* before Christmas, according to bull prophecies made only a few months ago.

The story is revived, says the *Daily News*, that a **working agreement** has been drawn up between the **tube makers of America, Germany, and Great Britain,** in order to avoid the serious loss resulting from international competition. Inquiries at Glasgow, however, have elicited the information that the Scottish tube makers have not been asked to sanction the suggested combine. It is stated that they would welcome a trade understanding, as the bulk of their output is exported, and is in competition with German and American tubes.

NOTICES.

CALLS FOR TENDERS.

Miscellaneous Stores.

The Superintendent, Gun and Shell Factory, Cossipore, is calling for tenders up to the 14th proximo for the supply of acids, bricks, coal, charcoal, lime, oil, sand, timber, cordage, gunnies, etc.

Tenders will be received by the Superintendent, Ammunition Factory, Kirkee, up to the 6th proximo for the supply of coke, oil, kerosene, timber, teak, brown paper, etc.

Beef and Mutton.

The Divisional Contract Officer, Quetta, invites tenders up to the 3rd proximo for 1,715,000 lbs. of beef and 442,000 lbs. of mutton.

ENQUIRIES.

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

Grinding and Polishing Machines.

(170)—An American firm manufacturing machines for grinding and polishing wishes to get into touch with buyers in India. Export catalogue with prices may be seen at this office.

Agency.

(171)—A merchant in Seattle (U. S. A.), who offers to furnish bank references, desires to be placed in communication with exporters and importers who are not represented by agents in that part of the world.

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 1st January, 1908 :—

Parliamentary Publications.

Agricultural Statistics, 1906, Colonial and Foreign Statistics. Coal Tables for 1906, Colonial Reports—Annual Series :—No. 549—Jamaica, 1906-07; No. 550; British Guiana, 1906-07 Commercial No. 11 (1907)—Despatch from H. M.'s Charge d' Affaires at Paris transmitting a copy of the convention respecting the Commercial relations between Canada and France, signed at Paris, September 19, 1907. Statistical Tables relating to British Colonies, Possessions, and Protectorates, 1905. Trade with Australia—Report by the Advisory Committee on Commercial Intelligence of the Board of Trade. Universal Postal Union—Agreement for the exchange of insured letters and boxes, 26th May, 1906; Convention of Rome, 26th May, 1906. Wood Forests, and Land Revenues—Report, dated 27th June, 1907.

Foreign and Colonial Publications.

Africa, British South—Trade of the —— for the quarter ending 30th September, 1907. Canada—Weekly Trade Report, 18th and 25th November, '07. Germany—Statistische Nachrichten uber das Grossherzogtum Oldenburg, Heft 25. Greece—Quarterly Account of Trade, 2nd quarter of 1907. Mexico—Boletin de Estadistica Fiscal, May '07. Spain—Monthly Account of Trade, October, 1907. Switzerlad—Quarterly Account of Trade, 3rd quarter of 1907. United States—Statistics of Cities having a Population of over 30,000 : 1905, Bureau of Plant Industry Bulletin No. 115—Disinfection of Sewage Effluents for the Protection of Public Water Supplies; Bureau of Animal Industry—Cir. 23—Directions for the use of Blackleg Vaccine; Cir. 116—Notes on Parasitic Nematodes, including descriptions of New Genera and Species, and Observations on Life Histories; Cir. No. 117—A City of Milk and Cream Contest As a Practical Method of Improving the Milk Supply; Bureau of Forest Service—Cir. 59—Forest Planting leaflet—Eucalypts; Cir. 64—Black Locust; Cir. 115—Second Progress Report on the Strength of Structural Timber. Bureau of Chemistry—Cir. 16—Officials charged with the Enforcement of Food Laws in the United States and Canada; Bureau of Entomology—Cir. No. 95—The Most Important Step in the Control of the Boll weevil; Office of Experiment Stations—Cir. No. 70—Publications of the Office of Experiment Stations from its Organization to June 30, 1907; Farmer's Institute Lecture No. 9—Syllabus of Illustrated Lecture on Tobacco Growing; Experiment Station Record, October, '07; Bureau of Soils—Bulletin No. 47—Certain Organic Constituents of Soils in Relation to Soil Fertility; Bureau of Biological Survey—Bulletin No. 30—Birds of California in Relation to the Fruit Industry; Bulletin No. 31—An Economic Study of Field Mice; Division of Publications for Sale, October 1st, '07; Monthly List of Publications, September, 1907.

Indian Publications.

Madras.—Report of the Experimental Pumping Department in 1906-1907. Lift Irrigation. The Salem Weaving Factory.

Diplomatic and Consular Report.

Netherlands.—Finances of the Netherlands 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., Ld.; 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.

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The Indian Trade Journal.

THURSDAY, DECEMBER 26, 1907.

THE DEMAND FOR TURPENTINE.

India a Possible Producer.

IT is now generally known that success has attended the efforts to produce a synthetic camphor. For some months the achievement has been looked for; and the expectation has been reflected in the tottering and subsequent subsidence of the price of the natural product. It is not known how far the high level to which that price had gone was due to exaction on the part of the Japanese monopoly; but it is suspected that the reports about the contraction and the increasing inaccessibility of the supplies in Formosa have been made the most of. If this be so, the natural product may still be able to compete with its new rival at a profit. But unless the fresh supplies of turpentine should be found inadequate to the demand which the discovery is likely to induce, the duel will be fought out on much lower ground in the matter of values than the dealers in camphor have recently been accustomed to, though almost certainly at higher levels than the makers of turpentine have hitherto known. If the Japanese camphor monopoly has furnished the world with yet another example of the dangers of a chronic bull position, that is probably the least of the practical results.

The appearance of a new and cheaper camphor will affect several industries whose products are well known in India as elsewhere, and it bids fair to stimulate one in which India might participate much more largely than she does.

Celluloid is familiar to everyone in a hundred articles; and although it is generally known that camphor is used in its manufacture, it is not so universally realised how large a share it has in the constitution of that compound. As a matter of fact, the proportion in which camphor is mixed with the so-called "pyroxiline" or decomposed vegetable fibre is something like one to two. And when it is considered how vast has been the production of celluloid articles in recent years, it is easy to understand the extent to which this form of demand has contributed to maintain the price of the rarer constituent. It is estimated that some two-thirds of the world's supply of camphor has been devoted to this one purpose. Indeed, one authority has recently tabulated the various demands for camphor approximately as follows:—

Celluloid . . .	70%	say lbs.	7,420,000
Disinfectants and deodorizers . . .	15%	,, ,,	1,590,000
Spirituous and medicinal preparations . .	13%	,, ,,	1,378,000
Gun cotton . .	2%	,, ,,	212,000
		,,	10,600,000

And if this demand made camphor dearer, it is certain that the attendant increase in the price of celluloid had something to do with the success of sundry substitutes that have been devised. The most notable of these is milk-stone or galalith, a preparation of casein treated with formaldehyde, whose uses we set forth incidentally in an article at page 310 of our issue of the 7th November, 1907. Since this product was perfected, the manufacturers of celluloid have been between two fires, with the high price of camphor on the one side and the low price of galalith on the other. Indeed it is well known that they have been driven to use increasing quantities of lac in the production of certain lines of goods. This circumstance has undoubtedly contributed to the high values attained by lac in the last two years, and it follows that the cheapening of other materials, more particularly in the presence of a set-back of industry, may induce a corresponding decline. But the use of lac in competition with celluloid will continue, and it is probable that the coming of the synthetic camphor will affect the makers of galalith in the same sense, though not necessarily in the same measure, as the absence of such a substitute has hitherto affected the producers of celluloid.

But in addition to lac there is another commodity produced in India on which the discovery is likely to have influence, in this case favourable. It is by no means certain that the world's supply of turpentine will not be found inadequate to the new demand. The enormous consumption of timber in recent years has led to the deforestation of vast tracts both in the old world and in the new, and, in spite of the increased use of iron and steel in structural works, it is not certain that we are safe from a shortage of the wood supply. Such supplies as still exist are less accessible than those we have already used; and it is recognised that the rise in the price of turpentine and other extracts of wood is due perhaps as much to contraction and recession of the area of supply as to the undoubted growth in the consumption for ordinary purposes.

We stated in an earlier paragraph that the quantity of camphor used annually in the production of celluloid is estimated at some 7,420,000 lbs. It is asserted and apparently not disputed at home that the artificial camphor is identical with the natural article both chemically and in the industries. Turpentine is the principal ingredient, pinene hydrochloride being produced from it and converted into isoborneol, which is afterwards oxidised into camphor. It is so far known only that extract of pinene forms some seventy per cent of the synthetic camphor. If the whole demand on account of the celluloid industry were to be met by synthetic camphor, there would therefore be a demand for 5,180,000 lbs. of pinene extract. Roughly it may be said that this extract represents seventeen per cent of crude turpentine as obtained from the tree, so that something like 13,600 tons of crude turpentine would have to be obtained and treated to furnish the requisite supplies. This is equal to 4,102,400 gallons calculated at the rate of 309 gallons to the ton or 7½ lbs. to the gallon (see U. S. Census of Manufacturers 1905, Bulletin 85, p. 46). In 1905 the United States, which are by far the largest producers, made 30,687,000 gallons of spirit of turpentine with a value of $15,170,500, and 3,508,347 barrels of 280 lbs. rosin with a value of $8,725,619. The quantity of refined turpentine was therefore to the quantity of rosin as 1 is to 3·79. The United States consume 48 per cent of their turpentine and 34 per cent of their rosin. A recent circular of the United States Forest Department points out that there is a serious danger of exhaustion of supplies unless the method of collection be modified. It is urged that recourse be had to the large quantities of waste pine logs, stumps, etc., left in the forests as a result of careless lumbering, and it is estimated that this source alone might yield an annual supply of turpentine nearly equal to that at present obtained by the old methods.

The oldest method for obtaining turpentine is that of tapping the tree and distilling the turpentine spirit from the rosin with which it is combined. But this is wasteful and troublesome and is injurious to the trees, and efforts are being made in America to encourage an extension of various methods of distilling direct from waste wood. The wood used is in pieces of various sizes and is measured by the "cord" of 128 cubic feet. The interstices vary, of course, with the forms and sizes of the pieces; but it is stated in Circular No. 36 of the Bureau of Agricultural Chemistry that as a rule 56 per cent of the 128 feet (say 71·68 cubic feet) is actually wood. Forest Service Circular No. 114 shows that a cord of yellow pine yields from 7 to 12 gallons of refined turpentine by destructive distillation. That of the Chemical Bureau already referred to shows the actual results for the year 1906, and from these an average of 10·02 gallons issues. The great mass of the production in the United States is still made by direct tapping of the trees; and the relevant Bulletin of the Census of Manufacturers shows the actual yield by this method to have been 17·5 per cent spirit, 66·3 per cent rosin and 16·2 per c dros and waste.

The Indian Agricultural Ledger No. 14 of 18 gives an account of the principal Indian trees yielding turpentine, and a correspondence recorded as an appendix shows that at that time, when the price of American refined spirits of turpentine was £22 per ton, a project of engaging in the industry on a considerable scale was dropped. The price to-day is about £36, so the matter is on a different footing. The supply available for export from America is clearly contracting. Russia notably and France in a lesser measure are responding to the stronger demand and increasing their output substantially. Figures on this subject will be found at page 450 of our issue of 28th February, 1907. But India with its large

quantities of resinous trees on the slopes of the Himalayas and in Assam and Burma produces only a few thousand gallons, while her imports are considerable and increasing. It has been estimated that there are 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 and will rely more largely upon the direct distillation of waste and other woods than upon the primitive tapping, dipping and scraping at present employed. Information regarding the various distillation processes is given in the recent Circulars of the United States Bureau of Agricultural Chemistry and Forest Department from which we have quoted. These may be seen at this office or could doubtless be obtained from the Government Printing Office at Washington.

CROP FORECASTS.

INDIGO.

Final General Memorandum on the INDIGO crop of the season 1907-08

On the average of the five years ending 1905-06 the area under Indigo in the four provinces dealt with in this memorandum represented some 98 per cent of the entire area under Indigo in British India.

In the five years named the average total area of the reported Indigo crop in these provinces was 617,900 acres, while that in 1906-07 was 421,200 acres.

This year the better prices induced an expansion in Bihar and in the United Provinces, but in all tracts except Bihar the lack of timely rain has affected the crop, and Madras ascribes its large contraction both to this cause and to the increased use of the synthetic dye.

The **total area** is estimated at 371,300 acres against 421,200 acres in 1906-07. This represents a net decline of 49,900 acres or 11·8 per cent and is some 12,000 acres below the figures for 1905-06.

The estimated **total yield** of dye amounts to 51,400 cwts which is less by 14,300 cwts or 21·8 per cent than last year.

In Bihar, Madras, and certain parts of the United Provinces the condition of the crop is fairly good, while the Panjab reports that the season has been unfavourable throughout.

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 indigo area of British India is ordinarily cultivated in that province.

Bengal *(37·6%)*.—The total area is reported to be 146,800 acres as compared with 137,800 acres last year—an increase of 6·5 per cent. The season was favourable in the important indigo growing districts of Bihar. In other districts, where the indigo crop is of minor importance, the crop was injured by drought. The total yield is estimated to be 29,900 factory maunds (=20,000 cwts) as compared with the trade estimate of 26,700 factory maunds (= 17,000 cwts). Last year the official estimate was 24,000 factory maunds (= 16,100 cwts), but the actual production was found to be 25,800 maunds (= 17,300 cwts).

Madras *(31%)*.—The total area under indigo in raiyatwari villages (about two-thirds of the province) up to the end of November 1907 is 99,400 acres, which is about 34 per cent less than the area at the corresponding date of last year. The decrease is attributed partly to the introduction of the synthetic dye and partly to want of seasonable rainfall. The general condition of the crop is reported to be from fair to good, and the expected outturn is estimated at 63 per cent of the normal. On the basis of these figures the total area and yield for the whole of the current season may be estimated at 119,300 acres and 16,800 cwts, respectively, as compared with 180,700 acres and 32,300 cwts last year.

United Provinces *(19·6%)*.—The total area is now reported to be 47,300 acres, compared with 40,400 acres last year—an increase of 17 per cent. The increase is attributed to good prices realised last year, though it is not as large as was anticipated in the first forecast. In the eastern districts drought affected the crop injuriously; but in the Doab the outturn has been good. The total yield is estimated to be 8,340 factory maunds (=5,600 cwts) compared with 7,560 maunds (=5,100 cwts) last year, showing an increase of about 10 per cent. The quantity of indigo available for the Calcutta market will probably be less, for some portion of the dye is consumed locally or exported to other provinces.

Panjab *(9·8%)* now reports the total area to be 57,900 acres, as against 62,300 acres last year—a decrease of 7 per cent. Good prices in 1906 resulted in an extension of cultivation in the Multan district, but there are serious contractions in the other districts owing to want of rain and shortage of canal water at sowing time. The season has been unfavourable throughout. The yield of seed is estimated to be 1,248,900 *sers* (=20,900 cwts) and of dye 535,900 *sers* (=9,000 cwts).

Exports.

The exports by sea to foreign countries in each of the last five years have been (in cwts)—

	1902-03	1903-04	1904-05	1905-06	1906-07
From Calcutta .	29,403	29,858	30,029	19,062	19,309
„ Madras ports	32,212	21,404	11,901	7,756	11,139
„ Bombay .	2,295	3,556	3,290	1,878	2,367
„ Karachi .	1,437	2,502	4,031	2,463	2,246
„ Rangoon .	...	..	1	7	21

The exports from Calcutta of the past season's crop during the eight months April to November 1907 were 2,148 cwts compared with 2,647 cwts in the same months of 1906 from the crop of 1905-06.

FREDERICK NOËL-PATON,
Director-General of Commercial Intelligence.

Estimate of the Indigo 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
Bengal	146,800	137,800	240,200	363,500	+6·5	—38·9	—59·6
Madras	119,300	180,700	186,700	245,100	—34·0	—36·1	—51·3
United Provinces . .	47,300	40,400	123,300	216,600	+17·1	—61·6	—78·2
Panjab	57,900	62,300	61,300	84,600	—7·0	—5·5	—31·6
TOTAL .	371,300	421,200	611,500	909,800	—11·8	—39·3	—59·2

PROVINCE	YIELD (IN CWTS) OF DYE 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
Bengal	20,000	17,300	27,100	41,000	+15·6	—26·2	—51·2
Madras	16,800	32,300	30,800	38,300	—48·0	—45·5	—56·1
United Provinces . .	5,600	5,100	10,800	20,900	+9·8	—48·2	—73·2
Panjab	9,000	11,000	10,600	12,600	—18·2	—15·1	—28·6
TOTAL .	51,400	65,700	79,300	112,800	—21·8	—35·2	—58·0

WHEAT.

First General Memorandum on the WHEAT crop of the season 1907-08.

On the average of the five years ending 1905-06 the areas under wheat in those provinces to which this Memorandum relates represented about 99·75% of the total reported wheat acreage in India. The returns from a number of Native States (which in the aggregate usually contain about 15·3 per cent of the total wheat area) are so incomplete that it is desirable to restrict analysis to the British Provinces. These usually represent some 84·5 of the total, their average wheat acreage (excluding Eastern Bengal which usually contains only 0·7 per cent of the total and from which no estimate has been received) being 21,842,900 acres.

The season has been extremely unfavourable owing to the untimely cessation of the rains. This had the effect of restricting and delaying sowings, so that it has been difficult to obtain returns of acreage, and also induced the substitution of food grains for local consumption. As a result the **total area** under wheat in **British territory** is now returned at 15,477,600 acres as compared with 23,583,600 acres in 1906-07. This marks a contraction of 8,106,000 acres or 34·4 per cent; but it will be noted that as regards the United Provinces, which usually bear some 27 per cent of the total wheat crop, there is some reason to hope that the estimate may prove to be too low. The Native States in Bombay are alone in reporting an increase, but the Sind Native States show a decline of some 12,000 acres.

Altogether the tracts from which estimates of area have not been received usually represent some 15 per cent of the entire wheat acreage.

From all sides it is reported that as regards the rate of yield from the area sown everything depends on the timely arrival of sufficient winter 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 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%*)*.—The area sown up to the end of November is estimated to be 5,291,300 acres (irrigated 3,377,500 acres) as compared with 9,100,100 acres (irrigated 4,402,200 acres) last year—a decrease of nearly 42 per cent. The seasonal conditions at sowing time have been most unfavourable. The complete withdrawal of the monsoon in August made it impossible to bring unirrigated lands under cultivation except in riverain tracts and other areas under the action of flood water. There was a shortage of supply in the perennial canals, and the inundation canals dried up early in the autumn. On lands watered from wells, a larger area than usual has had to be devoted to fodder crops. In these circumstances the irrigated area has also fallen somewhat below the normal. The deficiency in unirrigated sowings may be made good to some extent in places if the winter rains are timely and adequate, that is, if they open well at Christmas. Sowings are still in progress in most districts on irrigated land. The irrigated crop is in fair condition; but rain is needed for the unirrigated crop. The total area reported from 3 Native States (out of 9 from which returns are due) is 204,500 acres.

United Provinces *(27·1%*; ratio of irrigated to total wheat acreage =51·9 per cent*)*.—There has been practically no rain since the end of August, and at seed time the soil was quite dry. Irrigation has therefore been almost invariably resorted to for sowings which began early in November and have gone on later than usual in most districts. Germination has been good and prospects on the area sown are so far favourable. The crop is being irrigated where practicable, and an early fall of rain is urgently needed. With sowings still in progress in places it is very difficult to estimate the area placed under the crop; but from reports received the area is roughly estimated to be 4,457,000 acres which is 35 per cent below the area estimated at this date last year. The Provincial Director of Agriculture is, however, of opinion that this estimate is too low and that a larger area will eventually be recorded.

Central Provinces and Berar *(12·1%*; ratio of irrigated to total wheat acreage =0·8 per cent*)*.—Very little rain fell after the close of August; and want of moisture in the soil, owing to early cessation of the rains, prevented the sowing of a full area. The total area sown is estimated to be 2,774,000 acres (2,555,000 in the Central Provinces and 219,000 in Berar) which is 25 per cent below the area of last year. Germination is reported to have been generally defective except in places. Owing to the abnormal heat and the absence of the usual dew, the crop suffered a good deal on poor soils. Some damage was also caused by grasshoppers in places. Prospects were generally unsatisfactory except in one district; but the light but general rain which fell at the end of November has considerably improved the condition of the crop. More rain is wanted.

Bombay and Sind *(9%*).—The information is up to 5th December, and is incomplete as sowings continued at that date. The total reported area in British districts and Native States is 1,548,000 acres (445,000 in Sind) as compared with 1,870,000 acres (624,000 in Sind) at the corresponding date of last year. The contraction is therefore one of 327,000 acres or 17·5%. In Gujarat and Deccan rain for sowing was absent; but the crop has been sown where moisture has been available, and in places lands, that are usually cultivated with *kharif* (autumn) crops but were left unsown this year through untimeliness of early rains, have been utilised for wheat. In South and East Deccan and East Karnatak deficient or untimely rain, and in Sind insufficiency of water-supply, have reduced the area under wheat. The crop is fair at present in parts of Gujarat and Karnatak and in Sind; elsewhere it is more or less withering except where helped by irrigation. On the whole the outlook is not satisfactory.

North-West Frontier Province *(3·5%*; ratio of irrigated to total wheat acreage =27%.) The total area sown up to the end of November is estimated at 854,800 acres (irrigated 264,700) as compared with 1,018,900 acres estimated at this date last year (a decrease of 16 per cent) and 1,146,400 acres finally returned that year. The decrease is almost entirely on unirrigated areas and is due to general drought during September and October and to the failure of hill torrents—causes which greatly retarded the sowings on unirrigated lands. If the winter rains fall before the middle of January next, considerable further sowings may be expected on unirrigated lands. The condition of the standing crop is fair on irrigated lands except in Kohat and generally poor on unirrigated areas, but ultimate success depends on the winter rains.

Bengal *(4·8%*).—The area is at present estimated to be 965,500 acres as compared with 1,402,600 acres last year—a decrease of 31 per cent. Sowings are still in progress in some districts, but they have not come up to expectations on account of continued drought in October and November Some rain was received in the beginning of December in Lower Bengal, Orissa, and Chota Nagpur, but in Bihar, where the crop is important, drought was experienced. The season has been, on the whole, unfavourable for wheat, especially in Bihar; and prospects are reported to be poor in most districts.

Eastern Bengal *(0·7%*).—Figures of acreage have not been given; but it is reported that a little more than average area has been sown. Sowings were early owing to the unusual scarcity of rain. Continued drought has, however, been detrimental to the growth of the plants; and though the recent rain has been beneficial, a good outturn cannot be expected.

The reports received from **Central India** *(6·6%)* and **Rajputana** *(3·2%)* are incomplete by reason of the absence of returns from a number of States. Most of the States, from which returns have been received, have not given any estimate of the acreage sown. Those few States which have given figures show a reduced area as compared with last year. The condition of the crop is reported to be generally from fair to good.

Hyderabad *(3·4%)* reports that sowings have almost been completed; but figures showing the area sown are not available. The crop is likely to be poor unless rain falls by the end of December or in January.

Mysore *(0·02%)* reports that sowings have not yet begun in many places owing to want of seasonable rain. The crop, where sown, is generally in good condition.

SPRING OILSEEDS.

First General Memorandum on the SPRING OILSEEDS (linseed, rape and mustard) crop of the season 1907-08

On the average of the five years ending 1905-06 the areas under the respective oilseeds in the provinces to which this memorandum relates (excluding Hyderabad) represented the following proportions of the total oilseed areas reported:—**Rape and Mustard** 66·05 per cent, **Linseed** 69·9 per cent. The United Provinces do not at this season make any specific estimate of the large quantity of oilseeds sown interspersed with other crops; but this is the first occasion on which they have furnished for this preliminary memorandum figures relating to the area sown with oilseeds alone. Bengal and Eastern Bengal do not make any report at this time. The Native State of Hyderabad furnishes specific estimates of areas under both crops. The oilseed areas of the Native States in Bombay and Sind are included in the figures for these provinces.

On the average of the five years ending 1905-06 the area under **Rape** and **Mustard** in the Provinces to which this memorandum relates (excluding the United Provinces and Hyderabad) was 1,499,700 acres. Last year the figure for the same tracts (including Hyderabad and the unmixed crop in the United Provinces) was 2,022,900 acres. This year it is **1,121,400** acres, which marks an estimated net decline of 901,500 acres or 44·5 per cent. The season has been extremely unfavourable throughout all the northern tracts where the crops are most largely grown; and from all quarters it is reported that the success of the crop is in jeopardy and depends on the timely advent of the winter rains.

On the average of the five years ending 1905-06 the area under **Linseed** in the provinces to which

this memorandum relates (excluding Hyderabad and the mixed crop in the United Provinces) was 1,656,400 acres. Last year the figure for the same tracts (including Hyderabad and the unmixed crop in the United Provinces) was 2,029,800 acres. This year it is 1,407,800 acres, which marks an estimated net decline of 622,000 acres or 30·6 per cent. The seasonal influences recorded in the column relating to Rape and Mustard affected Linseed also, even in the Central Provinces and Berar where it is largely grown. Its success depends on the winter 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 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 is roughly estimated to be about 79,000 acres, which is 48 per cent below the 153,000 acres of last year. No estimate of the area under rapeseed grown in combination with other crops (chiefly for home consumption) is available at present. Sowings were late in consequence of the dryness of the soil. Germination is reported to be defective in some places; elsewhere it is good. Drought still continues, and prospects of the crop entirely depend on the early fall of rain.

Panjab *(19%)*.—The area sown up to the end of November is estimated to be 618,500 acres as against 1,402,400 acres last year—a decrease of 56 per cent. The decrease is due to want of moisture owing to the early cessation of the monsoon. The prospects of the crop depend on the winter rains.

North-West Frontier *(1·6%)*.—The area sown up to the end of November is estimated to be 128,800 acres (irrigated 14,000 acres) compared with 145,800 acres reported at this date last year and 218,800 acres finally returned that year. The decrease is entirely in the unirrigated area, and is due to failure of rains. If early winter rains fall further sowings will be possible. The prospects of the crop are fair on irrigated and poor on unirrigated lands, but ultimate success depends on the winter rains falling by the end of January.

Assam *(4·1%)*.—Figures of acreage have not been furnished, but it is stated that the area sown this year is probably nearly equal to that of last year (171,100 acres), and somewhat in excess of the average of the preceding five years. In spite of the small amount of moisture in the soil the seed appears to have germinated very well; but the almost entire absence of rain during October and November has dwarfed the growth of the plants and caused them to flower somewhat prematurely. The condition and prospects of the crop are unsatisfactory though the recent rain has done some good.

Bombay and Sind *(1·3%)*.—Estimates are up to 5th December and the information is incomplete as sowings continued at that date. The total reported area is 113,100 acres (67,600 in Sind) as compared with 140,000 acres reported at the corresponding date of last year, and 122,000 the decennial average. The condition of the crop is reported to be fairly good.

Hyderabad reports 10,900 acres under mustard as compared with 10,600 acres last year.

Linseed.

United Provinces *(34·3%)*.—The area under the *unmixed* crop is roughly estimated to be about 169,000 acres compared with 315,000 acres last year—a decrease of 46 per cent. No estimate of the mixed crop, *i.e.*, linseed grown in combination with other crops (chiefly for home consumption) is available at present. As regards the condition and prospects of the crop, the reports are as stated in the parallel column about rape and mustard.

Central Provinces and Berar *(26·6%)*.—The season has been one of drought since the end of September. The area under the crop has contracted considerably, chiefly on double cropped land, owing to absence of sufficient moisture at sowing time in all but three districts. The total area sown is at present estimated to be 689,700 acres as compared with 975,300 acres estimated at this date last year, and 1,145,200 acres finally returned that year. The crop germinated very unequally, withered extensively, and was in places damaged considerably by insects. The light but general rainfall at the end of November has improved the condition of the crop, but more rain is required. The present prospects are poor.

Bombay *(9%)*.—Estimates are up to 5th December, and the information is incomplete as sowings continued at that date. The total area so far as sown is reported to be 69,600 acres as compared with 96,000 acres at the corresponding date of last year, and 105,000 acres the decennial average. The crop is suffering from want of moisture in the eastern parts of Deccan and Karnatak; elsewhere the condition is fair at present.

Hyderabad reports 480,100 acres under linseed as compared with 643,500 acres last year—a decrease of 25 per cent. The decrease is attributed to the rain having held off since the first week of October. Unless the crop gets rain early the outturn will be small.

FREDERICK NOËL-PATON,
Director-General of Commercial Intelligence.

CHAMBERS OF COMMERCE.

MADRAS.

WE take the following extracts from the Proceedings of the general monthly meeting of the Madras Chamber of Commerce held in November, 1907:—

Read a letter, dated the 2nd instant, from Sir Henry King, to the Chairman, suggesting that the Chamber should address the Government of India advocating the passing of an Act somewhat similar to the Companies Act, 1907, which will come into force in England on the 1st July, 1908, enabling a Company to **reissue debentures.**

Resolved to address the Government of India accordingly.

Read a letter, dated the 4th instant, from the Postmaster-General, Madras, inviting an expression of the Chamber's opinion regarding a suggestion made to the Director-General of the Post Office of India for the introduction of two new descriptions of **embossed one anna envelopes.**

Resolved to inform the Postmaster-General that there was no local demand for such envelopes, and that in the Chamber's opinion their issue would serve no useful purpose so far as the local mercantile community was concerned.

Read a letter, dated the 26th October, from the Burma Chamber of Commerce, regarding the **mutilation and miscarriage of telegrams from Europe,** and enquiring whether this Chamber was prepared to support a proposal for the appointment of European telegraphists.

Resolved to inform the Burma Chamber that this Chamber was not prepared to support its recommendations, and to add that in the experience of this Chamber mutilations were very much more frequent in telegrams received from Rangoon than from any other office, which seemed to indicate that the fault lay with the operators in Rangoon.

Read a letter, dated the 2nd October, from the London Chamber of Commerce, inviting this Chamber to co-operate in its scheme of **Commercial Education.**

Resolved to inform the London Chamber that this Chamber regretted its inability to comply with the request, and to refer it to previous correspondence on the subject.

BOMBAY.

The following extracts are taken from the Proceedings of the Committee of the Bombay Chamber of Commerce for the month of November, 1907:—

Read letter, dated 29th October, 1907, from the Bengal Chamber of Commerce, forwarding copy of a letter addressed by that Chamber to the Government of India, together with a copy of a revised draft Bill regarding the **Registration of Partnerships in India.** The Bengal Chamber stated that the Bill had been revised by their legal advisers, and had now been re-submitted to the Government of India, adding that should Government decide to attempt legislation, all interests would of course have ample opportunities of offering such further objections and criticisms as they might consider to be necessary. For this reason, and seeing also that there had been great delay in connection with the question, the Bengal Chamber did not think it advisable to consult the Chambers again before submitting the bill to Government.

Resolution.—A copy of the Bill, as revised by the legal advisers of the Bombay Chamber of Commerce to be forwarded to the Government of India, with an explanatory letter. The Bengal Chamber at the same time to be informed of the action taken by the Committee in the matter. The Bill submitted by the Bombay Chamber differs in several material respects from the one lately forwarded by the Bengal Chamber. In the former, allusion was specially made to the Hindu Joint Family System, and to the question of "disability," the Committee contending that if unregistered firms were allowed to sue up to a small amount, a very large number of petty traders, shop-keepers and others would be excluded from the provisions of the Bill, and this would tend to simplify the working of the Act.

Read letter, dated 11th November, 1907, from the Postmaster-General, Bombay, asking for the opinion of the Chamber 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 ($5\frac{3}{4} \times 3\frac{1}{4}$ 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.—The Postmaster-General to be informed that the Committee approve of the suggestion that the present one-anna embossed envelope should be enlarged, and made the same size as the new half-anna commercial envelope recently introduced. They were not however of opinion that a one-anna embossed cover measuring 9×4 inches would be popular. They therefore did not recommend an issue of this size.

Read letter, dated 26th October, 1907, from the Secretary, Burma Chamber of Commerce, on the subject of the **Mutilation and Miscarriage of Telegrams for Europe.** Representations on this subject were made last year by the Burma Chamber to the Director-General of Telegraphs, who in reply stated that measures were being taken to insure the safe and accurate transmission of messages, and that the **introduction of the Baudot System** should greatly reduce the number of errors. In spite of these measures, the improvement effected was not very perceptible, and the Burma Chamber enquired whether the Committee would join that body in a further representation with a view to the **appointment of European Telegraphists** on the

Home Lines. Such appointments might entail extra cost, but this, it was thought, would be counterbalanced by greater accuracy, and the consequent obviation of the frequent unremunerative repetitions at present necessary.

Resolution.—The Burma Chamber to be informed that the matter has received the careful attention of the Committee, but that they have found it impossible to ascertain whether the mutilations occurred on the Teheran *viâ* Karachi, or the Suez *viâ* Bombay route, or on both. Enquiries made in Bombay showed that the number of mutilations for which the Telegraph Companies are responsible in Bombay amounts to only a trifle over one per cent on the Inland and Foreign Cables, and this proportion cannot be said to compare very unfavourably with similar mutilations in other countries.

With reference to the proposal that only European telegraphists should be appointed on the Home Lines the Burma Chamber to be informed that the Committee understand that offices *en route* through India dealing with foreign messages are already practically all staffed by non-native operatives. Before, however, taking further action, the Committee desired to be furnished with copies of the representations made by the Burma Chamber to the Director-General of Telegraphs and his replies to the same.

Read letter, dated 1st November, 1907, from the Chairman, Indian Committee, Franco-British Exhibition, London, regarding the formation of an Indian Section at the above Exhibition.

Resolution.—The information to be communicated to members by circular.

Read further letter, dated 28*th November*, 1907, from the Director-General of Commercial Intelligence, forwarding copies of translations of certain communications received from dealers in Europe, who are interested in the **Indian Cotton Yarn Trade.**

Resolution.—Members to be informed that the letters referred to are available for perusal at the offices of the Chamber on application to the Secretary.

Read letter, dated 11th November, 1907, from the Director-General of Commercial Intelligence, stating that he has under consideration the **revision of the list of Cotton Piece Goods,** enumerating certain items which it has been suggested to him should be added to the list, and stating that it is proposed that the word "Cotton" should be added to the item "Towels" and the words "in woven pieces" to the item "Shawls."

The Director-General requested the Chamber to express its opinion on the additions proposed.

Read also minutes of the Import Sub-Committee to whom the above letter was referred.

Resolution.—The Director-General to be informed that the Committee approve of the addition to the list of Cotton Piece-Goods of the twelve items mentioned in his letter, and they also agree that the word "Cotton" should be added to the item "Towels." They however object to the words "in woven pieces" being added to "Shawls," as cotton shawls come singly and should be admitted at 3½ per cent.

The subject of Exchange and the fall of the rupee to 1*s.* 3 $\frac{29}{32}$*d.* attracted the serious attention of the Chamber. There was a strong feeling that an intimation from Government that gold would be given freely for export, would have the effect of steadying Exchange and would at the same time maintain confidence in a 1*s.* 4*d.* rupee.

It was therefore considered desirable to point out to Government the necessity of at once openly using the **Gold Reserves**, which have been created for the maintenance of Exchange, and with this object in view the following telegram was despatched on the 26th November to the Government of India :—

> "Bombay Chamber of Commerce strongly support request of Exchange Banks that Government should maintain Exchange by giving gold for export freely. Consider prompt action imperative to restore confidence in gold value of the rupee."

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 5th December, in the section relating to Tariff Changes and Customs Regulations, gives particulars about :—

Dominion of Canada.—Drawback on Lap Welded Tubing for Casing Wells. Refund of Duty on Automobile Tyres.

Dominion of Canada-France.—Franco-Canadian Commercial Convention.

Australian Commonwealth.—Proof of Origin of Goods: Seal of British Chambers of Commerce accepted. Tariff Amendments. Treatment of Advertising Matter in Magazines. Marking of Imported Jewellery. Payment of Duty on Advertising Matter.

Natal.—Importation of Plants: Charges for Fumigation, &c.

Russia.—Tariff Classification of certain Mechanical Fans. Tariff Classification of Gas, Petrol, &c., Engines connected with Threshing Machines.

France-New Caledonia.—New Duties on Live Animals.

Turkey.—Measures affecting the Importation and Exporation of Grain.

Tripoli.—Prohibition of Export of Cereals.

United States of America.—Free Entry of Domestic Products Exported and Returned. Customs Decisions. Certification and Control of Dyes permitted in Food-stuffs.

Argentine Republic.—Free Zones at La Plata and at a Port in Santa Fe authorised. Duty-free Importation of Materials for the Construction and Working of Railways.

Nicaragua.—Duties on Butter, Pork Shoulders, &c.—A Correction.

SEASON AND CROP PROSPECTS FOR THE WEEK ENDING SATURDAY, 14th DECEMBER, 1907.

Rajputana.—Spring sowings, where they have germinated, are doing well. Some damage from frost to standing crops is reported in parts of Mewar and Tonk. Prospects of the spring crop are on the whole fair. Sowings have, however, been generally restricted to irrigated lands; while the unirrigated areas sown in some States are now in want of rain. Fodder is generally sufficient as also the water-supply. Food stocks are sufficient or are being imported. Prices have fallen in Bikaner, Mewar, and Dungarpur; have risen by one seer per rupee in Tonk and Kotah and by lesser amounts in Banswara, Partabgarh, Jaipur and Karauli. Prices continue abnormally high except in Bundi, Shahpura, Kotah and Jhalawar where, however, they are greatly above the normal. No distress exists at present. A few more cattle have left Ajmer in search of grazing.

Central India.—Rain *nil*. Spring sowings continued on irrigable lands only in Baghelkhand and Bundelkhand; general sowings continue in Dhar and Barwani; in Gwalior sowings are chiefly restricted to irrigable land; they are completed elsewhere. Harvesting of autumn crops has been completed in Bundelkhand and continued elsewhere. Standing crops are fair to good in Gwalior, Bhopal, Malwa, Bhopawar and Indore except Alampur; *nil* in Bundelkhand and bad in Baghelkhand. The probable outturn is below average in Bhopal, Gwalior, Indore and Bhopawar; normal in Malwa and bad in Baghelkhand and Bundelkhand. No damage to spring crops is reported at present. Agricultural stock is fair in Bundelkhand and Baghelkhand; and good elsewhere. Fodder is good in Gwalior and Malwa; and sufficient elsewhere. Prices of food grains continue very high. Poppy sowings continued in Indore and Bhopal and have been completed in Malwa and Bhopawar. Test-works have been opened in Rewa, the numbers being on works 11,893; on gratuitous relief 621; total 12.514. In Nagod on works 1,826; on gratuitous relief 152; total 1,978. In Jaso on works, 479; on gratuitous relief 8; total 487. There is no change in the general situation.

Central Provinces.—Bilaspur received nearly 1½ inches of rain and nearly an inch fell in the Gandai zemindari of the Drug district; Raipur received a light fall and a few cents fell at Drug. Harvesting of autumn crops and picking of cotton continued throughout the Provinces; and threshing and winnowing were also in progress. Spring crops are generally in good condition; and fair in Damoh, Betul and Akola. More rain is required especially in Saugor and Seoni. Some gram was sown in Chhindwara and Narsinghpur and the rain stimulated sowing in Chhattisgarh. *Til* and *Tur* suffered to some extent from frost in the Narsinghpur tahsil Withering of linseed and wheat and slight damage to cotton from excessive cold are reported from the Burhanpur tahsil of the Nimar district. Linseed has been seriously damaged by insects in parts of Nagpur. No insufficiency of work for labourers is reported anywhere. Fodder and water are sufficient but fodder is dear in Saugor and Akola and is getting scarce in the Darwha taluq of the Yeotmal district. The price of wheat rose in Damoh and fell in Hoshangabad by ½ seer. *Juar* and wheat in Chhindwara became dearer by 1 and ⅗ seers respectively; gram became dearer in Damoh and cheaper in Narsinghpur by 1 seer; elsewhere prices remained stationary or fluctuated slightly.

Native States.—Rain fell in nearly all the States; Kawardha and Sarangarh each received 1¼ inches. Chhuikhadan, Bastar, Khairagarh and Raigarh each 1 inch; and Raj-Nandgaon, Kanker and Sakti each below 70 cents. The rainfall during the week has greatly improved the condition of the standing crops and some sowing of land, left unsown, has commenced in Kawardha and Khairagarh. Harvesting, threshing and winnowing of autumn crops continued. Prospects of spring crops are poor in Sirguja, but are fairly good elsewhere. Fodder and water are adequate. Wheat in Kawardha and rice in Sakti became dearer by ½ seer; rice in Khairagarh; wheat and gram in Korea; and *kodon* in Raj-Nandgaon became cheaper by ½ to 1 seer. The price of rice in Bastar and wheat in Sirguja rose by 1 seer.

Bombay.—Standing spring crops are withering for want of moisture in parts of Sind, Ahmedabad, the Panch Mahals, Khandesh, Nasik, Ahmednagar, Poona, Sholapur and Bijapur. Elsewhere crops are in good condition except for slight damage by grasshoppers in parts of Bijapur and Dharwar. Harvesting of autumn crops generally continues and threshing is in progress in parts of Sind, the Konkan, Nasik, Ahmednagar, Baroda, Mahikantha and Rewa Kantha. Spring sowing continues in parts of Sind, Ahmedabad, Kaira, Broach, Surat, Kanara, Poona, Rewa Kantha, Baroda and Palanpur. Cotton picking is progressing in parts of Sukkur, Hyderabad, Thar and Parkar, Khandesh, Nasik, Poona and Kathiawar. The supply of fodder and drinking water is generally adequate. Agricultural stock is generally in good condition. Water for irrigation is sufficient except in parts of Sind, the Panch Mahals, Surat, West Khandesh, Nasik, Sholapur, Satara and Baroda. The quantity of food-grains purchasable per rupee is in Sind 39 to 42 per cent, in Gujarat 20 to 58 per cent; in the Konkan 17 to 31 per cent; in the Deccan 22 to 43 per cent; and in the Karnatak 29 to 44 per cent less than the normal. Prices are rising but stocks of grain generally are adequate. The demand for labour is sufficient and wages are normal. Emigration from the Panch Mahals and Sholapur continues. The cultivating and labouring classes are in fair condition. During the week 353 persons were employed on two test-works in the Panch Mahals; one more test-work is being opened.

Hyderabad.—The rainfall received during the week was 23 cents. Spring crops are generally good. According to existing conditions no famine

is anticipated this year. Distress in limited parts is expected owing to high prices but may easily be met by affording ordinary employment on public works. The entire Aurangabad Division is at present free from famine. The *juar* crop in the area from Aurangabad to Nander is good and is expected to yield about 14 to 16 annas. Cotton and oil seeds in this area, though affected, will give an outturn which is estimated at 8 to 10 annas. A full cotton crop is expected in Raichur. Fodder is generally sufficient in the districts for agricultural cattle but dear. Trade in grain stocks is slack and exports are insignificant. The total exports of grain by rail from the 5th to 12th December were only 52,312½ maunds and imports 13,792½ maunds. In Hyderabad city the price of *juar* has fallen from 11½ to 12½ seers per rupee. Spring weedings and late rice sowings continue. Prices:—Wheat 5½; coarse rice 6¼; and *juar* 11¼ seers per rupee. The highest price in eight talukas in districts is between 8½ and 9 seers per rupee.

Mysore.—Very slight rain fell in parts of Bangalore, Kolar and Mysore; there is no rain elsewhere. Prices of food-grains have slightly risen in Kolar, Hassan and Shimoga. Crops are being harvested throughout the province. Prospects of the season are good but rain is needed in parts of Mysore and Kadur. Cattle are healthy. Water and fodder are available.

Coorg.—The rainfall during the week was 14 cents. Coffee picking continues and reaping of rice has commenced. Prices of food-grains are stationary. The public health is fair. Water and fodder are sufficient. Agricultural prospects are good.

Madras.—The rainfall during the week was heavy in Madras and Nellore; good in Chingleput, Guntur, Coimbatore, Godavari, Tinnevelly, Ganjam, Kistna, Salem, Malabar, the Nilgiris and North Arcot; *nil* in Bellary, and light to fair elsewhere. Irrigation supplies are insufficient in parts of all districts except Chingleput, Coimbatore, Trichinopoly, Tinnevelly, Malabar, South Canara and the Nilgiris. Ploughing, sowing, weeding and transplanting are in progress in parts. The standing crops generally are fair but some in parts of Vizagapatam, Bellary, Cuddapah and Madura are withering; and some in parts of Coimbatore and Tanjore 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 Ganjam, Kistna, Nellore, Salem and Tanjore. The condition of cattle is generally good. The price of rice is stationary in fifteen districts; and has risen in eight. The prices of millets have fluctuated as follows:—*Ragi* is stationary in eight districts; has fallen in three; and has risen in ten. *Cholam* is stationary in four districts; has fallen in five; and has risen in five. *Cumbu* is stationary in two districts; has fallen in six; and has risen in six. The public health is generally good. Prospects are fair but more rain is required in parts of some districts. The condition of the labouring classes is generally good and employment is available. Prices are high but there is no present apprehension of distress anywhere. Grain stocks are generally sufficient.

FAMINE IN FIVE DISTRICTS.

Viceroy's Telegram.

THE following is a copy of a telegram, dated 23rd instant, from the Viceroy to the Secretary of State, regarding crop prospects:—

Good rain has fallen in the Madras Presidency and light rain in the rest of Southern India, Eastern Bengal and Assam and in parts of Burma. Moderate rain which fell in South-West Bengal, Orissa and Chota Nagpur and in parts of Central Provinces has benefited the spring crops and facilitated further sowings. Elsewhere the week was practically rainless, and rain is urgently wanted in Northern India. There are indications that distress is deepening in the United Provinces, especially in cities where those who are unable to work are feeling pinch of high prices.

Famine has been now declared in **five districts.** The **numbers on relief** are:—Relief works 12,300, test-works 9,500, gratuitous relief 9,100, poor houses 500.

It has been found necessary to start **village relief** works in the Damoh district of the **Central Provinces.**

Some 14,000 persons are now employed on **test-works** in three **Central India States,** and 780 persons are in receipt of gratuitous relief.

In **Bombay** 353 persons are employed on two test-works in the Panch Mahals district, and another test-work is being opened.

Crop reports just received show that the outturn of the **winter rice crop** will be 53 per cent of the normal in **Bengal,** 97 per cent in **Lower Burma** and 79 per cent in **Madras.** The outturn of the **autumn crops** in **Bengal** was on the whole 72 per cent of normal.

Prospects of the **cotton crop** are, on the whole, good in **Madras** and **Bombay,** though it is suffering from drought in places.

Prices as a rule are stationary or rising.

GOVERNMENT AID.

THE Government of India have recently had under their consideration the best means of preventing serious mortality amongst cattle in the tracts affected by the present drought. In October last the Railway Board invited the attention of the Agents and Managers of all Railways to the grave prospects of a serious fodder famine in the United Provinces, the Punjab, the North-West Frontier Province, Rajputana and Central India due to the failure of the monsoon, and asked their co-operation in the measures being adopted by Government for the protection of cattle by reducing the rates for the carriage of fodder between stations within the areas

mentioned and from stations outside those areas to stations within them. All the railway administrations agreed to make concessions in respect of this traffic and the rates fixed, with a few exceptions, were, on standard gauge railways, *two annas* per ordinary waggon and four annas per bogie waggon per mile; and on metre gauge railways for ordinary waggons 2 *annas* per mile for the first 50 miles, 1½ annas per mile for the next 100 miles, and one anna per mile for any additional distance, the rates being doubled for bogie waggons.

It is a source of much satisfaction to the Government of India that the railway administrations should have made these substantial reductions, but they consider that even greater assistance than that which is secured by the reduced rates is desirable, in order to facilitate the movement of fodder in quantities sufficiently large to provide for the preservation of the cattle within the affected areas. They have, therefore, with the sanction of the Secretary of State, decided that freight on consignments of fodder booked to stations in the areas mentioned above shall for the present be recovered from the consignor or consignee at the nominal rate of half an anna per four-wheeled waggon and one anna per bogie waggon per mile, the difference between this rate and the reduced rates agreed to by the railway administrations being paid to the railway companies by Government and debited to the head "33—Famine Relief" in the accounts.

These arrangements will come into force immediately. It is hoped that this development of famine relief policy which is the outcome of Government's desire to take all practicable measures for the preservation of the agricultural stock of the country, will stimulate private trade in fodder, so that all available supplies may be utilised to the fullest extent, and that a considerable saving in cattle life may thereby be effected.

—A German architect has been granted patents in Germany and other European countries for an invention for the manufacturing of **glass telegraph and telephone poles.** A joint stock company has been organized and a factory for the manufacturing of glass poles has been built at Grossalmerode. The glass mass of which the poles are made is strengthened by interlacing and intertwining with strong wire threads. One of the principal advantages of these poles would be their use in countries like India, where wooden poles are soon destroyed by the ravages of insects and where climatical influences are ruinous to wood. The selling price of the poles has not been fixed yet, but the company is willing to accept 25 marks (Rs. 18-12) for a pole of the length of seven metres (about 23 feet). The Imperial Post Department, which has control of the telegraph and telephone lines in Germany, has ordered the use of these glass poles on one of their lines.

AMERICA'S INDUSTRIAL POLICY.

President Roosevelt's Message.

PRESIDENT ROOSEVELT delivered his Message to Congress on December 4th, afternoon. The Message is unusually long, and is concerned with an infinite variety of subjects from the currency question and the regulation of the Trusts to the ravages of the boll-weevil in Texas. We extract from the Message the following passages which have a more or less direct bearing on Indian trade conditions:—

The Currency Question.

The President urges the need of immediate attention to the currency question. Provision (he says) should be made for an emergency currency. The emergency issue should, of course, be made with an effective guaranty, and upon conditions carefully prescribed by the Government. Such emergency issued must be based on adequate securities approved by the Government, and must be issued under a heavy tax. This would permit currency being issued when the demand for it was urgent, while securing its retirement as the demand fell off. It is worth investigating to determine whether officers and directors of National Banks should ever be allowed to loan to themselves. Trust companies should be subject to the same supervision as banks; legislation to this effect should be enacted for the district of Columbia and the Territories. Yet we must also remember that even the wisest legislation on the subject can only accomplish a certain amount. No legislation can by any possibility guarantee the business community against the results of speculative folly, any more than it can guarantee an individual against the results of his extravagance. When an individual mortgages his house to buy an automobile he invites disaster; and when wealthy men, or men who pose as such, or are unscrupulously or foolishly eager to become such, indulge in reckless speculation—especially if it is accompanied by dishonesty—they jeopardise not only their own future but the future of all their innocent fellow-citizens, for they expose the whole business community to panic and distress. This country is definitely committed to the protective system, and any ieffort to uproot it could not but cause widespread tndustrial disaster. In other words, the principle of che present tariff law could not with wisdom be ahanged. But in a country of such phenomenal growth ss ours it is probably well that every dozen years or to the tariff laws should be carefully scrutinised so as fo see that no excessive or improper benefits are conterred thereby, that proper revenue is provided, and hat our foreign trade is encouraged.

The Claims of Constructive Industry.

The two citizens whose welfare is in the aggregate most vital to the welfare of the nation, and therefore to the welfare of all other citizens are the wage worker who does manual labour and the tiller of the soil—the farmer. In any community with the solid,

healthy qualities which make up a really great nation the bulk of the people should do work which calls for the exercise of both body and mind. Progress cannot permanently exist in the abandonment of physical labour, but in the development of physical labour so that it shall represent more and more the work of the trained mind in the trained body. Our school system is gravely defective in so far as it puts a premium upon mere literary training, and *tends therefore to train the boy away from the farm* and the workshop. Nothing is more needed than the best type of industrial school—the school for mechanical industries in the city, the school for practically teaching agriculture in the country. The calling of the skilled tiller of the soil, the calling of the skilled mechanic, should alike be recognised as professions just as emphatically as the callings of lawyer, doctor, merchant, or clerk. The schools should recognise this fact and it should equally be recognised in popular opinion.

The Farmer Indispensable.

No growth of cities, no growth of wealth, can make up for any loss in either the number or the character of the farming population. We of the United States *should realise this above almost all* other peoples. We began our existence as a nation of farmers, and in every great crisis of the past a peculiar dependence has had to be placed upon the farming population; and this dependence has hitherto been justified. But it cannot be justified in the future if agriculture is permitted to sink in the scale as compared with other employments. We cannot afford to lose that pre-eminently typical American the farmer who owns his own medium-sized farm. To have his place taken by either a class of small present proprietors or by a class of great landlords with tenant-farmed estates would be a veritable calamity. The growth of our cities is a good thing, but only in so far as it does not mean a growth at the expense of the country farmer. The National Government, through the Department of Agriculture, should do all it can by joining with the State Governments and with independent associations of farmers to encourage the growth in the open farming country of such institutional and social movements as will meet the demand of the best type of farmers both for the improvement of their farms and for the betterment of the life itself.

Development of Waterways.

For the last few years, through several agencies, the Government has been endeavouring to get our people to look ahead and to substitute a planned and orderly development of our resources in place of a haphazard striving for immediate profit. Our great river systems should be developed as national water highways; the Mississippi, with its tributaries, standing first in importance and the Columbia second, although there are many others of importance on the Pacific, the Atlantic, and the Gulf slopes. The National Government should undertake this work, and I hope a beginning will be made in the present Congress; and the *greatest* of all our rivers, the Mississippi, should receive especial attention. From the Great Lakes to the mouth of the Mississippi, there should be a deep waterway, with deep waterways leading from it to the east and the west. Such a waterway would practically mean the extension of our coastline into the very heart of the country. It would be of incalculable benefit to our people. If begun at once it can be carried through in time appreciably to relieve the congestion of our great freight-carrying lines of railroads. The work should be systematically and continuously carried forward in accordance with some well-conceived plan. The main streams should be improved to the highest point of efficiency before the improvement of the branches is attempted, and the work should be kept free from every taint of recklessness or jobbery. The inland waterways which lie just back of the whole eastern and southern coasts should likewise be developed.

Nearing a Timber Famine.

We are prone to speak of the resources of this country as inexhaustible; this is not so. The mineral wealth of the country, the coal, iron, oil, gas, and the like, does not reproduce itself, and therefore is certain to be exhausted ultimately; and wastefulness in dealing with it to-day means that our descendants will feel the exhaustion a generation or two before they otherwise would. But there are certain other forms of waste which could be *entirely stopped*; the waste of soil by washing, for instance, which is among the most dangerous of all wastes now in progress in the United States, is easily preventable, so that this present enormous loss of fertility is entirely unnecessary. The preservation or replacement of the forests is one of the most important means of preventing this loss. We have made a beginning in forest preservation, but it is only a beginning. At present lumbering is the fourth greatest industry in the United States; and yet, so rapid has been the rate of exhaustion of timber in the United States in the past, and so rapidly is the remainder being exhausted, that the country is unquestionably on the verge of a timber famine which will be felt in every household in the land.

The Ravages of the Boll-Weevil.

The Biological Survey is quietly working for the good of our agricultural interests, and is an excellent example of a Government Bureau which conducts original scientific research, the findings of which are of much practical utility. For more than twenty years it has studied the food habits of birds and mammals that are injurious or beneficial to agriculture, horticulture, and forestry, has distributed illustrated bulletins on the subject, and has laboured to secure legislative protection for the beneficial species. The cotton boll-weevil, which has recently overspread the cotton belt of Texas and is steadily extending its range, is said to cause an annual loss of about $3,000,000. The Biological Survey has ascertained and given wide publicity to the fact that at least 43 kinds of birds prey up on this destructive insect. It has discovered that 57 species of birds feed upon scale-insects—dreaded enemies of the fruit-grower. It has shown that woodpeckers as a class, by destroying the larvæ of woodboring insects, are so essential to tree life that it is doubtful if our forests could exist without them.

PRICES OF COMMODITIES.

THE following are the index-numbers of the prices of forty-five commodities, compiled by Mr. A. Sauerbeck, for October, 1907, the average of the eleven years 1867-1877 being 100:—

Average.			Monthly Numbers.		
1878-1877	=	79	February, 1895	=	60·0
1887-1896	=	68	July, 1896	=	59·2
1890-1899	=	66	July, 1900	=	76·2
1897-1906	=	70	December, 1901	=	68·4
			October, 1906	=	78·5
1883	=	82	December, 1906	=	79·7
1896	=	61	March, 1907	=	80·0
1900	=	75	April, 1907	=	80·7
1901	=	70	May, 1907	=	82·4
1902	=	69	June, 1907	=	82·0
1903	=	69	June, 1907	=	82·1
1·04	=	70	August, 1907	=	79·4
1905	=	72	September, 1907	=	79·1
1906	=	77	October, 1907.	=	78·8

The index-number shows little change in the aggregate, but there were very different movements in articles of food and materials. All kinds of corn and potatoes ruled higher, and also bacon and butter, while sugar and coffee were somewhat easier. Among minerals iron declined from 55*s.* 9*d.* per ton to 51*s.* 9*d.* for Cleveland, tin from £160 15*s.* per ton to £146, English lead from £21 10*s.* per ton to £18 15*s.* and coal is also getting cheaper. Copper had great fluctuations, it fell from £64 per ton to £57 5*s.*, but recovered to £66. In the group of textiles, American cotton declined from 6·72*d.* per lb. to 6·03*d.*, hemp and silk were lower, but other kinds showed little change. Among "sundry materials," on the other hand, some articles were better, for instance, palm oil, linseed oil, and petroleum.

Silver suffered a considerable depreciation during the month, owing to unfavourable news from India. The prices and index-numbers compare thus (60·84*d.* per oz. being the parity of one gold to 15½ silver 100):—

	Price.	Index-Number.
Average, 1887-1896	38⅜*d.*	= 63·8
Average, 1897-1906	27⅛*d.*	= 44·6
Average, 1893	35⅜*d.*	= 58·6
Average, 1902	24 1/16*d.*	= 39·6
Lowest, November 1902	21 1/16*d.*	= 35·6
End December, 1904	28⅜*d.*	= 46·6
End March, 1905	25 3/16*d.*	= 42·4
End December, 1906	32 5/16*d.*	= 53·1
End September, 1907	31 5/16*d.*	= 51·3
End October, 1907	27 5/16*d.*	= 45·3

NATURAL *vs.* SYNTHETIC INDIGO.

Discussion in London.

SIDE issues on the important question of the relative merits of natural and of synthetic indigo were, says the *Textile Mercury*, discussed on November 4th at the first meeting for the session of the London Section of the Society of Chemical Industry. The occasion was the rather heated debate following the presentation of two Papers, the one by Messrs. Bergtheil and Briggs, on "The determination of indigo in indigo-yielding plants" and the other by Messrs. Bloxam, Gaunt, and Thomas, on "Analysis of indigo and of the dried leaves of Indigofera arrecta and Indigofera Sumatrana."

Much of the uncertainty of opinion held generally, indeed much of the controversy bearing on the respective values of the two rival colouring matters, hangs to no small extent on the disputed claim to perfection of the methods of analysing or estimating the amount of indigotin contents. For the same reason the methods to be pursued by the indigo planters for improving the aggregate yield of indigotin from the plant cannot be definitely pointed out, or their worth correctly foreshadowed, until an admittedly thoroughly reliable and accurate method of determining the indigotin be found. Nor until then can the maximum amount of indigotin that the plant should yield be reliably forecasted.

Two different methods are advocated. Bergtheil, who at present holds the office of bacteriologist to the Imperial Government of India, voices the claims to comparative perfection of a modification of Rawson's original method, namely, after boiling the leaves with water, extracting with sulphuric acid, and treating with hydrochloric acid and ammonium persulphate.

Bloxam, representing the opposite camp, enthusiastically praises the tetrasulphonate or isatin method. His connection with the indigo industry commenced in 1900, when he was employed on the spot by the Indian Government. He found the methods of analysis were "antiquated and obfuscated," and he set to work on the theoretical side of the subject; but his exertions were considered too academic. His subsidy was withdrawn and he returned home, being sent to the Leeds University, still on behalf of the Indian Government, to work upon indigo there.

Bergtheil, in meeting the criticism that had been previously launched against his method, turns to counter-criticism by referring to the other methods that had been put forward early in the present year by Orchardson, Wood, and Bloxam—one involving the use of a fixed amount of persulphuric acid, and the other depending upon hydrolysis. He regards these methods in the light of mere reversions to former errors. Bloxam, dealing with objections made to his tetrasulphonate method on

grounds of spoiling the process by the presence of sulphur dioxide leading to great waste of indigo, said that as a matter of fact all the SO_3 was disposed of in the salting-out process. It has been demonstrated that by employing the isatin process the indigo leaf is capable of yielding more indigotin than was expected. This fact is in favour of the survival of the Indian indigo industry. At present there was only a 25 per cent yield of indigotin, and he believed this could be increased.

Professor Meldola stated that he was pleased to see the indigo planters were waking up after having let matters slide so long. They now had a satisfactory method of estimation, for he was certain that Bloxam's tetrasulphonate process left nothing to be desired. and the persulphate process was wiped out. They could now know exactly what they were dealing with, as they had a standard to work by. It was also clear that the planters were not doing themselves justice; there was evidently a loss of indigo in the course of manufacture, and, however small that loss might be, they were bound to keep the researches going as finding a remedy for the loss was the only hope of their salvation. If a greater quantity of indigo could be obtained per plant in the laboratory, it remained to be seen whether this could also be done in the factory.

Then Prof. A. G. Perkin remarked that he had at first been sceptical as to the value of Mr. Bloxam's work, but he was now a convert. Prof. Perkin strongly supported Mr. Bloxam in discussion at various points of his subsequent controversy with Mr. Bergtheil. The latter gentleman replied briefly, agreeing with some of his opponent's assertions, but controverting others. His statement that salting-out led to destruction of indigotin, and should be avoided, was promptly contradicted by a member present. At this stage of uncertainty, Mr. Bloxam, when called upon, decided to leave the various questions at issue to the judgment of the company. Later, the chairman—Mr. R. J. Friswell—expressed a hope that the investigators, who really had a common object, would work more harmoniously in the future.

—The quantity of **rubber** exported from the **Straits Settlements** during the first six months of the present year was 862,576 lbs., valued at 1,814,708 dols. Most of this was produced in the Federated Malay States, the chief producing States being Selangor and Negri Sembilan.

—The Acting Commissioner of Customs at Santuao (Mr. F. W. Carey), in his report for 1906, states that the export of **tea oil** from that port is increasing. This oil, which is expressed from the seeds of the tea plant by a very crude process, is said to be excellent as a lubricant for all kinds of machinery. Its price locally is from 10 dols. to 12 dols. (dol.= Re. 1-8) a picul (picul=133⅓ lbs.). The quantity of the oil exported in 1906 was 7,009 piculs, against 6,385 piculs in the preceding year.

TRADE OF TRAVANCORE.

WE are indebted to the Administration Report of Travancore for 1905-06, just received, for the following particulars regarding the trade and industries of that Native State.

The total value of the external trade of the State during the year was Rs. 4,51,76,203 against Rs. 2,28,89,302 in the previous year. The value of exports was Rs. 2,86,32,766 or 63·3 per cent. and that of imports Rs. 1,65,43,437 or 36·7 per cent. against Rs. 1,71,48,056 or 74·9 per cent. and Rs. 57,41,246 or 25·1 per cent. in 1904-05. There was thus a marked increase in both export and import trade. Of the entire external trade, 20 per cent. was carried by sea, 44 per cent. by backwater and 36 per cent. by land.

Imports and Exports.

The subjoined statement compares the principal exports and imports during the past two years :—

EXPORTS.

Articles.	1904-05.	1905-06.
	Rs.	Rs.
Copra	15,45,112	31,12,503
Cocoanut Oil	13,07,762	14 35,878
Coir	39,12,499	43,59,760
Fibre	9,627	2,151
Cocoanuts	3,21,714	2.56,911
Arecanuts	1,49,887	3,56,223
Dry ginger	5,57,232	3,49,214
Coffee	2,430	1.11,639
Jaggery	3,50.114	3,06,110
Salt fish	1,59 482	2,04,685
Tamarind	1,70,497	1,43,632
Timber	1.61,814	4,95,738
Pepper	15.83,157	25.01,711
Hides	1,86,991	2,26,535
Cardamoms	20,309	1,97,728
Tea	79,115	20,97,585
Other articles	66,30,614	1,24.74,763

IMPORTS.

Articles.	1904-05.	1905-06.
	Rs.	Rs.
Piece-goods	9,38,523	2,90,135
Thread	1,61.265	7,96,544
Cotton	2,77 588	5,85,125
Rice	8,82,821	13,89,187
Paddy	14,62,909	14.15,489
Tobacco	84,778	37,43,535
Minor articles	19,33,362	83,23,422

The products of the **cocoanut** tree showed an increase of Rs. 20,70,489 in value against a falling-off of Rs. 29,83,081, in the previous year. There was an increase under all the other items of export excepting dry ginger, jaggery and tamarind. Of the imports the items that exhibit an increase are

tobacco, thread and cotton. The total value of rice and paddy imported was Rs. 28,04,676 against Rs. 23.45,730 in the preceding year.

At the close of the year under report. the total area under **cardamom** cultivation was 13,909·22 acres under 1,170 pattahs (deed of lease) against 14,089·46 acres under 1,168 pattahs in 1904-05. Of these, 12,764·62 acres were paying an assessment of Rs. 2 and 1,117·29 acres of new gardens one rupee per acre. The remaining 27·31 acres were under cereal cultivation as in last year. Owing to the reduction in the assessment on cardamom lands, the demand for the year fell from Rs. 81,277-14-9 to Rs. 40,542-13-9. Of this, Rs. 13,886-7-4 represents the first instalment of the upset price of Rs. 10 per acre. The receipts amounted to Rs. 1,43,014, or Rs. 20,036 more than in 1904-05.

Plantations.

During the year 74 5 acres were added to the **teak** plantations. including 12·50 acres in Malayattur in which Para rubber failed. Eighty acres which had been dibbled with teak in previous years have now been excluded as the whole of the teak has disappeared. The total area under plantations at the close of the year was 2,745·52 acres—teak 2,531·32, rubber 66, thambagam 6 and casuarina 142·20 acres.

The **camphor** plants are reported to be growing steadily, some specimens at Malayattur being 18 ft. high. The rubber plantations generally are in good condition. Experiments in the cultivation of other exotics were steadily continued. The golden bamboo (*Bambusa Vulgaris*) is coming up well at Koni Mani Manilla plaintain (*Musa Textilis*) underwent further damage by wild elephants but a few plants still left are reported to be in good condition. Mahogany (*Swietenia Macrophylla*) is also growing well.

The quantity of timber removed by Government agency and by private individuals fell from 58,025 to 56.953 candies (candy=20 maunds) and from 5,150 to 4,895 candies respectively. The decrease is attributed to the cancelment of some of the contracts, to the failure of some of the contractors to bring down the stipulated quantity and to the closing of the Vellanaud depot. It is to be regretted that timely steps were not taken to make up the loss. The attention of the Conservator has been drawn to the necessity for working down abandoned timber which is likely to yield considerable revenue.

Factories.

There were at the end of the year 44 factories. Of these 4 were in Quilon, 7 in Alleppey, 2 in Shertallay and 31 in the Cardamom Hills. Two factories were for the manufacture of tiles and bricks, 1 for making cotton yarn, 6 for extracting cocoanut oil, 4 for the preparation and manufacture of coir yarn and coir matting and 31 for the manufacture of tea on the High Range. Steam power was exclusively used in 14 factories, in conjunction with oil engine in 3, with hand labour in 3 ; water power exclusively used in 4; in conjunction with oil engine in 2; oil engine alone in 10; manual labour exclusively in 2; electricity alone in 2 and in conjunction with water power in 4. The electric power station at Pallivasal in the High Range supplies power to 5 tea factories. The total number of operatives at work was 3.930 including 621 women and 1,165 boys and girls. The daily wages ranged from 3 chuckrams to 1 rupee per head the wages paid to boys and girls ranging from 3 chuckrams to 7 chuckrams and 2 cash per head. The duration of work ranged from 9 to 12 hours a day.

Shipping.

During the year 668 vessels called at the several ports of the State with an aggregate tonnage of 501,200 against 554 vessels with a tonnage of 396,642 in the preceding year. The collections under port dues. pier toll and tramway hire rose from Rs. 30,768 to Rs. 35,715.

ROTATION CROPS.

Jute and Paddy.

MR. S. G. HART, Director of Agriculture, Eastern Bengal and Assam, has published an interesting Note on jute in rotation with paddy in the same year and its effect on food crops.

With the exception of rocky laterite and poor sandy soils, says Mr. Hart, all soils found in the plains of Eastern Bengal and Assam are adapted for jute cultivation. The coarse varieties thrive on low-lying lands but a better quality of fibre is obtained from high land. The land cropped with jute in the province may conveniently be divided into four classes : (1) High land which does not ordinarily retain water during the rains. This is typical *aus* land ; (2) low land which retains water (not too deep) during the rains. This is the kind of land on which transplanted winter rice is generally grown ; (3) *bil* and with soil of a peaty nature which remains under water for about six months of the year ; and (4) *char* land with soil composed of varying proportions of sand and silt which is submerged during the rains.

Class (3) and class (4) are unsuitable for growing winter paddy (*aman* or *sali*) after jute in the same year being deeply submerged at the time jute is cut. Class 1 is also unsuitable as being too dry when the jute is harvested. It is only class (2) that admits of the two important crops (jute and paddy) being taken off it in the same year.

Double Cropping.

Reports have been obtained from the District Officers of jute growing districts which are summarised in the statement below. From this statement it will be seen that the practice of cropping land with jute and paddy in the same year prevails more or less in all the districts, except Pabna, where

the Collector reports that though all jute land is double cropped, winter rice never appears as the second crop. Mr. Hart's enquiries in that district have, however, convinced him that this is not quite correct and that *aman* is grown after jute in some parts of Serajganj subdivision. In other parts of that sub division there is also the curious practice of sowing *aman* and jute together. When the jute is cut the *aman* is two feet to three feet high and subsequently branches out and sends up fresh stalks. The same practice occurs in parts of Dacca, Bakarganj and Faridpur districts but is nowhere very common. The raiyats everywhere are reported to know that from a certain class of land it is quite practicable to take jute and winter paddy in the same year though the practice of doing so is by no means general everywhere. In Mymensingh, Rangpur, Dinajpur and Bogra, which are four of the most important jute growing districts in the province, there is a considerable area of low land suitable for growing jute and paddy in the same year and the raiyats in these districts are reported to utilise their knowledge to the fullest extent. But in the south-western portion of Eastern Bengal, though owing to the predominance of *bil* and *char* lands, the jute-*aman* rotation could never become general, it is still capable of considerable extension. In Tippera, Malda and Jalpaiguri it is reported that very little of the jute area bears *aman* also. It is not clear why this should be so, seeing that the conditions of large portions of those districts do not differ materially from the neighbouring districts. It is also remarkable that in a certain part of Bakarganj (thana Mehidgunge), where the cultivation of jute has been introduced only lately, as much as 34 per cent. of the area under jute is cropped with *aman* in the same year. The case of Noakhali district has been very similar. There the cultivation of jute has extended very largely in the last two years; but it is believed that more than half of the land under jute bears a subsequent crop of *aman* in the same year. Unfortunately figures have not been obtained except for the cadastrally-surveyed area which includes very little jute land. It should also be explained that owing to the difficulty of extracting information from the settlement papers, the figures for Bakarganj in the appended statement relate only to one thana, which is by no means typical of the other jute tracts of the district, having in fact been selected as the locality where the double cropping of jute land is most common.

Weather Conditions.

Weather conditions play an important part in the extent to which suitable lowland can be utilised for growing jute in rotation with paddy in the same year. When rainfall is timely and normal in quantity, jute can be sown and harvested early and winter paddy transplanted without any excessive difficulty. But when owing to unfavourable weather, jute has to be sown late, the harvest is also delayed. The jute harvest may also be retarded, as in the present year by want of steeping water due to deficient rainfall and lowness of the rivers. The latter cause also has the effect of keeping pools and tanks at a low level, for the rivers when low act as drains and when high overflow into and fill all the pools and tanks. In a year of deficient rainfall in July and August only the lowest juteland can be subsequently transplanted with paddy; while when the rainfall is excessive a portion of the highland can afterwards be utilised for transplanted rice. Again, when the nature of the season makes transplantation necessary immediately after the harvesting of jute, the raiyats who are busy with the retting of their jute and extracting fibre sometimes fail to cope with the situation, specially when they cannot afford to employ much extra labour.

The statement appended will show that other food crops, besides paddy, are very commonly produced in the same year with jute. These are generally pulses (masuri, kalai, kesari, etc.), and occasionally potatoes or chillies. Other jute land bears non-food crops, generally mustard or san, the latter being especially common in Pabna district. There is also a certain proportion of jute land which bears no other crop though in this respect Mr. Hart doubts whether the figures of Tippera (and perhaps Mymensingh) convey a correct impression. On the whole it may be accepted as a fact that more than half of the jute land in this province bears a second crop in the same year and that the second is generally rice or some other food crop.

Rice *vs.* Jute.

On the other hand, it must be admitted that but for jute certain varieties of paddy could be grown on *bil* and *char* land, so cropping of these lands with jute means loss of so much land to rice, while the jute tract falling under the upland class represents the sacrifice of so much potential *aus* land to jute. In lowland where jute precedes winter paddy in the same year *aus* might be grown in rotation with winter rice. So that even if the whole of the lowland bears winter rice after jute this area would still represent the loss of so much to *aus*. Any portion of the land in which the rotation is not practised is a loss to winter rice. On the whole therefore the area under jute represents the loss of so much land for rice, partly *aus* and partly winter rice.

On the other hand, the introduction of jute and the large profits it yields have been a great stimulus to agriculture. If there were no jute now, not only would much of the land be lying uncultivated, but the practice of double cropping would be much less common than it is. For this reason the expansion of jute cultivation has been an inestimable benefit to the province. But it should be the object of all interested in agriculture to encourage the practice, wherever possible, of taking in the autumn a crop of transplanted rice off the fields which have borne jute earlier in the year. The advisability of maintaining the fertility of all double-cropped land by applying to it all the manure available will be apparent.

Statement showing the double cropping of jute land.

District.	Total area under jute.	Area of land under jute which bears in the same year a second crop.			
		Winter rice.	Other food crops.	Non-food crops.	No crop.
1	2	3	4	5	6
	Acres.	Acres.	Acres.	Acres.	Acres.
Dacca (*a*)	295,000	22,125	22,125	221,250	29,500
Mymensingh (*a*)	801,000	289,000	148,600	73,500	289,900
	100 %	36 %	18 %	99 %	37 %
Bakarganj (*b*)	10,425	9,852	242	10	321
	100 %	94 %	2 %	...	4 %
Tippera (*a*)	310,600	27,300	29,300	4,330	249,670
	100 %	8 %	9 %	2 %	81 %
Noakhali (surveyed area) (*b*)	19	19	...	...	...
		100 %			
Rajshahi (*a*)	106,000	21,300	16,300	1,650	66,750
		20 %	15 %	2 %	63 %
Dinajpur (*a*)	140,000	35,000	22,000	8,600	74,400
		25 %	15 %	6 %	54 %
Jalpaiguri (*b*)	3,124	432	143	72	2,477
Rangpur (cadastrally-surveyed area) (*b*)	7,886	3,627	1,806	6	2,447
		48 %	22 %		30 %
Bogra (*a*)	200,000	65,400	32,700	76,300	25,600
		32 %	16 %	38 %	24 %
Pabna (*a*)	200,600	...	145,000	55,000	600
			72 %	27 %	1 %
Malda (*a*)	35,000	300	23,000	4,500	7,200
		1 %	65 %	12 %	22 %
Cachar (*b*)	161	1	100	...	
		1 %	62 %	...	27 %
Sylhet (*a*)	9,005	121	2,395	24	...
Goalpara (*a*)	24,420	2,218	15,508	552	6,142
		9 %	63 %	2 %	36 %
Kamrup (*b*)	4,726	308	3,083	1,001	334
		6 %	65 %	11 %	18 %

(*a*) Estimates only.
(*b*) Actual survey figures.

GERMAN SPIRIT-MONOPOLY.

Synthetic Alcohol.

THE proposed German spirit-monopoly is now becoming more clearly defined, but is received with mixed feelings in German industrial circles, and protests have already been made by many of those interested. At a meeting recently held in Berlin, at which all the branches of the spirit industry were represented, the proposal was discussed, and it was found that manufacturers, such as perfumers, varnish-makers, soap-manufacturers, etc., were strongly opposed to a State monopoly on the ground that it would probably further advance the price of spirit, which would be detrimental to their interests. Even if the State monopoly entailed no advance in price, it would exercise a prejudicial effect on these trades, they said, inasmuch as there would no longer be the same facilities for credit. Representatives of the drug trade also state that a State monopoly would not only injure them, but that consumers would also be indirectly affected by the higher prices for spirit. Some of the big distillers are even more strongly against the project; they also allege that spirit will cost more; consumption would be decreased, and the withdrawal of the credit terms would prove a serious obstacle to the development of the industry. Energetic protests have also been made by the Union of German Spirit Manufacturers in Silesia and Posen, who advocate, instead of a monopoly, a rational reform in the preferential treatment of some of the distillers under the "contingent." The Union of German Alcohol Manufacturers, or "Centrale," who not long ago prolonged their agreement with the distillers for another ten years, also express dissatisfaction at the prospect of a spirit monopoly which would, they consider, operate against the farmer, whose welfare is the first consideration in anything affecting the German spirit industry. It may be pointed out that the chief

object of the Bill which is about to be deposited in the Reichstag by the Government is to obtain further revenue, and in this connection the figures are quoted below in hectolitres (1=22 gal.) for the output and destinations for spirit produced in Germany during October last, which is the first month of the new season:—

—	1905.	1906.	1907.
	Hl.	Hl.	Hl.
Spirit produced . .	252,937	190,104	165,453
Consumed for drinking purposes . . .	166,879	186,036	204,922
Delivered for industrial and meth. purposes .	94,762	99,924	147,844
Exported . . .	745	8,814	9,766
Stocks at end of October .	384,471	647,961	292,575

The *figures are interesting* as showing a considerable decrease in production, *a much greater* demand for drinking purposes by the public, a decrease in the stocks, and an increase in the quantities delivered for industrial purposes. The exports, which were 9,766 hectolitres, went to Russia and Switzerland chiefly. As further illustrating the feeling in Germany regarding the monopoly proposal, certain manufacturers are beginning to speak seriously of synthetising ethylic alcohols, and a great deal is being written about scientific opinion on the subject.

The German Government and all concerned in this question are thus warned:—

As it was with electrical power thirty years ago, with the motor-car twenty years ago, with the dirigible balloon five years ago, the flying-machine three years ago, so it is now with synthetic alcohol. During the nineteenth century technical discoveries were perfected very quickly, and during the twentieth matters will go ahead even more speedily, so that possibly within a space of five years the chemical production of alcohol may not be confined to the laboratory, but it may have developed into an industry. What will become of the distillers then?

It may be added that when England during the Boer war stopped the exportation of phenol, German manufacturers began to make it from benzene and the existence of a benzene-phenol industry in Germany is one of our war legacies. So, too, when potatoes cease to be cheap and distillers kill competition and enhance values beyond all that is reasonable, acetylene-alcohol may have a chance.

—The Report for 1906 on **Fiji**, recently issued by the Colonial Office, states that there is undoubtedly a good opening for the cultivation in that Colony of such minor products as **sisal hemp, ginger, limes, spices, tobacco,** etc. The cultivation of rubber has hitherto hardly been attempted; successful efforts are, however, being made on at least two plantations to introduce this product. The growth of the existing trees shows that conditions are favourable to both the Para and Ceara species. Large areas of land suitable for rubber cultivation can be obtained at reasonable rates.

REVERSING TURBINE IMPROVEMENT.

Use in British Steamers.

U. S. A. Consul John L. *Griffiths, of Liverpool,* in describing the extent and capacity of recently built British steamships, gives the following information relative to the turbine engines which are to supply the motive power:—

Each of the four turbines with which the steamers are to be equipped will drive one shaft carrying a single propeller of manganese bronze. Each steamer will have 23 double-ended and 2 single-ended boilers, 192 furnaces, and an indicated horsepower of 70,000. The Stone-Lloyd system of safety bulkhead doors will be used. The steamers will be fitted up with the long distance system of wireless telegraphy, as well as with the most approved submarine signalling apparatus. The advisability of the use of the turbine engines for the *Lusitania* and *Mauretania* has been much discussed in local shipping circles, but the great success of the British warship *Dreadnought* which was equipped with them, as were also two torpedo destroyers, would seem to indicate that the experimental stage of the turbine has been safely passed and its future assured, although improvements, of course, will be made from time to time.

An improvement in reversing turbines has been patented in Germany. The invention is for the purpose of keeping the steam always at normal pressure in the boiler, for both the forward and reverse movements, and also in the position of always having the pressure for reversing equal to that for forward travelling and of maintaining it at the same height for cruising speed. The forward turbine consists of a high-pressure and low-pressure turbine which act on a single shaft. By means of a three-way cock steam may be admitted either through the pipe and ports to the reversing turbine. The reversing turbine is connected, as is the low-pressure turbine, by a pipe with a condenser, and is also provided with means for regulating the partial flow of the steam by means of a number of valves which serve the separate nozzles of the guide channel in the ordinary way. The inventor claims that a great ocean liner can be built to travel as fast as the British turbine torpedo boat which made 35 knots an hour, but it is doubtful whether the consumption of coal to attain such a speed, under present conditions, would not be so great as to render this impracticable.

With the first voyage across the ocean of the *Lusitania*, the largest turbine steamer yet built, increased interest is shown in England in the use of turbine engines for ocean service. In an address recently delivered on this subject one of the greatest English experts stated:—

In fast pleasure steamers the economy of the turbine had been found to be 5 to 15 per cent. superior to that of similar vessels with triple-expansion reciprocating engines and about 25 per cent. superior to vessels with compound paddle engines, so that superior speeds were rendered possible. In cross-channel boats and in war vessels the power and economy of the reversing turbines were much greater than in the case of the earlier turbine vessel, and this enabled quicker manœuvering to be carried out with reduced boiler power and with saving in coal. Turbines had been found equal or superior in economy to reciprocating engines for speeds down to about 16 knots, and in some cases, where large and comparatively costly turbines had been fitted, such as in yachts, down to about 12 to 15 knots. But the solution of the problem for slow vessels undoubtedly laid in a combination of reciprocating engines and turbines, the former to deal with the high-pressure part of the expansion and the latter the low-pressure part, covering a greatly increased total range of expansion. Such a combination it was estimated would effect a saving of about 12 per cent. in coal in the case of an intermediate liner of 15-knots speed over the best quadruple-expansion reciprocating machinery and with a reduced weight of propelling machinery, and in a large vessel of 10 to 12 knots speed a saving of 15 to 20 per cent. in coal consumption over the best triple-expansion reciprocating engine. In some cases there would be an increase of capital cost, which it was estimated would be recovered in less than three years by the increased earning power of the vessel, but in the larger vessels there would be little or no increase in such cost.

NEW REFERENCE BOOKS.

MUNICIPAL OWNERSHIP.
Four Lectures delivered at Harvard University, 1907. By LEONARD DARWIN. 7½×5, xv + 149 pp. . . . . 2s. 6d. net.
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THE BRITISH STATE TELEGRAPHS, xvii+408 pp. PUBLIC OWNERSHIP AND THE TELEPHONE IN GREAT BRITAIN, xviii+386 pp. By HUGO R. MEYER. 8×5½ . . 6s. 6d. net each.
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THE LICENSED TRADE.
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(Companion volume to the Housing Handbook.) By ALDERMAN W. THOMPSON (Richmond, Surrey). 8½×5½, 306 pp. . . . . 3s. 6d. net.
The Author, 37, Mount Ararat-road, Richmond; and P. S. King.

THE STANDARD GUIDE TO EGYPT AND THE SUDAN.
Being a Descriptive Guide to Cairo and the Nile. By HALLAM-J. KEMEID. (11th Yearly Edition) 7¼×4¾, 284, ... 1s.
Simpkin Marshall.

PRACTICAL GUIDE TO ALEXANDRIA, CAIRO, PORT SAID and Neighbourhood. 7×4½, 272 pp. 6s.
Nilsson.

THE GUIDE TO SOUTH AFRICA.
Edited by A. S. BROWN and G. G. BROWN, for the Union-Castle Mail Steamship Company, 1907-1908. (Fifteenth Edition.) 7½×5, 477 pp. 2s. 6d.
Sampson Low.

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1907-08.				SEASON 1906-07.			
	Sold in sale of 20th December.		Sold to 20th December.		Sold in sale of 20th December.		Sold to 20th December.	
	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	3,466	7 7·3	164,675	7 5·9	4,508	6 9·7	139,153	6 9·2
Cachar	5,788	6 10·1	133,127	6 2·4	4,070	5 1·5	122,344	4 4
Sylhet	3,069	6 10·1	103,925	6 2·2	1,409	5 10·7	90,691	4 1·2
Darjeeling	1,096	10 6·3	54,705	9 3·3	1,422	9 3·6	53,077	8 9·8
Dooars	4,701	7 9	163,788	6 9·7	7,732	6 4·3	164,766	5 6·1
Terai	269	7 1·9	19,609	6 3·6	608	3 9·7	30,825	4 3·6
Chittagong	106	6 6·7	8,212	6 2·9	575	5 2·1	11,380	4 3·2
Chota-Nagpore	181	6 5·3	1,214	5 9·9	250	4 9·8	1,120	4 4·8
Kumson and Kangra . .	...	...	4,419	6 1·3	...	...	120	5 0
Madras	...	...	285	6 1·2	...	...	286	4 10·8
Dehra Dun	...	...	204	6 3·3	...	...	50	5 0
Nepaul	...	...	247	6 9·3	...	...	217	3 7
TOTAL .	18,676	7 5·1	654,410	6 11·2	20,574	6 2·4	614,029	5 6·6

(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 34,277 packages Dust* sold to 20th December A. P. 6 7·9

* On account of gardens which sell only that grade on this market.

—The production of **antimony in Japan** centres around Osaka and Kobe, but is a declining trade. The largest production in recent years was in 1896, *viz.*, about 1,300 tons, valued at £23,000. The amount diminished annually until 1905, when it was less than 300 tons, valued at about £9,000. In recent years ores have been imported chiefly from China, refined in Japan and re-exported.

SUGAR IMPORTS.

Imports of foreign sugar (excluding confectionery and molasses) into British India in the month of November, 1907, and in the eight months ending November, 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 Nov., 1906.	Share of each country in the total imports in Nov., 1907.	Share in the eight months ending Nov., 1906.	Share in the eight months ending Nov., 1907.
	Cwt.	Cwt.	Cwt.	Cwt.
Austria-Hungary .	80,703	25,367	1,247,864	421,062
Belgium . .	1,575	50	102,803	664
France . .	20	25	23,037	9,560
Germany . .	15,180	1,938	1,645,523	46,508
Holland . .	23	29	362	227
Italy . .	...	...	4	4
Spain . .	...	200	3	200
Egypt . .	...	...	69	...
Mauritius . .	282,148	208,057	1,418,550	1,676,715
Réunion . .	...	...	109,471	11,377
West Indies . .	23	19	5,072	5,163
South America .	2	20	18,090	8,348
China . .	434	197	4,262	3,436
India . . .	...	...	...	66
Japan . . .	...	...	4	...
Java . . .	421,775	776,114	2,691,039	4,485,932
Philippines .	...	...	...	400
Straits Settlements	42	56	2,169	10,425
Australia . .	...	...	9	...
From non-producing countries. Origin unknown .	18	2	283	160
TOTAL .	801,943	1,012,074	7,269,214	6,080,247

Quantity of beet and cane sugar imported by sea from foreign countries into each province of British India for the month of November, 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	14,128	309	314,822	415,596	328,950	415,905
Eastern Bengal and Assam . . .	2	...	...	...	2	...
Bombay	31,479	2,610	277,284	282,287	308,763	284,897
Sind	50,455	22,461	37,214	223,538	87,699	245,999
Madras	839	2,059	445	863	1,284	2,927
Burma	606	171	74,639	62,175	75,245	62,346
TOTAL .	97,509	27,610	704,434	984,464	801,943	1,012,074

IMPORTS OF COTTON YARNS.

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 November, 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 .	194,870	...	290,282	23,500	169,000	...	677,652
,, 41 to 50 .	78,045	...	91,990	...	43,000	...	213,035
,, above No. 50 .	167,505	...	108,935	...	25,000	...	301,440
Orange, red and other colours, Nos. 31 to 40.	460,365	...	232,395	105,447	319,500	24,829	1,142,536
Orange, red and other colours, Nos. 41 to 50.	8,536	...	21,971	3,675	11,000	29,800	74,982
Orange, red and other colours, above No. 50.	7,398	...	24,895	...	39,495	8,700	80,488
TOTAL .	916,719	...	770,468	132,622	606,995	63,329	2,490,133

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and **Exports** to, each country in the six months, April to September 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 . .	2,78,609	2,82,113	4,31,733	99,474	87,739	81,896	3,78,083	3,69,852	5,13,629
KHELAT—									
Sind and British Baluchistan . .	2,47,684	3,04,998	3,15,574	2,81,552	2,05,634	2,00,864	5,29,236	5,10,632	5,16,438
PERSIA—									
Sind and British Baluchistan . .	1,51,569	27,223	1,58,496	1,21,721	66,434	1,98,890	2,73,290	93,657	3,57,386
AFGHANISTAN—									
Northern and Eastern (including Kabul and Ghazni)—									
North-West Frontier Province .	10,12,994	5,97,702	6,06,597	54,35,588	54,55,551	52,19,731	64,48,582	60,53,253	58,26,328
Southern and Western (including Kandahar and Herat)—									
Sind and British Baluchistan .	14,71,051	35,49,630	31,64,356	17,45,518	22,36,622	27,48,407	32,16,569	57,86,252	59,12,763
North-West Frontier Province .	9,805	13,184	10,588	1,30,510	96,116	1,68,685	1,40,315	1,09,300	1,79,273
Panjab . . .	1,482	...	...	26,458	1,07,447	...	27,940	1,07,447	...
TOTAL .	24,95,332	41,60,516	37,81,541	73,38,074	78,95,736	81,36,823	98,33,406	1,20,56,252	1,19,18,364
TIRAH—									
North-West Frontier Province . .	1,92,577	2,24,524	2,44,384	2,08,873	3,20,580	2,61,497	4,01,450	5,45,104	5,05,881
DIR, SWAT, AND BAJAUR—									
North-West Frontier Province . .	17,81,666	25,21,254	24,24,343	35,09,617	34,57,325	34,67,930	52,91,283	59,78,579	58,92,273
BUNER—									
North-West Frontier Province . . .	89,086	78,496	53,095	1,67,064	80,112	53,649	2,56,150	1,58,608	1,06,744
KASHMIR—									
North-West Frontier Province . . .	10,06,475	10,91,721	9,23,748	26,00,993	19,46,685	18,07,534	36,07,468	30,38,406	27,31,282
Panjab . . .	56,01,897	65,82,854	31,84,686*	45,42,861	50,68,830	28,97,809*	1,01,44,758	1,16,51,684	60,82,495*
TOTAL .	66,08,372	76,74,575	41,08,434	71,43,854	70,15,515	47,05,343	1,37,52,226	1,46,90,090	88,13,777
LADAKH—									
Panjab . . .	1,60,723	11,346	1,97,336	1,69,188	2,17,726	1,57,865	3,29,911	2,29,072	3,55,201
TIBET—									
Panjab . . .	12,982	10,899	14,637	55,459	47,604	30,064	68,441	58,503	44,701
United Provinces of Agra and Oudh .	2,34,285	1,26,946	2,37,677	3,32,937	5,36,466	4,42,506	5,67,222	7,33,412	6,80,183
Bengal . . .	4,75,889	5,75,506	7,10,463	7,23,891	5,95,296	5,60,925	11,99,780	11,70,802	12,71,388
TOTAL .	7,23,156	7,83,351	9,62,777	11,12,287	11,79,366	10,33,495	18,35,443	19,62,717	19,96,272
NEPAL—									
United Provinces of Agra and Oudh .	42,15,952	39,86,819	37,11,577	15,43,563	13,08,775	13,83,947	57,59,515	52,95,594	50,95,524
Bengal . .	70,81,271	78,88,003	85,29,071	46,66,397	44,50,769	42,66,017	1,17,47,668	1,23,38,772	1,27,95,088
TOTAL .	1,12,97,223	1,18,74,822	1,22,40,648	62,09,960	57,59,544	56,49,964	1,75,07,183	1,76,34,366	1,78,90,612

* 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 six months April to September 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	1,47,136	2,56,070	3,16,724	2,71,153	2,80,823	3,73,000	4,18,289	5,36,893	6,89,724
Bhutan—									
Bengal	44,497	9,980*	5,855	46,288	6,293*	7,379	90,785	16,273*	13,234
Eastern Bengal and Assam	29,461	24,696†	30,422	250	21,248†	49,480	29,711	45,944†	79,902
Total	73,958	34,676	36,277	46,538	27,541	56,859	1,20,496	62,217	93,136
Towang—									
Eastern Bengal and Assam	...	13,472	5,002	...	...	...	...	13,472	5,002
Nágá and Mishmi Hills—									
Eastern Bengal and Assam	93,065	1,42,916	56,270	2,454	7,215	3,272	95,519	1,50,131	59,542
Duffla and Aka Hills—									
Eastern Bengal and Assam	17,402	25,085	38,599	...	...	...	17,402	25,085	38,599
Western China—									
Burma	12,59,628	11,96,667	12,18,451	15,89,870	17,90,972	18,88,566	28,49,498	29,87,639	31,07,017
North Siam—									
Burma	10,86,316	11,57,294	14,09,577	7,34,899	9,90,120	10,13,301	18,21,215	21,47,414	24,22,878
South Siam—									
Burma	1,90,967	2,11,063	2,18,413	2,24,131	2,60,687	2,31,240	4,15,098	4,71,750	4,49,653
N. Shan States—									
Burma	27,15,376	27,06,926	33,14,867	23,24,021	24,11,135	40,21,423	50,39,397	51,18,061	73,36,290
S. Shan States—									
Burma	26,62,129	25,44,380	27,00,766	32,83,247	50,52,387	38,09,046	59,45,356	75,96,767	65,09,812
Karennee—									
Burma	11,15,329	12,49,101	11,45,573	4,82,928	8,85,835	11,54,118	15,98,257	21,34,936	22,99,691
GRAND TOTAL	3,33,87,303	3,74,80,868	3,53,78,880	3,53,20,885	3,79,92,426	3,64,99,041	6,87,08,188	7,54,73,294	7,18,77,921
Share of each Province in the total trade—									
Sind and British Baluchistan	21,48,913	41,63,964	40,70,159	22,48,265	25,96,429	32,30,057	43,97,178	67,60,393	73,00,216
North-West Frontier Province	40,92,603	45,26,881	42,62,755	1,20,52,645	1,13,56,369	1,09,79,026	1,61,45,248	1,58,83,250	1,52,41,781
Panjab	57,77,084	66,05,099	33,96,659	47,93,966	54,41,607	30,85,738	1,05,71,050	1,20,46,706	64,82,397
United Provinces of Agra and Oudh	44,50,237	41,83,765	39,49,254	18,76,500	18,45,241	18,26,453	63,26,737	60,29,006	57,75,707
Bengal	77,48,793	87,29,559	95,62,113	57,07,729	53,33,181	52,07,321	1,34,56,522	1,40,62,740	1,47,69,434
Eastern Bengal and Assam	1,39,928	2,06,169	1,30,293	2,704	28,463	52,752	1,42,632	2,34,632	1,83,045
Burma	90,29,745	90,65,431	1,00,07,647	86,39,076	1,13,91,136	1,21,17,694	1,76,68,821	2,04,56,567	2,21,25,311
GRAND TOTAL	3,33,87,303	3,74,80,868	3,53,78,880	3,53,20,885	3,79,92,426	3,64,99,041	6,87,08,188	7,54,73,294	7,18,77,921

* 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.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the second half of November, 1907. (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 2	...	...	...	...	...	...	0 11
Toungoo	1 10	...	...	...	...	...	...	1 5
Eastern Bengal and Assam—								
Rangpur	2 0	2 6	...	...	...	...	...	1 0
Backerganj	2 6	...	...	...	...	...	...	1 0
Bengal—								
Calcutta	2 1	2 3	...	...	...	...	...	0 10
Patna	2 0	1 11	1 4	...	...	...	...	0 11
United Provinces—								
Cawnpore	...	2 2	1 6	1 6	1 8	..	1 5	0 9
Fyzabad	...	2 1	1 9	1 7	...	...	1 7	0 11
Meerut	...	2 0	1 5	1 5	1 7	...	1 6	0 9
Panjab—								
Delhi	..	2 0	1 5	1 5	1 8	...	1 5	0 9
Amritsar	...	1 9	1 2	...	1 7	...	1 3	0 7
Ráwalpindi	...	1 8	1 2	1 0	1 4	...	1 3	0 7
Sind—								
Karáchi	...	2 0	...	1 2	1 5	...	1 6	0 7
Bombay—								
Belgaum	...	1 10	...	1 3	1 4	...	...	0 11
Ahmadnagar	...	2 2	...	1 4	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	...	1 11	...	...	...	...	1 8	1 0
Nagpur	2 0	1 9	...	1 9	...	...	1 8	1 1
Raipur	1 10	1 11	...	...	...	...	1 8	1 1
Madras—								
Bellary	2 6	...	...	1 2	...	1 2	...	1 0
Madras	2 3	...	...	...	...	1 4	...	0 7
Salem	2 0	...	...	1 2	1 4	1 2	...	0 10

—According to the annual report of the Geological Survey, the **production of iron ores in the United States** in 1906 amounted to 47,749,728 tons (of 2,240 lbs.) valued at 100,597,106 dols. As compared with 1905, the most productive previous year, this was an increase of 12·28 per cent. in quantity, and of 33·83 per cent. in value.

—The record of progress at the **Panama Canal** which the *Times* has received from a correspondent will show the great strides that are being made on the Isthmus. If this progress is continued it will mean that before the end of 1914 a ship the size of the *Mauretania* will be able to steam through the Caribbean Sea to the Pacific. The steam shovels made a record in the amount of material removed during the month of October notwithstanding delays caused by the land slip at Cucaracha, which blocked the line and prevented the movement of the spoil trains. The enormous volume of 1,085,000 cubic yards was taken out during the month by this means alone. Besides the work of the shovels, some 800,000 cubic yards were removed by dredgers, and nearly all of the excavation was from the canal prism. The capacity of the shovels is, of course, dependent upon the kind of material to be moved, but several of the largest machines have moved about 2,000 tons of rock and earth during a day of eight hours under steam, part of the time being occupied by blasting and moving the shovel forward. Not only is a great saving of time effected by the excavater in soft material, but the necessity for reducing the rock to small sizes by blasting is obviated, which would be necessary if it were loaded on the wagons by other means.

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

QUARTERLY.

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

MONTHLY.

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

MISCELLANEOUS.

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

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., Ld., 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.

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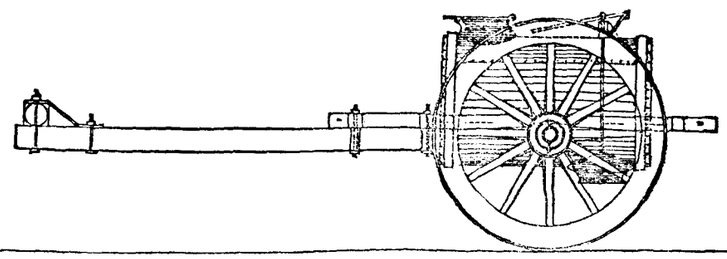
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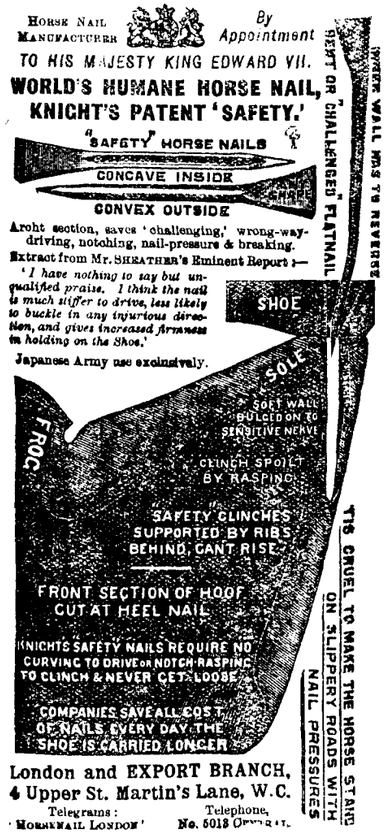
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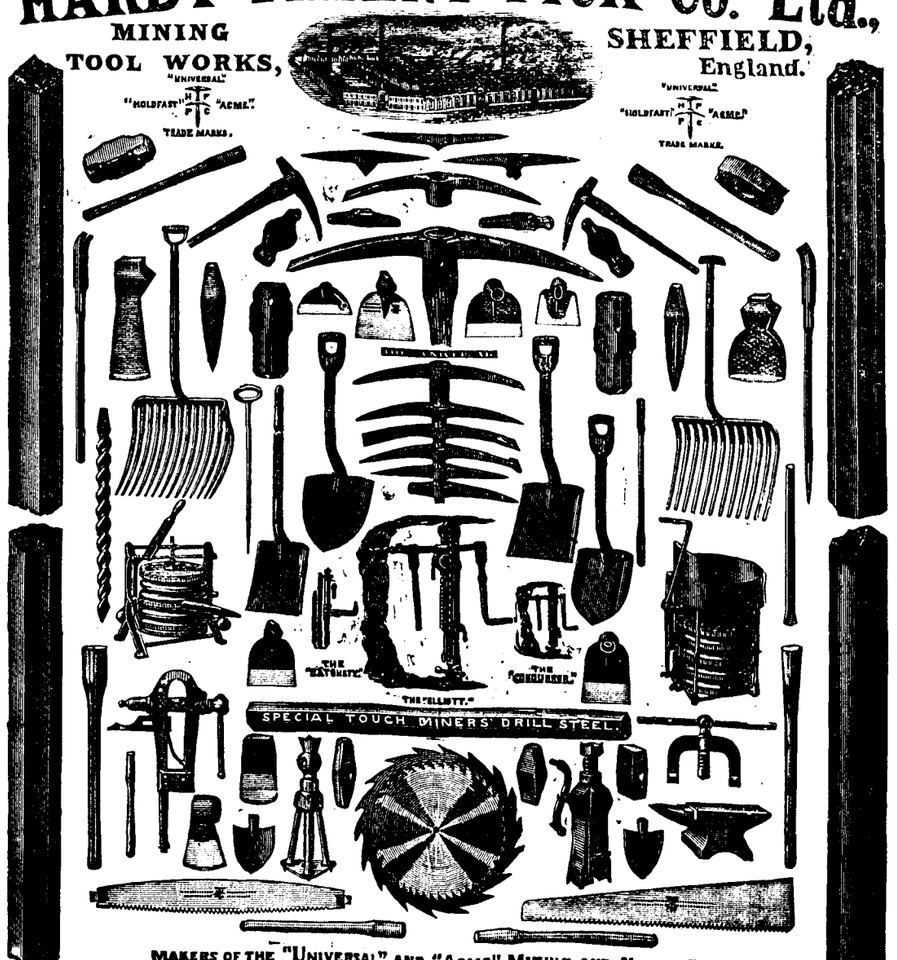
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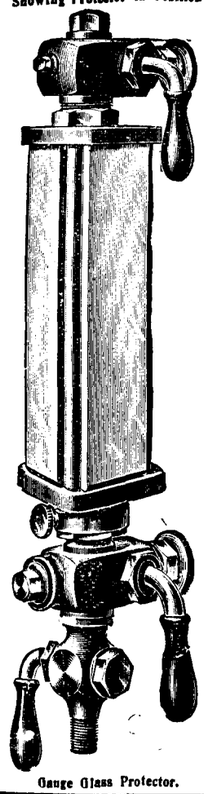
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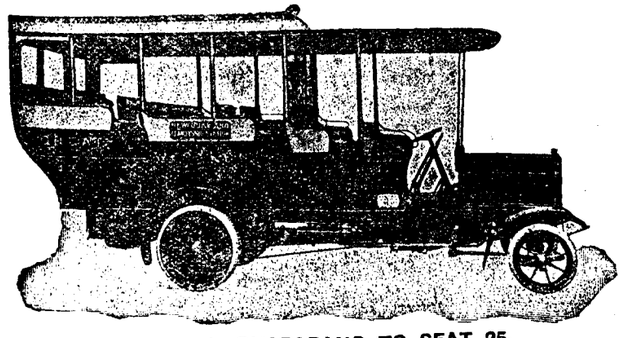
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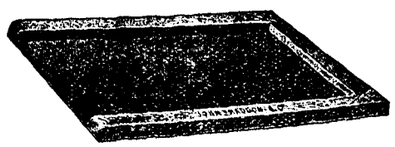
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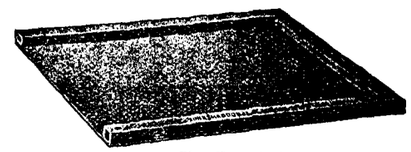


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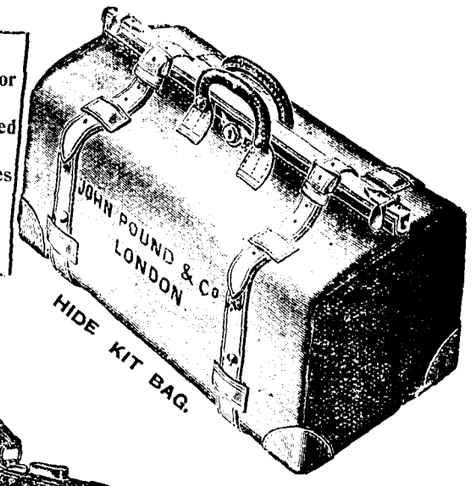
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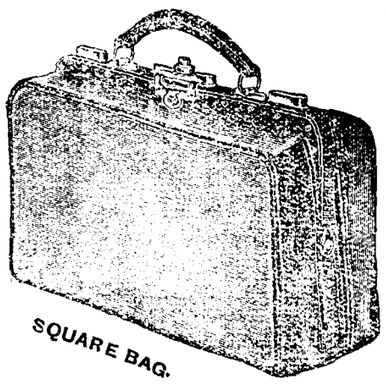
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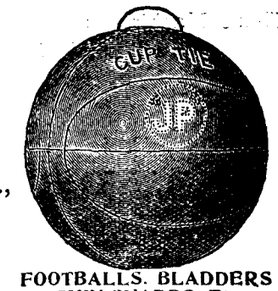
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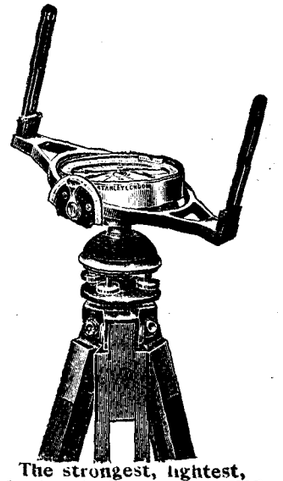
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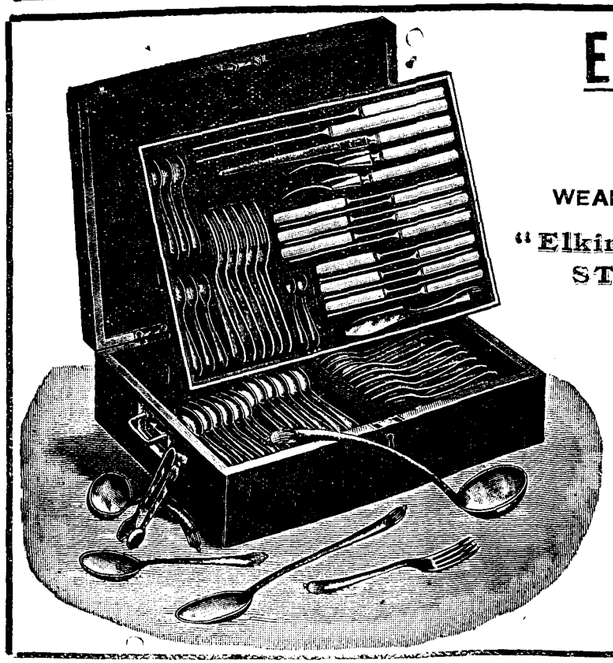
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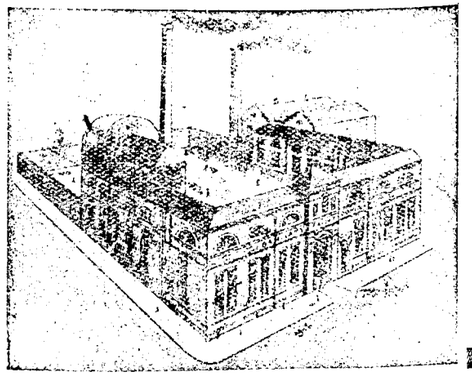
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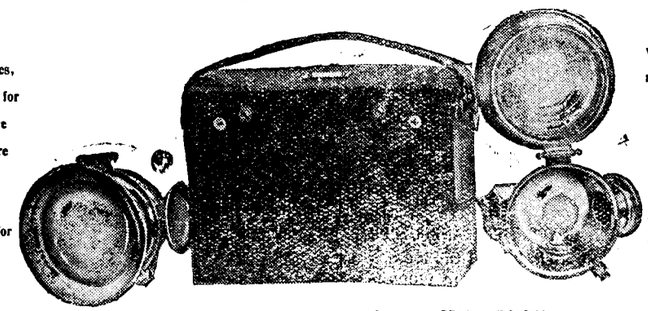
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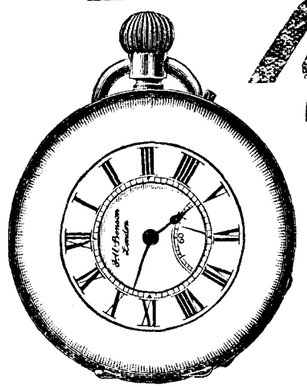
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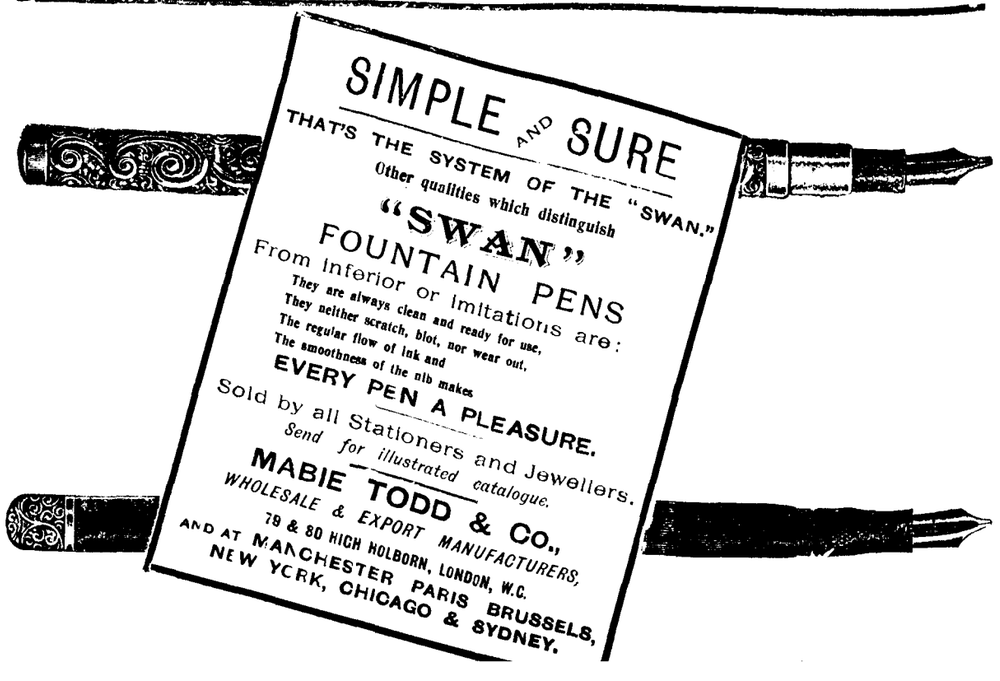
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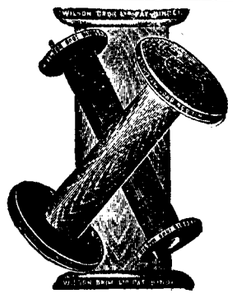
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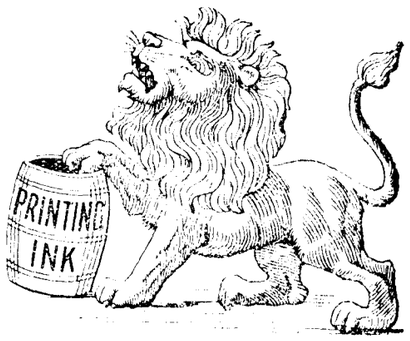
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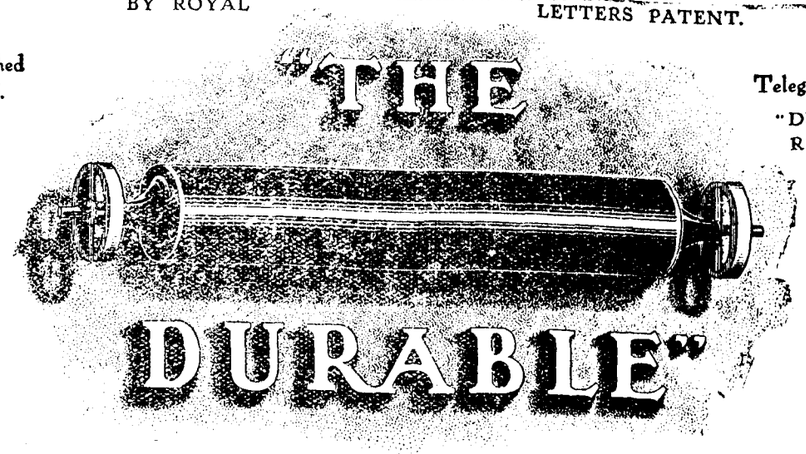
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SUPPLEMENT 28.10.7

TO

THE INDIAN TRADE JOURNAL.

OCTOBER 24, 1907.

REPORT ON THE TRADE OF THE BAHRAIN ISLANDS FOR THE YEAR 1906.

THE year under report has been a remarkably prosperous one not only superficially but actually, as is evidenced by the fact that the volume of the general trade, excluding the entries regarding pearls, has risen from Rs. 1,67,41,665 / £1,116,111 in 1905 to Rs. 2,18,12,235 / £1,454,149 in 1906, showing an increase of 30·29 *per cent.*

The volume of the whole trade which was shown at Rs. 4,47.52,162 (£2,983,578) in 1905, is estimated at Rs. 4,73,18,202 (£3,154,549) for 1906, giving an increase of 5·73 per cent.

The price of pearls given in these statistics is that paid by the wholesale buyers and exporters to the producer. At the time of writing this report no improvement is apparent in the foreign markets, but the productiveness of the pearling season of 1907 seems unlikely to exceed the average, which is much lower than the results of 1905 and 1906.

The year 1906 was an exceptionally healthy one, and the influx of foreigners, both merchants and labourers, has steadily continued. The supply of the latter is, however, still less than the demand. The prices of most commodities, including the necessaries of life, have steadily risen in spite of the fact that the net tonnage of vessels entering the port has increased by 13·6 per cent.

Two local firms have done business steadily throughout the year. One of these has been appointed Agents of the Standard Oil Company of New York, who introduced a large stock of their kerosine oil in August, with the intention of permanently replacing the Russian oil which had hitherto been imported by British Indian subjects. In the same month the other firm became Agents for the Hamburg-America Steamer Line, of which company four vessels brought an average of 758 packages to the port between August and December, 1906. In this connection it may be mentioned that it has been found impossible to show accurately in the available statistics the countries of origin of the cargo carried by these steamers, as also similarly for the vessels owned by the British India Steam Navigation Company.

A considerable quantity of the cargo carried by the German steamers has come from France, Austria, East Africa and Maskat, while much of the cargo that in previous years has been simply shown as imported from India in British India Steam Navigation Company's ships has come really from Europe including Germany in considerable degree, being transhipped in Bombay. A greater effort will be made in next year's report to afford more accurately this interesting information.

Neither of the French speculators in pearls who came to Bahrain in 1905 re-appeared this year, but their place was taken by two representatives of a Parisian firm who have a permanent Agency in Bombay.

Detailed comments on some of the more important items of the trade are given below, it being first stated that money was more than usually plentiful generally, at the commencement of the year, thanks to the excellence of the pearl and date-crops of 1905 :—

(*a*) *Coffee.*—The increase in imports was due to the price in Europe having fallen at the commencement of the year; and merchants were also, later on, quick to take advantage of the cheaper rates of freight charged by the Hamburg-America Line. The stocks on hand at the close of the year were considerable.

(*b*) *Piece-goods.*—The previous year's imports had been deficient, and the general prosperity created a strong demand. Twelve new shops were opened during the year in the Manama Bazaar by Hindus and Persians trading in this line.

(*c*) *Yarn and Twist.*—A general over-hauling of boat-gear was effected by the owners of pearl-boats in consequence of their enhanced earnings of the previous year.

(*d*) *Dates.*—The increase in imports and exports was due to the crops both on the mainland and in Bahrain being particularly good.

(*e*) *Rice.*—The decrease in imports was due to the unprecedentedly large importation referred to in last year's report. Prices were ruling

high in Calcutta, and merchants only imported to satisfy urgent requirements.

(*f*) *Kerosine oil.*—The increased import was due to the American Standard Oil Company discharging 36,000 cases in one consignment. There was a considerable stock on hand at the end of the year, although the quantity sold considerably exceeded the consumption of previous years.

(*g*) *Other oils.*—The increase in imports consisted of fish oil received from Mukalla for application to the boats.

(*h*) *Pearls.*—The large decrease in imports was due to the pearls from the banks near the Trucial Oman Coast not being sent for sale in Bahrain, presumably on account of the excellent local harvest, and also to none of the previous season's pearls having been brought back from Bombay. A keener competition amongst the Arab wholesale merchants appreciated the price of the new take most inordinately, thus accounting for the increased value, according to the estimation of the shippers of the exports.

(*i*) *Provisions.*—The increased import consisted largely of vermicelli, preserves and confectionery introduced from Europe.

(*j*) *Tea.*—The increased imports and exports were due to unprecedentedly large stocks having been obtained from India for transhipment by native boats to the lesser Persian ports in exchange for livestock, etc. The consumption locally has also increased materially.

(*k*) *Specie.*—The increases in the imports from India and the exports to the adjacent mainland towns were both consequent upon the heavy purchasing of pearls and dates significant of a prosperous year.

(*l*) *Shells.*—Those exported in 1906 were of a better quality than the consignments of the previous year: hence the rise in value in spite of the decrease in quantity shipped. A large stock was on hand at the close of the year, the cleaning and packing of which was deferred owing to the scarcity of labour.

71 British steamers visited Bahrain on the voyage up the Gulf and 37 called on the return journey.

1,200 pilgrims were brought back from Jedda by three vessels of the Bombay-Persian Steam Navigation Company in March and April, 1906, and three steamers of the same Company took away about 1,000 in November and December, while two steamers of the Hamburg-America Line also took away 128 persons at the same period.

The only foreign steamers entering the port were the four vessels of the Hamburg-America Line mentioned *ante*.

Exchange.—The Maria Theresa dollar opened the year at Rs. 137 per cent., but stood for the greater part of 1906 at Rs. 160 to Rs. 170, closing on the 31st December at Rs. 170.

Freights.—Freights to and from India were from Rs. 10 to Rs. 12 per ton throughout the year. The rate for shells to Hamburg was 23*s.* 6*d.* per ton.

BAHRAIN;
31st July, 1907.

F. B. PRIDEAUX, *Captain,*
Political Agent, Bahrain.

Table showing the total value of principal articles imported into the Port of Bahrain during the years 1904, 1905 and 1906.

Principal articles and principal countries from which imported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Head.	Rs.	Head.	Rs.	Head.	Rs.
Animals—						
Horses—						
India	...	...	...	...	2	1,600
Turkish Arabia	54	20,250	21	8,610	4	1,500
Others	...	...	...	...	2	1,220
Donkeys—						
Turkish Arabia	20	1,200	57	4,674	49	4,263
Camels—						
Others	21	1,305	37	2,200	16	1,945
Other sorts (milch cows)—						
Turkish Arabia	100	7,500	10	700	7	630
Apparel (wearing)—						
India	...	20,750	...	22,500	...	26,445
Arms and ammunition—						
Other sorts (swords, daggers, etc., specially licensed)—						
Others	...	3,000	...	4,450	...	...
Books and printed matter—						
India	...	11,350	...	12,600	...	14,405
Others	...	...	...	...	...	1,450
Building materials—						
India	...	5,350	...	3,550	...	8,000
Turkish Arabia	...	60,000	...	51,500	...	32,850
Others	...	2,575	...	2,430	...	2,190
Candles—						
India	...	8,250	...	9,700	...	4,080
Germany	...	...	...	...	...	250
Canvas (sail cloth)—	Cwts.		Cwts.		Cwts.	
India	...	...	...	...	4	280
Cattle (slaughter cattle)—	Head.	...	Head.	...	Head.	
Turkish Arabia	...	...	40	550	21	1,575
Persia	400	8,400	1,200	24,000	370	13,690
Cattle (goats and sheep for slaughter)—						
Turkish Arabia	3,750	18,750	2,050	14,350	1,700	12,240
Persia	10,500	78,000	24,000	94,000	18,150	1,08,900

Table showing the total value of principal articles imported into the Port of Bahrain during the years 1904, 1905 and 1906—*contd.*

Principal articles and principal countries from which imported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Coffee—	Cwts.	Rs.	Cwts.	Rs.	Cwts.	Rs.
India	8,939	2,86,480	11,710	4,80,110	15,324	5,51,664
Persia	...	...	151	6,200	160	5,760
Maskat	...	...	3	120	...	...
Germany	...	...	...	...	2,385	84,900
Coir and coir rope—						
India	6,390	56,150	2,275	26,160	2,570	28,912
Cotton piece-goods—	Bales.		Bales.		Bales.	
White and grey shirtings—						
India	1,648	4,03,730	1,470	3,60,150	1,415	4,83,750
Turkish Arabia	1	450	2	720	2	435
Persia	37	8,545	41	8,405	27	6,534
Prints—	Cwts.		Cwts.		Cwts.	
India	732	1,50,344	785	1,53,075	904	1,98,880
Dyed shirtings—						
India	285	77,805	298	81,350	345	98,325
Other sorts—						
United Kingdom	5	2,750	...	...	...	...
India	1,843	3,40,955	1,765	3,35,350	1,940	3,82,743
Germany	...	...	...	...	74	16,425
Cotton (raw)—						
India	1,193	12,526	873	16,632	1,292	17,437
Persia	1,200	33,600	1,132	27,740	1,265	26,880
Yarn and twist—						
India	1,316	42,120	2,170	67,270	3,710	1,26,140
Persia	...	663	26	1,470	23	939
Dates—						
Turkish Arabia	...	7,01,000	2,65,625	9,29,635	2,81,700	10,56,375
Date juice—						
Turkish Arabia	1,000	5,000	1,450	7,430	2,280	7,400
Drugs and medicines—						
Cassia—						
India	91	961	43	1,335	55	1,925
Quinine—						
India	...	915	...	950	...	780
Assafœtida—						
India	...	580	...	490	...	620
Other sorts—						
India	...	9,440	...	8,670	...	9,820
Persia	...	4,050	...	3,820	...	3,675
Germany	...	...	...	...	...	280
Dyeing and colouring materials—						
Indigo—						
India	27	2,420	35	3,255	26	2,444
Colours and paint—						
India	...	970	...	1,450	...	1,820
Others	...	200	...	235	...	370
Other sorts—						
India	...	420	...	510	...	450
Persia	...	17,732	...	18,650	...	20,020
Others	...	83	...	810	...	790
Earthenware (pottery)—						
India	...	...	...	...	...	450
Persia	...	10,000	...	8,750	...	7,500
Others	...	950	...	1,090	...	1,400
Fruits and vegetables—						
Almonds—						
India	115	2,090	125	2,125	142	2,840
Persia	...	9,500	675	11,475	825	16,500
Almond kernels—						
Turkish Arabia	...	10,500	...	11,250	...	10,100
Raisins and currants—						
India	...	...	...	...	20	340
Persia	300	3,900	687	5,340	540	6,570
Other sorts—						
India	...	2,620	...	2,350	...	2,600
Turkish Arabia	...	10,000	...	9,350	...	8,750
Maskat	...	345	...	465	...	425
Persia	...	41,525	...	38,780	...	35,700
Fuel—						
Charcoal—	Tons.		Tons.		Tons.	
India	450	15,075	1,250	53,750	4,500	1,37,500
Persia	225	7,538	135	5,805	125	6,750
Firewood—	Tons.	Rs.	Tons.	Rs.	Tons.	Rs.
Turkish Arabia	...	15,000	...	16,350	...	8,500
Persia	4,050	53,500	755	71,400	5,400	1,40,400
India	...	...	...	...	140	3,640
Furniture—						
India	...	4,150	...	6,380	...	7,500
Persia	...	...	...	...	...	480
Glass and glassware—						
Glassware—						
India	...	6,945	...	8,650	...	9,450
Germany	...	...	...	...	...	500
Glass—						
India	...	10,000	...	11,900	...	10,300
Other sorts—						
India	...	20,526	...	18,850	...	15,750
Gold lace and thread—						
Gold lace—						
India	...	2,540	...	2,370	...	2,650
Gold thread—						
India	...	19,435	...	20,750	...	23,490
Others	...	2,750	...	2,640	...	3,240
Gold embroidered cloth—						
India	...	9,250	...	11,120	...	10,700
Grain and pulse—						
Wheat—	Cwts.		Cwts.		Cwts.	
India	27,700	1,52,350	14,245	64,100	2,184	10,647
Persia	900	4,950	85,000	3,82,500	113,500	5,39,125
Turkish Arabia	...	700	1,850	6,195	...	...
Barley—						
India	8,272	54,816	2,200	6,325	185	510
Turkish Arabia	700	1,750	...	330	160	440
Persia	1,000	3,000	11,000	33,000	15,640	44,961
Rice—						
India	318,571	19,91,063	3,63,493	26,65,630	191,961	17,75,640
Other sorts—						
India	...	47,330	...	43,650	...	40,820
Turkey	...	20,000	...	23,250	...	20,950
Persia	...	6,959	...	7,120	...	6,600
Haberdashery—						
India	...	18,815	...	16,950	...	7,160
Others	...	225	...	265	...	400
Hardware and cutlery—						
Hardware—						
India	...	78,300	...	69,250	...	72,090
Others	...	2,035	...	1,895	...	675
Cutlery—						
India	...	30,250	...	25,800	...	22,750
Hides and skins—	Pieces.		Pieces.		Pieces.	
India	17,550	19,300	14,340	15,870	13,480	16,850
Turkish Arabia	20,000	10,000	18,500	9,550	17,420	9,450
Maskat	1,100	1,925	1,220	2,300	1,480	2,765
Jute and manufactures of—						
Gunny bags—	Bundles.		Bundles.		Bundles.	
India	126	14,963	197	22,655	224	21,280
Other sorts—						
India	...	2,300	...	2,440	...	2,570
Lamps and lamp-ware—						
India	...	6,050	...	6,700	...	7,220
Germany	...	...	...	...	...	200
Leather and manufactures of leather (tanned)—						
India	...	1,700	...	1,580	...	1,240
Others	...	1,520	...	1,510	...	1,180
Saddlery, harness, boots and shoes, etc.—						
India	...	4,350	...	3,765	...	3,260
Matches—	Cases.		Cases.		Cases.	
India	408	17,952	338	13,858	345	14,490
Germany	...	...	...	...	115	4,600

Table showing the total value of principal articles imported into the Port of Bahrain during the years 1904, 1905 and 1906—*contd.*

Principal articles and principal countries from which imported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Mats and mat bags—		Rs.		Rs.		Rs
India	...	1,000	...	1,360	...	1,240
Turkish Arabia	...	24,000	...	21,750	...	23,100
Maskat	...	4,900	...	4,720	...	4,620
Persia	...	100	...	135	...	285
Metals—						
Copper—	Cwts.		Cwts.		Cwts.	
India	380	21,280	411	28,350	365	35,400
Turkish Arabia	...	...	13	936	15	1,465
Persia	141	8,178	115	8,280	103	9,990
Tin—						
India	48	3,888	59	4,605	70	5,250
Iron—						
India	2,850	18,525	3,627	40,800	3,490	31,410
Others	5	40	...	...	14	130
Brass—						
India	19	2,584	13	1,725	16	2,000
Other sorts—						
India	731	8,772	...	975	...	2,750
Oils—						
Kerosine—	Cases.		Cases.		Cases.	
India	12,249	53,500	11,775	46,987	9,000	36,000
Russia	12,000	51,500	...	...	...	...
United States of America	...	...	...	...	30,000	1,20,000
Other sorts—						
India	...	19,200	...	17,750	...	18,400
Mukalla	...	15,405	...	17,640	...	40,000
Others	...	3,490	...	2,915	...	3,230
Pearls—						
India	...	7,55,000	...	9,82,000	...	46,500
Turkish Arabia	...	29,60,000	...	56,72,000	...	82,13,000
Trucial Oman	...	4,71,000	...	18,59,000	...	2,80,000
Persia	...	75,000	...	3,05,000	...	27,500
Perfumery—						
Rosewater—						
Persia	...	10,500	1,500	9,750	1,750	11,375
Other sorts—						
India	...	14,450	...	4,400	...	18,900
Germany	...	...	...	...	...	4,500
Porcelain and Chinaware—						
Chinaware—						
India	55	7,325	207	25,254	175	21,775
Germany	...	...	...	...	6	1,200
Provisions—						
Cocoanuts—						
India	...	4,200	...	4,750	...	5,100
Zanzibar	...	4,400	...	3,700	...	4,200
Dry limes—						
India	...	400	...	540	...	475
Maskat	...	9,040	...	8,730	...	7,850
Persia	...	3,700	...	4,050	...	9,360
Trucial Oman	...	...	...	...	...	1,040
Flour—	Cwts.		Cwts.		Cwts.	
India	4,400	35,200	4,575	38,887	5,654	45,234
Ghee—						
India	...	18,877	530	30,800	190	10,640
Turkish Arabia	...	1,36,500	1,790	1,20,720	2,350	1,35,125
Persia	...	30,100	2,140	1,29,470	800	45,200
Other sorts—						
India	...	35,700	...	39,750	...	48,400
Turkish Arabia	...	10,500	...	9,460	...	10,250
Trucial Oman	...	6,100	...	6,550	...	7,620
Persia	...	28,950	...	26,640	...	31,500
Germany	...	...	...	...	...	14,280
Maskat	...	...	...	...	...	8,025
Salt—						
Persia	...	196	...	320	...	615
Seeds—						
Linseed—						
India	45	360	52	416	57	450
Simsim—						
India	55	220	59	265	61	295
Other sorts—						
India	...	2,540	...	2,340	...	2,420
Turkish Arabia	...	22,000	...	20,150	...	19,700
Persia	...	210	...	195	...	...
Shells, mother-of-pearl—						
Others	12	661	13½	608	13	660

Principal articles and principal countries from which imported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.
Shells, mussel—						
Turkish Arabia	...	...	150	1,350	350	2,300
Trucial Oman	510	6,120	670	6,030	720	6,560
Shells, oyster (Linga shells)—						
Turkish Arabia	1,100	4,400	1,350	5,060	1,820	6,143
Others	...	...	...	...	815	2,008
Silk (raw)—	lbs.		lbs.		lbs.	
India	3,050	22,875	3,240	25,210	3,470	28,627
Silk piece-goods—						
India	...	1,61,195	...	1,53,850	...	1,47,830
Others	...	...	...	780	...	1,760
Spices—	Cwt s.		Cwts.		Cwts.	
Turmeric—						
India	1,860	11,100	1,640	10,660	1,379	23,443
Ginger—						
India	227	5,450	245	5,757	115½	2,830
Black pepper—						
India	1,155	51,975	994	36,778	746	27,975
Other sorts—						
India	253	24,540	265	24,645	283	26,030
Turkish Arabia	17	715	19	1,756	23	2,100
Persia	95	3,705	88	4,752	103	6,384
Maskat	...	...	...	...	12	780
Stationery—						
India	...	5,250	...	5,480	...	5,680
Others	...	...	...	...	...	260
Sugar, loaf—						
India	250	3,125	210	2,730	1,387	8,037
Persia	432	5,390	457	5,496	40	520
Germany	...	...	...	...	401	8,421
Sugar, soft—						
India	13,442	1,61,300	18,758	2,39,165	19,681	2,16,490
Persia	...	...	510	6,247	826	9,090
Trucial Oman	...	...	33	475	5	55
Maskat	...	...	...	...	156	1,716
Germany	...	...	...	...	400	4,800
Sugar candy—						
India	520	6,500	1,309	17,020	1,411	16,932
Persia	...	...	...	...	50	700
Tallow—						
India	1,210	15,730	1,370	17,125	1,490	19,370
Persia	115	1,465	92	1,150	...	...
Tea—	lbs.		lbs.		lbs.	
India	83,750	81,400	90,250	39,415	1,15,700	46,280
Timber and wood—						
Planks and beams—						
India	...	81,580	...	59,542	...	93,150
Mukalla	...	3,450	...	4,575	...	2,008
Persia	...	10,920	...	...	...	...
Rafters—						
Zanzibar	...	33,800	...	42,000	...	51,000
Others	...	650	...	2,400	...	...
Tobacco—	Cwts.		Cwts.		Cwts.	
Turkish Arabia	...	53,700	...	56,500	...	73,500
Trucial Oman	...	1,67,500	...	1,91,800	...	2,47,500
Persia	...	8,080	...	10,500	...	13,500
Manufactures of tobacco—						
India	...	650	...	840	...	1,750
Others	...	3,950	...	2,754	...	3,650
Watches and clocks—						
India	...	6,900	...	7,550	...	9,700
Wool—						
Turkish Arabia	150	3,000	169	3,600	175	9,225
Woollen goods—						
Shawls—						
India	...	6,850	...	5,650	...	7,900
Broad cloth and other woollen piece-goods—						
India	...	45,400	...	50,220	...	53,200
Germany	...	...	...	...	...	2,434

Table showing the total value of principal articles imported into the Port of Bahrain during the years 1904, 1905 and 1906—*concld.*

Principal articles and principal countries from which imported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
		Rs.		Rs.		Rs.
Persian cloaks (abbas)—						
Turkish Arabia	...	2,18 400	...	1,82,750	8,600	96,700
Trucial Oman	...	10 500	...	12,000	680	9,860
Persia	...	3,650	...	3,340	1,650	13,200
Other manufactures of wool—						
India	...	14 485	...	8,540	...	10,920
Persia	...	10,500	...	9,200	...	11,150
Germany	...	...	...	...	...	200
Specie—						
India	...	32,47,000	...	36,22,000	...	69,32,580
Turkish Arabia	...	73,000	...	87,500	...	95,000
Maskat	...	95,750	...	83,700	...	1,15,870
Persia	...	89,500	...	77,800	...	89,500
Trucial Oman	...	69,800	...	75,200	...	63,500
Articles not specified above—						
India	...	14,550	...	15,620	...	17,500
Persia	...	19,562	...	17,420	...	20,600
Maskat	...	10,000	...	7,840	...	9,300
Others	...	520	...	630	...	1,150
Total of all articles	...	14884,129	...	2,43,01,519	...	2,45,55,392

Table showing the total number and tonnage of vessels of each nation that entered the Port of Bahrain.

Nationality.		Sailing.		Steam.		Total.	
		No. of vessels.	Tons.	No. of vessels.	Tons.	No. of vessels.	Tones.
British	1904	21	2,462	72	97,085	93	128,606
	1905	25	2,725	65	95,097	90	97 822
	1906	22	2,244	71	100,983	93	103,227
American	1904	...	...	...	...	...	...
	1905	..	...	...	...	...	...
	1906	...	...	1	3,943	1	3,943
German	1904	...	...	...	...	...	...
	1905	...	...	...	...	...	...
	1906	...	...	4	6,205	4	6,205
Russia	1904	...	...	...	...	...	...
	1905	...	...	...	...	...	...
	1906	...	...	1	2,000	1	2,000
Turkish Arabia	1904	231	9,453	...	...	231	9,453
	1905	258	9,650	...	...	258	9,650
	1906	242	8,866	...	...	242	8,866
Maskat	1904	23	575	...	...	23	575
	1905	22	616	...	...	22	616
	1906	21	641	...	...	21	641
Trucial Oman	1904	317	9,958	...	...	317	9,958
	1905	288	9,935	...	...	288	9,935
	1906	291	9,312	...	...	291	9,312
Persian	1904	258	7,073	...	...	258	7,073
	1905	263	6,705	...	...	263	6,705
	1906	278	6,672	...	...	278	6,672
Total	1904	850	29,521	73	99,085	923	128,606
	1905	856	29 631	65	95,097	931	124,728
	1906	854	27,738	76	11,131	930	138,866

Total value of imports from principal countries.

Principal articles and principal countries from which exported.	1904.	1905.	1906.
	Value.	Value.	Value.
	Rs.	Rs.	Rs.
United Kingdom (direct)	2,750	350	...
India (including) transhipments from United Kingdom)	88,84,482	1,03,00,726	1,22,14,230
Turkish Arabia	43,92,728	1,02,85,594	98,70,146
Maskat	1,33,045	1,09,800	1,84,161
Zanzibar	38,200	45,700	55,200
Trucial Oman	7,33,216	21,54,650	6,20,648
Persia	6,11,458	13,80,494	13,02 644
Mukalla	36,750	24,205	43,478
Russia	51,500	...	...
United State of America	...	...	1,20, 000
Germany and other countries visited by Hamburg-America Line Steamers	...	...	1,44,900
Total	1,48,84,129	2,43 01,519	2,45,55,392

Table showing the total value of principal articles exported from the Port of Bahrain during the years 1904, 1905 and 1906.

Principal articles and principal countries to which exported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Animals—						
Horses—	Head.	Rs.	Head.	Rs.	Head.	Rs.
India	47	16,685	23	8,850	19	9,215
Turkish Arabia	13	14,680	9	3,330	4	1,800
Others	7	3,800	2	940	5	2,500
Donkeys—						
Persia	25	1,450	31	1,736	42	3,225
Others	13	1,425	4	330	2	325
Camels—						
Turkish Arabia	2	650	1	290	...	...
Other sorts (milch cows)—						
India	2	170	...	...	7	630
Persia	11	647	8	600	6	540
Arms and ammunition—						
Other sorts—						
Persia	...	120	...	...	...	...
Canvas (sail cloth)—	Cwts.		Cwts.		Cwts.	
India	...	...	...	...	10	750
Turkish Arabia	450	24,300	820	36,900	697½	52,315
Trucial Oman	225	12,150	105	4,725	280	21,000
Persia	168	9,072	110	4,959	56	4,200
Coffee—						
Turkish Arabia	3,350	1,17,250	3,840	1,53,600	5,850	2,16,450
Persia	57	1,880	68	2,720	95	3,515
Coir and coir ropes—						
Turkish Arabia	980	10,290	565	12,542	700	8,467
Others	180	850	1	2,349	295	2,194
Cotton piece-goods—						
White grey shirtings—	Bales.		Bales.		Bales.	
Turkish Arabia	480	1,15,680	533	1,16,727	545	1,73,210
Persia	41	11,380	37	10,730	49	14,946
Prints—						
Turkish Arabia	317	1 06,090	341	1,11,160	589	1,29,580
Persia	23	7,705	27	8,775	22	4,950
Dyed shirtings—						
Turkish Arabia	111	27,200	123	30,020	140	40,040
Persia	58	4,380	61	5,490	72	6,910
Other sorts—						
Turkish Arabia	475	85,500	511	89,425	814	1,18,220
Persia	37	6,550	33	6,150	29	6,670
Cotton (raw)—	Cwts.		Cwts.		Cwts.	
Turkish Arabia	43	1,200	47	1,270	1	1,231
Yarn and twist—						
Turkish Arabia	568	15,905	543	15,745	565	16,652
Dates—	Cases.		Cases.		Cases.	
India	48,380	1,51,125	50,110	8 7, 10	43,800	1,63,683
Turkish Arabia	16,100	44,275	17,090	51,240	32,929	1,21,845
Egypt	13,120	40,170	10,730	32,190	...	...

Table showing the total value of principal articles exported from the Port of Bahrain during the years 1904, 1905 and 1906.—*concld.*

Principal articles and principal countries to which exported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Dates—	Cases.	Rs.	Cases.	Rs.	Cases.	Rs.
Maskat . .	3,380	9,720	2,910	8,730	3,240	9,440
Zanzibar . .	10,120	20,095	8,923	26,770	7,830	38,483
Trucial Oman .	8,750	20,145	6,675	20,025	4,900	19,600
Persia . . .	18,740	53,380	16,580	49,740	13,800	58,650
Date juice—						
Turkish Arabia	215	1,570	195	1,535	925	5,088
Persia . . .	795	3,980	960	6,770	840	4,620
Others . . .	412	2,060	366	2,884	405	2,228
Drugs and medicines—						
Rose buds—						
Turkish Arabia	...	1,050	...	1,820	...	1,830
Other sorts—						
Turkish Arabia	...	8,900	...	9,470	...	8,700
Dyeing and colouring materials—						
Turkish Arabia	...	8,240	...	8,630	...	7,450
Fruits and vegetables—						
Almonds—						
Turkish Arabia	195	3,315	171	2,905	165	3,169
Raisins and currants—						
Turkish Arabia	230	2,070	217	1,900	195	2,194
Other sorts—						
Turkish Arabia	...	8,220	...	8,470	...	7,350
Others . . .	...	1,885	...	1,692	...	1,410
Grain and pulse—						
Wheat—						
Turkish Arabia	10,850 Cwt.	59,675	13,750 Cwt.	65,310	18,600 Cwt.	93,000
Barley—						
Turkish Arabia	1,150	3,590	1,230	3,990	1,500	4,876
Rice—						
Trucial Oman	2,950	19,910	3,110	20,990	1,050	9,975
Persia . . .	3,800	15,650	4,075	27,500	3,340	31,730
Turkish Arabia	73,850	4,71,540	80,650	5,44,380	64,600	6,13,700
Other sorts—						
Turkish Arabia	...	1,370	...	1,280	...	1,900
Gum—						
Mastic and other sorts—						
Turkish Arabia	...	680	...	643	...	660
Hardware and cutlery—						
Hardware—						
Turkish Arabia	...	17,850	...	15,120	...	16,050
Others . . .	...	2,690	...	2,755	...	2,220
Cutlery—						
Others . . .	...	465	...	560	...	845
Hides and skins—						
India . . .	...	19,740	...	21,670	...	18,750
Persia . . .	...	15,850	...	16,060	...	4,640
Jute and manufactures of—						
Gunnies—						
Turkish Arabia	...	6,750	...	7,440	...	7,110
Persia . . .	...	3,280	...	3,210	...	2,960
Other manufactures—						
Turkish Arabia	...	345	...	315	...	280
Mat and mat bags—						
India . . .	...	850	...	1,045	...	960
Others . . .	...	2,560	...	2,240	...	2,300
Metals—						
Copper—						
Turkish Arabia	121	6,900	103	5,974	109	10,355
Persia . . .	43	2,450	37	2,146	31	2,945
Other sorts—						
Turkish Arabia	...	6,310	...	6,430	...	6,800
Others . . .	...	1,750	...	1,845	...	1,725
Oils—						
Kerosine—	Cases.		Cases.		Cases.	
Turkish Arabia	5,140	23,130	4,830	22,330	5,157	21,918
Persia . . .	715	3,215	685	3,075	635	2,699
Other sorts—						
Turkish Arabia	...	3,530	...	3,375	...	3,393
Persia . .	...	2,310	...	2,245	...	2,180
Opium—						
Turkish Arabia	...	195	...	210	...	250
Pearls—						
India . .	...	96,30,000	...	1,22,94,000	...	1,33,81,000
Turkish Arabia	...	8,55,000	...	35,91,000	...	33,66,000
Persia . .	...	3,000	...	...	...	5,000
France . .	...	...	...	3,09,000	...	1,87,000

Principal articles and principal countries to which exported.	1904.		1905.		1906.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Perfumery—		Rs.		Rs.		Rs.
Rosewater—						
Turkish Arabia	...	4,650	...	4,520	...	4,405
Other sorts—						
Turkish Arabia	...	3,560	...	3,670	...	3,460
Trucial Oman	...	310	...	290	...	170
Persia .	...	2,850	...	3,050	...	2,725
Sugar (loaf and soft)—	Cwt.		Cwt.		Cwt.	
Turkish Arabia	4,715	50,100	4,520	58,760	4,430	49,838
Persia . .	515	6,190	458	5,954	580	6,526
Tallow—						
Turkish Arabia	175	3,500	193	4,500	222	994
Persia . .	61	1,250	66	1,385	55	1,485
Tea—	lbs.		lbs.		lbs.	
Turkish Arabia	7,800	3,375	7,380	3,225	8,020	3,259
Persia . .	17,500	7,655	13,850	5,970	57,900	23,520
Limes (dry)—						
Turkish Arabia	...	2,280	...	2,630	...	2,620
Other sorts—						
Turkish Arabia	...	29,500	...	30,710	...	29,650
Others . .	...	2,930	...	3,035	...	2,920
Seeds—						
Other sorts—						
Turkish Arabia	...	4,050	...	2,920	...	4,260
Shark fins—	Cwt.		Cwt.		Cwt.	
India . .	485	10,180	505	11,740	425	8,075
Shells, mother-of-pearl.	19	1,100	19	1,100	28	1,512
Shells, mussel—						
Others . .	365	4,665	417	5,705	464	4,640
Shells, oyster—						
United Kingdom	13,750	61,875	710	3,195	1,450	7,975
India . .	955	4,300	882	3,970	1,370	7,535
Germany . .	28,940	1,30,230	19,550	69,075	17,800	97,900
France . .	75	340	1,725	7,765	...	...
Persia . .	4,150	8,675	3,940	7,730	5,750	31,625
Silk (raw)—	lbs.		lbs.		lbs.	
Turkish Arabia	1,060	7,455	80	165	986	7,719
Others . .	106	742	95	733	103	849
Silk manufactures of—						
Silk piece-goods—	Pieces.		Pieces.		Pieces.	
Turkish Arabia	2,250	27,000	2,115	26,965	2,040	29,220
Trucial Oman .	270	3,240	285	3,523	210	2,730
Persia . .	840	9,240	762	9,525	735	8,820
Silk apparel—						
Turkish Arabia	168	4,030	146	3,770	158	4,266
Spices—						
Turkish Arabia	...	...	...	23,835	...	24,270
Trucial Oman .	...	1,050		1,140	...	870
Persia . .	...	1,950	...	1,615	...	4,740
Timber and wood—						
Planks and beams—						
Turkish Arabia	...	12,840	...	13,620	...	14,410
Persia . .	...	2,780	...	2,960	...	2,530
Rafters—						
Turkish Arabia	...	5,290	...	4,850	...	5,300
Tobacco—						
Turkish Arabia	...	41,950	...	40,250	...	42,600
Persia . .	...	2,630	...	2,185	...	1,350
Wool—	Cwts.		Cwts.		Cwts.	
Turkish Arabia	185	5,735	213	6,070	240	10,080
Persia . .	92	2,850	83	2,465	107	4,404
Woollen goods—						
Carpets—						
India . .	...	625	...	690	...	730
Turkish Arabia	...	3,740	...	4,080	...	4,130
Persia . .	...	570	...	965	...	650
Other sorts—						
India . .	...	7,610	...	7,375	...	6,840
Others . .	...	7,915	...	8,270	...	7,630
Specie—						
India . .	...	3,41,500	...	3,85,500	...	5,55,075
Turkish Arabia	...	40,900	...	10,55,000	...	21,92,000
Maskat . .	...	52,800	...	45,700	...	41,700
Trucial Oman .	...	2,85,700	...	4,25,000	...	2,85,000
Persia . .	...	37,650	...	40,800	...	41,500
Articles not specified above—						
Turkish Arabia	...	49,700	...	44,850	...	44,100
Persia . .	...	8,430	...	7,940	...	7,370
Others . .	...	1,490	...	1,340	...	1,605
Total of all articles .		13504701	...	2,04,50,643	...	2,27,62,810

Table showing the total number and tonnage of vessels of each nation that cleared the Port of Bahrain.

Nationality.		Sailing.		Steam.		Total.	
		No. of vessels.	Tons.	No. of vessels.	Tons.	No. of vessels.	Tons.
British . .	1904	25	2,875	34	48,788	59	51,663
	1905	23	2,553	35	54,666	58	57,218
	1906	19	1,843	37	57,583	56	59,426
American . .	1904	...	...	...	...	...	...
	1905	...	...	...	...	...	...
	1906	...	...	1	3,043	1	3,043
German . .	1904	...	...	...	...	...	...
	1905	...	...	...	...	...	...
	1906	...	...	2	3,444	2	3,444
Russian . .	1904	...	...	1	2,000	1	2,000
	1905	...	...	...	...	...	...
	1906	...	...	...	...	...	...
Turkish Arabia .	1904	237	9,339	...	...	237	9,339
	1905	248	9,436	...	...	248	9,436
	1906	279	12,154	...	...	279	12,154
Maskat . .	1904	22	594	...	...	22	594
	1905	24	648	...	...	24	648
	1906	18	630	...	...	18	630
Trucial Oman .	1904	301	11,132	...	...	301	11,132
	1905	296	10,140	...	...	296	10,140
	1906	288	9,504	...	...	288	9,504
Persian . .	1904	252	7,037	...	...	252	7,037
	1905	271	7,002	...	...	271	7,002
	1906	264	5,880	...	...	264	5,880
Total . .	1904	837	30,977	35	50,788	872	81,765
	1905	862	29,779	35	54,666	897	84,445
	1906	868	30,011	40	64,970	908	94,981

Total value of exports to principal countries

Principal articles and principal countries to which exported.	1904.	1905.	1906.
	Value.	Value.	Value.
	Rs.	Rs.	Rs.
United Kingdom . .	64,985	6,425	10,227
India	1,01,82,825	1,29,22,750	1,41,59,023
Egypt	40,170	32,190	...
Germany	1,32,410	72,000	1,00,450
Turkish Arabia . .	23,82,120	62,69,881	75,47,142
Maskat	72,135	58,327	55,660
Zanzibar	30,750	27,335	39,008
Trucial Oman . .	3,50,912	4,84,443	3,45,606
Persia	2,56,759	2,60,527	3,18,694
France	340	3,16,765	1,87,000
Total .	1,35,07,491	2,04,50,643	2,27,62,810

G. I. C. P. O.—No. 1218—D. G. C. I.—24-10-1907.—1035.

4.11.7

SUPPLEMENT

TO

THE INDIAN TRADE JOURNAL.

OCTOBER 31, 1907.

SUPPLEMENT

TO

THE INDIAN TRADE JOURNAL.

OCTOBER 31, 1907.

LADAKH TRADE REPORT FOR THE YEAR ENDING 31st MARCH, 1907.

Merchandise coming from Chinese Turkestan and Tibet is called Imports.

Merchandise coming from the Punjab is called Exports.

Merchandise bound for the Punjab is called Imports to the Punjab.

Merchandise bound for Central Asia is called Exports to Central Asia.

1. The total value of the imports and exports for the year 1906-1907 amounted to Rs. 30,12,293 against Rs. 27,05,063 during the previous years, being an increase in value of Rs. 3,07,230. The figures for the year under report are as follows :—

	Rs.
Imports	17,38,151
Exports	12,74,142

The imports have increased in value by 3,40,755 and the exports have decreased in value by Rs. 33,555 as compared with the previous year. The large increase in imports is made up as follows : —

	Rs.
Increase in imports from Chinese Turkestan	1,38,830
,, ,, ,, Tibet . .	2,01,925

The increase in the imports from Tibet is partly due to the return of the triennial Lapchak Mission from Lhasa, which brought back goods worth Rs. 70,988. The remaining balance increase in imports from Tibet is nevertheless satisfactory.

Table showing value of Imports and Exports from 1902-03 to 1906-07.

	1902-1903.	1903-1904.	1904-1905.	1905-1906.	1906-1907.
	Rs.	Rs.	Rs.	Rs.	Rs.
Imports from Central Asia into Ladakh.	9,87,473	9,47,718	15,23,217	13,14,744	14,64,447
Exports from British India to Ladakh.	11,84,163	12,67,978	13,52,229	12,45,869	11,12,135
Total .	21,71,642	22,15,696	28,75,446	25,60,613	25,76,582

These figures do not include the local trade with Changtang, which amounted during the year under report to Rs. 3,51,498, *viz.* :—

	Rs.
Imports	2,73,704
Exports	77,794

There is an increase of Rs. 2,07,048 in this trade as compared with last year's figures.

2. The year has been prosperous on the whole. While falling considerably below the high figure of 1904-1905, a good level is still maintained and there is a slight increase compared with last year.

3. The following table shows at a glance the value of the chief articles of import or export under which a marked increase or decrease has occurred during the year :—

Table showing the chief articles under which a marked increase or decrease in value of Imports and Exports, respectively, have occurred during the year 1906 and 1907, together with the nett results causing the decrease.

Names of Articles.	IMPORTS.		Nett.
	Increase.	Decrease.	
	Between 1906-1907 and 1905-1906.		
	Rs.	Rs	
1. Horses, ponies and mules	68,920	...	
2. Sheep and goats . .	27,024	...	
3. Wearing apparel . .	3,947	...	
4. Cotton, manufactured, foreign.	...	4,344	
5. Charas . . .	...	43,503	
6. Turquoises and precious stones.	11,217	...	
7. Leather, unmanufactured.	5,272	...	
8. Namdhas . . .	...	23,246	
9. Carpets . . .	...	3,200	
10. Salt, Tibetan . .	...	4,302	
11. Silk, raw . . .	...	1,39,281	
12. Silk, manufactured, foreign.	6,221	...	
13. Stationery . . .	2,465	...	
14. Lhasa brick tea . .	1,00,556	...	
15. Wool, raw, including pasham.	52,705	...	
16. Wool, manufactured, Indian.	2,213	...	
17. All other articles of merchandise manufactured.	2,337	...	
18. Gold	...	7,150	
19. Russian gold coins .	2,85,684	...	
20. Silver coins . .	1,452	...	
TOTAL .	+ 5,70,013	− 2,25,026	+ 3,44,987

Table showing the chief articles under which a marked increase or decrease in value of Imports and Exports, respectively, have occurred during the year 1906 and 1907, together with the nett results causing the decrease—*continued.*

Names of Articles.	EXPORTS.		
	INCREASE.	DECREASE.	
	Between 1906-1907 and 1905-1906.		
	Rs.	Rs.	
1. Horses, ponies and mules.	...	8,580	
2. Sheep and goats .	24,348	...	
3. Cloth, manufactured, European.	...	20,818	
4. Cotton, manufactured, Indian.	...	15,614	
5. Drugs and medicines .	3,754	...	
6. Indigo . . .	...	12,370	
7. Madder . . .	...	1,652	
8. Dyeing materials .	...	14,874	
9. Fruits . . .	1,709	...	
10. Grains and pulses .	3,718	...	
11. Rice, husked . .	9,006	...	
12. Grim . . .	9,217	...	
13. Flour, grim . .	...	3,862	
14. Skins of sheep, goats and small animals.	8,858	...	
15. Turquoises . .	1,465	...	
16. Coral . . .	...	26,705	
17. Leather, unmanufactured.	3,455	...	
18. Brass and copper .	...	4,810	
19. Petroleum . .	3,161	...	
20. Provisions . .	3,010	...	
21. Saltpetre and other saline substances.	...	3,192	
22. Silk, manufactured, European.	...	63,785	
23. Silk, manufactured, Indian.	...	12,435	
24. Spices . . .	13,376	...	
25. Tea, Indian . .	14,248	...	
26. Tea, Chinese *vid* India	33,608	...	
27. Tobacco . . .	2,379	...	
28. Wool, manufactured, European.	...	4,200	
29. All other articles of merchandise, manufactured.	16,153	...	
30. Gold dust . .	...	8,063	
31. Silver coins . .	12,843	...	
32. Miscellaneous . .	...	1,624	
TOTAL .	−1,64,308	+2,02,584	−38,276

W. L. CAMPBELL,

Assistant to the Resident in Kashmir for Leh.

TURNING FIRST TO IMPORTS.

4. Ponies and Mules.—One thousand seven hundred and sixty-one head were imported as against 544 head in 1905-06 being an increase o 1,217 head, value Rs. 68,920. Some of the traders purchased numbers of ponies and mules at Yarkand and carried their goods on their own animals instead of hiring transport, as the market was favourable. These animals were disposed of in Leh. The average price of a pony rose from Rs. 84 to Rs. 100.

Sheep and Goats.—The increase is remarkably high under this head, *viz.* :—

	Head.	Rs.
1905-06 . . .	629	1,794
1906-07 . . .	7,159	28,998

These are the principal transport animals for the trade from Western Tibet and Changtang and they are largely used for the carriage of raw wool and pasham to the Punjab by the Kulu route. The increase is largely due to the heavy increase in imported raw wool and pasham.

Charas.—The figures are interesting :—

	Maunds.	Rs.
1905-06 . . .	3,258	2,13,318
1906-07 . . .	3,818	1,69,815

Increase in quantity 560 maunds.
Decrease in value Rs. 43,503.

During the year 1905-06 high prices were obtained and the traders consequently increased their imports and overstocked the market, so that the price in Leh fell from Rs. 90 to Rs. 41 per maund. The quantity imported from Leh to the Punjab increased by 728 maunds and traders made considerable profits. In anticipation of the enhancement of the duty per seer from Rs. 6 to Rs. 8 the traders hurried to import all the charas deposited in the Leh warehouse.

Turquoises and precious stones.—There is satisfactory increase under this head. The figures are :—

	Beads.	Rs.
1905-06 . . .	7,963	9,268
1906-07 . . .	35,516	20,485

The balance stock was valued at Rs. 3,000. The returning Lapchak Mission brought 9,000 turquoises valued at Rs. 4,500, but even deducting this the increase is still considerable. A cheaper or smaller class of stone appear to have been coming in.

Namdhas.—There has been a heavy fall under this head. The figures are :—

	Pieces.	Rs.
1905-06	18,680	54,630
1906-07	8,055	31,388

It is not unlikely that last year's increase was accidental and that the demand for namdhas in Russia noticed in the Trade Report for 1904-05 has been sustained, so that only a small number have been carried south.

Silk, raw.—The figures under this head show a considerable decrease both in value and quantity thus :—

	Maunds.	Rs.
1905-06	1,279	5,70,154
1906-07	934	4,30,873
Decrease. . . .	345	1,39,281

Prices were lower in the Punjab and doubtless the Japanese are once more competing in the Indian markets. The amount of silk cultivated in Chinese Turkestan is not very large, and of this a considerable quantity is worked up at Khotan and Aksu. The figures for the year under report are, however, still well above those of 1903-04.

Silk, manufactured, foreign.—The increase under this head is again maintained. The figures are :—

	Maunds.	Rs.
1905-06	864	2,728
1906-07	5,184	8,949
Increase . . .	4,320	6,221

There is a good market for this commodity in Leh and the prospects of increasing trade are bright.

Lhasa brick tea.—There is a large increase under this head both in value and quantity, thus :—

	Maunds.	Rs.
1905-06	207	62,088
1906-07	1,017	1,62,644
Increase . . .	810	1,00,556

The returning Lapchak Mission brought 363 maunds of tea valued at Rs. 58,176. The demand for brick tea in Kashmir is maintained. The Calcutta tea merchants, who have already prepared bricks in the style of the Chinese article, might do worse than turn their attention to Ladakh, where they have an open market. As will be seen under exports the demand for Indian tea has also increased, and the time has come when Indian brick tea of a suitable quality should find a ready sale.

Wool, raw and pasham.—There is a fair increase under this head, thus :—

	Maunds.	Rs.
1905-06	3,745	1,02,601
1906-07	5,145	1,55,306
Increase . . .	1,400	52,705

The figures for 1905-06 were abnormally low and the recovery is only partial.

Gold.—There is a decrease of Rs. 7,150 under this head, thus :—

	Rs.
1905-06	8,545
1906-07	1,395

The rate in Lhasa was Rs. 24 per tola, while in Leh the rate fluctuated from Rs. 24 to Rs. 22.

Russian gold coins.—There is an increase of Rs. 2,85,684 under this head, which more than counterbalances last year's decrease of Rs. 1,78,948. The balance of trade is still in favour of Chinese Turkestan and the increase is ascribed to the fact that prices were high in Yarkand which led traders to bring Russian gold through to Leh and the Punjab where they can exchange at a profit.

TURNING TO EXPORTS.

5. Sheep and goats.—There is a marked increase under this head, thus :—

	Head.	Rs.
1905-06	31	117
1906-07	6,147	24,465
Increase . . .	6,116	24,348

This is due to the increased trade with Western Tibet.

Cotton, manufactured, European.—There is a slight decrease both in quantity and value.

	Maunds.	Rs.	
1905-06 . .	2,666	2,94,053	Punjab
1906-07 . .	2,017	2,73,235	to Ladakh.
Decrease .	649	20,818	

There was old stock in Leh worth Rs. 46,678. There was a slight decrease in the quantity exported from Ladakh to Central Asia, but an increase in value, thus :—

	Maunds.	Rs.
1905-06 . . .	2,219	2,47,375
1906-07 . . .	1,860	2,59,141
Decrease . .	359 increase	11,766

My personal opinion is that the trade in these and Indian piece-goods must inevitably die. The recovery during the Russo-Japanese war was only temporary and is not maintained. When I visited the markets of Chinese Turkestan in 1903 I had an opportunity of seeing how completely the Russian merchants had captured the piece goods trade. There is a market for khinkhwabs and velvets which are valuable for their bulk, and traders might pay more attention to these latter with advantage. The exports to Western Tibet have increased satisfactorily.

	Maunds.	Rs.
1905-06	24	2,553
1906-07	99	12,599

This is partially attributed to a duodecimal fair held at Kanri in the upper province of Tibet during the year under report. The fair is said to be called Talu (ta-lo-horse-year, which recurs every twelve years, 1906 being the "me-ta" or "fire-horse" year), but I have not been able to ascertain any further details. Any large trade in cotton piece-goods with Tibet is unlikely as the common people wear woollens and sheepskins, while the better class people rarely possess more than one or two cotton shirts.

Cotton, manufactured, Indian.—There is a marked decrease and the above remarks apply.

	Maunds.	Rs.
1905-06	312	24,831
1906-07	101	9,217

Indigo and dyeing materials.—There is a falling off under both heads.

Coral.—Prices were higher in the Punjab and exports fell in consequence.

	Maunds.	Rs.
1905-06	119	1,37,736
1906-07	101	1,11,031

Manufactured silks.—There is a heavy decrease in value by Rs. 63,785 in European silks and Rs. 12,434 in Indian silks. This is largely due to last year's balance.

Indian tea.—There is a marked improvement both in quantity and value, thus :—

	Maunds.	Rs.
1905-06	1,010	35,892
1906-07	2,406	50,140
Increase	1,396	14,248

The market is recovering from the effects of the Kangra valley disaster, but more might be done, especially to fight Chinese teas, brick and leaf, which are coming in increasing quantities overland and by sea.

Chinese tea *vid* **India.**—There is a large increase under this head, thus :—

	Maunds.	Rs.
1905-06	116	14,138
1906-07	367	47,746

Tobacco.—This item shows a decrease in quantity by 129 maunds, but an increase in value by Rs. 2,379, due to the ever increasing quantity of cigars and cigarettes exported in *place of* loose tobacco.

6. The following is a statement showing the amount of duty refunded to Central Asian traders for goods exported in bond during the year :—

Name of Port.	No. of Invoices.	Amount of duty refunded.
		Rs. A. P.
Karachi	26	1,962 0 6
Bombay	37	2,609 12 0
TOTAL . .	63	4,571 12 6

7. On the whole the year under report was a favourable one. The increase is not large, but it is still satisfactory as shewing that trade has been maintained. The increase in imports from Tibet is noteworthy. I have not at present the local knowledge to enable me to make this report as interesting as I might have wished, and I have, therefore, confined myself to drawing attention to a few points which appear to call for special mention.

8. A new serai has been built for the convenience of traders at Matayan and a number of minor improvements have been made on the road.

W. L. CAMPBELL,
Assistant to the Resident in Kashmir for Leh.

TABLES I AND II.

TABLE I.—

IMPORTS.

Serial No.	Names of Articles.	A.—IMPORTS FROM CENTRAL ASIA INTO LADAKH.						B.—IMPORTS FROM LADAKH INTO BRITISH INDIA.										Balance showing difference between imports into Ladakh from Central Asia and those from Ladakh into India.	
		Chinese Turkestan		Tibet.		Total.		Punjab.						Kashmir Proper.		Total.			
								Viâ Kulu.		*Viâ Kashmir.*		*Total.*							
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1	Animals, living (for sale)—		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
	(*a*) Horses, ponies, and mules . . Head	1,428	98,690	333	11,960	1,761	1,10,650	133	8,975	172	12,080	305	21,055	287	7,975	592	29,030	1,169	81,620
	(*b*) Cattle . . . . . „	...	...	8	230	8	230	...	...	..	...	...	...	29	915	29	915	...	...
	(*c*) Sheep and goats . . . . . „	...	...	7,159	28,998	7,159	28,998	5,980	23,870	5	20	5,985	23,890	390	1,529	6,375	25,419	784	3,579
2	Arms and ammunition	1,700	17	...	...	1,700	17	...	...	...	...	...	...	...	...	...	...	1,700	17
3	Apparel . . . . . No.	498	5,083	3	225	501	5,308	...	...	238	2,508	238	2,508	107	512	345	3,020	156	2,288
4	Borax . . . . . Mds.	...	...	418	993	418	993	1,968	4,674	...	...	1,968	4,674	...	...	1,968	4,674	...	...
5	Cotton—																		
	(*a*) Manufactured piece-goods, European „	...	...	...	...	...	...	...	...	...	...	...	...	33	4,289	33	4,289	...	...
	(*b*) Ditto, Indian . „	...	..	...	...	...	...	...	...	...	...	...	...	29	2,506	29	2,506	...	...
	(*c*) Ditto, Foreign . { „	16	...	...	...	16	...	...	..	1	...	1	...	...	...	...	..	15	...
	{ No.	357	3,557	1	1	358	3,558	...	12	4	222	4	234	262	391	266	625	92	2,933
6	Drugs and medicines—																		
	(*a*) Charas . . . . . Mds.	3,818	1,69,815	...	...	3,818	1,69,815	1,633	75,093	2,166	1,03,747	3,799	1,78,840	77	3,861	3,876	1,82,701	...	...
	(*b*) Other kinds . . . . . „	5	186	1	1,000	6	1,186	3	360	...	8	3	368	1	276	4	644	2	542
7	Dyeing materials—																		
	(*a*) Indigo . . . . . „	...	...	...	...	...	...	...	...	..	..	...	...	1	61	1	61	...	...
	(*b*) Madder . . . . . „	...	...	...	...	...	...	...	...	...	...	...	...	...	6	...	6	...	...
	(*c*) Turmeric . . . . . „	...	...	...	...	...	...	...	...	..	..	...	...	3	45	3	45	..	...
	(*d*) Other kinds . . . . . „	...	...	1	150	1	150	...	...	...	...	...	...	5	565	5	565	..	...
8	Fruits and vegetables	...	5	...	...	...	5	12	363	...	...	12	363	52	704	64	1,067	...	...
9	Grain and pulse—																		
	(*a*) Wheat . . . . . „	...	...	...	...	...	...	...	...	...	...	...	...	135	896	135	896	...	...
	(*b*) Gram . . . . . „	...	...	...	...	...	...	...	...	...	...	...	...	91	408	91	408	...	...
10	Hides and skins—																		
	(*a*) Hides of cattle . . . . Pairs	92	1,380	271	313	363	1,693	...	...	27	405	27	405	268	268	295	673	68	1,020
	(*b*) Skins of sheep, goats, and small animals.	33	77	2,319	593	2,352	670	...	...	...	...	...	...	...	...	...	..	2,352	670
11	Horns . . . . . No	1	30	...	...	1	30	..	...	2	60	2	60	...	...	2	60	...	...
12	Jewellery, including precious stones—																		
	(*a*) Turquoises and precious stones . Beads	755	2,965	34,761	17,520	35,516	20,485	200	200	883	2,815	1,083	3,015	7,415	3,043	8,498	6,058	27,018	14,427
	(*b*) Coral . . . . . { Mds	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...	...
	{ No.	...	...	...	...	...	...	...	...	...	...	...	...	284	38	284	38	...	...
13	Leather—																		
	(*a*) Unmanufactured . . . . { Pairs	...	...	2	...	78	...	...	...	...	...	...	...	15	..	15	..	...	...
	{ Score	76	182	$85\frac{10}{20}$	5,130	$85\frac{10}{20}$	5,312	...	...	Score 47	2,832	47	2,832	217	6,339	264	9,171	..	...
	(*b*) Manufactured . . . . Pairs	900	1,138	8	27	908	1,165	...	...	...	...	..	...	77	206	77	206	831	95
14	Metals and manufactures of metals—																		
	(*a*) Brass and copper . . . . Mds.	...	8	4	1,000	4	1,008	...	...	...	34	...	34		8	...	42	4	966
	(*b*) Iron . . . . . „	...	...	...	...	...	...	..	...	...	...	...	..	23	309	23	309	...	...
15	Musks . . . . . Pods	...	...	80	1,650	80	1,650	...	...	...	...	..	..	1	16	1	16	79	1,634
16	Namdas and carpets—																		
	(*a*) Namdas . . . . . Pairs	8,055	31,388	...	...	8,055	31,388	171	637	7,055	28,880	7,226	29,517	5,475	19,990	12,701	49,507	...	...
	(*b*) Carpets . . . . . „	215	4,000	2	20	217	4,020	98	1,990	64	1,360	162	3,350	7	124	169	3,474	48	546

TABLE I.—

IMPORTS—*contd.*

Serial No.	Names of Articles.	A.—IMPORTS FROM CENTRAL ASIA INTO LADAKH.						B.—IMPORTS FROM LADAKH INTO BRITISH INDIA.										Balance showing difference between imports into Ladakh from Central Asia and those from Ladakh into India.	
		Chinese Turkestan.		Tibet.		Total.		Punjab.						Kashmir Proper.		Total.			
								Vid Kulu.		*Vid Kashmir.*		*Total.*							
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
17	Oils—		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
	Other kinds . . . . . Mds.	...	...	...	..	...	...	...	...	...	...	...	...	4	85	4	85	...	...
18	Provisions—																		
	Ghee . . . . . „	...	...	21	1,035	21	1,035	...	...	...	...	...	...	...	15	...	15	21	1,020
19	Salt, Tibetan . . . . . „	...	...	3,994	16,219	3,994	16,219	2,494	10,003	...	...	2,494	10,003	2,017	8,275	4,511	18,278	...	...
20	Saltpetre and other saline substances . . „	...	...	..	...	...	...	...	...	...	...	...	...	75	1,500	75	1,500	...	...
21	Silk—																		
	(*a*) Raw . . . . . „	4	4,30,873	...	...	934	4,30,873	94	46,850	661	2,98,381	755	3,45,231	69	34,557	824	3,79,788	110	51,085
	(*b*) Manufactured piece-goods, European . Yds.	...	...	...	...	...	...	28	28	...	...	28	28	53	80	81	108	...	...
	(*c*) Ditto, Indian . Pairs	...	...	...	...	...	...	...	...	...	...	...	...	3	88	3	88	...	...
	(*d*) Ditto, Foreign . „	2,014	6,079	3,170	2,870	5,184	8,949	...	...	513	2,100	513	2,100	352	255	865	2,355	4,319	6,594
22	Spices . . . . . Mds.	...	...	...	...	...	...	...	...	...	...	...	...	17	672	17	672	...	...
23	Stationery . . . . . „	...	...	22	2,615	22	2,615	...	...	No. 1	2	1	2	Mds. 20	2,305	20	2,307	2	308
24	Sugar, refined . . . . . „	...	...	...	...	...	...	...	...	...	...	...	...	13	343	13	343	...	...
25	Tea—																		
	(*a*) Lhasa brick tea . . . . . „	...	...	1,017	1,62,644	1,017	1,62,644	...	...	1	148	1	148	719	1,14,918	720	1,15,066	297	47,578
	(*b*) Indian tea . . . . . „	...	...	...	...	...	...	...	...	...	56	...	56	100	4,246	100	4,302	...	...
26	Tobacco . . . . . „	...	...	...	...	...	...	...	...	...	...	...	...	2	74	2	74	...	...
27	Wool—																		
	(*a*) Raw, including pasham . . . „	450	17,674	4,695	1,37,632	5,145	1,55,306	2,297	66,528	171	6,360	2,468	72,888	2,916	94,145	5,384	1,67,033	...	...
	(*b*) Manufactured piece-goods, European . Yds.	...	...	...	...	...	...	...	...	...	...	...	...	101	287	101	287	...	...
	(*c*) Ditto, Indian . { „	141	717	3,927	2,581	4,068	3,298	57	128	10	6	67	134	1,708	1,256	1,775	1,390	2,293	1,908
	{ Mds.	23	...	...	...	23	...	...	...	...	...	...	...	12	...	12	...	...	...
	(*d*) Shawls . . . . . No.	2	30	...	...	2	30	17	289	4	55	21	344	...	...	21	344	...	...
28	Yak tails . . . . . „	542	542	...	...	542	542	...	...	500	500	500	500	...	...	500	500	42	42
29	All other articles of merchandise—																		
	(*a*) Unmanufactured . . . . „	...	...	...	..	...	...	...	...	...	...	...	...	3	9	3	9	...	...
	(*b*) Manufactured . . . . { „	1,965	2,393	344	1,913	2,309	4,306	9	18	182	1,065	191	1,083	211	971	402	2,054	1,907	2,252
	{ Mds.	...	...	7	...	7	...	...	...	...	...	...	...	5	...	5	...	2	...
	TOTAL .	...	7,76,829	...	3,97,319	...	11,74,148	...	2,40,018	...	4,63,644	...	7,03,662	...	3,19,359	..	10,23,021	...	2,21,988
30	Treasure—																		
	(*a*) Gold . . . . . Tolas	9	207	54	1,188	63	1,395	...	...	50	1,103	50	1,103	...	...	50	1,103	13	292
	(*b*) Gold dust . . . . . Mds.	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(*c*) Silver . . . . . „	...	898	...	...	...	898	...	...	...	735	...	735	...	...	...	735	...	163
	(*d*) Russian gold coins . . . . No.	338,572	5,29,019	...	...	338,572	5,29,019	670	1,047	12,195	4,87,803	12,86	4,88,850	10,000	15,625	322,865	5,04,475	15,707	24,544
	(*e*) Silver yambus . . . . . „	6	770	...	..	6	770	...	...	..	...	...	...	...	...	...	...	6	770
	(*f*) Silver coins . . . . . „	...	13,907	...	17,406	...	31,313	...	2,332	...	55,248	...	57,580	...	22,385	...	79,965	...	...
	(*g*) Miscellaneous . . . . . „	137	608	...	...	137	608	...	...	71	675	71	675	...	...	71	675	66	...
	TOTAL .	..	5,45,409	...	18,594	...	5,64,003	...	3,379	...	5,45,564	...	5,48,943	...	38,010	...	5,86,953	...	25,769
	GRAND TOTAL .	...	13,22,238	...	4,15,913	...	17,38,151	...	2,43,397	...	10,09,208	...	12,52,605	...	3,57,369	...	16,09,974	...	2,47,757

CAMP GANDERBAL;
The 25th May 1907.

W. L. CAMPBELL,
Assistant to the Resident in Kashmir for Leh.

TABLE II.—

EXPORTS.

Serial No.	Names of Articles.	A.—EXPORTS FROM BRITISH INDIA TO LADAKH. From the Punjab.						B.—EXPORTS FROM LADAKH TO CENTRAL ASIA.								Balance shown in difference between Exports to Ladakh from British India and those from Ladakh to Central Asia.	
		Viâ Kulu.		*Viâ Kashmir.*		*Total.*		Kashmir Proper.		Total.		Chinese Turkestan.		Tibet.		Total.	
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.				Rs.		Rs.
1	Animals, living (for sale)—																
	(*a*) Horses, ponies and mules . . Head	22	720	369	22,880	391	23,600	56	2,600	447	26,200	1,221	81,590	68	8,515	1,289	90,105
	(*b*) Cattle . . . . . „	16	465	...	...	16	465	68	2,140	84	2,605	...	...	...	..	...	...
	(*c*) Sheep and goats . . . . . „	4,830	19,270	...	...	4,830	19,270	1,317	5,195	6,147	24,465	5	20	5,834	23,321	5,839	23 341
2	Arms and ammunition . . . . Mds.	...	...	1	100	1	100	...	...	1	100	1	100	...	...	1	100
3	Apparel . . . . . No.	...	...	139	305	139	305	30	41	169	346	158	431	120	159	278	590
4	Cotton—																
	(*a*) Raw . . . . . Mds.	...	...	...	...	..	...	...	5	..	5	.		...	...	...	...
	(*b*) Manufactured piece goods, European . „	401	52,858	1,591	2,17 199	1,992	2,70,057	25	3,178	2,017	2,73,235	1,761	2,46,542	99	12,599	1,860	2,59,141
	(*c*) Ditto, Indian . „	57	5,653	44	3,543	101	9,196	...	21	101	9,217	70	6,121	31	2,448	101	8,569
	(*d*) Ditto, Foreign . { No.	...	...	...	...	...	...	12	15	12	15	...	...	1,135	2,917	1,135	2,917
	{ Mds.	...	...	...	...	...	...	...	...	...	...	...	...	8	...	8	...
	(*e*) Ditto Pieces .	...	...	...	...	...	...	...	...	...	...	..	...	...	...	...	...
5	Drugs and medicines—																
	Other kinds . . . . . Mds.	170	5,385	176	6,402	346	11,787	4	123	350	11,910	No. 200 Mds.380	1,720	...	...	No. 200 Mds.380	1,720
6	Dyeing materials—																
	(*a*) Indigo . . . . . „	...	5	418	41,700	418	41,705	2	225	420	4,1930	398	39,750	1	115	399	39,865
	(*b*) Madder . . . . . „	...	...	...	...	...	...	69	1,385	69	1,385	...	...	72	1,445	72	1,445
	(*c*) Turmeric . . . . . „	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	(*d*) Other kinds . . . . . „	29	3,593	86	11,407	115	15,000	13	1,124	128	16,124	83	11,352	1	1,936	84	13,288
7	Fruits and vegetables . . . . „	..	...	39	890	39	890	2,862	1,408	2,901	32,298	25	679	2,970	27,606	2,995	28,285
8	Grains and pulse—																
	(*a*) Grains and pulse . . . . „	203	1,012	9	75	212	1,087	635	2,771	847	3,858	3	11	955	4,150	958	4,161
	(*b*) Rice, husked . . . . . „	268	2,180	214	1,820	482	4,000	2,342	18.786	2.824	22,786	17	134	275	2,230	292	2,364
	(*c*) Grim . . . . . „	218	1,744	...	...	218	1,744	2,031	9,636	2,249	11,380	5	21	863	4,227	868	4,248
	(*d*) Flour of grim . . . . . „	...	...	...	...	...	...	166	822	166	822	...	...	614	2,888	614	2,888
9	Hides and skins—																
	Skins of sheep, goat and small animals .	104	520	13,963	66,715	14,067	67,265	...	...	14,067	67,265	13,672	65,782	400	2,000	14,072	67,782
10	Horns . . . . . No.	...	...	...	...	...	...	...	...	...	...	1	160	...	...	1	160
11	Jewellery including precious stones—																
	(*a*) Turquoises and precious stones . . Beads	...	...	3,014	5,600	3,014	5.600	...	...	3,014	5,600	1,726	1,298	1,000	7,300	2,726	8,598
	(*b*) Coral . . . . . Mds.	9	4,000	92	1,07,031	101	1,11 031	...	...	101	1,11,031	87	1,03,625	...	1	87	1,03,626
12	Leather—																
	(*a*) Unmanufactured . . . . Score	...	...	489	28,948	489	28,948	Ps. 7	420	489 7	29,368	486	29,137	...	...	486	29,137
	(*b*) Manufactured . . . . Pairs	60	146	1,029	3,495	1,089	3,641	428	1,257	1,517	4,898	44	139	...	...	44	139
13	Liquors	...	...	15	906	15	906	...	...	15	906	...	...	...	...	...	...
14	Metals and manufacture of metal—																
	(*a*) Brass and copper . . . . Mds.	19	1,362	30	2,436	49	3,798	15	1,003	64	4,801	3	215	10	760	13	975
	(*b*) Iron . . . . . { „	21	333	48	948	69	1,281	131	2,188	200	3,469	7	172	2	40	9	212
	{ No.	..	...	49	...	49	...	...	...	49	...	...	...	...	...	...	...
	(*c*) Other kinds . . . . . „	..	...	12	1,850	12	1,850	...	...	12	1,850	2	400	...	13	2	413
15	Musk . . . . . Pods	...	...	..	...	...	...	...	...	...	...	65	1,201	...	...	65	1,201
16	Namdhas and carpets—																
	(*a*) Namdhas . . . . . Pairs	...	...	..	...	...	...	43	203	43	203	...	...	32	106	32	106
	(*b*) Carpets . . . . . „	...	...	79	880	79	880	5	130	84	1,010	...	...	93	1,244	93	1,244

Balance shown in difference between Exports to Ladakh from British India and those from Ladakh to Central Asia.	
Quantity.	Value.
	Rs.
..	..
84	2,605
308	1,124
...	...
...	...
...	5
157	14,094
.	648
...	...
...	...
...	...
...	...
21	2,065
...	...
...	...
44	2,836
...	4,013
...	...
2,532	20,422
1 381	7,132
...	...
...	..
...	..
288	
14	7,045
13 17	231
1,473	4,759
15	906
51	3,826
191	3,257
...	...
10	1,437
...	...
11	97
...	...

TABLE II.—

EXPORTS—*contd.*

Serial No.	Names of Articles.	A.—EXPORTS FROM BRITISH INDIA TO LADAKH. From the Punjab.						B.—EXPORTS FROM LADAKH TO CENTRAL ASIA.										Balance showing difference between Exports to Ladakh from British India and those from Ladakh to Central Asia.	
		Viâ Kulu.		*Viâ Kashmir.*		*Total.*		Kashmir Proper.		Total.		Chinese Turkestan.		Tibet.		Total.			
		Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
			Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.		Rs.
17	Oils—																		
	(*a*) Petroleum . . . . . Mds.	16	232	157	3,067	173	3,299	154	3,036	327	6,335	...	...	...	...	...	...	327	6,335
	(*b*) Other kinds . . . . . ,,	33	745	107	2,160	140	2,905	66	1,469	206	4,374	...	...	17	405	17	405	189	3,969
18	Provisions—																		
	(*a*) Ghee . . . . . ,,	28	1,196	5	180	33	1,376	366	16,703	399	18,079	9	375	2	107	11	482	388	17,597
	(*b*) Other kinds . . . . . ,,	106	3,187	69	3,762	175	6,949	12	763	187	7,712	74	2,725	...	...	74	2,725	113	4,987
19	Salt, Indian . . . . . ,,	...		6	63	6	63	25	213	31	276	...	...	...	...	...	...	31	276
20	Saltpetre and other saline substances . .	...	...	...	...	...	...	345	2,758	345	2,758	...	...	...	...	...	...	345	2,758
21	Silk—																		
	(*a*) Manufactured piece goods, European Yds.	3,974	6,749	81,706	1,51,902	85,680	1,58,651	...	...	85,680	1,58,651	94,263	1,66,151	171	206	94,434	1,66,357	...	...
	(*b*) Ditto, Indian . Pieces	24	600	3,126	80,866	3,150	81,466	...	...	3,150	81,466	3,490	97,689	87	2,777	3,577	1,00,457	...	...
	(*c*) Ditto, Foreign . ,,	...	...	...	...	...	...	...	...	...	...	...	...	334	784	334	784	...	...
22	Spices . . . . . Mds.	262	10,185	198	7,910	460	18,395	15	590	475	18,985	309	12,330	2	97	311	12,427	164	6,558
23	Sugar—																		
	(*a*) Refined . . . . . ,,	265	4,332	189	3,798	454	8,130	153	3,595	607	11,725	174	3,695	60	1,341	234	5,036	373	6,689
	(*b*) Unrefined . . . . . ,,	10	152	10	156	20	308	6	96	26	404	2	24	8	128	10	152	16	252
24	Stationery . . . . . ,,	3	441	71	5,176	74	5,617	15	1,337	89	6,954	75	8,393	...	...	75	8,393	14	...
25	Tea—																		
	(*a*) Indian . . . . . ,,	1,609	32,650	794	17,415	2,403	50,065	3	75	2,406	50,140	888	21,507	19	500	907	22,007	1,499	28,133
	(*b*) Chinese, *viâ* India . . . . ,,	160	21,044	207	26,702	367	47,746	...	...	367	47,746	373	45,672	...	...	373	45,672	...	...
	( ) Lhasa brick tea . . . . ,,	...	...	...	...	...	...	...	...	...	...	8	1,252	6	954	14	2,206	...	...
26	Tobacco . . . . . ,,	22	346	34	6,723	56	7,069	151	2,529	207	9,598	19	5,704	161	2,156	180	7,860	27	1,738
27	Wool—																		
	(*a*) Manufactured piece goods, European	792	2,044	5,739	12,078	6,531	14,122	400	800	6,931	14,922	3,310	6,647	3,049	6,458	6,359	13,105	572	1,817
	(*b*) Ditto, Indian . { No.	131	267	8	62	139	329	622	959	761	1,288	13	65	870	1,058	883	1,122	5	165
	{ Mds.	5	...	...	...	5	...	...	...	5	...	...	...	...	...	...	...	...	...
	(*c*) Shawl . . . . . Pieces	...	...	14	100	14	100	532	1,155	546	1,255	...	...	47	2,440	47	2,440	499	...
28	All other articles of merchandise—																		
	(*a*) Unmanufactured . . . . Mds.	6	90	10	752	16	842	...	...	16	842	...	...	...	...	...	...	16	842
	(*b*) Manufactured . . . . { No.	551	5,291	2,953	32,659	3,504	37,950	2,057	828	5,561	33,778	1,586	23,108	160	2,337	1,746	25,445	3,815	13,333
	{ Mds.	34	...	175	..	209	...	21		230	...	110	...	3	...	113	...	117	...
	TOTAL .	...	1,89,097	...	8,80,691	...	10,69,788	...	1,21,582	...	11,91,370	...	10,01,428	...	1,27,768	...	11,29,196	...	1,72,311
29	Treasure—																		
	(*a*) Gold . . . . . Tolas	...	...	5	100	5	100	15	330	20	430	...	...	120	1,701	120	1,701	...	...
	(*b*) Gold dust . . . . . ,,	...	...	...	...	..	...	...	...	...	...	...	...	...	...	...	...	...	...
	(*c*) Silver . . . . . Mds.	...	...	...	590	...	590	...	...	...	590	...	192	...	...	...	192	...	...
	(*d*) Russian gold coins . . . No.	...	...	5,865	9,187	5,865	9,187	...	...	5,865	9,187	2,586	4,040	...	...	2,586	4,040	3,279	398
	(*e*) Silver yambus . . . . ,,	...	...	...	...	...	...	...	...	...	...	...	...	2	260	2	260	...	5,147
	(*f*) Silver coins . . . . . ,,	...	22,144	...	26,465	...	48,609	...	22,516	...	71,125	...	18,315	...	34,818	...	53,133	...	...
	(*g*) Miscellaneous . . . . ,,	1	15	95	1,425	96	1,440	...	...	96	1,440	94	1,410	...	...	94	1,410	2	17,992
	TOTAL .	...	22,159	...	37,767	...	59,926	...	24,290	...	84,116	...	23,957	...	38,123	...	62,180	...	30
	GRAND TOTAL .	...	2,11,256	...	9,18,458	...	11,29,714	...	1,44,428	...	12,74,142	...	10,25,385	...	1,64,547	...	11,89,932	...	1,95,878

CAMP GANDERBAL;
The 25th May 1907.

W. L. CAMPBELL,
Assistant to the Resident in Kashmir for Leh.

Table I.—Imports into Kashmir Proper (chiefly Ladakh and Baltistan) and Punjab from Chang Thang, Tibet, registered at Hima Mut, for the year 1906-1907.

	Name of Articles.		Punjab *vid* Kulu.		Kashmir Proper.		Total.	
			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1	Animals, living (for sale)—			Rs.		Rs.		Rs.
	(*a*) Horses, ponies and mules	Head	79	4,530	226	5,060	305	9,590
	(*b*) Sheep and goats	„	5,930	23,720	347	1 388	6,277	25.108
2	Borax	Mds.	418	993	...	...	418	993
3	Skins of sheep, goat, and small animals		...	...	711	379	711	379
4	Turquoise	Beads	...	...	300	150	300	150
5	Leather, unmanufactured	Score	...	...	72	4,320	72	4,320
6	Carpets	Ps.	...	...	2	20	2	20
7	Salt, Tibetan	Mds.	2,494	10.003	907	3,819	3,491	13,822
8	Silk—							
	Manufactured, foreign	Ps.	...	...	350	250	350	250
9	Stationery	Mds.	...	...	15	1.875	15	1,875
10	Lhasa brick tea	„	...	...	587	93,840	587	93,840
11	Wool—							
	(*a*) Raw, including pasham	„	2,221	63,636	1,849	52,279	4,070	1,15,915
	(*b*) Manufactured piece-goods, Indian	Yds.	...	...	1,520	760	1,520	760
12	All other articles of merchandise—							
	Manufactured	No.	...	...	85	182	85	182
13	Treasure—							
	(*a*) Silver coins		...	...	...	6,500	...	6,500
	Total		...	1,02,882	...	1,70,822	...	2,73,704

W. L CAMPBELL,
Assistant to the Resident in Kashmir for Leh.

Table II.—Exports from Kashmir Proper (chiefly Ladakh and Baltistan) and Punjab to Chang Thang, Tibet, registered at Hima Mut, for the year 1906-1907.

	Name of Articles.		Punjab *vid* Kulu.		Kashmir Proper.		Total.	
			Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
1	Animals, living (for sale)—			Rs.		Rs.		Rs.
	Sheep and goats	Head	4,780	19,120	1,039	4,156	5,819	23,276
2	Cotton—							
	(*a*) Manufactured, European	Mds.	...	...	21	2,640	21	2,640
	(*b*) Do., Foreign	Ps.	...	...	12	15	12	15
3	Madder	Mds.	...	...	41	820	41	820
4	Fruits and vegetables	„	...	...	1,861	16,468	1,861	16,468
5	Grain and pulse—							
	(*a*) Wheat and flour	Mds.	195	930	538	2,152	733	3,082
	(*b*) Rice, husked	„	262	2,132	...	...	262	2,132
	(*c*) Grim	„	218	1,744	599	2,303	817	4,047
	(*d*) Flour of grim	„	...	...	60	240	60	240
6	Brass utensils	„	9	720	...	...	9	720
7	Carpets	Ps.	...	...	4	120	4	120
8	Oils—							
	Other kinds	Mds.	...	...	3	75	3	75
9	Sugar—							
	(*a*) Refined	„	...	...	12	300	12	300
	(*b*) Unrefined	„	8	128	...	..	8	128
10	Tobacco	„	12	180	62	826	74	1,006
11	Wool—							
	(*a*) Manufactured, European	Yds.	...	...	400	800	400	800
	(*b*) Shawl	Ps.	...	...	12	240	12	240
12	All other articles of merchandise—							
	Manufactured	No.	80	40	...	...	80	40
13	Silver coins		...	16,650	...	4,995	...	21,645
	Total		...	41,644	...	36,150	...	77,794

W. L. CAMPBELL,
Assistant to the Resident in Kashmir for Leh.

REPORT ON THE INDO-CHINESE TURKESTAN TRADE, *via* LADAKH, FOR THE YEAR ENDING ON THE 31st MARCH, 1907.

I.—GENERAL REMARKS.

Statistics.

The administration of Chinese Turkestan does not concern itself with foreign trade statistics. There is, therefore, locally no official information on imports and exports between India and this country; and the only means whereby their volume may be gauged at all is by the collection of rough data from Indian merchants. But as statistics constructed from sources so miscellaneous cannot but be incomplete, and therefore misleading to the public, it has appeared to be inadvisable to embody them in this report. At the same time it may be pointed out that the entrepôt for the entire trade between India and Chinese Turkestan is Leh, and that as records are kept there of merchandise passing through in either direction, any one wishing to ascertain their quantity for the year 1906-1907 may refer to the tabular statements which are always appended to the Trade Report of the Assistant for Leh to the Resident in Kashmir.

As a rule, therefore, I shall not attempt to deal with the trade from its quantitative aspect. On the other hand, I shall keep in view, as my main object, the collection of information bearing on the market conditions of Turkestan during 1906-1907, both with regard to the buying of exports to, and with regard to the sale of imports from, India.

Active demand for Indian imports generally.

The general impression amongst those engaged in the Indian trade is that the year under review—apparently only a medium one in point of volume of trade—has been unusually profitable to importers. In the first place, the weather in the elevated regions about the Karakoram Pass remained clement for the passage of caravans during the autumn months. The grain allowance for pack ponies at Panamik was increased by the British Joint Commissioner of Ladakh; and on the Chinese side, supplies at Suget were found to be ample. These factors facilitated transport, and by decreasing the mortality of pack animals, made it possible for all the goods to reach destination. The caravan season of 1906 closed without a single load having been abandoned *en route*—a very rare occurrence. Then, again, the market in Kashghar, Yarkand, and Khotan was in an exceptionally active condition. No sooner the goods arrived in the autumn than they were sold to retailers; the demand for them generally having been such as had not been exceeded during the last ten years.

One of the gratifying results of this market activity has been a diminution of bad debts, and consequent litigation. A common feature of trade in Central Asia is the long credit system. Retail traders commanding little or no capital, it is difficult to get them to take goods on immediate payment, and so the importer is obliged to give credit extending from 6 to 18 months. In the interval between the delivery of the goods and the payment therefor accidents frequently occur. The retail trader may become insolvent, or may abscond or die; and in such eventualities in this country, where commercial faith is low and justice erratic, the importer runs great risks of losing his money. But during the present year, on account of the briskness of the bazar, there have been greater facilities for cash transactions.

Exchange.

In this report I have adopted the exchange of: 1 Kashghar Tenga=Rouble 0·10 =Rupee 0-2-5.

II.—EXPORTS FROM CHINESE TURKESTAN TO INDIA.

Animals (living).—The trade remained inactive What animals reached Ladakh were mostly for transport purposes; and if a few were sold, they appear to have been only to carriers on the Hoshiarpur-Kulu road. The traffic in mules was equally featureless. Prices remained high in Turkestan. Traders have not taken kindly to the export of mules, owing to the trouble of their collection from such far-off centres as Kuchar and Urumtchi, and to the expenses of their feed. The mule trade appear to have no future before it.

Cotton, manufactured.—The export under this head comprises two classes of piece-goods:—

(I) *Chakman*, a native cotton cloth woven in various qualities in Khotan, Goma, Yarkand and Kashghar, and dyed red, black or blue. For several years past this textile has found a limited market in Ladakh amongst the Tibetans.

It is interesting to note that a "swadeshi" movement is going on in Kashghar for the making of native cotton prints from native chakman cloth. Already several sorts are on the market and are imitations of the simpler sorts of Russian, or English, chintz.

(II) **Russian Shaitan Teri and chintz.**—The export of these goods has so far been only in insignificant quantities. A few years ago, Shaitan Teri began to find a market amongst the Lamas of Ladakh; but it appears that its demand fell off with the introduction from the Indian side of a similar cloth of European manufacture known as mole skin. What Russian chintz went to Ladakh was taken by traders for their personal use and not as merchandise.

Drugs and Medicines.

Charas.—The export of this drug in 1906-1907 was well sustained in comparison with that of the previous year; and an average profit of Rs. 8 a

maund was realized in India by exporting merchants. Thus :—

	Rs.
Cost in Yarkand	30
Transport from Yarkand to Hoshiarpur	22
TOTAL	52
Average sale price to Thekadars in India	60
Profit per maund	8

The price of charas in Yarkand is on the rise, owing to increased consignments to Ili, Urumtchi, and Badakhshan—places, which it is estimated, took in the year under report eight times more charas than during the previous twelve months.

There was an export, in insignificant quantities, of a few native medicines, such as Chinese seaweed, Chinese rhubarb roots and a mountain flower known as Momiran which appears to be in demand amongst native oculists in India.

Hides and skins.—The export under this head was limited to leopard, and white lamb skins, the value of which might roughly be estimated at Rs. 1,000. Prices of skins generally have risen considerably within the last twelve months in Eastern Turkestan, on account of increased export to Russia. As black lamb skins were actually *imported* from India during 1906-1907, it is evident that the same article can but have a poor chance as an export to that country. Since the last year, the local price of leopard skins has made a considerable advance. It now ranges from Roubles 7 to 9 a piece.

Jewellery.—The only sort of precious stones exported from Chinese Turkestan was the jade of Khotan, of which Rs. 500-600 worth in the form of cups and rings were sent to Ladakh for sale to the Tibetans. Pearls valued at about Rs. 5,000 were also exported. There appears to be at Turfan still a certain supply of discarded ornaments—heirlooms from former times which the Muhammadans bring out for sale when pressed for money. The pearls referred to were chiefly extracted from such ornaments.

Namdhas and carpets.—The 1906-1907 export of Namdhas appears to have been well maintained. It is probable, however, that so long as the present boom in the wool trade with Russia lasts, the local prices of Namdhas will be on the upward grade. It is estimated that within the last twelve months these prices have advanced about 30 per cent.

Namdhas are in demand in Russian territory. In 1905 about 100,000 pieces are said to have been exported thither *viâ* Kashghar; and during 1906 the export was probably 10 per cent. higher.

The local price of carpets was similarly affected by the dearness of wool. The carpet industry at Khotan and Yarkand has degenerated much in late years. With the increasing demand in Russia and throughout Kashgaria quantity of production is aimed at more than quality of workmanship, which at present is decidedly low. Foreign chemical dyes are used to the exclusion of the more stable native vegetable colouring matters. Nevertheless it should be said, in favour of the Khotan carpet-makers, that, if their trade has degenerated, it is by reason, not so much of the decadence of the art, for the natives are still capable of excellent work, as of the conditions of the market, which, owing to the rise in the value of wool and of labour in Eastern Turkestan, are such that nothing but the commoner class of carpets can be readily sold. Local prices have advanced about 30 per cent. within the last twelve months.

Silk.

(*a*) *Raw.*—The export of raw silk to India was well maintained in the year under review. It is estimated that the last autumn's production came to about 2,000 maunds, and that, of this quantity, more than one-half was exported to India. The first quality silk, that known as "tanda," apparently did not do well at Amritsar; but fair profits were realized on the second (tafil), and the third (kalawa), qualities.

During 1906-1907 Russian Turkestan also took raw silk from Khotan, but only in small quantities; the Ferghana province is itself a silk-producing country, and with the transport expenses from Khotan to Andijan, it was found that the Khotan produce could only be sold at Andijan at about Khotan cost price. Recently, however, demand has improved in Samarkand; and Russian traders are now investing in Khotan raw silk to a larger extent than previously. It appears that the silk possibilities of Khotan are engaging the attention of some French Companies at Tashkent.

Sericulture is yearly on the increase in the south-west portion of Chinese Turkestan, especially in the towns of Khotan, Keria, Coma, and Yarkand. Local seeds having been found to be inferior, they are speedily being replaced by others, reared in Turkestan, Constantinople, and Italy; and with the prospect of an improved breed of silk-worms, it is hoped that the raw silk of Khotan will be able to hold a permanent place in the markets of India. Some 20,000 cardboard boxes of silk-worm eggs are said to have been imported to Khotan *viâ* Russia in 1905. In 1906 the import would appear to have been increased to about 32,000 boxes.

(*b*) *Manufactured piece-goods.*—During the last 3-4 years, consequent on the revival of the silk industry in Khotan, several sorts of silk piece-goods, the products of native looms, have been exported to Ladakh. These are known as Doroya and Bekasab, and are dyed in various colours. But a kind of Chakman, half silk and half cotton, seems to have become a favourite article of export, and is beginning to find a sale, not only in Kashmir, but in the Punjab and Afghanistan. So far the objection on the Indian side to these Khotan piece-goods has been their narrow width; but an effort is being made by the Khotanis to remedy this defect by weaving on wider looms.

Wool.—Although Chinese Turkestan produces a vast quantity of wool of all sorts, sheep, goat, and camel's, yet it furnishes very little to India. Owing to the cost of transport, and local dearness caused by demand in Russia, raw sheep's wool has practically ceased to go to Ladakh; and now only a restricted quantity of pashmshal (goat's under-wool) finds its way thither. The 1906-1907 export of this produce was about 100 pony loads or 300 maunds. Pashmshal is procurable from the districts of Aksu, Kuchar, Khotan, Keria, and Kashghar; the annual quantity brought into the bazars for sale being estimated at 600-700 maunds. The quantity so collected is merely the wool scraped from the skins of slaughtered goats. But, as pointed out in the Kashghar trade report for 1905-1906, the supply might be greatly increased, if traders entered into arrangements with the Kirghiz shepherds for the collection of the under-wool, cast off in the summer months by the goats, as they graze in the mountains.

The present prices of raw wool at Kashghar are as follows :—

Khotan sheep's wool	Tengas 40 per Charak of 12½ Chings=16½ lbs.
Kashghar sheep's wool	Tengas 32 per Charak of 12½ Chings=16½ lbs.
Goat's under-wool	Tengas 16 per Charak of 12½ Chings=16½ lbs.

The 1906 export of raw wool to Russia, *viâ* Kashghar, had an estimated value of Roubles 309,000.

Generally speaking, the cost of carriage to Ladakh of sheep's wool, with its usual admixture of hairs and dust, would render export prohibitive; but the prospects of business would be greatly increased if spun yarn was taken instead of the raw produce. As regards goat's under-wool, so long as it is not exported to Russia, Indian traders need not fear an enhancement of local prices.

Treasure.—Under this heading, Russian gold Roubles formed the chief item. It is doubtful, however, if, in the year under review, the export of these coins has been as considerable as during the previous twelve months. Gold Roubles have become difficult to obtain in Kashghar, indeed their scarcity has been such for some time past that, although Roubles in notes and in gold are nominally of the same value, the latter have obtained an exchange of about 5 per cent. higher than the former. Whilst there has been a restriction in the export of Russian gold coins to India, dealings in Rouble notes have been stimulated. For the greater part of the year, these notes have been cheaper than usual, exchanging at about Tengas 9⅖ — a rate at which Indian traders find it advantageous to purchase for remittance purposes to India. This transfer of capital has been performed chiefly by the Russo-Chinese Bank at Kashghar, through whose medium, it is estimated, rupees equivalent to Roubles 30,000-40,000 have been paid in Bombay, on behalf of Indian traders, in the course of 1906-1907.

For about the last four years, gold from the Khotan mines has ceased to be an export to India. The reason for this cessation seems to be less in the difficulty of procuring this gold from the mines,—these are worked as an official monopoly,—than in the conditions of exchange which render the taking of Khotan gold to India unprofitable.

The principal mines in the Khotan and Keria districts are situated at the following five places :—Sarghak, Kappa, Bokalik, Arkatagh, and Zailik. The yearly output may roughly be estimated at 3,600 oz. av. The work is reported to be done in a most primitive fashion. Owing to the excessive cold, the Arkatagh and Zailik mines are frequented only during three months in the year; but those of Sarghak, Kappa, and Bokalik can be worked for a longer period. The Sarghak mines are said to be the richest.

III.—IMPORTS FROM INDIA TO CHINESE TURKESTAN.

Cotton, manufactured piece-goods.—In the year under review piece-goods advanced considerably in price throughout Chinese Turkestan; and on such textiles as lungis, damas, towels, chintz, gauzes, drills, white muslins, nainsuks, alwans, and handkerchiefs, high profits were realized. The improvement in the market is referable to the following causes :—

(*a*) The 1906-1907 import was probably smaller than that of the previous year.

(*b*) The temporary falling-off of the import of Russian cotton goods, owing to the failure of certain cotton cloth factories in Moscow.

(*c*) Increased demand due to increased prosperity of the people, and extension of radius for the consumption of Indian goods generally.

Cotton goods imported *viâ* Ladakh were of English, Indian, and German provenance.

(A) The following notes regarding English piece-goods may be of interest :—

Long-cloth.—Selling well. Per piece of 40 yards of Grandage and Company's No. 019½—1906-1907 price : Tengas 85 against last year's price of Tengas 56-60.

Muslin.—Much in demand. Present prices :—

Finlay, Campbell and Company's No. 3338, per piece of 19 yards	=42	Tengas.
Finlay, Campbell's No. 875, per piece of 18 yards	=32	"
Finlay, Campbell's No. 1380, per piece	=18·19	"
Ralli Brother's per piece of 18 yards by breadth of 12 girahs	=22	"
A sort of fancy flowered muslin known in India as Durya is finding a good market. Present price	=8	" per 12 girahs.

Dhotis (from Graham, Manchester).—Not in favour in Kashghar, but in demand at Kuchar and Aksu. Per piece of 10-11 yards, present price : Tengas 18 against last year's Tengas 13.

Handkerchiefs.—Very much in request. Present prices :—

Graham's (Glasgow) No. 12 handkerchiefs, fast colours, per dozen .	27-28	Tengas.
Thomas Sharples and Company's (Bombay) fast colours handkerchiefs, per dozen . . .	21-22	„
Graham's (Glasgow) No. 12 handkerchiefs, fast colours, per dozen .	10	„

The large size, known as rumal-i-kalan assali, is much used in the making of women's under-clothing, whilst the smaller size, that known as rumal-i-khurd-nakli, is in great request during marriage festivals, it being the custom on such occasions to present each guest with a small quantity of sugar wrapped in one of these handkerchiefs. Russian competition exists ; but Russian factories have so far been unable to produce handkerchiefs dyed red in a fast colour, like those imported from India. Russian handkerchiefs are either green, yellow, or black spotted.

Alwans.—(Turkey red cloth) chiefly supplied from Ralli Brothers. Three sizes were imported :—

(*a*) *Small width*, present price . .	Tengas	65
Against previous year's . .	„	54
(*b*) *Medium width*, present price . .	„	80
Against previous year's . .	„	64
(*c*) *Large width*, present price . .	„	100
Against previous year's . .	„	90

Alwans sustain a competition with a similar Russian textile known as Shalpar.

Gauzes.—Demand active, much used for women's under-clothing and for the making of the akpariji—a capacious garment entirely white, worn by women as a long cloak when appearing in public, and covering their figure from head to foot. No Russian competition. Present prices :—

Nainu-Guldar. White and black stripes, No. 243, 10 yards, J. L. S.	18-19	Tengas.
Sainu. White, No. 36—10 yards. Maker J. R. Gochram & Co. .	18	„

Damas or Gumti.—Demand active for all colours. F. H. and Co.'s No. 1050 (white), Tengas 2 per 12 girahs against Tenga 1 of last year. Used in the making of shirts for women. F. H. and Co.'s electric blue and yellow green, Tengas 2 per 12 girahs against Tenga 1 of last year. Red damas in special demand, but so far has mainly been supplied from the Russian side.

Chintz.—The 1906-1907 import was probably larger, and contained a greater assortment. than that of the previous year. Present supply exhausted. It appears that altogether a better quality of cotton piece-goods has come on the market and more on an equality with Russian cotton textiles.

Price of Graham's (Glasgow) "Real Turkey red" with floral designs, per piece of 25 yards by 11 girahs	Tengas	30-32
Against last year's price of . .	„	26-27
Much in demand.		
Price of blue and black "Soof" chintz, per piece of 44 yards by 18 girahs	„	3 per yard.

Cotton quilts.—In moderate demand. Owing to the weight and bulk of this material the cost of its transport takes away much from the profit of its sale. Commonly used in this country as table-cloth.

(B) The piece-goods of Indian manufacture consisted of the following : Ludhiana lungis, rumal-i-madrasi, khamkhasa, chaddars, Bombay dhotis, and Bombay khes and Cawnpore towels. The present demand for all these goods is active and future supplies are likely to increase.

(C) Germany appears to have supplied a certain amount of flannelettes, the demand for which is good, and promises well for the future. Present price about Tengas 2½ per 12 girahs. Khotan dyers buy this material and, colouring it red or black, sell it at about double price as broadcloth.

Drugs and medicines.—These were Indian preparations, for which there is a small demand amongst the hakims of Khotan, Yarkand, and Kashghar. But the quantity imported showed no significant increase in the year under report.

Dyeing materials.—The import of natural indigo was not well maintained ; and the market has been inactive. From Yarkand this dye is exported in decreasing quantities to Aksu Kuchar, and to the northern side of the Tian Shan, where it is still in request amongst the Chinese and Tunganis. Apparently the synthetic indigo is still unknown in this country. The import of chemical dyes in tins showed a remarkable increase this year ; and the market for them is an expanding one, despite similar imports from Russia. Especially in demand has been a black dye described as Ext. Haematoxyli Exotic manufactured by Southall Bros. and Barclay of Birmingham.

Hides and skins.—Goat skins, coloured red and prepared in the Punjab, come under this head. The import was not well maintained, in comparison with previous years, owing to enhanced prices in India, consequent on increased demand in Europe. Local demand good. Present price of goat skins per piece, medium size : Tengas 26 against last year's Tengas 24.

All the present year's otter skins have been sold off at high profits. Present price about Tengas 1,000 per kori of 20 skins of mixed quality and size.

Jewellery.—Coral from Italy was the only import under this head. Demand active, both in Kashgharia and in Russian Turkestan. To the latter country, during the year under review, a quantity valued at not less than Rs. 60,000 (Indian price) was consigned, despite the Russian import duty leviable at Kashghar of Roubles 4½ per Russian pound. The corals imported were of four qualities :—

(*a*) "Mirjan-i-jangsu"—large pieces cut into shape for Chinese official hat-buttons and for beads worn with official dress.

(*b*) "Mirjan-i-nimpila"—fairly large and expensive stones. It is chiefly coral of this quality that is re-exported to Russian territory. Lower qualities would scarcely bear the import duty.

(*c*) "Mirjan-i-mian"—medium quality and medium size.

(*d*) "Bilayzuk Bab"—small and cheap stones in demand in Chinese Turkestan.

Silk, manufactured piece-goods.

(*a*) *European.*—These consisted chiefly of velvets of German make, the demand for which is yearly on the increase. In former years such materials were used in Kashgharia for hats only ; now, however, with the extravagance noticeable in the towns, their use has largely been extended to dress generally. As an instance of the attention to which German manufacturers pay to the market requirements of remote places, may be noted the fact that most of the velvets imported from India had stamped on them in gold Arabic letters the towns in Chinese Turkestan where the special sort was in demand. Thus the pieces bore such inscriptions as : "Yarkand-men-Bab," "Aksu-men-Bab," "Khotan-men-Bab."

Apart from velvets Germany supplied this market with a sort of black satin (glossy silk surface on a cotton foundation). This material has found a ready sale not only in Kashgharia, but also in the Ili country where it is in demand amongst the Chinese for the making of the outer garment known as the "Ma-kuatsu."

(*b*) *Asiatic.*—The import of silk piece-goods from the Sassoon Mills in Bombay was fairly well maintained in 1906-1907. Some ten different sorts may now be traced in the bazars of Eastern Turkestan. Their demand is active and promises to increase in the future. But what immediately captured the bazar on its arrival was a very light and almost transparent silk of evidently Japanese make—white foundation with blue printed flowers.

The demand for Khimkhwab (brocades of Benares and of Surat) was well maintained. In former years, the "imitation" brocade sold far more readily than the "real." At present, however, the position is reversed.

Spices.—These consisted chiefly of pepper, ginger and of condiments known in India as kalampur, kalam dalchini, lachidana, buzbugha, halela, badian-i-khitai, etc. Market good.

Sugar.—The import of beet-sugar from India has now entirely ceased, having had to give way before the Russian bounty-fed article, which has captured the market. A small quantity of cane sugar of native Indian preparation is, however, yearly imported ; but it is used more as medicine than as an article of food.

Tea.

(*a*) *Indian*—The market for Indian tea in Chinese Turkestan appears to be yearly improving ; and the import of 1906-1907 will probably show an advance in comparison with previous years. Such is the demand for this commodity now that not only is it used by the natives of Yarkand and Kashghar, but it is carried as far as Ili, Urumtchi and Karashahr, in spite of the competition of the Chinese tea-competition which must necessarily be more acute in those regions than in Kashghar itself. The following sorts of Indian tea were imported :—

	Rs.	A.	P.	
(1) Palampur Green, Indian price about	1	1	0	per seer.
(2) Palampur Pata (or Bohia), Indian price . . .	0	8	9	„
(3) Pamila tea from Dehra Dun, Indian price about . .	1	5	0	„
(4) Brook, Bond & Co.'s Orange Pekoe, Indian price at . .	1	0	0	per pound.

But the "Palampur Pata" appears to be the prime favourite. The native merchants mix this with the Chinese brick tea, which is of a superior quality, and sell the mixture at the price of the latter.

(*b*).—Apart from the Indian preparation, there was also imported a certain quantity of Ak-chai, an expensive sort China tea procurable in Bombay and of brick tea reaching Ladakh from Lhassa.

Tobacco.—Indian cheeroots—such as those which may be had in India for about Rs. 2-8 per 100—are now to be found in increasing quantities in Yarkand and Kashghar. Hitherto, as the Chinese and the Russian are the only purchasers, the demand has been strictly limited.

Cigarettes, however, are in better favour, and the year's import of American "Pin Head" and Crown Company's "All Gay" is competing well with the Russian "Papiros."

Wool, manufactured piece-goods.—There was a small quantity of Kashmir "shal" imported. The fashion has somewhat set in for natives of Turkestan to wear this material as a turban in the cold weather. Those pieces of "shal" which have embroidered flowers at the two ends do not appear to find favour here ; but if the pieces were made in lengths of about four yards in a snuff colour and with the ends finished off with a simple blue stripe, they would suit the market conditions of this country better.

In addition to "shals" some 30 maunds of German broadcloth and flannels were imported. The demand for these was active.

IV.—OUTLOOK FOR THE FUTURE.

Within the last decade, the Indo-Yarkand trade has been subjected to many dislocations and trials. In the first place, the taxation on the drug charas, at one time almost the only export of any value from Chinese Turkestan, was introduced in India in 1896, with an incidence of Rs. 2 per seer ; and since then, step by step, the tax was raised until it has reached its present level of Rs. 8. Then, again, Russian competition was increased by improved transport facilities, first with the extension in 1898 of the Trans-Caspian Railway to Andijan, and then with the making of the new cartroad from Kashghar *viâ* the Turgat Pass to Narin.

Yet, despite these circumstances, our trade has not only not receded, but has even shown a certain

degree of prosperity. Probably this condition of things is traceable to the following causes :—

In favour of our imports, it may be said that the Kashgharia of to-day is not what it was, say, a decade ago. The country has enjoyed the blessings of peace for well nigh thirty years, cultivation has been vastly extended, and generally, there is an air of material prosperity over the land, greater probably than has ever been known before. With the increase of wealth, there has been an increase of the power of the people to purchase foreign goods—Russian as well as Indian.

Another factor in favour of our imports has been the gradual expansion of the markets. In former years sales were restricted to within the Khotan, Yarkand, Kashghar, and Aksu districts. Now, however, these districts have in a measure become distributing centres ; and goods from India, in not inconsiderable quantities, find their way northwards to the Ili country, and westwards from Khotan, to as far as Tun-huang, in the neighbouring province of Kansuh.

As regards exports to India, although the Indian taxation of charas has undoubtedly been a blow to them, yet this taxation has been so judiciously raised that it gave time to the gradual replacement of charas by raw silk, the production of which has been increasing with the revival of sericulture in Khotan.

When we consider, however, our trade in the light of the disturbing influences caused by the more developed Russian commerce, we are confronted with a problem of such complexity that prognostications are unusually hazardous.

Here I might be permitted a short digression to allude to the methods to which the Russians are now paying special attention for the encouragement of their trade with Kashgharia. These would appear to be of a three-fold nature—(1) bounties on imports, such as cotton piece-goods, matches, petroleum, and sugar ; (2)improved transport arrangements ; and (3) credit facilities. As regards transport, the new cart-road, now all but completed, between Kashghar and Narin, and in course of construction between Narin and the rail head of Andijan, should improve the situation considerably. The present freight from Moscow to Kashghar by the Osh route should work out at about Roubles 9 a maund; but with the establishment of wheel traffic between Kashghar and Andijan, a significant fall in the transport charges is certain to follow. Moreover, transport work will probably, in a short time, be taken out of the hands of individual native carriers : already one of the great Russian Carrying Companies is in negotiation with traders with Russia for the fixing of a rate between Kashghar and Osh, and for the monopoly of the carriage of their goods. As regards credit, the Russians realizing that the natives can command little or no ready cash, have initiated a system, in concert with the Russo-Chinese Bank at Kashghar, whereby a man's trading capital may practically become doubled. This system can be best explained by an example. An exporting merchant, we will suppose, purchases wool at Khotan for Roubles 100 This wool brought to Kashghar will have had its value increased to, say, Roubles 110. The merchant wishes to raise a loan in order to buy more goods. He hands over to the Bank, as security, the wool he has, and the Bank advances him, say, a sum of 100 Roubles charging him its usual interest of 8 per cent. per annum. But the wool already bought must be sent to Russia. The Bank as Commission Agent makes the necessary transport arrangements on behalf of the exporter—nay more —holds itself responsible for the safe arrival of the goods. At the town of destination in Russia, the wool is handed back to the exporter on his refunding his indebtedness to the Bank. In the converse case of the importing of Russian goods to Kashghar, the Bank is equally helpful. It effects purchases as a Commission Agent, and makes all arrangements, at its own risks, for the despatch of goods to Kashghar.

Now these organisations of the Russians, superior as they are, have not so far had an effect as great as might be expected on the Russian trade. True that in 1882, when statistics were first recorded at the Russian Consulate, exports and imports *vid* Kashghar were worth only about Roubles 1,300,000, and that between 1882 and about 1902 this value gradually rose to about 5½ million Roubles, but since then, imports have apparently been receding rather than advancing, exports only from Chinese Turkestan increasing. In 1906, imports amounted to about Roubles 2.100.000 against exports of Roubles 3,370,000, showing a balance in favour of Kashghar of roughly 1⅓ million Roubles. As for cotton piece-goods, the mainstay of Russian imports, they appear to have made no advance during the last 3-4 years.

Now what has been the effect of the Russian trade on our own far smaller one ? May be the injury done to us, hitherto has been less considerable than is commonly believed ; for our trade, irrespectively of Russian competition, must have its natural limitations, such as those founded on the difficulties of the road, the shortness of the caravan season, and the unwillingness of Indian traders to visit a far-off region like Eastern Turkestan. As I conceive the situation, the Russian trade, *vis-á-vis* our own, has been in the past, as it will be in future, a sort of two-edged sword—in turn, to help and to harm ; and our outlooks will depend largely on the preponderance of one or the other of these influences.

Now, it may be postulated that the present prosperity of Kashgharia—prosperity which encourages the expenditure of money for the purchase of goods —owes largely its origin to trade intercourse with Russia. In the benefits of this prosperity, the Indian trade, in so far as its imports are concerned, is having its share. Again in years when the balance of the Indo-Yarkand trade happened to be in

our favour, and necessitated the remittance of cash to India, it was an advantage to the Indian trader to have been able to find in the bazars of Kashgharia Russian gold Roubles for export purposes. And, again, the Russo-Chinese Bank, to him has been a serviceable institution, offering him, as it does, to an extent never known by him before, facilities for the transfer of capital between India and this country at all times of the year.

On the other hand, in the matter of imports to Kashgharia, it cannot be denied that English cotton piece-goods have suffered considerably through Russian competition : roughly the present consignments have been reduced to less than one-half of what they were, say, ten years ago. Russian competition has similarly destroyed our sugar trade.

In the matter of exports to India, charas has not been interfered with by the Russian trade : the local market conditions of that drug are controlled more by the Government of India through its taxation than by any other influence. As regards woollen goods such as carpets and namdhas, despite the phenomenal advance in their local prices, due to Russian demand, export towards India has received no check so far ; the amount of namdhas and carpets sent to Ladakh in 1905-1906 comparing favourably with previous consignments. But the most encouraging feature of the trade is the yearly increasing quantity of raw silk. Being costly in relation to its bulk, this commodity should be an ideal export for a trade such as that plying between Ladakh and Yarkand. No doubt Russian merchants, just as much as our own, have their attention fixed on the commercial possibilities of the silk of Khotan ; but it is hoped that this stuff, with local conditions so favourable, will prove to be of a class of goods which need not necessarily become more expensive as its supply is increased.

For the present at least if the Indo-Yarkand trade shows no great vitality, it has developed no symptom of decay through Russian competition. There is, however, a danger, latent so far, which we may have reason to apprehend from this competition in the future. This danger lies in the tendency of the Russian trade to raise the price of local produce to such a pitch as to render its export to India unremunerative, and in the scarcity of pack animals in Ladakh for imports from India which may be brought about consequent on the falling off of exports.

GEORGE MACARTNEY,

Special Assistant for Chinese Affairs to the Resident in Kashmir.

G. I. C. P. O.—No. 1268 D. G. C. I.—30-10-1907.—1035.—B. N. D.

SUPPLEMENT

TO

THE INDIAN TRADE JOURNAL.

DECEMBER 26, 1907.

TARIFF VALUATIONS.

IN exercise of the powers conferred by sections 22 and 23 of the Sea Customs Act, 1878 (VIII of 1878), in modification of the tariff values fixed by the Indian Tariff Act, 1894 (VIII of 1894), as amended by the Indian Tariff Act (1894), Amendment Act, 1896 (III of 1896), and as further altered from time to time by notifications of the Governor General in Council, the Governor General in Council is pleased to fix, with effect from the 1st January 1908, for the articles specified in column 2 of the schedule hereto annexed, the tariff values stated in column 4 of the said schedule :

Provided that nothing in this notification shall affect any additional duty imposed under the powers conferred by sections 8A and 8B of the Indian Tariff Act, 1894 (VIII of 1894), as amended by the Indian Tariff Act Amendment Act, 1899 (XIV of 1899), the Indian Tariff (Amendment) Act, 1902 (VIII of 1902), the Indian Tariff (Amendment) Act, 1903 (XII of 1903), and the Indian Tariff (Amendment) Act, 1904 (XI of 1904).

SCHEDULE IV.—(IMPORT TARIFF.)

GENERAL DUTIES.

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Animals, living.		£ a.	
1	HORSES, CATTLE, SHEEP, and all other living animals of all kinds	...	...	Free.
	Articles of Food and Drink.			
2	COFFEE	cwt	38 0	Five per cent.
3	FRUITS AND VEGETABLES (except fresh fruits and vegetables not separately enumerated, which are free)—			
	Almonds without shell	„	58 0	„
	„ in the shell	„	15 0	„
	„ (kágazi)	„	45 0	„
	Cashew or cajoo kernels	„	19 0	„
	Cocoanuts, Straits	thousand	60 0	„
	„ other	„	45 0	„
	„ kernel (khopra)	cwt	17 0	„
	Currants, in cases	„	20 0	„
	„ in cans	„	26 0	„
	„ other	„	14 0	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Articles of Food and Drink—*contd.*		₹ a.	
	FRUITS AND VEGETABLES (except fresh fruits and vegetables not separately enumerated, which are free)—*contd.*			Five
	Dates, dry, in bags	cwt	7 8	per cent.
	„ wet „ baskets and bundles	„	5 0	„
	„ „ in pots, boxes, tins and crates	„	9 0	„
	Figs, Persian, dried	„	10 0	„
	Garlic	„	6 8	„
	Hops	...	...	Free.
	Pistachio nuts	cwt	33 0	Five per cent.
	Prunes, Bussora (Álu-Bokhara)	„	30 0	„
	Raisins, black	„	10 0	„
	„ kishmish, Persian Gulf	„	14 0	„
	„ Munakka, „ „	„	9 8	„
	„ other sorts	...	*ad valorem*	„
	Walnuts, Persian	cwt	9 8	„
	All other sorts of fruits and vegetables	...	*ad valorem*	„
4	GRAIN AND PULSE, including broken grain and pulse, but not including flour	...	...	Free.
5	MINERAL AND AËRATED WATERS, and all unfermented and non-alcoholic beverages	...	*ad valorem*	Five per cent.
6	PROVISIONS, OILMAN'S STORES, AND GROCERIES—			
	Bacon	...	„	„
	Beef and Pork	...	„	„
	Beche de mer	...	„	„
	Butter	lb	1 4	„
	Cassava or Sago	cwt	15 0	„
	Cheese	...	*ad valorem*	„
	China preserves in syrup	box of six jars of a total net weight not exceeding 17 lb	5 0	„
	„ „ dry, candied	lb	0 5	„
	Cocum	cwt	4 8	„
	Fish-maws	...	...	Free.
	Flour	...	*ad valorem*	Five per cent
	Ghi	cwt	60 0	„
	Margarine	lb	1 4	„
	Pork hams	...	*ad valorem*	„
	Shark-fins	...	...	Free.
	Singally and sozille	...	...	„
	Tapioca	cwt	16 0	Five per cent.
	Vinegar, in casks	...	*ad valorem*	Two and one half per cent.
	„ not in casks— Persian	Imperial gallon	1 8	Five per cent.
	Indian	„	0 6	„
	All other sorts of provisions, oilman's stores, and groceries	...	*ad valorem*	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Articles of Food and Drink—*concld.*		₹ a.	
7	SPICES—			Five
	Betelnuts, raw, whole, split or sliced, from Goa	cwt	16 0	per cent.
	„ „ „ „ „ Ceylon	„	15 0	„
	„ „ „ „ „ Straits	„	10 0	„
	„ —all other sorts	...	*ad valorem*	„
	Chillies, dry	cwt	12 0	„
	Cloves	„	45 0	„
	„ stems and heads	„	7 8	„
	„ in seeds, narlavang	„	11 0	„
	Ginger, dry	„	20 0	„
	Mace	lb	1 2	„
	Nutmegs	„	0 5½	„
	„ in shell	„	0 4	„
	Pepper, black	cwt	33 0	„
	„ white	„	50 0	„
	All other sorts of spices	...	*ad valorem*	„
8	SUGAR, China, candy	cwt	23 0	„
	„ loaf (excluding cube and chopped)	„	14 0	„
	„ crystallised, beet	„	9 8	„
	„ „ and soft (other than beet) refined in the United Kingdom	„	9 8	„
	„ „ „ „ refined in China	„	11 0	„
	„ „ „ „ from Egypt	„	9 10	„
	„ „ „ „ superior white from Java	„	9 10	„
	„ „ „ „ from Java, 21 to 25 Dutch standard	„	9 6	„
	„ „ „ „ from Java, 16 to 20 Dutch standard	„	8 0	„
	„ „ „ „ „ 15 Dutch standard and under	...	*ad valorem*	„
	„ „ „ „ from Mauritius	cwt	9 4	„
	Molasses from Java	„	2 4	„
	„ „ other countries	„	3 0	„
	Sugar, all other sorts, including saccharine produce of all kinds and confectionery	...	*ad valorem*	„
9	TEA, black	lb	0 10	„
	„ green	„	0 12	„
	Chemicals, Drugs, Medicines, and Narcotics, and Dyeing and Tanning Materials.			
10	CHEMICAL PRODUCTS AND PREPARATIONS—			
	Acid, sulphuric	„	0 1½	„
	Alkali, Indian (sajji-khar)	cwt	2 4	„
	Alum	„	4 8	„
	Arsenic (other than European)	„	29 0	„
	„ (China mansil)	„	28 0	„
	„ other sorts	...	*ad valorem*	„
	Bicarbonate of soda	cwt	6 0	„
	Copperas, green	...	*ad valorem*	Two and one-half per cent.
	Explosives, namely, blasting gelatine, dynamite, roburite, tonite, and all other descriptions, including detonators and blasting fuse	...	„	Five per cent.
	Sal ammoniac	cwt	31 0	„
	Sulphate of copper	„	24 0	„
	Sulphur (brimstone), flour	„	5 12	„
	„ („), roll	„	5 4	„
	„ („), rough	„	4 12	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Chemicals, Drugs, Medicines, and Narcotics, and Dyeing and Tanning Materials—*contd.*		*R a.*	
	CHEMICAL PRODUCTS AND PREPARATIONS—*contd.*			
	All other sorts of chemical products and preparations, including saltpetre, borax, grape sugar, and glucose, but excluding nitrate of soda, muriate of potash, sulphate of ammonia, sulphate of potash, and kainit salts, which are free . .	...	*ad valorem*	Five per cent.
11	DRUGS, MEDICINES, AND NARCOTICS—			
	Aloes, black	cwt	25 0	"
	" Socotra	"	17 0	"
	Aloe-wood	lb	7 8	"
	Anti-plague serum	...	...	Free.
	Asafœtida (hing)	cwt	80 0	Five per cent.
	" coarse (hingra)	"	25 0	"
	Atáry, Persian	...	*ad valorem*	"
	Bánslochan (bamboo camphor)	lb	0 5	"
	Brimstone (amalsára)	cwt	16 0	"
	Calumba root	"	8 0	"
	Camphor, refined, cake	lb	2 12	"
	" partially refined, cake, in blocks of about 13lb .	"	2 0	"
	" in powder	...	*ad valorem*	"
	Cassia lignea	cwt	30 0	"
	China root (chobchini), rough	"	11 0	"
	" " ("), scraped	"	20 0	"
	Cocaine	...	*ad valorem*	"
	Cubebs	cwt	32 0	"
	Galangal, China	"	4 8	"
	Pellitory (akalkara)	...	*ad valorem*	"
	Peppermint crystals	..	"	"
	Quinine and other alkaloids of cinchona	...	...	Free.
	Salep	cwt	140 0	Five per cent.
	Senna leaves	"	5 0	"
	Storax, liquid (rose melloes or salaras)	"	35 0	"
	Tobacco, unmanufactured	...	...	Free.
	" manufactured excluding cigarettes	...	*ad valorem*	Five per cent.
	Cigarettes of a value not exceeding R8 per thousand . .	lb	1 8	"
	" " " exceeding R8 per thousand . . .	"	5 8	"
	All other sorts of drugs, medicines, and narcotics, except opium (for which see Schedule III)	...	*ad valorem*	"
12	DYEING AND TANNING MATERIALS—			
	Alizarine dye, dry, 40 per cent	lb	1 4½	Five per cent.
	" " " 50 "	"	1 8½	"
	" " " 60 "	"	1 12	"
	" " " 70 "	"	2 0½	"
	" " " 80 "	"	2 4½	"
	" " " 100 "	"	2 12	"
	" " moist, 10 "	"	0 4¾	"
	" " " 16 "	"	0 7	"
	" " " 20 "	"	0 8	"
	Aniline " " indigo, blue	"	0 6½	"
	" " dry	"	1 0	"
	" salts	...	*ad valorem*	"

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Chemicals, Drugs, Medicines, and Narcotics, and Dyeing and Tanning Materials—*concld.*		*R a.*	
	DYEING AND TANNING MATERIALS—*concld.*			
	Avar bark	cwt	4 0	Five per cent.
	Buzgand (gulpista)	"	42 0	"
	Cochineal	lb	1 6	"
	Gallnuts (myrabolams)	...	*ad valorem*	"
	" Persian	cwt	46 0	"
	Madder or manjit	"	18 0	"
	Orchilla weed	"	4 0	"
	Sappan wood and root	...	*ad valorem*	"
	Turmeric	...	"	"
	All other sorts of dyeing and tanning materials . . .	...	"	"
	Metals and Manufactures of Metals.			
13	HARDWARE AND CUTLERY, including ironmongery and plated-ware, and also including machines, tools, and implements to be worked by manual or animal labour. [*Exceptions, which are free:* (i) Water-lifts, sugar-mills, oil-presses, and parts thereof, *and any other machines and parts of machines* ordinarily used in processes of husbandry, or for the preparation for use or for sale of the products of husbandry, which the Governor General in Council may, by notification *in the Gazette of India*, exempt; (ii) the following agricultural implements, when constructed so that they can be worked by manual or animal power, namely, winnowers, threshers, mowing and reaping machines, elevators, seed-crushers, chaff-cutters, root-cutters, horse and bullock gears, ploughs, cultivators, scarifiers, harrows, clod-crushers, seed-drills, hay-tedders, and rakes; (iii) the following dairy appliances, when constructed so that they can be worked by manual or animal power, namely, cream separators, milk sterilizing or pasteurizing plant, milk aërating and cooling apparatus, churns, butter dryers and butter workers; (iv) the following articles used in the manufacture of cotton, namely, bobbins (warping), forks for looms, healds, heald cords, heald knitting needles, laces, lags and needles for dobbies, pickers (buffalo and others), picking bands, picking levers, picking sticks (over and under), reed pliers, reeds, shuttles (*for power looms*), springs *for looms*, strappings, and weft forks; (v) box backs and swells and rough unshaped bobbin ends, when imported by or on behalf of a manufacturer or mill-owner, and certified by him to be intended exclusively for use in his mill]	...	"	"
14	MACHINERY, namely, prime-movers and component parts thereof, including boilers and component parts thereof; also *including locomotive and* portable *engines*, steam-rollers, fire-engines, and other machines in which the prime-mover is not separable from the operative parts	...	...	Free.
	(and component parts thereof), meaning machines or sets of machines to be worked by electric, steam, water, fire or other power not being manual or animal labour, or which before being brought into use require to be fixed with reference to other moving parts; and including belting of all materials for driving machinery			

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
			£ a.	
	Metals and Manufactures of Metals—*contd.*			
	Provided that the term does not include tools and implements to be worked by manual or animal labour, and provided also that only such articles shall be admitted as component parts of machinery as are indispensable for the working of the machinery and are, owing to their shape or to other special quality, not adapted for any other purpose. *Note.*—Machinery and component parts thereof made of substances other than metal are included in this entry.			
15	METALS, unwrought and wrought, and articles made of metals— Brass, orsidue and leaves, European	...	*ad valorem*	Five per cent.
	„ „ „ China		„	„
	„ patent or yellow metal, sheathing, sheets, braziers, and plates	cwt	58 0	„
	„ patent or yellow metal (old)	„	40 0	„
	„ sheets, flat or in rolls, very thin	„	175 0	„
	„ wire	...	*ad valorem*	„
	„ all other sorts	...	„	„
	Copper, bolt and bar, rolled	...	„	„
	„ braziers, sheets, plates and sheathing	cwt	70 0	„
	„ nails and composition nails	...	*ad valorem*	„
	„ old	cwt	55 0	„
	„ pigs, tiles, ingots, cakes, bricks, and slabs	„	65 0	„
	„ China, white, copperware	lb	1 8	„
	„ foil or dankpana, white, 10 to 11 in. × 4 to 5 in.	hundred leaves	2 2	„
	„ „ „ coloured, 10 to 11 in. × 4 to 5 in.	„	2 4	„
	„ wire, including phosphor-bronze	...	*ad valorem*	„
	„ all other sorts, unmanufactured and manufactured, except current coin of the Government of India, which is free	...	„	„
	German silver	...	„	„
	Gold bullion and coin	...	„	„
	„ leaf	...	...	Free.
	Iron, anchors and cables	...	*ad valorem*	Five per cent.
	„ Lowmoor and similar qualities, all descriptions	...	„	One per cent.
	„ angle, T, other than Lowmoor or Swedish	...	„	„
	„ „ T, other than Lowmoor or Swedish, if galvanised, tinned, or lead-coated	ton	110 0	„
	„ bar	...	*ad valorem*	„
	„ „ Swedish and similar qualities	...	„	„
	„ „ „ „ „ „ nail-rod, round-rod, and square, under half an inch in diameter	ton	165 0	„
	„ „ other kinds	„	180 0	„
	„ „ „ „ nail-rod, round-rod, and square, under half an inch in diameter	„	110 0	„
	„ „ „ „ if galvanised, tinned, or lead-coated	„	117 0	„
	„ beams, joists, pillars, girders, bridge-work, and other such descriptions of iron, imported exclusively for building purposes	...	*ad valorem*	„
	„ channel, including channel for carriages	...	„	„
	„ plate and sheet, Swedish and charcoal	...	„	„
	„ bars, plates, and sheets, Swedish and charcoal, if galvanised, tinned, or lead-coated	...	„	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
			£ a.	
	Metals and Manufactures of Metals—*contd.*			
15	METALS, unwrought and wrought, and articles made of metals—*contd.* Iron, plate, other kinds, above ⅛ inch thick, and strips	ton	117 0	One per cent.
	„ sheets, „ „ up to „ „ „	„	125 0	„
	„ sheets (other than corrugated), plates, or strips other kinds, if galvanised, tinned, lead-coated, or planished	...	*ad valorem*	„
	„ sheets, corrugated, galvanised, or black	ton	210 0	„
	„ hoop	„	130 0	„
	„ nails, rose, wire, and flat-headed	cwt	9 8	„
	„ „ other kinds, including galvanised, tinned, or lead-coated	...	*ad valorem*	„
	„ nuts and bolts, also hooks and nuts for roofing, galvanised or black	...	„	„
	„ old	cwt	2 0	„
	„ pig	...	*ad valorem*	„
	„ pipes and tubes, including fittings therefor, such as bends, boots, elbows, tees, sockets, flanges, and the like	...	„	„
	„ rails, chairs, sleepers, and fishplates, other than those described in No. 60, also spikes (commonly known as dog spikes), switches, crossings, lever-boxes, clips, and tie-bars	...	„	„
	„ rice-bowls	...	„	„
	„ ridging, guttering, and continuous roofing	...	„	„
	„ rivets and washers, all sorts	...	„	„
	„ wire, including fencing wire and wire rope, but excluding wire-netting	...	„	„
	„ cans, tinned, when imported containing petroleum, which is separately assessed to duty at one anna per Imperial gallon under No. 16	can	0 3	Five per cent
	„ all other sorts, including discs or circles and wire-netting	...	*ad valorem*	„
	Lametta	...	„	„
	Lead, all sorts (except sheets for tea-chests, which are free)	...	„	„
	Quicksilver	lb	1 8	„
	Shot, bird	cwt	20 0	„
	Silver bullion or coin, except current coin of the Government of India, which is free	...	*ad valorem*	„
	Steel, anchors and cables	...	„	One per cent.
	„ blooms	...	„	„
	„ angle, T	ton	110 0	„
	„ „ „ and hoop, if galvanised, tinned, or lead-coated	...	*ad valorem*	„
	„ bars (other than cast steel)	ton	110 0	„
	„ „ Swedish	...	*ad valorem*	„
	„ „ nail-rod, round rod, and square, under ½ inch in diameter	ton	117 0	„
	„ bar, galvanised, tinned, lead-coated, planished or polished	...	*ad valorem*	„
	„ channel, including channel for carriages	...	„	„
	„ plates above ⅛ inch thick, and strips	ton	117 0	„
	„ sheets up to ⅛ „ „	„	125 0	„
	„ sheets (other than corrugated), plates, or strips, if galvanised, tinned, lead-coated, or planished	...	*ad valorem*	„
	„ sheets, corrugated, galvanised or black	ton	210 0	„
	„ hoop	„	150 0	„
	„ nails	...	*ad valorem*	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Metals and Manufactures of Metals—*concld.*			
15	METALS, unwrought and wrought, and articles made of metals—*concld.*		₹ a.	
	Steel, nuts and bolts, also hooks and nuts for roofing, galvanised, or black	...	*ad valorem*	One per cent.
	„ old	ton	130 0	„
	„ beams, joists, pillars, girders, bridge-work, and other such descriptions of steel, imported exclusively for building purposes	...	*ad valorem*	„
	„ cast and blistered, including spring and tub steel	...	„	„
	„ ridging, guttering, and continuous roofing	...	„	„
	„ pipes and tubes, including fittings therefor, such as bends, boots, elbows, tees, sockets, flanges, and the like	...	„	„
	„ rails, chairs, sleepers, and fishplates, other than those described in No. 60, also spikes (commonly known as dog spikes), switches, crossings, lever-boxes, clips, and tie-bars	...	„	
	„ rivets and washers, all sorts	...	„	„
	„ wire, including fencing wire and wire rope, but excluding wire-netting	...	„	„
	„ cans, tinned, when imported containing petroleum, which is separately assessed to duty at one anna per Imperial gallon under No. 16	can	0 3	Five per cent.
	„ all other sorts, including discs or circles and wire-netting	...	*ad valorem*	„
	Tin, block	cwt	145 0	„
	„ foil, and other sorts	...	*ad valorem*	„
	Zinc or spelter, nails	...	„	„
	„ „ tiles or slabs, soft	cwt	23 0	„
	„ „ „ „ hard	„	19 0	„
	„ „ all other sorts, including boiler tiles	...	*ad valorem*	„
	All other sorts of metals	...	„	„
	Oils.			
16	PETROLEUM, including also naphtha and the liquids commonly known by the names of rock-oil, Rangoon oil, Burma oil, kerosene, paraffin oil, mineral oil, petroline, gasoline, benzol, benzoline, benzine, and any inflammable liquid which is made from petroleum, coal, schist, shale, peat or any other bituminous substance, or from any products of petroleum	Imperial gallon	...	One anna.
	„ which has its flashing point at or above two hundred degrees of Fahrenheit's thermometer and is proved to the satisfaction of the Customs Collector to be intended for use exclusively for the batching of jute or other fibre, or for lubricating purposes	...	*ad valorem*	Five per cent.
	„ which has its flashing point at or above one hundred and fifty degrees of Fahrenheit's thermometer and is proved to the satisfaction of the Customs Collector to be intended for use exclusively as fuel or for some sanitary or hygienic purpose	...	„	„
	Cocoanut-oil	cwt	27 0	„
	All other sorts of oil, animal or vegetable (including otto of all kinds), and mineral, including paraffin wax	...	*ad valorem*	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Other Articles, unmanufactured and manufactured.		₹ a.	
17	APPAREL, including drapery, haberdashery, and millinery, and military and other uniforms and accoutrements; but excluding cotton-hosiery (for which see No. 30) and boots and shoes (for which see No. 45) and excluding also uniforms, and accoutrements appertaining thereto, imported by a public servant for his personal use, which are free	...	*ad valorem*	Five per cent.
18	ART, WORKS OF, except (1) statuary and pictures intended to be put up for the public benefit in a public place, and (2) memorials of a public character intended to be put up in a public place, including the materials used, or to be used, in their construction, whether worked or not, which are free	...	„	„
19	BAMBOOS, common, grass, hay, rushes, straw, and leaves	...	...	Free
20	BOOKS, printed, including covers for printed books, maps, charts and plans, proofs, music, and manuscripts	...	...	„
21	BRISTLES AND FIBRE, for brushes and brooms	...	...	„
22	BRUSHES AND BROOMS, all sorts	...	*ad valorem*	Five per cent.
23	BUILDING AND ENGINEERING MATERIALS, namely, asphalt, bricks and tiles, cement of all kinds, fire-clay, earthenware piping, lime, and other kinds not otherwise described	...	„	„
24	CABINET-WARE AND FURNITURE	...	„	„
25	CARRIAGES AND CARTS, including motor cars, bicycles, tricycles, jinrikshas, bath chairs, perambulators, trucks, wheelbarrows, and all other sorts of conveyances, and component parts thereof, but excluding motor cars, designed to carry goods and containing a prime-mover, which are free	...	„	„
26	CHINESE AND JAPANESE-WARE, including lacquered-ware, but excluding earthenware, china, and porcelain (for which see No. 32)	...	„	„
27	CLOCKS, WATCHES, and other time-keepers, and parts thereof	...	„	„
28	COAL, COKE, AND PATENT FUEL	...	...	Free.
29	CORDAGE, Rope and Twine made of any vegetable fibre	...	*ad valorem*	Five per cent.
30	COTTON, AND ARTICLES MADE OF COTTON—			
	Cotton, raw	...	...	Free.
	„ twist and yarn	...	...	„
	„ sewing and darning thread	...	...	„
	„ piece-goods, hosiery, crochet cotton thread and all other manufactured cotton goods not otherwise described	...	*ad valorem*	Three and one-half per cent.
31	EARTH, COMMON CLAY, AND SAND	...	...	Free.
32	EARTHENWARE (except earthenware piping, for which see No. 23), china, china clay, porcelain, and imitation or false coral	...	*ad valorem*	Five per cent.

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Other Articles, unmanufactured and manufactured—*contd.*		ℛ a.	
33	FANS OF ALL KINDS, except common palm-leaf fans, which are free	..	*ad valorem*	Five per cent.
34	FIREWORKS, all sorts, including fulminating-powder	...	„	„
35	FLAX, AND ARTICLES MADE OF FLAX, including linen-thread	...	„	„
36	FURNITURE, TACKLE, AND APPAREL, not otherwise described, for steam, sailing, rowing, and other vessels	.	„	„
37	GUMS, GUM-RESINS, and articles made of gum or gum-resin—			
	Copal	...	„	„
	Cutch and gambier	cwt	18 0	„
	Gamboge	lb	2 2	„
	Gum Ammoniac	cwt	24 0	„
	„ Arabic	„	16 0	„
	„ Bdellium	...	*ad valorem*	„
	„ Benjamin, ras	cwt	24 0	„
	„ „ cowrie	„	80 0	„
	„ Bysabol (coarse myrrh)	„	25 0	„
	„ Olibanum or frankincense	...	...	Free.
	„ Persian (false)	cwt	10 0	Five per cent.
	Myrrh	„	50 0	„
	Rosin	„	9 6	„
	All other sorts of gums, gum-resins, and articles made of gum or gum-resin, including caoutchouc and gutta-percha	...	*ad valorem*	„
38	HEMP, including Manila hemp, and articles made therefrom	...	„	„
39	HIDES AND SKINS (except raw or salted hides and skins, which are free), including parchment and vellum, gold-beaters' skins, and all other descriptions of hides or skins	...	„	„
40	HORN	...	...	Free.
	„ articles made of, not otherwise described	..	*ad valorem*	Five per cent.
41	INSTRUMENTS, APPARATUS, AND APPLIANCES, and parts thereof— Computing, Dental, Distilling, Diving, Drawing, Educational, Electric, Electric lighting, Galvanic, Measuring, Musical, Optical, Philosophical, Phonographic, Photographic (including materials for Photography), Scientific, Surgical, Surveying, Telegraphic, Telephonic, Typewriters, and all other sorts, except Telegraphic instruments and apparatus, and parts thereof, when imported by or under the orders of a railway company, and any instruments, apparatus, and appliances when imported by a passenger as part of his personal baggage and in actual use by him in the exercise of his profession or calling, which are free. Military band instruments (other than stringed instruments), imported by a regiment of His Majesty's regular forces serving in India, and certified by the officer commanding the regiment to be for the *bond fide* exclusive use of the regimental band, and the following accessories thereto, are also free of duty :—	...	„	„
	Silver buckles for drums. / Cardholders. Silver buttons for drums. / Carriages (brown or black) Green broadcloth for drums / Crooks Green silk ribbon for drums / Cases (leather or wooden) Ropes for drums. / Fingertops. Bags for bagpipes / Mouthpieces and caps therefor Cord for bagpipes / Reeds Drones for bagpipes / Springs Ribbons for bagpipes / Snares Pipe tassels for bagpipes / Valve tops and needles			

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Other Articles, unmanufactured and manufactured—*contd.*		ℛ a.	
42	IVORY AND IVORY-WARE— Unmanufactured—			
	Elephants' grinders	cwt	350 0	Five per cent.
	„ tusks (other than hollows, centres, and points) each exceeding 20lb in weight, and hollows, centres, and points each weighing 10lb and over	„	800 0	„
	Elephants' tusks (other than hollows, centres, and points) not less than 10lb and not exceeding 20lb each, and hollows, centres, and points each weighing less than 10lb	„	680 0	„
	Elephants' tusks, each less than 10lb (other than hollows, centres, and points)	„	525 0	„
	Sea-cow or moye teeth, each not less than 4lb	„	200 0	„
	„ „ „ „ 3lb and under 4lb	„	185 0	„
	„ „ „ less than 3lb	„	135 0	„
	All other sorts, manufactured and unmanufactured	...	*ad valorem*	„
43	JEWELLERY AND JEWELS, including plate and other manufactures of gold and silver—			
	Silver-ware, plain, other than European	tola	1 2	„
	„ embossed or chased, other than European	„	1 6	„
	All other sorts, except precious stones and pearls, unset, which are free	...	*ad valorem*	„
44	JUTE, raw	...	...	Free.
	„ articles made of, except second-hand or used gunny bags, which are free	...	*ad valorem*	Five per cent.
45	LEATHER, and articles made of leather, including boots and shoes, harness and saddlery, except saddlery of a military pattern imported by an officer of His Majesty's regular forces and forming part of the equipment with which he is required to supply himself under Army Regulations, which is free	...	„	„
46	MALT	...	„	„
47	MANURES of all kinds, including animal bones	...	...	Free.
48	OILCAKE, also bran, fodder, and cattle-food of all kinds	...	...	„
49	OIL-CLOTH AND FLOOR-CLOTH, including linerusta, linoleum, and tarpaulins	...	*ad valorem*	Five per cent.
50	PAINTS, COLOURS, PAINTERS' MATERIALS, and compositions for application to leather, wood, and metals—			
	Lead, red, dry	cwt	18 0	„
	„ white, dry	„	19 0	„
	Ochre, other than European, all colours	„	2 12	„
	Paints, composition	...	*ad valorem*	„
	„ patent driers	...	„	„
	Turpentine	Imperial gallon	3 12	„
	Verdigris	...	*ad valorem*	„
	Vermilion, Canton	box of 90 bundles	105 0	„
	Zinc, white, dry	...	*ad valorem*	„
	All other sorts, including glue and putty	...	„	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	uty.
	Other Articles, unmanufactured and manufactured—*contd.*		*R a.*	
51	PAPER, PASTEBOARD, MILLBOARD, AND CARDBOARD of all kinds, including ruled or printed forms and account and manuscript books, labels, advertising circulars, sheet or card almanacs, and calendars, Christmas, Easter, and other cards, including cards in booklet form, including also waste paper and old newspapers for packing, but excluding trade catalogues and advertising circulars imported by packet, book or parcel post, which are free	...	*ad valorem*	Five per cent.
	„ articles made of paper and papier-maché	...	„	„
52	PERFUMERY—			
	Gowla, husked and unhusked	cwt	40 0	„
	Kapurkachri (zedoary)	„	19 0	„
	Patch leaves (patchouli)	„	17 0	„
	Rose-flowers, dried	„	20 0	„
	Rose-water	Imperial gallon	2 0	„
	All other sorts, except perfumed spirit (for which see Schedule III)	...	*ad valorem*	„
53	PITCH, TAR, AND DAMMER—			
	Bitumen	...	„	„
	Dammer	...	„	„
	Pitch, American and European	...	„	„
	„ coal	...	„	„
	Tar, American and European	...	„	„
	„ coal	...	„	„
	„ mineral	...	„	„
54	PLANTS AND BULBS, living, also dried for herbaria	...	„	„
55	PRECIOUS STONES AND PEARLS, unset (including the stones generically known as Cambay stones, such as agates, cornelians, and onyx)	...	..	Free.
56	PULP of wood, straw, rags, paper, and other materials	...	...	„
57	PRINTING AND LITHOGRAPHING MATERIAL, namely, presses, type, ink, brass rules, composing sticks, chases, imposing tables, and lithographic stones, stereo-blocks, roller moulds, roller frames and stocks, roller composition, standing screw and hot presses, perforating machines, gold blocking presses, stereo-typing apparatus, metal furniture, paper folding machines and paging and numbering machines, but not including paper	...	...	„
58	RAGS	...	...	„
59	RACKS for the withering of tea leaf	...	...	„
60	RAILWAY MATERIAL for permanent-way and rolling-stock, namely, cylinders, girders, and other material for bridges, rails, sleepers, bearing and fish-plates, fish-bolts, chairs, spikes, crossings, sleeper fastenings, switches, interlocking apparatus, brake gear, couplings and springs, signals, turn-tables, weigh-bridges, engines, tenders, carriages, wagons, traversers, trollies, trucks, and component parts thereof; also the following articles when imported by or under the orders of a railway company, namely, cranes, water cranes, water tanks, and standards, wire and other materials for fencing: Provided that for the purpose of this exemption "railway" means a line of railway subject to the provisions of the Indian Railways Act, 1890, and includes a railway constructed in a Native State, under the suzerainty of His Majesty, and also such tramways as the Governor General in Council may, by notification in the *Gazette of India*, specifically include therein	...	...	„

SCHEDULE IV.—(IMPORT TARIFF)—*contd.*

GENERAL DUTIES—*contd.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Other Articles, unmanufactured and manufactured—*contd.*		*R a.*	
61	SEEDS—			
	Castor	cwt	7 4	Five per cent.
	Cummin	„	15 0	„
	„ black	...	*ad valorem*	„
	Linseed	cwt	7 4	„
	Methi	„	5 8	„
	Mustard, rape, or sarson	„	10 0	„
	Poppy	„	9 0	„
	Quince, bihidana	„	90 0	„
	Til or jinjili	„	10 0	„
	All other sorts	...	*ad valorem*	„
62	SHELLS AND COWRIES—			
	Chanks—large shells, for cameos	...	„	„
	„ white, live	...	„	„
	„ „ dead	...	„	„
	Cowras	...	„	„
	Cowries, bazar, common	cwt	3 12	„
	„ yellow, superior quality	„	5 0	„
	„ Maldive	„	5 8	„
	„ sankhla	„	55 0	„
	Mother-of-pearl, nacre	...	...	Free.
	Nakhla	cwt	100 0	Five per cent.
	Tortoise-shell	lb	12 0	„
	„ nakh	„	5 0	„
	All other sorts, including articles made of shell, not otherwise described	...	*ad valorem*	„
63	SHIPS AND OTHER VESSELS for inland and harbour navigation, including steamers, launches, boats, and barges, imported entire or in sections	...	...	Free.
64	SILK AND ARTICLES MADE OF SILK—			
	Bokhara	lb	9 0	Five per cent.
	Floss	...	*ad valorem*	„
	Piece-goods	...	„	„
	Sewing thread, China	...	„	„
	Raw silk—Chaharam, Cochin-China, and yellow Shanghai	lb	5 8	„
	Mathow	„	3 4	„
	Other kinds of China including re-reeled silk	„	8 0	„
	Waste and Kachra	...	*ad valorem*	„
	Panjam	lb	2 6	„
	Persian	„	5 0	„
	Siam	„	2 6	„
	All other sorts, including cocoons	...	*ad valorem*	„
65	SOAP	...	„	„
66	SPECIMENS ILLUSTRATIVE OF NATURAL SCIENCE, including also antique coins and medals	...	...	Free.
67	STATIONERY, excluding paper (for which see No. 51)	...	*ad valorem*	Five per cent
68	STONE AND MARBLE, and articles made of stone and marble	...	„	„

SCHEDULE IV.—(IMPORT TARIFF)—*concld.*

GENERAL DUTIES—*concld.*

No.	Names of Articles.	Per	Tariff Valuation.	Duty.
	Other Articles, unmanufactured and manufactured—*concld.*			
69	TALLOW AND GREASE, including stearine	...	*ad valorem*	Five per cent.
70	TEA CHESTS of metal or wood, whether imported entire or in sections, provided that the Customs Collector is satisfied that they are imported for the purpose of the packing of tea for transport in bulk	...	...	Free.
71	TEXTILE FABRICS not otherwise described	...	*ad valorem*	Five per cent.
72	TOILET REQUISITES not otherwise described	...	,,	,,
73	TOYS, including toy-books, and requisites for all games	...	,,	,,
74	UMBRELLAS, parasols, and sun-shades of all kinds	...	,,	,,
75	WALKING STICKS and sticks for umbrellas, parasols, and sun-shades, of all kinds, mounted and unmounted, driving, riding, and other whips, fishing rods and lines	...	,,	,,
76	WOOD AND TIMBER (except fire-wood, which is free), and articles made of wood not otherwise described	...	,,	,,
77	WOOL, raw	...	...	Free.
	,, articles made of, including felt	...	*ad valorem*	Five per cent.
78	ALL OTHER ARTICLES, manufactured or unmanufactured, not described in this Schedule	...	,,	,,

COTTON PIECE-GOODS.

WITH reference to paragraph 3 of the Resolution in the Department of Commerce and Industry, Nos. 5443-5449—8, dated the 13th July 1906, the Governor General in Council is pleased to prescribe the following revised "List of cotton piece-goods" in supersession of the list appended to the Resolution of that Department, Nos. 10115-10121—8, dated the 21st December, 1906:—

List of Cotton piece-goods.

1. Alhambras.
2. American cloth.
3. Angolas (cotton).
4. Apron cloth (cotton).
5. Art muslins.
6. Basket cloth.
7. Batistes (cotton).
8. Beaverteens (cotton).
9. Blankets (cotton).
10. Holland and blind cloth (cotton).
11. Book-binding cloth.
12. Brilliants.
13. Brocades (cotton).
14. Broche.
15. Buckram (cotton).
16. Calicoes.
17. Cambrics, plain, dyed, or printed.
18. Cambridge shirtings.
19. Cantoons.
20. Canvas (cotton).
21. Canvas, French elastic (cotton).
22. Cashmeres (cotton).
23. Cellular cloth.
24. Checks, spots and stripes.
25. Chiffons (cotton).
26. Chinese dyed cloths.
27. Chintz.
28. Chintzes, glazed.
29. Choonris.
30. Chadars.
31. Chadar-pattas.
32. Coatings (cotton).
33. Corded cloth (cotton).
34. Corduroy (cotton).
35. Cotton flakes.
36. Cotton rugs.
37. Counterpanes.
38. Crapes (cotton).
39. Crash (cotton).
40. Crepons (cotton).
41. Cretonnes.
42. Crimps (cotton).
43. Damask, cotton, table.
44. Dawanies.
45. Delaines (cotton).
46. Delametti.
47. Denims.
48. Dhotis.
49. Diagonals (cotton).
50. Diapers (cotton).
51. Dimitties.
52. Domestics.
53. Domettes (cotton).
54. Doosatie.
55. Dupettas.
56. Dorias.
57. Dress, plain or printed (cotton).
58. Drills, plain, striped, or checked.
59. Duck.
60. Dungari.
61. Dusters (when joined by the warp).
62. Embroidered alloyers.
63. Embroidered flounces.
64. Fancies.
65. Fents (cotton).
66. Finduras.
67. Flannel (cotton).
68. Flannelette (cotton).
69. Galateas.
70. Gambroons.
71. Gauze (cotton).
72. Ghagras (cotton).
73. Ginghams (cotton).
74. Glass cloths (when joined by the warp) (cotton).
75. Grenadines (cotton).
76. Gumchas.
77. Hair-cords.
78. Handkerchiefs (in woven pieces).
79. Harvards.
80. Hollands (cotton).
81. Italians (cotton).
82. Jaconets, plain or bordered.
83. Jeans, plain, dyed, or printed.
84. Khaki regattas.
85. Lace curtain cloth.
86. Lace stripes.
87. Lappets.
88. Lastings.
89. Lawns.
90. Lenos.
91. Linenette (cotton).
92. Linings, plain, striped, or mercerised.
93. Longcloths.
94. Lungis.
95. Lustres (cotton).
96. Madapollams.
97. Madras cloth.

List of Cotton piece-goods—(concld.)

98. Marcella.
99. Matte shirtings.
100. Matting (cotton).
101. Mattress cloth.
102. Meltons (cotton).
103. Mercerised cloth.
104. Merinos (cotton).
105. Merins.
106. Mexicans.
107. Moir Cambric lining.
108. Moleskins (cotton).
109. Molleton cloth.
110. Morias.
111. Morocns (cotton).
112. Mulls, all kinds, plain or bordered.
113. Muslins (cotton), all kinds.
114. Nainsooks.
115. Net (cotton).
116. Net, curtain.
117. Net, mosquito.
118. Nun's veiling (cotton).
119. Oatmeal cloth.
120. Oxford shirtings.
121. Penelope canvas.
122. Pillow calico, tubular.
123. Piques.
124. Plushette.
125. Pocketing.
126. Pompadour.
127. Pongees (cotton).
128. Poplinette (cotton).
129. Prayer mats (cotton).
130. Printed crépellé.
131. Prints.
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