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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	5 per cent. (Sep. 28).
	Bombay	5 per cent. (Dec. 21).
	Madras	6 per cent. (Dec. 21).
EXCHANGE	On demand	1-4 $\frac{3}{4}$
	Telegraphic	1-4 $\frac{1}{8}$
	Transfers	
	3 months	1-4 $\frac{5}{8}$
	6 months	1-4 $\frac{7}{8}$

GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.) Rs. 96.

The spot price of wheat at Karachi on the 28th December was Rs. 29-8-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 3rd January was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 239 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 3rd instant were as under :—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 55 0 0
M. per 400 lbs.	48 0 0
Rice—Ballam No. 1 per B. md.	Nil.
Moonghy	3 11 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold, Cawnpore, 4% per B. md.	Nil.

The sixth cotton-ginning report of the Census Bureau of the United States Department of Commerce and Labour gives the amount of cotton ginned up to December 1st as 12,814,000 bales. This is about 1,800,000 bales ahead of what the record crop of 1908-09 was up to the same date.

The United States Department of Agriculture issued on December 11th its annual estimate of the cotton crop, according to which the total crop this season amounts to 14,885,000 bales of 500 lb. each, exclusive of linters. This is by far the largest crop ever grown in the United States, and exceeds last year's by nearly 3½ million bales, while compared with that of two years ago it shows an increase of 4,800,000 bales. The special feature of the report is the Texas crop, which is estimated at 4,280,000 bales, an increase over last year of 1,140,000 bales. The Georgia crop with 2,560,000 bales compares with 1,750,000 and also constitutes a record for that State.

Mr. William Tattersal of Manchester has published his analysis of the trading results of Lancashire cotton spinning companies for the twelve months ended November 30th, 1911. An analysis of the results achieved by 76 companies shows a total net profit of £31,013, which is equivalent to ¼ per cent. on the share and loan capital. The prospects, however, are now considerably brighter than for a long time back. A statement covering the past ten years shows the varying fortunes of the industry. Thus in 1907 there was a total profit of £1,321,157 and in 1909 a loss of £272,072. Last year there was a loss of £368,006.

A Cairo correspondent writing under date December 4th states that in view of the terrible ravages made by cotton-worm in the Egyptian cotton crop the Department of Agriculture has, at the suggestion of the British Agent, issued a circular which is to be distributed all over the country. The circular deals with the different qualities of seed to be used and the manner in which it is to be planted, and it explains most minutely the dangers of the cotton-worm and the measures which must be taken throughout the year to guard against it. This document is to be posted up in every Government office; it is to be read out on three Fridays in the month (by the Omdehs (village Mayors) to the villagers and finally it is to be explained and taught in the village schools to the school children "in order that the children shall be able to make their parents understand." According to the latest reports the British-Growing Association is sending a deputation this month to Egypt, in order to study the possibilities of extending cotton-cultivation in Upper Egypt and the Sudan, the reasons why Lancashire has had to complain so much of the last Egyptian crops. The deputation, which is to arrive in Cairo about Christmas, will consist of

Mr. T. A. Hutton, the Chairman, Mr. Herbert Whiteley and Mr. Robert Clegg.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 49 weeks ended 7th December, 1911:—

	IMPORTS.		EXPORTS.	
	Week ended 7th Dec., 1911.	49 weeks ended 7th Dec., 1911.	Week ended 7th Dec., 1911.	49 weeks ended 7th Dec., 1911.
	Bales.	Bales.	Bales.	Bales.
American . . .	116,511	3,018,450	4,863	222,174
Brazilian . . .	100	99,198	26	9,829
East Indian . . .	27	129,134	15	21,231
Egyptian . . .	26,238	442,144	1,750	115,334
Miscellaneous . . .	4,531*	159,899†	39	4,577
TOTAL . . .	147,407	3,848,815	6,693	373,135

* Including 334 bales British West Indian, and 2,281 bales British East African.

† Including 9,375 bales British West Indian, 5,531 bales British West African, 26,315 bales British East African, and 258 bales foreign East African.

NOTE.—Cotton "in transit" or "for transhipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The area under cotton cultivation in Egypt in 1895-96, according to the Egyptian Survey Department, was 977,735 feddans (feddan=1.03 acre) producing 5,256,128 cantars (cantar=99.05 lbs.) whereas last season (1910-11) the area under cotton cultivation was 1,603,000 feddans, yielding 7,600,000 cantars, the largest crop on record. The following figures of the yield per feddan in cantars is, however, of particular interest as showing the deterioration that has taken place:—

Season.	Yield per feddan in cantars.	Season.	Yield per feddan in cantars.	Season.	Yield per feddan in cantars.
1895-96 . . .	5.38	1900-1 . . .	4.42	1906-7 . . .	4.61
1896-97 . . .	5.60	1901-2 . . .	5.10	1907-8 . . .	4.51
1897-98 . . .	5.80	1902-3 . . .	4.88	1908-9 . . .	4.12
1898-99 . . .	4.99	1903-4 . . .	4.88	1909-10 . . .	3.24
1899-1900 . . .	5.64	1904-5 . . .	4.39	1910-11 . . .	4.74
		1905-6 . . .	3.80		

The British Cotton-growing Association has just issued a useful chart in which the production per feddan in each year and the average production for the quinquennial periods ending in each year are shown graphically by means of curves on squared paper.

According to the Berlin Borsen Zeitung of 9th December, the state of the South German cotton spinning and weaving industries was even more

unsatisfactory during the first nine months of 1911 than it was in 1910. The principal reason for this was the unusually high price of raw cotton, and the consequent enhanced prices of manufactured goods, which discouraged buyers. Then, as the prospects of the year's cotton crop, both as regards quality and quantity, became more and more favourable, wholesale dealers held back orders on the anticipation of a fall in prices. When towards the end of September prices fell, owing to the long expected favourable cotton crop, great activity took the place of the previous reserve, and large orders were placed. Spinners, the writer adds, may look forward to a period of good trade well into 1912, so that the prospects for the current year are very favourable.

In their report on London tea sales, dated December 15th, Messrs. Gow, Wilson and Stanton, Ltd., say:—The amount of Indian tea brought forward was some 7,000 packages more, which met with fairly good support at about last sale rates. At both auctions all kinds up to 8½d. were enquired for and can generally be quoted a steady market, but over this price, especially amongst Assam Pekoes, rates were again inclined to favour buyers, and relatively this class showed distinctly better value. Medium Broken Pekoes were also irregular and at times somewhat difficult to quit, except at a slight reduction, but for the few fine breaks offered, strong competition was forthcoming, one parcel of 34 half-chests Broken Orange Pekoe from the "Rupai T Co." realising 2s. 0½d. per lb. Southern India continued to be well represented, and several Teas with nice flavour met with a good demand and sold at a fractional advance. Printings for next week are 33,930 packages, all of which will be offered on Monday. Averages:—Darjeeling: "Amal T. Co. Dooteriah," 10½d. Assam: "Rupai T. Co.," 1s. 0½d.; "Budlia Beta T. Co. Kharjan," 11½d.; and "Moran T. Co. Sapon," 10½d. Average for week 8.85d., against 8.90d. last sale. Week's average of Tea sold on Garden Account, Season 1911-12, 50,016 packages, average 8.85d. 1910-11, 47,780 packages, average 8.82d. Season 1911-12 to date 910,561 packages, average 9.30d. Season 1910-11 to date 839,293 packages, average 8.51d.

The sixteenth Report of the Directors of the Barsi Light Railway Company, Ltd., for the year ended 30th June, 1911, which was to have been presented at the seventeenth ordinary general meeting of the company in London on the 19th December, 1911, shows that the net earnings for the year less Indian Income Tax, amounted to £25,568 16s. 5d. After providing for Debenture Interest £5,600, and adding the balance brought forward from the previous year £4,298 13s. 9d., together with the sum of £87 0s. 8d., at credit of Exchange Adjustment, there is a sum of £24,354 10s. 10d. left at credit of Net Revenue Account. The Directors have transferred a sum of £5,000 to credit of Re-

serve Account for the equalisation of dividends, etc., which now stands at £15,337 11s. 10d.; an Interim Dividend of 3 per cent was paid on the 13th July last and the Directors now recommend that a final dividend of 3 per cent on the shares be paid, making 6 per cent for the year, and leaving £6,884 12s. 4d. to be carried forward, after providing £469 18s. 6d. for Income Tax on undistributed profits. As compared with the previous year there is a decrease of 33,593 tons and Rs. 80,696 in goods traffic, and an increase of 79,106 passengers and Rs. 44,874 in passenger traffic and Sundry Receipts, making a net decrease of Rs. 35,822 in earnings; the Working Expenses show a decrease of Rs. 6,115, thus leaving the net earnings Rs. 29,707 lower.

The Corn Trade News gives the following summary of the world's crops, as on the 12th ultimo:—United States of America.—The official estimate of condition of winter wheat, on 1st December, was 86.6 per cent compared with 82.5 in December, 1910, and 89.9 average of the previous ten years. The estimated area shown is 32,213,000 acres compared with 32,648,000 the revised estimate for 1910. The Modern Miller reports complaints of damage to early sown winter wheat more general and severe frost occurred when the late sown crop was still tender; also complaints of Hessian Fly, and recent weather has not been favourable. Primary receipts smaller, but still liberal. Canada.—Nothing fresh in the way of crop estimates. Receipts at Winnipeg continue big and there are predictions of better grading, but, so far, no improvement. Russia.—Weather colder; no snow in Southern region, but crops considered all right. Arrivals at ports smaller and stocks decreasing. Argentina.—Weather been mostly unsettled, stormy and unfavourable, but improving this week. Confirmed wheat and oats received some further damage and generally indications unimproved. The Northern wheat crop gave very small yield and some estimates for whole country quite low. At present we are not inclined to change estimate of 15,500,000 qrs. for exportable surplus wheat. Australia.—Crop indications and estimates fully maintained, say around 80,000,000 bushels for Commonwealth compared with 96,000,000 last year. First samples show good quality, but these from specially grown lots; however, our Sydney agent reports favourably of quality of New South Wales. France.—Weather generally wet, mild, but cold wanted to check growth and kill weeds and vermin. Offerings native wheat not large but sufficient. Germany.—Official and unofficial crop reports quite favourable. Supplies generally moderate and demand for foreign wheat and feeding grain much better. Roumania.—Weather turned mild and favourable after good rains and snow. Arrivals at ports reported small. Hungary.—New crop favourable everywhere; arrivals and offers small. Turkey.—Latest weather and crop reports favourable. Italy.—Weather mostly normal, crops favourable. United Kingdom.—Young crops, look-

ing well. More complaints disappointing threshings, but wheat better than spring grain.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns, in the week ended 9th December, 1911, were as follows:—Wheat, 32s. 9d.; barley, 34s. 0d.; and oats, 20s. 9d.

The official *Commercial and Industrial Gazette* (St. Petersburg) of 30th November publishes the following estimates, issued by the Central Statistical Committee, of the principal crop results in the 73 Governments of Russia for 1911, the figures being indicated in 1,000 pounds (1,000 pounds = about 16 tons.): wheat (winter) 314,500; wheat (spring) 532,000; rye (winter) 1,165,100; rye (spring) 16,000; barley 546,600; millet 105,500; maize 127,600; oats 760,600; potatoes 1,937,800.

In their weekly report on Australian wool sales dated Melbourne, 7th December, Messrs. Goldsbrough Mort & Co., Ltd., say:—We report holding our last sale but one of the current year yesterday, when we submitted one of the most attractive catalogues placed before the trade this season. While no large clips were catalogued, the bulk of the offerings comprised showy little clips from the very best wool-growing centres of this State, including Nareen Edenhope, Norad-juba, Harrow, Horsham, and the South Australian border. These came in for good competition at the hands of the usual large gathering of the trade, and the prices realised were particularly satisfactory, in many instances last year's rates being practically obtained, that is, when the extra conditions of growth, etc., are taken into account. All good, super, stylish, merino wools sold in growers' favour as also medium descriptions; but in the crossbred section, apart from the very best qualities, considerable irregularity was noticeable.

An old difficulty which affects all stages in wool manufacture is the presence of vegetable fibres in the wool. These are often imperceptible until the wool is dyed, when the vegetable fibres remain white, and may seriously diminish the value of an expensive yarn, or of such a cloth as a navy blue suiting. The picking out or colouring of the white fibres is a costly process, and many attempts have been made to keep the fleeces free from foreign admixture. The trouble is largely due to the bags and twine used in packing. Coarsely spun jute and hemp are the usual materials for these, and in the rough handling of the bales the packing is often torn or, at the best, subjected to considerable friction, loose fibres being rubbed off and mixed with the fleeces. Recent experiments have produced a paper twine which is satisfactory from a structural point of view, as

it is practically a twisted ribbon, whereas the ordinary twine is merely a bundle of fibres. Jute bags are now being lined with a cloth woven entirely from paper yarn, and a sample may be seen at the office of the Director-General of Commercial Intelligence, 1, Council House Street, Calcutta.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	-1.9	Cwts (dye) 48,700	+5.9	21st Dec., 1911.
Cotton	19,524,000	-12.0	Bales* 3,102,000	-18.6	Do.
Sugar cane	2,209,500	+5.0	Information not yet available.	Information not yet available.	26th Oct., 1911.
Sesamum (til or jinjili)	2,626,700	-19.0	Do.	Do.	Do.
Groundnut	860,000	+6.0	Do.	Do.	Do.
Rice	54,441,400	-4.0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	-1.0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	-9.0	Do.	Do.	Do.
Linseed	3,371,600	+12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

Discussing the silk market on December 7th, Messrs. Chabrieres, Morel & Co., Lyons, say:—Without underrating the importance of the Tripoli war and of the revolt in China there is no doubt that a serious improvement in European politics has taken place and brought a relief to trade in general. As a consequence we have witnessed, during the past weeks, a marked tendency to an enlargement of business. It is not surprising that consumers who acted cautiously during a long period should be inclined to re-assort their stocks at present low prices; probably also the covering of short sales stands for a good figure in the buying. The practice of short sales

this season has contributed to represent the position of affairs as worst than it was; nevertheless the silk-piece goods trade suffers from the reduction of consumption, already alluded to, and in a great measure from the absence of a leading article. Orders are generally turning up suddenly for prompt delivery and thus buyers, in all lines, unable to control the market, confine themselves to a hand-to-mouth policy. During the period under review, prices have ruled somewhat irregular with a touch of weakness, but Japan sorts have already somewhat recovered and generally speaking a sentiment of comparative confidence is now perceptible.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 7th ultimo regarding the Hull oil markets says:—Linseed oil: The market is steady, but inactive with spot at 31s. 6d. spot, 31s. December, 29s. 3d. January-April. The exports for the week amounted to 235 tons, of which Africa took 1, America 8, Austria 212, Denmark 1, Egypt 9, Norway 1, Portugal 2 and Turkey 1 ton each. Cotton oil: This market is steady but inactive, with refined cotton oil at 24s. 6d. spot, 24s. 6d. November-April; crude oil 22s. 9d. spot. Soy bean oil, 25s. 3d. spot, 24s. 3d. January-April. The exports for the week amounted to 77 tons, which Germany took. Rape oils: Ravison, 26s. 3d.; Jamba and Brown East Indian not offering. Coconut oil quiet. English ex mill, £41 to £42 per ton, in casks. Castor oil, steady but quiet. Calcutta, on spot, 3½d. to 4d. per lb. and forward 3½d. per lb. quay terms. Colza oil steady; East Indian refined, 34s. 6d. per cwt., ex store, in barrels. Olive oil quiet on spot at £46 10s. per tun for Spanish, ex store. Palm oil easier. December Benin sold at £29, December-January hards at £28, and December-January and January-February softs at £29 10s. with sellers of Lagos at £30, all transit. Refined sorts, nominal; clarified in casks, £30; and bleached, £34 per ton. Petroleum continues steady with a fair trade. American in barrels, 5½d. to 6½d.; and Russian, 5½d. per gallon. Turpentine firm and dearer; spot and December, 36s. 9d.; and January-April, 37s. 3d. per cwt.

It has been suggested that centrifugals of small size might be used for the extraction of fish oil from the boiled mass, and the Director-General of Commercial Intelligence will be glad to put those persons who may be interested in communication with certain makers of centrifugals who desire to have the matter tested.

In their rubber market Report, dated London, December 14th, Messrs. Gow, Wilson and Stanton, Ltd., write:—In spite of the near approach of Christmas, the tone of the market has remained consistently firm since the last auctions, and a fairly con-

siderable volume of business has been transacted in Plantation descriptions in all positions up to the end of next year at advancing rates. The quantity brought forward this week was again on a large scale, totalling nearly 480 tons. This met with strong support and there was good bidding for all descriptions. Compared with last quotations, an advance of 3d. to 5d. per lb. may be recorded, and almost the whole of the Rubber catalogued changed hands in the room. The better sorts of Crepe and Smoked Sheet sold very much on the same basis, prices for these ranging from 5s. to 5s. 2½d., Lanadron Block realising the highest figure, namely, 5s. 3d. On the second day the Tuesday's level was not quite maintained.

Imports of tobacco from each principal country into British India in the month of November, 1911, and total duty realised thereon have been as follows:—

Imports—	Unmanufactured.	MANUFACTURED.					Total tobacco.
		Cigars.	CIGARETTES.			Other sorts.	
			Weighing less than 3 lbs. per 1,000.	Weighing 3 lbs. or more per 1,000.	Total.		
Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	
From the United Kingdom.	3	1,611	...	...	120,993	40,302	162,909
From Holland.	4,399	5,683	...	...	12	...	10,094
From Belgium.	...	458	...	...	...	2	460
From Egypt	...	...	...	...	8,522	3	8,525
From the United States of America.	...	...	...	...	187	20,411	20,598
From other countries.	1,045	3,095	...	...	1,492	1,270	7,602
Total	5,447	11,447	..	...	131,206	62,088	210,188
Total duty realized thereon Rs.	10,808	17,814	1,65,951	13,094	1,70,035	70,687	2,78,404

In its issue of December 11th the *Manchester Guardian* says:—The reaction in copper which took place last week has been associated with the movements in the American Share Market, but it is very doubtful whether these had any real influence on the metal. Altogether the price went back 20s. per ton—reckoning from the highest to the lowest point—and when it is remembered that three months' copper coming due towards the end of this month showed £3 to £4 profit to those who had bought in September, there is no occasion to search in any other direction for a reason for the recent

drop. When profits have been taken the market will again be in a sound condition and prepared for the influence of any favourable news which may come to hand. The *Ironmonger* refers to rumours current in America that stock figures have been manipulated, and that the actual stocks of copper in the United States are greater than is supposed. However this may be—and in any case it is not certain that the American figures are to be relied upon—the upward tendency in copper is not so much dependent upon favourable stock figures as it was but is under the influence of the trade movement throughout the world. The fundamental conditions are changing towards improvement, and whether America holds a few thousand tons more or less is relatively insignificant.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 22nd December, 1911, was 239,433 bags, while the stock in the Bombay godowns and the estimated stock in the Bombay city as well on the 29th idem amounted to 105,800 bags.

Part IV (b)—Finance and Revenue—of the *Statistics of British India* for 1909-10, 4th issue, compiled in the office of the Director-General of Commercial Intelligence, has been published by the Superintendent, Government Printing, India, 8 Hastings Street, Calcutta (price Re. 1 or 1s. 6d., excluding postage). The volume presents statistics relating to principal heads of revenue, namely, Land Revenue, Opium, Salt, Stamps, Customs, etc.

Weather in India for the week ended Tuesday last was marked by a slight disturbance in the north which, moving towards Kashmir, gave heavy clouds in the North-West Frontier Province. A few showers of rain have occurred in the south of the Peninsula, while light snowfall is reported from Kashmir. In other parts of the country the weather has been dry.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 25th December, 1911:—S. J. Kendrick, Deputy Carriage and Wagon superintendent, and F. T. LeFeuvre, Works manager, Carriage and Wagon Department, E. I. R. Lillooah—Improvements in the arrangement of commodore in railway carriages for the use of both Europeans and Indians. J. S. Wearn, machinery expert, of 134, Hareford Street, Christchurch, New Zealand—Improvement relating to the destination boards of tramcars and the like. J. T. Robinson, engineer, of Dehri City, British India—An improved lime kiln. Farbwerke vorm. Meister Lucius and Bruning, chemical manufacturers, of Hoechst a/ Main, Germany—Manufacture of substituted aromatic arsines. A. G. Harris, mechanical engineer, United States, residing at Lincoln, Lancaster and State of Nebraska, United States of America—

Composition of matter. G. Bouvier, of The Firs, Tadworth, Surrey, England—An improved method of and means for fastening ladies' blouses, bodices and the like articles of wearing apparel. M. Wehli, manager, late of 17, Eichstrasse, now of 23, Baslerstrasse, Mulhausen, Els, Germany—Improvements in grid bars for conical openers for treating fibrous materials. H. G. P. Thorp, Indigo planter and Zamindar of Sikta, in the district of Chumparun, North Behar—An improvement in the making and arrangement of caddie bags. D. K. West, engineer, 23, St. Mary Axe, London—Improvements in cotton gins. Airless Resilient Wheels, Ltd., 1, Broad Street Place, City of London—Improvements in spring wheels for vehicles. De Dion Bouton (1907), Ltd., motor carriage manufacturers, 10, Great Marlborough Street, Regent Street, London—Improvements in or relating to shaft couplings and the like. J. N. Curtis, vacuum brake inspector, and E. D. Sampson, district locomotive superintendent, both of the Madras and Southern Mahratta Railway, Hubli—Improvements in automatic brakes; and improvements in brake apparatus for railway vehicles and the like. A. Rotinoff, civil engineer, 64, Fontanka, St. Petersburg, Russia—Improvements in, or relating to, well-boring tools and the like.

NOTICES.

INDIAN CROP FORECASTS. SEASON 1911-12. Dates of Publication.

The following are the dates on which the General Memoranda on crops of the season 1911-12 are expected to be (or were) published in the *Indian Trade Journal* :—

RICE—			
First memorandum	October	26,	1911
Second "	December	21,	"
Final "	February	22,	1912
WHEAT—			
First memorandum	December	28,	1911
Second "	March	14,	1912
Final "	May	30,	"
COTTON—			
First memorandum	August	17,	1911
Second "	October	19,	"
Third "	December	21,	"
Final "	February	15,	1912
LINSEED, RAPE AND MUSTARD (Spring oilseeds)—			
First memorandum	December	28,	1911
Second "	March	14,	1912
Final "	May	30,	"
SESAMUM—			
First memorandum	August	31,	1911
Second "	October	26,	"
Final "	January	18,	1912
Supplementary memorandum	April	25,	"
GROUNDNUT—			
First memorandum	October	26,	1911
Final "	February	15,	1912
INDIGO—			
First memorandum	October	19,	1911
Final "	December	21,	"
SUGARCANE—			
First memorandum	August	24,	1911
Second "	October	26,	"
Final "	February	22,	1912

CALLS FOR TENDERS.

Government Rubber.

The Conservator of Forests, Western Circle, Eastern Bengal and Assam, Camp Gauhati, will, up to noon of the 31st January, 1912, receive sealed tenders for the purchase of the whole quantity of rubber which will be collected and packed by the Forest Department during the season 1911-12 from the Government Rubber Plantations of Charduar and Kulsi. The yield is estimated to be :—

Charduar Plantation	10,000 lbs.	} more or less.
Kulsi Plantation	3,000 lbs.	

Tenders should state the price per pound offered. Offers may be made separately for each class of rubber, but an average rate would be more acceptable. On the acceptance of any offer a security deposit of 5 per cent must be paid, if demanded. Further particulars may be obtained on application to the officer above named.

Woollen Comforters, Warm Mittens and Woollen Putties.

The Deputy Assistant Director of Supplies, 6th (Poona) Division, Poona, will, up to 12 noon (S. T.) on Wednesday, the 17th January, 1912, receive sealed offers by letter at Bombay for the supply of Comforters, Woollen, Mittens, Warm, and Putties, Woollen. Further particulars can be had on application to that officer.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Japanese Silks, Cottons and Curios.

(1283)—A firm in Yokohama exporting Japanese silk and cotton goods and curios is desirous of being placed in communication with wholesale buyers in Calcutta.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the ante-room till Wednesday, the 10th January, 1912 :—

Parliamentary Publications.

The Annual Local Taxation Returns (England and Wales)—year 1909-10, Part V. Mines and Quarries; Part III—Output. Report of the Departmental Committee on Telegraphists' Camp. Abstract Account, 1910-11—Showing the issues made from the Consolidated Fund of the United Kingdom in the Financial year ended 31st March, 1911. Accounts relating to the Trade and Commerce of certain Foreign Countries and British Possessions for 1911. Agricultural Statistics of Ireland, with Detailed Report for the year 1910. Accounts relating to Trade and Navigation of the United Kingdom for each month during the year 1911. Circular Instruction to Post Office Surveyors, Heads of Departments, etc., covering Report of the Committee of Medical Officers appointed to inquire into the Conditions of Working of Telephonists. Colonial Reports—Annual—No. 698—Barbados Report for 1910-11.

Foreign and Colonial Publications.

America—Quarterly Publications of the Statistical Association—September, 1911. Austria-Hungary—Auswärtiger Handel Des Vertragszollgebietes—X—Oktober, 1911; Hauptergebnisse des Auswärtigen Warenverkehrs Bosniens und Der Hercegovina im Jahre 1910. Australia—Population and Vital Statistics, Bulletin No. 27. Vital Statistics of the Commonwealth for the quarter ended 30th June, 1911; Statistical Register for the year 1910 and previous years—Part I—Population and Vital Statistics; Vital Statistics, 1910, Fifty-first Annual Report of the Government Statistician. Canada—Trade and Commerce—Monthly Report—August, 1911; Weekly Report, 27th November and 4th December, 1911. Italy—Bulletin of the Bureau of Economic and Social Intelligence, 31st August, 1911; Statistica Del Commercio Speciale—Ottobre 1911; Movimento Commerciale del Regno D'Italia Nell'anno 1910 Parte Prima—Parts I, II and III. Jamaica—Schedule of Taxes and all Other Sources of Revenue, 1910-1911. Mexico—Resumen de la Importacion Y De la Exportacion-Agosto De 1911. Norway—Norges Handel 1910; Fabriksaellinger I Kongeriket Norge 1909, Forste Hefte; Norges Skipsfart 1909. Russia—Commerce Extérieur De La Russie Par La Frontiere D'Europe—1 Janvier—1 Octobre 1911. Straits Settlements—Return of Imports and Exports for the quarter ended 30th September, 1911. Switzerland—Statistique du Commerce De La Suisse, Importation et Exportation Des Principaux Articles, III Trimestre, 1911. South Africa—Trade of the Union of South Africa, Southern and N. W. Rhodesia and British South Africa—Month of October, 1911. Tasmania—Statistical Summary for the years 1900, 1907-08, 1908-09, 1909-10 and 1910-11. United States—Monthly Summary of Commerce and Finance of the United States, September, 1911; Crop Reporter, November, 1911.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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

Subscribers and advertisers in the United Kingdom may remit either through a bank or by money order. For the purpose of postal remittances, one penny should be taken as the equivalent of one anna, and 1s. 4d. as the equivalent of one rupee.

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

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

The Indian Trade Journal.

THURSDAY, JANUARY 4, 1912.

FOREST WASTE.

In his Report for 1910 the Secretary of the United States Department of Agriculture has a good deal to say on this subject. He points out, for instance, that in the course of manufacture of sawn timber and its use by the industries, 67 per cent of the wood which grew in the tree is lost. In cordwood the loss is 5 per cent, and in posts and rails 20 per cent. In hewn cross ties the waste runs to 70 per cent, none of which can be used; and in cooperage stock it is even greater, amounting to 78 per cent. It will at once be asked why this enormous waste occurs. The answer is easily found. We saw lumber with square edges, but the trees grow round. Our boards and timber must be straight and of the same width and thickness throughout, while the tree often grows crooked and always tapers. There is waste in the stump because it is difficult to cut off the tree

even with the surface of the ground, though it would be better for the forest if this were done. Perhaps the greatest item of waste in the woods is found in failure to utilize the tops. Branches and tops are lopped off and left to decay on the ground. Altogether, it is probably true that 25 per cent of the wood which is produced by growth is never taken from the forest at all.

Let us see what occurs when a log actually goes to the sawmill. In the process of sawing out the rough boards the slabs, edgings, and trimmings must be removed. Besides, the bark and the sawdust—very considerable items—are lost. To be sure the best slabs are frequently used to make lath and other small products, but the waste is but slightly reduced by this utilization. A large part of the product turned out as boards must then go through the planing mill, where from one-eighth to one-quarter of an inch is taken off in giving true, smooth surfaces. In all, mill waste, as represented by slabs, edgings, trimmings, shavings, and sawdust, easily comprises 35 per cent of the wood which originally stood in the forest. This is not the end of the story. Further waste is entailed in working up lumber in the building trades; in box and furniture manufacture; in vehicle, car, and ship building; in fact wherever sawn lumber is used. We must add to the 60 per cent of the tree left in the woods or lost at the sawmill 7 or 8 per cent more, which is sawn, planed, or chiselled off in the course of remanufacture. To sum up, the total wastage, where the tree is sawn into lumber, foots up to approximately two-thirds of the original volume.

If the enormous waste which is sustained in the utilization of the forest existed without any effort being put forth to abate it, the prospect would be deplorable. However, the industries which utilize the forest are making a genuine effort to lessen the proportion of wasted material. We are now beginning on an extensive scale to treat with preservatives the timbers which are most subject to damage in use. These are railroad sleepers, bridge timbers, paving blocks, posts, poles, and piling. The preservative treatment of timber is rapidly becoming a substantial industry.

Two preservatives are widely used. One is creosote, a product of coal tar, valuable for preventing both decay and destruction by marine borers; the other is zinc-chloride, a water-soluble salt, and effective only against decay. Before long we shall undoubtedly see some of the larger lumber companies putting preservative plants at their sawmills. The

advantage would be a closer utilization of the trees which are cut and a saving of much of the high-grade woods which are now going into inferior uses. It is poor economy to put the best white oak into railway sleepers, which last in an untreated condition only seven or eight years, when treated ties of rapid-growth pine and gum will last from twelve to fifteen; yet this has been the practice. Again, preservative treatment is making available large amounts of dead timber, which were until recently considered useless.

The next point at which it is important to put a check upon wood waste is at the sawmill. In many ways improved methods are beginning to cut down waste at this point. Small articles of trade are being manufactured from material previously lost, or the waste is being turned into valuable products through chemical processes. Much waste of good material has resulted from the inability of lumbermen to market short or odd lengths of boards. In the past it has been impossible to buy, in the lumber yards, boards or timbers less than 10 feet long or pieces of odd lengths, such as 11, 13 and 15 feet. Timbers that would make boards less than 10 feet long have been thrown away unless they could be worked into lath or other small forms, and pieces that would readily make odd lengths without loss were cut down to even lengths. Two or three feet should be the minimum length of boards instead of 10 feet. There is perhaps even greater waste because we do not utilize odd widths of boards. A section of a log which would make a board 7 inches wide is sawn down to, say, 6 inches, and so far little use has been found for the strip which is cut off.

Again, waste results from lack of knowledge of the properties of woods. There was a time when a lumberman went through the hardwood forests and cut only the walnut and the cherry. All other kinds were left as useless to mature and die. Later he took the poplar and the best oak and left the rest. Even now, as valuable as we consider wood to be, the lumberman in some sections leaves in the woods to burn or decay a number of excellent species which ought to yield valuable lumber. If turpentine could generally be produced at a profit from pine mill waste, the quantity of such waste in the southern States is said to be sufficient to produce a quantity of turpentine equal to that now obtained by tapping the live trees. A beginning along this line has already been made. Turning to another phase of the problem, the waste of beech, birch, and

maple in the northern woods is said to be sufficient if it could be properly utilized, to produce most of the wood alcohol and acetate of lime used in America.

At the present time spruce, hemlock, poplar, and cottonwood are the woods chiefly used for paper making. If the slabs, edgings, trimmings, and shavings from the spruce, hemlock, poplar, and cottonwood cut for lumber in 1907 had been used for paper making, they would have furnished over 4,000,000 cords, an amount amply sufficient to make all the paper manufactured in the United States. The utilization of waste wood for pulp and paper manufacture has possibilities in spite of the fact that obstacles will have to be overcome. Wastewood is not in lengths and widths acceptable to pulp-makers, and trouble is met in reducing it to a fibrous condition.

The foregoing considerations point to the conclusion that the principal cause of the great waste of wood in the course of manufacture is the lack of proper organization and coöperation among the wood-using industries. The lumberman wants to make lumber and nothing else; consequently, much of his raw material is wasted. The cooperage manufacturer wants to make staves and nothing else, and demands for his purpose the whole tree when he might use waste from the sawmill. Better adjustment would make it possible for the industry which makes small products to use as its raw material the waste of another which makes only large products.

An example of two industries which would profit by a closer interdependence than prevails at present may be found in lumber manufacture and slack cooperage production. In the past they have been independent, each going to the forest and cutting down the trees needed, handling them by its own processes, and manufacturing its products without regard to the other. In lumber manufacture, the trees are cut into long timbers or boards with a total waste of about 67 per cent of the tree. In cooperage manufacture the trees are cut into small pieces of a length suitable for making barrel staves, heads, and hoops, with a waste of about 87 per cent. Why should not the barrel staves, heads, and hoops be made from the 67 per cent of waste in the lumber business? There is no adequate reason why this should not be done. Slack cooperage could be produced from exactly the kind of material which is wasted by thousands of feet in most of the large lumber operations. A large proportion of the tops and

brook logs left in the woods, some of the material that goes to the burner, and much more that is fed as fuel to the boiler would be excellent for slack cooperage purposes. It is clear that for the saving of needless waste these two industries ought to be combined, so that barrel staves might be made from the lumber waste. Reports show that this combination is slowly being accomplished.

This is only one example. Many others exist. The important thing is that the lumber industry should not continue simply cutting logs into boards. It should diversify its products. Some of the large sawmills might profitably add box factories, as has already been done in a few instances. Others should put in pulp mills, cooperage plants, preservative treatment plants, turpentine or tannic-acid works. Still others may find it profitable to introduce handle or woodenware works. By working such auxiliary establishments the lumber industry might make a profit out of what is now but waste.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The Board of Trade Journal, published on the 14th ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about :—

GERMANY.—Continuation of Most-Favoured-Nation Treatment to the United Kingdom, etc.

DOMINION OF CANADA.—Remission of Duty on Coal imported into certain Provinces Withdrawn. Animals Quarantine Stations.

COMMONWEALTH OF AUSTRALIA.—Customs Tariff Amendment.

GERMAN EAST AFRICA.—Prohibition of Importation of Cattle and Other Cloven-Footed Animals.

NETHERLANDS.—Customs Decisions.

CONGO STATE.—Importation of Goods by Rail into Katanga.

FRENCH COLONIES.—Customs Treatment of Products of the New Hebrides.

SWITZERLAND.—Provisions respecting the Importation of Alcohol and Alcoholic Products.

ITALY.—Internal Tax on Methyl, etc. Alcohol.

TURKEY.—Prohibition of Export of Maize from Scutari.

VENEZUELA.—Customs Decisions.

—Official statistics show that the world's consumption of nitrate for the first eleven months of 1911 reached 49,000,000 quintals, an increase of 500,000 as compared with 1910. The production from July to November amounted to 23,000,000 quintals (quintal=220·46 lbs.).

CHAMBERS OF COMMERCE.

MADRAS.

THE following are extracts from the minutes of proceedings at the meeting of the Madras Chamber of Commerce held on the 28th November, 1911.

Indian Merchandise Marks Act, 1889.

Read a letter, dated the 22nd November, from Messrs. Wilson and Co. protesting against a Circular addressed by the Department of Commerce, Government of India, to all Local Governments regarding the relaxation of the provision of the Indian Merchandise Marks Act, 1889, relating to water-marked paper, and requesting the Chamber to address Government on the subject. Read also a letter from Messrs. Wilson and Co. of the 25th idem, suggesting that the Madras Trades Association should be requested to support the Chamber.

Resolved to address Government and to ask the Madras Trades Association to support the Chamber's action. Copies of this Chamber's letter also to be sent to the other Chambers of Commerce.

Gold for India and the Indian Currency Committee's Report.

Read a letter, dated the 25th October, from the Karachi Chamber of Commerce, together with a copy of the Memorandum prepared by its Chairman, reviewing the administration of the Indian Currency System during the last twelve years, and enquiring whether this Chamber would be prepared to make a joint representation to the Government of India on the subject.

Resolved to inform the Karachi Chamber that as the members of this Chamber are generally not in accord with the views expressed in the Memorandum, this Chamber is not prepared to make a joint representation to the Government of India on the subject.

Indian Architecture in Madras.

Read a letter, dated the 16th November, from Mr. A. V. Ramachandra Iyer, Madras, requesting the Chamber to address the Government of Madras recommending the appointment of a Committee to report as to how architecture can be made to develop on traditional lines in the Madras Presidency.

Resolved to inform Mr. A. V. Ramachandra Iyer that the subject will be considered when the question of the selection of a Government of India State Technical Scholarship comes up for discussion next year, the Chamber having already proposed that the next Scholarship be given to the study of Electrical Engineering.

KARACHI.

The details below are from the proceedings of a Meeting of the Managing Committee of the Karachi Chamber of Commerce, held on the 19th December, 1911.

Draft rules for the carriage of offensive goods.

Read letter, dated 4th December, 1911, from the District Traffic Superintendent, North Western

Railway, Karachi District, intimating that with effect from 1st January, 1912, the minimum weight for charge for consignment of explosives and dangerous goods has been increased from 20 to 81 maunds for broad-gauge and 54 maunds for metre-gauge except when consigned at stations on the days served by a regular service of powder vans; that the revised minima will apply to consignments of explosives and dangerous goods when booked as urgent from Karachi to North Western Railway stations and also to dynamite which cannot be booked as deferred explosives; and that the ruling to levy charge on actual weight for consignments booked from Karachi or Keamari as deferred once a week only (twice a week in case of Lucifer Matches only) will however remain unchanged and that the minimum weight for charge of 27 maunds for dynamite and blasting gelatine will also be raised to the above minima from the same date.

Read also Railway Board Notification No. 1797 R. T. of the 22nd November 1911, inviting remarks on the new Draft Rules for the carriage of offensive goods.

Resolution.—To be circulated to members for expressions of opinion.

Merchandise Marks Act.

Read letter, dated 9th December, 1911, from the Secretary, Madras Chamber of Commerce, forwarding for the information of this Chamber, copy of a letter addressed by his Chamber to the Government of India, protesting against the relaxation of the provision of the Indian Merchandise Act relating to water-marked paper.

Resolution.—The Madras Chamber's representation should be supported and the Madras Chamber informed accordingly.

Receipts for Registered Parcels.

Read replies received from the Bengal, Bombay, Upper India, Madras, Punjab and Burma Chambers of Commerce, to this Chamber's letter of 9th September, 1911, enquiring whether these Chambers are prepared to support a joint representation to the Government of India protesting against the change made in the Post Office rulings by which receipts granted for Registered Parcels neither show the weight nor the postage paid, and asking that both these particulars be entered on the receipts issued to the public by the postal clerks as before. The Bengal, Upper India, Punjab and Burma Chambers of Commerce express their willingness to support a joint representation to the above effect.

Resolution.—A draft letter to the Government of India to be prepared and submitted to the Committee for their approval.

Port Trust Demurrage Charges on cut, torn, burst and damaged Bags of Sugar.

Read copy of notification No. 22354 C. B., dated 13th December, 1911, by the Chairman, Karachi Port Trust, doubling the demurrage charges in respect to Sugar in cut, torn, burst and damaged bags and stating that the revised rates will be brought

into force from the 1st April, 1912—forwarded under endorsement No. 22354, A. B. C., dated 13th December 1911, by the Chairman, Karachi Port Trust, for the information of the Chamber.

Resolution.—To be circulated among Sugar Importers for an expression of opinion.

UPPER INDIA.

The following are excerpts from the proceedings of the Upper India Chamber of Commerce during November, 1911 :—

The Gold Currency Question.

The Karachi Chamber of Commerce has been addressed in regard to a Memorandum on the Indian currency question prepared by the Hon'ble Mr. M. de P. Webb, President of the said Chamber.

The Committee realised that having due regard to Indian interests there was much to be said in favour of Mr. Webb's recommendations for the opening of the Indian mints to the free coinage of gold, the controlling of the Secretary of State's drawings on the Indian Treasuries, and the restriction of the coinage of new rupees, but at the same time they were only prepared at present to support Mr. Webb in his recommendations for—

- (i) the popularisation of gold coins by every possible means;
- (ii) the acceptance of the principle that the greater portion of Gold Standard reserve should be held in India in gold; and
- (iii) the investment in gold, as a part of the Gold Standard Reserve, of the so-called profits on silver coinage.

They were, however, further willing to co-operate in endeavouring to secure the submission of the Bill prepared by Mr. Webb, with the object of carrying into effect the Indian Currency Committee's recommendations, and, apart from the provisions of the Bill, of forcing a discussion on the whole currency question.

Cotton Cultivation.

The Committee have been in communication with cotton members in regard to the Note recently issued by the Inspector General of Agriculture on the cultivation of cotton in India, and the Committee have observed with satisfaction that the Department has apparently accepted the principle that improvements should be in the direction of the development of indigenous varieties.

A suggestion has been made to the Inspector General of Agriculture that Mr. Gammie, the Imperial Cotton Specialist, should be asked to visit Cawnpore for the purpose of discussing the position of cotton cultivation in these Provinces with the members of the local spinning and weaving industry.

With reference to the statement made as to the absence of any market, either present or prospective, in India for long stapled cotton, the Committee have

ventured to challenge the correctness of this assertion.

Bill to provide for the Regulation of Life Assurance Companies in India.

The Committee have intimated to the Local Government their approval of this proposed enactment.

Its object is to provide for the better control of Life Assurance Companies in India, especially in view of the rapid growth of life assurance business in the country in recent years, and with particular reference to the numerous companies launched by Indian enterprise, frequently inadequately equipped with capital, and in many cases providing practically no security to either shareholder or client.

The Bill has been framed on the lines of the English Statute and provides for the deposit of security amounting to one lac of rupees by all Life Assurance Companies present or prospective, except companies which carry on life assurance business in the United Kingdom in accordance with the Assurance Companies Act, 1909. Adequate provision is also made for the annual auditing of accounts, their periodical publication, and their deposit with Government.

Revision of the Tariff Valuations of Cotton Goods.

The Director General of Commercial Intelligence was informed that the Chamber did not propose this year to depute any representative to discuss the revision of tariff valuations at the meeting to be held in Bombay for this purpose.

An enquiry has been made as to why "wadding" is classified as a cloth in a list of articles purporting to be varieties of piece goods, the article in question being merely cleaned cotton and not a textile fabric.

Information was also asked for as to whether any action had been taken in connection with the amendments in classification suggested in the Chamber's letter dated 29th November, 1910.

IRON INDUSTRIES IN SIBERIA.

A CORRESPONDENT in West Siberia writes to the *Times*:—It is probable that in no other portion of the world are coal, iron ore, and limestone so plentiful and so widely distributed as they are in Siberia, and in no other part of the world has their development been so much neglected. Up to the present they have only been scratched at. Where coal is won it is at no great depth, and then only in small quantities and chiefly for the supply of locomotives on certain sections of the Siberian Railway. The absence of iron works renders the production of coke unprofitable, and wherever wood can be obtained, even though its cost is year by year advancing, the population insist on using it as fuel in preference to coal. As a rule coal, where worked, is worked in an expensive manner. The owners of mines, being without sufficient capital to put down modern plant, work on a small scale and charge as high a price as they can to cover their costs; whereas had they

modern appliances properly arranged they could halve their costs and increase their turnover and profits immensely.

Ironworks on a large scale, with a thoroughly modern system of smelting, rolling, and founding, are practically non-existent in Siberia. The few which do exist are out of date, and, if accounts are to be relied on, in most of them the system of working is antiquated. At all events they can make no bid for the general market in iron and steel goods, which exists in Siberia and is rapidly increasing. When it is considered that Siberia is crossed from East to West by the longest railway in the world, and that this line is now being doubled in capacity; that new railways hundreds of miles in length are being constructed, and that others of even greater magnitude are shortly to be begun; that an immense amount of bridgework, piping, station work, etc., is involved in such undertakings, which will absorb millions of pounds sterling; that all large cities and towns in Siberia are contemplating and obtaining estimates for waterworks, bridges, electric installations, and other works which must absorb immense quantities of iron and steel in various forms, it is strange that in a country so rich in all the necessaries for the manufacture of iron there should not exist materials required for such works. In addition, the large trade done to-day in Siberia in every class of machinery, agricultural implements, boilers, motors, castings of every description, pipes, etc., would alone, if those articles were made on the spot, be sufficient to keep big works going. The absence of engineering works in Siberia for the manufacture of such goods is mainly due to the lack of an iron-works to supply the raw material at a reasonable price. At present the little foundries and mechanics' shops—they can scarcely be called works—draw their supplies from the Ural district, or from steel further off in European Russia, and the cost of railway freight acts as a brake on the establishment of properly-equipped works for turning out efficient machinery.

So far, only here and there have attempts been made in an organized manner to exploit gold and copper, and too many ventures have been exploited in a manner which has brought discredit, not only to individuals, but to Siberia generally. The country does not require speculators, but hard-headed commercial men who know how to organize and to make a manufacturing concern pay. Siberia has seen quite sufficient in the past of the "get-rich-quick" type of men, who, so long as they could fill their own pockets and fill them speedily, have never cared how they accomplished the feat, or whence the money came. "Grabiteli," the Russian calls them, and grab from first to last is their motto, and it is devoutly to be hoped that Siberia has seen the last of them. There is not now the former excuse of Government interference or hindrance. On the contrary, the Russian Government would do everything in its power to assist genuine commercial undertakings in Siberia, not only in the iron industry, but also in many others of which the country's need is equally great.

FOREIGN SEA-BORNE TRADE OF BRITISH INDIA IN NOVEMBER, 1911.

The trade returns for November, 1911, when compared with those for the corresponding month of 1910, show considerable increases in the values of private merchandise imported and of exports of foreign merchandise, but a nominal rise in the exports of Indian merchandise.

The value of the Imports in November, 1911, was Rs. 13.76 crores (£9.2 millions), an increase of Rs. 2.13 crores (£1.42 million) or 18.3 per cent as compared with November, 1910, whilst the total exports amounted to Rs. 17.48 crores (£11.65 millions) showing an increase on the figure for November, 1910, of Rs. 53.41 lakhs (£356,067) or 3.1 per cent, mostly under Foreign merchandise, namely, Rs. 50 lakhs (£333,333).

The following table shows the values of the imports and exports of private merchandise for November, 1911, and for the eight months ending November, 1911, together with the increase (+) or decrease (—) as compared with the corresponding periods of 1910:—

	Rs.	Rs.	Per cent.
Imports	13,76,07,697	+ 2,12,76,729	+ 18.3
Exports	16,87,98,048	+ 3,37,802	+ .2
Re-exports	80,46,806	+ 50,02,936	+ 164.4
Total	31,24,52,051	+ 2,66,17,267	+ 9.3

Eight months ending November, 1911.

Imports	91,40,00,581	+ 7,49,27,855	+ 8.9
Exports	141,61,45,833	+ 11,22,97,620	+ 8.6
Re-exports	3,76,11,025	+ 97,68,263	+ 35.1
Total	236,77,57,439	+ 19,69,93,838	+ 9

The grand total of imports and exports including re-exports of private merchandise came to Rs. 31.24 crores (£20.83 millions) in November, 1911, and Rs. 236.77 crores (£157.85 millions) in the eight months ending November, 1911, as against Rs. 28.58 crores (£19.05 millions) and Rs. 217.07 crores (£144.7 millions) respectively in the corresponding periods of the preceding year, the increases being respectively Rs. 2.66 crores (£1.77 million) or 9.3 per cent and Rs. 19.7 crores (£12.13 millions) or 9 per cent.

In the following remarks the returns for November, 1911, are compared with those for the same month of 1910:

IMPORTS.

Animals, living.

There was a marked increase of Rs. 9.03 lakhs or 146.8 per cent, most of the increase being under imports of horses from Australia and Asiatic Turkey.

Articles of Food and Drink.

This class showed a nominal increase of Rs. 1.56 lakh out of a total value of Rs. 208.18 lakhs which represents 15.1 per cent of the total imports. The

principal increases was Rs. 3.21 lakhs under salt, Rs. 2.86 lakhs under spices, Rs. 2.25 lakhs under provisions, Rs. 1.46 lakh under liquors and Rs. 1.1 lakh under grain and pulse, but all these increases were almost used up by a heavy decline of Rs. 9.95 lakhs under sugar. Mauritius sugar declined heavily by Rs. 17.31 lakhs to Rs. 1.09 lakh, while refined Java sugar increased by Rs. 12.03 lakhs to Rs. 106.78 lakhs, but sugar refined in China fell by Rs. 71,922 to Rs. 10,940 and unrefined sugar of 15 Dutch standard and below fell by Rs. 3.43 lakhs to Rs. 41,554. Wheat and wheat flour alone account for the rise under grain and pulse. German beer and spirit from the United Kingdom are chiefly responsible for the increase under liquors. Biscuits, farinaceous foods and dates were largely imported and accounted for the increase under provisions. Under salt Spain sent in a consignment of 11,161 tons worth Rs. 1.52 lakh and there were larger imports from the United Kingdom and Aden, amounting to Rs. 1.85 lakh with a set back of Rs. 73,362 under imports from Germany. There was a marked increase of Rs. 3.93 lakhs under cloves imported from British East Africa. The Straits account for a decline of Rs. 58,531 under pepper.

Metals and Manufactures of Metals.

The total value of this class was Rs. 2.53 crores, showing an increase of Rs. 14.45 lakhs or 6 per cent. The greatest increase was under iron and steel (Rs. 25.34 lakhs) chiefly sheets and plates imported from the United Kingdom, with a set back of Rs. 11.65 lakhs under copper, the United Kingdom alone accounting for a decline of Rs. 7.66 lakhs under wrought copper. Sheets for tea chests declined by Rs. 57,791. The decrease under machinery and millwork (Rs. 3.26 lakhs) was more than compensated for by an increase of Rs. 3.71 lakhs under railway plant and rolling stock, the total value of each coming to the same figure, viz., about Rs. 41.5 lakhs. Hardware and cutlery fell by Rs. 1.08 lakh to Rs. 30.42 lakhs though enamelled ironware showed an improvement of Rs. 1.4 lakh.

Chemicals, Drugs, Medicines, etc.

This class showed an increase of Rs. 2.79 lakhs. The increases under chemicals (Rs. 1.18 lakh), drugs and medicines (Rs. 1.72 lakh) and manufactured tobacco (Rs. 2.4 lakhs) were partly used up by a decline (Rs. 3.05 lakhs) under alizarine and aniline dyes. Saffron improved by nearly a lakh.

Oils.

The imports of oils advanced by Rs. 2.95 lakhs to Rs. 40.63 lakhs, all under kerosene imported from the United States of America and Borneo. Borneo also sent fuel oil to the extent of 1,245,730 gallons valued at Rs. 1.24 lakh to Burma. There was no import from the Straits and Sumatra.

Raw Materials and Unmanufactured Articles.

The total value of this class rose by Rs. 28.07 lakhs to Rs. 61.87 lakhs. This increase was

contributed chiefly by raw cotton other than Asiatic (Rs. 12.56 lakhs), precious stones and pearls unset (Rs. 8.22 lakhs) imported from Bahrein Islands and Arabia, raw silk (Rs. 4.59 lakhs) from China—timber, coal and tallow each accounted for an increase of about a lakh. Ivory alone showed a marked decline of over a lakh.

Articles Manufactured and Partly Manufactured.

The largest class of imports is that of manufactured articles, showing the aggregate value of Rs. 7.6 crores or 55.2 per cent of the total imports. This class advanced in value by Rs. 1.54 crore or 25.4 per cent, cotton manufactures alone accounting for an increase of Rs. 98 lakhs or 63.7 per cent of the total increase under this class, made up of Rs. 5.35 lakhs under twist and yarn mostly coloured, Rs. 45.32 lakhs under grey, Rs. 28.08 lakhs under white and Rs. 12.28 lakhs under coloured piece-goods, besides Rs. 7.03 lakhs under other cotton manufactures. Apparel including drapery, uniforms, boots and shoes, and haberdashery advanced by Rs. 7.96 lakhs to Rs. 42.23 lakhs. Woollen goods also advanced by Rs. 6.95 lakhs to Rs. 44.06 lakhs, shawls from Germany and piece-goods from the United Kingdom accounting for most of the increase. Of other items comprised in this class, carriages and carts are responsible for an increase of Rs. 11.96 lakhs, motor cars and cycles alone imported mostly from the United Kingdom contributing Rs. 10.73 lakhs. Instruments, apparatus, etc., showed an increase of Rs. 3.34 lakhs, mostly electrical instruments, etc., imported from the United Kingdom, jewellery and plate Rs. 3.47 lakhs, glass and glassware Rs. 2.28 lakhs mostly bangles, paper and paste board Rs. 2.26 lakhs and stationery Rs. 1.41 lakh. Other noticeable increases are shown under caoutchouc (Rs. 69,268), matches (Rs. 64,178), paints and colours (Rs. 99,825), clocks and watches (Rs. 1,26,238), earthenware and porcelain (Rs. 1,60,355), soap (Rs. 1,04,817) and works of art (Rs. 72,386). Tea chests showed a marked decline of Rs. 2.26 lakhs.

Treasure.

Imports of Treasure rose from Rs. 4.37 crores to Rs. 5.25 crores, the shares of gold and silver being Rs. 3.33 crores of Rs. 1.92 crore showing an increase of Rs. 86.84 lakhs under silver and of Rs. 93,047 only under gold. Sovereign and other British gold coin amounted to Rs. 2.35 crores.

Government Stores.

The total value of stores imported on account of Government was Rs. 44.75 lakhs as against Rs. 66.09 lakhs in November, 1910. The decline of Rs. 21.34 lakhs was made up of Rs. 12 lakhs under railway plant and rolling stock, Rs. 5.17 lakhs under metals, Rs. 5.52 lakhs under telegraph materials, and over Rs. 1.6 lakh under each class of paper and paste-board and arms, ammunition, etc. As a small set-off carriages and carts showed an improvement of

Rs. 2.7 lakhs, coal Rs. 1.22 lakh, and hardware and cutlery Rs. 84,035.

Exports of Indian Merchandise. Articles of Food and Drink.

This class, representing in value Rs. 5.05 crores or 30.3 per cent of the total exports, made a remarkable advance of Rs. 71.12 lakhs or 16.4 per cent. The largest increase was of Rs. 17.91 lakhs under tea, the United Kingdom taking 32.21 million lbs. valued at Rs. 161.8 lakhs as against 29.16 million lbs. valued at Rs. 139.43 lakhs in November, 1910. Exports to Canada, the United States of America and Australia taken together advanced by 865,289 lbs. and Rs. 6 lakhs to 3.57 million lbs. and Rs. 18.08 lakhs. Russia and China contracted their demands by 2.9 million lbs. and Rs. 12.22 lakhs to 3.12 million lbs. and Rs. 15.09 lakhs. The head grain and pulse showed a net increase of Rs. 44.92 lakhs. The heavy decline of Rs. 28.66 lakhs under wheat and wheat flour was amply made good by a rise of Rs. 11.42 lakhs under rice, of Rs. 15.81 lakhs under barley, of Rs. 19.22 lakhs under gram and of Rs. 23.08 lakhs under pulse. Under provisions the increases of about a lakh under each of fish and fruits and vegetables were reduced by Rs. 66,069 under ghi, showing a net increase of Rs. 1.7 lakh. Spices showed an increase of Rs. 1.35 lakh mostly under chillies and pepper. Coffee declined heavily by Rs. 6.60 lakhs to nearly a lakh of rupees on account of smaller exports to France due to the dullness of the market in consequence of the steadily increasing Brazilian stocks.

Metals and Manufactures of Metal.

A slight increase of Rs. 15,310 is noticed under manganese ore, the total value being Rs. 5.79 lakhs. Brass and copper wrought rose by Rs. 30,033 to Rs. 70,062, while the value of other metals (e.g., cast iron, lead pig) was reduced by Rs. 49,182 to Rs. 4.19 lakhs. Hardware and cutlery and machinery and millwork showed increases of Rs. 5,655 and Rs. 9,770 respectively.

Chemicals, Drugs, etc.

The total value of this class amounted to Rs. 109.52 lakhs, showing an increase of Rs. 20.16 lakhs, mostly under opium. Chemicals showed a decline of Rs. 1.3 lakh mostly under saltpetre. A fall of Rs. 70,000 under drugs was counterbalanced by a rise of Rs. 74,191 under tobacco. Under dyeing and tanning materials myrabolans rose by Rs. 1.33 lakh to Rs. 2.7 lakhs and indigo showed a slight improvement by Rs. 22,460.

Oils.

The value of all kinds of oils exported exceeded by Rs. 2.08 lakhs the figure for November, 1910, coconut oil alone accounting for an increase of Rs. 1.63 lakh due to larger exports to Germany and the United States of America. Castor oil im-

proved by Rs. 45,696, the United Kingdom and Australia taking larger quantity than before. There was an export of over 2 million gallons of mineral oil valued at Rs. 1.87 lakh due to a shipment from Burma of bulk benzine (Petrol) to Port Said for orders, while paraffin wax declined by 7,135 cwt. and Rs. 1.69 lakh, owing to larger supplies being required for candle making in Burma.

Raw Materials and Unmanufactured Articles.

This class is the first in importance under exports. It represents a value of Rs. 7.18 crores or 43 per cent of the total exports of Indian merchandise and shows a decline of Rs. 84.59 lakhs or 10.5 per cent. Jute raw records the highest value for an individual article, being Rs. 4.31 crores or 25.8 per cent of the total exports, which is more by Rs. 40.09 lakhs or 10.3 per cent than in November, 1910. The United Kingdom took jute worth Rs. 230.51 lakhs, showing an increase of Rs. 82.04 lakhs, but the continental countries showed a marked decline by Rs. 63.73 lakhs to Rs. 145.88 lakhs. The United States of America took Rs. 9.48 lakhs more than in November, 1910. Cotton raw, on the other hand, declined by Rs. 128.18 lakhs to Rs. 57.29 lakhs only. The United Kingdom took cotton worth Rs. 74,368 only in place of Rs. 15.13 lakhs, and the continental countries Rs. 12.64 lakhs in place of Rs. 118.86 lakhs in the same month of the preceding year. Japan alone fairly maintained her requirements by taking cotton worth Rs. 42.89 lakhs in place of Rs. 48.99 lakhs in November, 1910. The other important fluctuations are noticed under hides and skins. There was a decline of Rs. 4.76 lakhs under hides, due to smaller quantity sent to Germany and Italy, which was partly compensated for by a rise of Rs. 3.19 lakhs under skins sent mainly to the United States of America, the net result being a decline of Rs. 1.57 lakh or 2.7 per cent. Fodder, bran and cattle food accounted for an increase of Rs. 3.79 lakhs, the total value being Rs. 13.42 lakhs. Other variations are: caoutchouc (+Rs. 1.94 lakh), coal and coke (—Rs. 39,572), hemp (—Rs. 83,457), manures (+Rs. 42,216), wood and timber (—Rs. 99,495), and silk (+Rs. 14,899). Seeds have maintained the previous record, the total value being Rs. 99.29 lakhs, which is more by Rs. 18,785 than in November, 1910. Remarkable increases under castor, linseed, cotton, tea and mowra seeds were used up by heavy declines under poppy, rapeseed and sesamum. Wool raw has also maintained its position, the total value (Rs. 18.04 lakhs) being more by Rs. 62,890 than in November, 1910.

Articles Manufactured and Partly Manufactured.

This class represents 18.4 per cent of the total exports, the value thereof having declined by Rs. 5.38 lakhs to Rs. 307.26 lakhs. The great fluctuations noticed under cotton and jute in the

preceding class have reacted on the exports of manufactured goods in this class. The value of gunny bags rose by Rs. 14.51 lakhs to Rs. 70.71 lakhs and that of gunny cloth by Rs. 18.76 lakhs to Rs. 97.38 lakhs, the aggregate increase being Rs. 33.26 lakhs or 24.5 per cent. There were greater demands for the former from China, the United States of America and Chile, and for the latter from the Argentine Republic. The value of cotton twist and yarn fell by Rs. 36.73 lakhs to Rs. 38.57 lakhs and that of cotton piece-goods by Rs. 2.25 lakhs to Rs. 14.2 lakhs. China is solely responsible for the decline in the former and Asiatic Turkey for the latter. Silk and woollen goods showed decreases of Rs. 19,135 and Rs. 10,095, respectively. Coin excluding rope advanced by Rs. 1.44 lakh to Rs. 9.35 lakhs, and hides, dressed and tanned, rose by Rs. 19,553 to Rs. 13.05 lakhs, while skins maintained the previous record, the total value being Rs. 23.03 lakhs. Lac declined by Rs. 1.75 lakh to Rs. 22.69 lakhs. To this decline shell lac contributed Rs. 1.66 lakh and button Rs. 34,496.

Re-exports of Foreign Merchandise.

The total value (Rs. 80.46 lakhs) showed a remarkable rise of Rs. 50.03 lakhs or 164.4 per cent, the increases being under sugar (Rs. 38.24 lakhs), cotton manufactures (Rs. 7.08 lakhs), provisions (Rs. 2.28 lakhs) and wool raw (Rs. 1.45 lakh). Coloured piece-goods chiefly exported to Persia showed an increase of Rs. 5.26 lakhs. Sugar 16 Dutch standard and above was re-exported to the extent of Rs. 35.85 lakhs to the United Kingdom and nearly Rs. 3 lakhs to Egypt.

Treasure.

Exports of Treasure amounted to Rs. 102.97 lakhs, of which gold was worth Rs. 33.01 lakhs and silver Rs. 69.96 lakhs. Gold bullion (bar, ingot, etc.) exported to the United Kingdom for assay, being the production of Indian mines, was valued at Rs. 28.06 lakhs. The exports of silver represent chiefly Government of India rupees (Rs. 5.19 lakhs) and British dollars (Rs. 63.15 lakhs) for circulation in Ceylon, Hongkong, Arabia, and East Africa.

Duty.

The gross amount of import duty collected at all the ports of British India in the month of report was Rs. 89.19 lakhs including salt and Rs. 76 lakhs excluding salt, showing an increase of 7.2 and 3.6 per cent, respectively. Apparel, carriages and carts, cotton manufactures, liquors and woollen goods account for larger collections, but silver, sugar and tobacco realised much less than in November, 1910. The export duty levied on rice amounted to Rs. 4.81 lakhs or 3 per cent less than in the corresponding month of 1910.

AMERICAN TRUSTS.

REUTER'S correspondent at Washington states that President Taft's Message to Congress regarding Trusts was read on December 6th. The opening passage says: "This Message is the first of several which I shall send to Congress during the interval between the opening of its regular session and its adjournment for the Christmas holidays."

Dealing with the Anti-Trust Law the President says:—

"The decisions in the Standard Oil and the American Tobacco Trust cases serve to advise the business world authoritatively of the scope and operation of the Anti-Trust Act of 1890. They furnish a useful precedent as to the proper method of dealing with the capital and property of illegal trusts. These decisions suggest the need and wisdom of additional or supplemental legislation to make it easier for the entire business community to square with the rule of action and legality thus finally established, and to preserve the benefit, freedom, and spur of reasonable competition without loss of real efficiency and progress. In the Standard Oil and the Tobacco Trust cases the court merely adopted the tests of common law, and in defining the exceptions to general application of the statute substituted the test of reasonableness for the test of incidental or indirect contractual restraints of trade, without varying in the slightest the actual scope and effect of the statute.

"It has been said that the court by introducing into the construction of the statute common law distinctions has emasculated it by its judgment. Every contract and combinations in restraint of inter-State trade made with the purpose, or the necessary effect, of controlling prices by stifling competition, or of establishing, in whole or in part, a monopoly of such trade is condemned by the statute. The suggestion is also made that the Supreme Court by its decision in the last two cases has committed to the court an undefined and unlimited discretion to determine whether a case of restraint of trade is within the terms of the statute.

A reasonable restraint of trade must be limited to accomplish the main purpose of a lawful contract to which, in order that it shall be enforceable at all, it must be incidental. If it exceed the needs of that contract it is void. The test of reasonableness was never applied by the courts at common law to contracts, or combinations, or conspiracies in restraint of trade, whose purpose was or whose necessary effect would be to stifle competition, to control prices or establish monopolies. The courts never assumed power to say that such contracts, or combinations, or conspiracies might be lawful if parties to them were only moderate in the use of the power thus secured and did not exact from the public too great and exorbitant prices. We have been twenty-one years making this statute effective for the purposes for which it was enacted. As the offence becomes better understood and the committing of it partakes of a studied and deliberate de-

finance of law we can be confident that juries will convict individuals and gaol sentences will be imposed."

After Dissolution.

The President then refers to the dissolution of the Standard Oil and the American Tobacco Trusts and the situation after the readjustment of the latter, and proceeds: "It is not the purpose of the statute to confiscate the property and capital of offending trusts. Methods of punishment by fine or imprisonment of individual offenders, by fine of the corporation, or by forfeiture of its goods in transportation are provided, but the proceeding in equity is a specific remedy to stop the operation of a trust by injunction and to prevent the future use of the plant and capital in violation of the statute. I venture to say that not in the history of American law has a decree more effective for such purpose been entered by a court than that against the Tobacco Trust. The assumption that the present *pro rata* and common ownership in the new companies by the former stockholders would ensure the continuance of the same old single control of all the companies into which the Trust has by decree been disintegrated is erroneous. The companies are enjoined from co-operation or combination. They have different managers, directors, purchasing and sale agents. If all or many of the numerous stockholders, reaching into thousands, attempt to secure concerted action of the companies with a view to the control of the market the number is so large that such an attempt could not well be concealed, and its prime movers and all its participants would be at once subject to contempt proceedings and imprisonment of summary character.

"The effect of these two decisions has led to decrees dissolving the combination of manufacturers of electric lamps, and a Southern wholesale grocers' association, and an interlocutory decree against the Powder Trust with a direction by the Circuit Court compelling dissolution, and other combinations with a similar history are now negotiating with the Department of Justice, looking to disintegration by decree and reorganisation in accordance with the law.

"But now that the Anti-Trust Act is seen to be effective we are met by a cry for its repeal. It is said to be obstructive of business progress. The Supreme Court makes clear that there is nothing in the statute which condemns combinations of capital or the mere bigness of plant organised to secure economy in production and the reduction of cost. It is only when the purpose or necessary effect would stifle competition, enhance prices, and establish monopoly that the statute is violated. Much is said of the repeal of this statute and of constructive legislation. It may be that such a plan will be evolved. I see no objection, and indeed I can see decided advantages in the enactment of a law which shall describe and denounce methods of competition which are unfair and are badges of the unlawful

purpose denounced in the Anti-Trust Law. An attempt and purpose to suppress a competitor by underselling him at a price so unprofitable as to drive him out of business, or the making of exclusive contracts with customers under which they are required to give up association with other manufacturers, and numerous kindred methods for stifling competition and effecting monopoly should be described with sufficient accuracy in a criminal statute on the one hand to enable the Government to shorten its task by prosecuting single misdemeanours instead of the entire conspiracy, and on the other hand to serve the purpose of pointing out more in detail to the business community what must be avoided.

Plan for Future Control.

"In a special Message to Congress on January 7th, 1910, I ventured to point out the disturbance to business that would probably attend the dissolution of these offending trusts. I renew the recommendation of an enactment of a general law providing for the voluntary formation of corporations to engage in trade and commerce among the States and with foreign nations. It has been made more clear that the Anti-Trust Law may well be supplemented by specific provisions for the building up and regulation of legitimate national and foreign commerce. Further, the courts should be empowered to invoke the aid of a bureau of corporations in determining the suitable reorganisation of disintegrated parts into legitimate corporations. I do not set forth in detail the terms and sections of statutes which might supply constructive legislation permitting and aiding the formation of combination of capital into Federal corporations. They should be subject to rigid rules as to their organisation and procedure, including effective publicity, and to the closest supervision as to the issue of stock and bonds by an executive bureau or commission in the Department of Commerce and Labour, to which in times of doubt they might well submit their proposed plans for future business. It must be distinctly understood that incorporation under the Federal law could not exempt a company thus formed and its incorporators and managers from prosecution under the Anti-Trust Law for subsequent illegal conduct. The bureau or commission in charge of incorporation might well be invested with the duty of aiding the courts in the dissolution and recreation of trusts. It should be an executive tribunal of the dignity and power of the Comptroller of the Currency or the Inter-State Commerce Commission. I recommend that the Federal charters thus to be granted shall be voluntary, at least until experience justifies mandatory provisions. The Anti-Trust Law, as construed by the Supreme Court, must continue to be the line of distinction for legitimate business. It must be enforced unless we are to banish individualism from all business and reduce it to one common system of the regulation or control of prices, like that which now prevails with respect to public utilities, and which when applied to all

business would be a long step towards State socialism.

"It is said the Act has not done good. Can this be said in face of the effect of the Northern Securities decree? That decree was in no way so drastic, or inhibitive in detail, as either the Standard Oil decree or the Tobacco decree; but did it not stop for all time the powerful movement toward the control of all the railroads of the country in a single hand? Do we desire to make such ruthless combinations or monopolies unlawful? When all energies are directed not toward the reduction of cost of production for the public benefit by healthful competition, but towards new ways and means for making permanent in a few hands the absolute control of conditions and prices prevailing in the whole field of industry, then individual enterprise and effort will be paralysed and the spirit of commercial freedom will be dead."

Appended to the Message is a record of 37 cases brought before the Courts for violations of the Anti-Trust Law.

IMPROVED METHODS OF TREATING NEW ZEALAND HEMP.

The following communication has been received from the Department of Agriculture, Commerce and Tourists, New Zealand:—

The New Zealand Government has agreed to pay £12,000 as a bonus or bonuses for improvements in connection with—

- (1) The extraction and dressing of fibre from the New Zealand hemp-plant (*Phormium tenax*), or
- (2) The utilization of the by-products obtained during the processes of extracting the fibre, on condition that the machine or process in regard to which the whole or any part of the bonus is to be paid shall be recommended by the New Zealand Flaxmillers' Association, and approved by the Government.

The £12,000 will be paid, wholly or in part, for any of the following, viz.:—

- (1) A process of extracting and dressing the fibre of New Zealand hemp (*Phormium tenax*), whether by machinery or otherwise, whereby there shall be obtainable (a) a greatly improved quality of fibre marketable at a higher price, or (b) a substantial reduction in the cost of producing the fibre.
- (2) Any such process that shall produce a fibre fit for use in manufactures other than rope and twine spinning.
- (3) Any such process that shall render unnecessary any of the present operations involved in extracting and dressing the fibre, such as stripping, paddocking, or scutching.
- (4) Any improved method of separating the green envelope or the flinty or coloured

matter from the green leaf of the phormium plant so as to produce a strong white fibre the whole of which can be saved with little or no tow or waste.

- (5) Any means whereby the by-products obtained during the processes of extracting and dressing New Zealand hemp fibre—such as the gum, dye, stripper-slips, tow-dust, or waste vegetable matter—shall be converted into a marketable commodity.

Applications for the bonus must be addressed to the President of the New Zealand Flaxmillers' Association, Palmerston North, New Zealand, and must reach him not later than noon of the 30th November, 1913. They must be enclosed in an envelope clearly marked "Application for bonus." Nothing in these conditions prevents a machine or process placed on the market prior to 30th November, 1913, from competing for the bonus.

Each applicant shall state what lump sum (including the bonus of £12,000 or any part thereof) would be required to purchase the New Zealand rights of his machine or process in the event of such rights being acquired by the New Zealand Government for free use by the hemp-millers of this Dominion; or, if any applicant is unwilling to sell his rights, he shall state what amount of bonus (not exceeding £12,000) and what royalty he would require for the use of his machine or process.

As soon as possible after the expiry of the time for receiving applications for the bonus (30th November, 1913) the Flaxmillers' Association shall appoint a committee of not less than six of its members to open and examine the applications, to test such of the competing machines or processes as it considers worthy of trial, and to make recommendations to the Government as to the payment of the bonus.

Each applicant must give, at his own expense, such reasonable demonstrations of the working of his machine or process as shall be demanded by the said committee, and such demonstrations shall take place in some convenient locality in New Zealand selected by the committee.

The Committee shall notify the Secretary of the Department of Agriculture, Commerce, and Tourists at least fourteen days beforehand of the time and place appointed for such demonstrations, and shall allow any accredited representative of the Department to fully examine the working of the machines or processes that are being demonstrated.

On completion of all the demonstrations it deems necessary, the committee shall consider the whole of the machines or processes submitted for competition for the bonus, and in doing so shall take the following matters in connection with each one into consideration:—

- (1) The amount of the lump sum or royalty required for the rights.
- (2) The cost of purchasing, installing, and operating.
- (3) The labour and time occupied in operating.

- (4) The labour and time required after the operation and before the product is ready for packing.
- (5) The cost of producing the fibre, tow, or other product.
- (6) In the case of machines or processes for extracting and dressing the fibre, the percentage of fibre, and tow if any, produced from a given weight of green leaves.
- (7) In the case of machines, the simplicity, durability, and safety of the working parts.

After considering the whole of the applications in the above respects, the committee shall forthwith submit to the Honourable Minister of Agriculture a report showing—

- (1) A complete list of all the applications received, giving the name and address of the applicant; the nature and purpose of the machine or process; the nature and value of the product; the quantity produced; the lump sum or royalty required for the rights; the estimated cost of purchasing, installing, and operating the estimated labour and time occupied in operating; the estimated labour and time required after the operation and before the product is ready for packing; the estimated cost of producing the fibre, tow, or other product; the percentage of fibre, and tow if any, from a given weight of green leaves; and, lastly, the simplicity, durability, and safety of the working parts.
- (2) Whether they consider any machine or process worthy of the whole bonus, and, if so, which one.
- (3) If they do not consider any machine or process worthy of the whole bonus, then whether they consider any machines or processes entitled to a part thereof, and, if so, which ones and how much.

For the information of persons who are interested in the above announcement, but who have little or no knowledge in regard to New Zealand hemp (or, as it is often called, New Zealand flax), it may be pointed out that *Phormium tenax* is entirely different from any other hemp or flax-plant. The leaves from which the fibre has to be extracted are sword-shaped, and about four to nine feet long; they are moderately pliable, and of great tensile strength. The fibre is embedded in tough vegetable matter containing a gum and a staining substance, and the greatest difficulty in the process of extraction is the removal of the vegetable refuse, gum, and dye without damaging or staining the fibre.

Specimens of New Zealand hemp (*Phormium tenax*) can be seen in many botanical gardens all over the world.

It would be of little use to send samples of the leaves outside New Zealand, as when cut they soon wither and become stiff and brown, and altogether useless for treatment by any known process.

COTTON GROWING IN SIND.

The following article is reproduced from the *Bulletin* of the Imperial Institute, London:—

Considerable attention has been given by the Department of Agriculture of the Bombay Presidency to the cultivation of exotic cottons in Sind. The earlier experiments were directed to the introduction of Egyptian varieties, and a short account of the work has been given in this *Bulletin* (1908, 6418).

During the last two years extensive trials have been made with long-stapled American Upland varieties, and a description of the quality and value of the crops obtained during the season of 1909-10 has been given in a note on "Long-stapled Cottons in Sind," by Mr. G. S. Henderson, Deputy Director of Agriculture in Sind.

A series of samples of cotton grown at Mirpurkhas during the following season (1910-11) has been received at the Imperial Institute for examination recently, and it has been considered of interest in publishing the report on these to reprint Mr. Henderson's note in slightly abbreviated form as follows:—

Long-stapled Cottons in Sind.

It has often been observed, even from early times, that Sind bears a strong resemblance to parts of Lower Egypt, and for this reason the Province has been long regarded as offering excellent prospects for the cultivation of long-stapled cotton. In 1852, when Sir Bartle Frere was Commissioner in Sind, he engaged an American cotton planter to superintend some experiments in cotton growing, but after three years the work was abandoned. In 1860 Egyptian cotton seed was distributed in several districts; the best results were obtained at the Ratodero in Larkana, where the yield amounted to 6 maunds of seed-cotton per acre. Other trials were made at Salaro near Hala, at Malir near Karachi, and in the gardens in Hyderabad. This work was continued until 1889, and numerous varieties were tested, including American, Egyptian and Indian cottons. The best results were obtained with the New Orleans variety. Mr. Strachen, who was in charge of the work, came to the conclusion that Egyptian cotton was not suitable for cultivation in Sind, but was of opinion that it might succeed in Shah Bunder in the Tatta district, which is near the sea. Afterwards trials of Comilla cotton were carried out in various parts of the Province, but this variety was found to give a smaller yield than the indigenous kind.

All these attempts at improving cotton cultivation in Sind were made by people who had no actual experience of Egyptian practice. In 1904, however, Mr. Fletcher, Deputy Director of Agriculture, Bombay, after a tour in Sind obtained permission to start experimental work at Dhoro Naro in the Thar and Parkar District. His experience in Egypt enabled him to point out that it was of great importance that the seed should be sown in March

instead of June, the month in which the indigenous cotton is usually planted. This restricted the choice of ground to the Jamrao Canal area, as there was no other locality in which the necessary water could be obtained so early in the year. The experimental farm was removed from Dhoro Naro to Mirpurkhas, and sufficient seed for 1,500 acres was distributed to Zemindars on the Jamrao Canal. The growers being selected by Zemindars, the cultivation was carefully carried out and in many cases the cotton was sown in ridges and carefully hoed and weeded. The crops only realised low prices, however, as it was found that there was no demand in the Bombay market for cotton of this class.

In 1907 and 1908 about 6,000 acres were under cultivation, but in the former year the cotton was badly attacked by the boll-worm, and in the latter year the water supply was late. A system of auctions was instituted by Mr. Chatfield, the Colonisation Officer, Jamrao Canal, and widely advertised. A number of buyers were attracted and good prices were obtained up to Rs. 14 per maund of 81 lb. of seed cotton in the case of Abassi, and rather less for the Mitaffi variety. In 1908, however, the auctions were a complete failure, and the cotton had to be disposed of privately to a Bombay firm at a reduced rate. Since that time Egyptian cotton has not been cultivated on the Jamrao, as in 1909 there was no water available in the early part of the kharif season, and in 1910 it was decided to remodel part of the Canal in the following year. In 1912 the cultivation of Egyptian cotton will be renewed, with the advantages of the experience gained from the earlier trials.

The Jamrao Canal area consists of about 700,000 acres, of which possibly 100,000 acres could be devoted each year to the cultivation of Egyptian cotton, but until the proposed perennial canals are in operation in Sind it is not likely that more than about 20,000 acres will be devoted to this staple.

The main points for the success of the industry are: (a) Proper cultivation, including sowing before the first week in April, avoiding "kalar" or alkali ground, and if possible growing in rotation with "berseem"; (b) a satisfactory system of disposing of the crop, which would ensure that the cotton was properly ginned and graded, and sold in the best market.

The cultivation is by far the simpler part of the problem, the disposal being a more difficult matter. It has already been mentioned that the system of selling the cotton locally by auction did not meet with success, although very fair prices were obtained at first. The different lots offered for sale varied considerably in quality, cleanness and value. The buyers were of two classes:—(a) Mill owners from Ahmedabad and Bombay, and (b) exporters from Karachi and Bombay. The mill owners, several of whom use imported Egyptian cotton, soon ceased to attend the sales. They stated that when they bought Egyptian cotton in Alexandria or Liverpool they obtained a certain grade, e.g., "fully good

fair," which was uniform and could be depended on to produce certain "counts". On the other hand, for Sind Egyptian they had to send their agents to Mirpurkhas at an unhealthy time of the year, and they, not knowing Sindhi language, were at a great disadvantage. Moreover, they had to bid for a number of small lots, some dirty, some stained, and some good, and had great difficulty in getting their purchases ginned, as the local gins were only suited for short-stapled cotton and were already fully occupied. There does not seem to be the least chance of mill owners buying the cotton direct from the cultivators, although they would probably use a considerable quantity if an assured supply of baled and graded cotton were available. The cotton broker is an essential link between the cultivator and the user of the cotton, but, unfortunately, Indian cotton brokers have no knowledge of Egyptian cotton.

The exporting firms were always afraid of dealing with Egyptian cotton, and one firm suffered a loss by sending a consignment of Abassi to Liverpool. This cotton had not been properly cleaned but was full of dirt and pieces of leaves, and was therefore unsaleable. It does not seem probable that Indian export firms will take up an entirely new and approved branch while they have as much work as they can possibly do with the indigenous cottons.

Carefully selected average samples of Abassi and Mitaffi cotton have been forwarded to three leading Alexandria brokers during recent years. Their verdicts are very important and are all unanimous to the effect that the Mitaffi is of a good, strong and useful quality but that the Abassi would never grade as such in the market. Mitaffi has been up to the standard of "fully good fair" that is to say, if properly cleaned, properly ginned and baled, and sent to Liverpool it would realise the current market price for "fully good fair" brown Egyptian.

For the future, it is proposed that after the harvest the cotton should be collected in a few conveniently situated sub-depôts. Only clean cotton would be accepted, and one uniform grade of Mitaffi would be produced. The British Cotton Growing Association might be asked to step in at this stage, and clean, gin, export, and sell the cotton, or the Government, by means of the existing Agricultural Department, might buy the crop, and export and sell it for a few years, in order to see if local firms would not then take it up. The first is by far the simpler plan, and if a good area of say 10,000 acres of Mitaffi could be guaranteed, it would be worth while for the British Cotton Growing Association to send an experienced agent to take over the cotton at Mirpurkhas, and clean, gin, bale and export it. Arrangements could be made for half the value to be paid to the cultivators on delivery at the sub-depôts, and the remainder after selling at Liverpool.

Provided that the cultivator obtains Rs. 12 or more per maund of 81 lb. for Mitaffi seed-cotton, it will be more profitable in average years to grow this staple than the local Sindhi variety. The average yield under fair cultivation may be estimated

at 5 maunds per acre; under similar conditions the yield of Sindhi cotton might average 7 maunds at Rs. 6 per maund.

The importance of Egyptian cotton in Sind is very great, as when the proposed perennial canals are made there will be a large area suitable for its cultivation. One of these canals is to command over 1,000,000 acres, and if the cultivation of a high-grade cotton is introduced on a practical scale it will go far to raise general cultivation to a much higher level than it is at present.

American Upland cotton of several varieties has been extensively tried during the last season, and promises to be successful. At present the indigenous cotton is grown in parts of Hyderabad and in the Thar and Parkar Districts, but is practically unknown in Karachi, Larkana, Sukkur and Upper Sind Frontier. The cotton area is about 300,000 acres out of a total cultivated area of about 5,000,000 acres. This area is capable of great expansion, either with the ordinary indigenous Sindhi variety or possibly with some of the ordinary American Upland varieties. The local Sindhi is a very short-stapled variety, and is all exported to the Continent and used for mixing with wool. It is hardy, prolific, and a quick grower.

The points which enable American to compete with Sindhi are as follows: (a) Its short growing period, which is shorter than that of Sindhi, and enables it to be sown on the ordinary inundation canals in Sind. There is consequently a very large area on which it can be grown. (b) It is hardy, but on the other hand is easily affected by "kalar" or alkali land, and on light soil suffers severely from white ants.

During the past year some good yields were obtained, and, in many cases, the American varieties produced as much seed-cotton as neighbouring plots of Sindhi. In other places, however, the crop suffered from white ants or "kalar".

The reports from Liverpool brokers were very satisfactory. The following is the report made by them to the British Cotton Growing Association:—

Black Rattler.—"Strict Good Middling" in grade, "good colour, staple $1\frac{3}{8}$ inch, little irregular, fairly strong, value 9'25d."

Peterkin.—"Fully Good Middling," "staple $1\frac{1}{8}$ to $1\frac{1}{2}$ inch, fairly strong, value 8'50d."

Griffin variety.—"Fully Good Middling," "staple $1\frac{1}{8}$ inch, inclined to be tender, value 11'00d. to 11'50d."

Boyd's Prolific.—"Strict Good Middling," "staple $1\frac{1}{8}$ inch, fairly strong, value 8'40d."

Triumph.—"Fully Good Middling," "staple full $1\frac{1}{8}$ inch, rather soft, value 8'60d. to 8'70d."

Toole variety.—"Fully Good Middling," "staple $1\frac{1}{8}$ inch, fairly strong, value 8'60d."

Allen's Improved Long Staple.—"Fully Good Middling," "good colour, staple fine, rather irregular, inclined to be soft, value 10'50d. to 11'00d."

Texas Big Boll.—"Fully Good Middling," "good colour, staple $1\frac{1}{8}$ inch, strong, value 8'60d. to 8'70d."

On the date of these valuations "middling" American was quoted at 8'20d. and "fine" Broach at 7'9d. per lb.

The yields of lint obtained on ginning the cotton were reported by the British Cotton Growing Association to be as follows:—

Variety.	Lint Per cent.	Seed and dirt Per cent.
Texas Big Boll	31.25	68.75
Boyd's Prolific	31.23	68.77
Triumph	35.71	64.29
Allen's Improved	30.56	69.44
Toole	33.33	66.67
Peterkin	33.30	66.70
Black Rattler	33.37	66.63
Griffin	30.00	70.00

The disposal of the American cotton is a difficult matter. Local buyers do not seem to care about dealing in it, and last season some growers mixed it up and sold it as Sindhi. For this reason very little seed has been distributed to zemindars this season although many applications have been received.

During the present season American cotton is being grown at the following places: Jacobabad, Shikarpur, Sukkur and Ubauro in Upper Sind, where at present very little cotton is grown; and at Noushahro Feroz, Nawabshah, Halla, Nara Valley, Mirpurkhas, Hyderabad, Tando Mahomed Khan, Talhar and Phuleli Escape in Lower Sind. This only leaves out the Larkana and Karachi districts, in which the staff is too small to enable trials to be carried out. If the results obtained at the above centres are successful, it will be necessary to arrange some means of disposal before any extension of the cultivation can be contemplated.

TRADE OF KOBE.

From the Consular Report for the year 1910 on the Trade of Kobe we take the particulars below:—

The import of raw cotton shows a steady increase for the last three years, having completely recovered from the depression following the post-bellum boom of 1907, and surpassing the figures of that year by some £2,500,000. As in former years, Indian, American and Chinese cottons hold premier place.

Business in Indian cotton fluctuated considerably during 1910. For the first half of the year it was greatly in demand, and during that period showed a record in the import. The latter part of the year, however, showed a different aspect. The anticipations of a good new season's crop were disappointed. Prospects gradually weakening, crop estimates became smaller and smaller so that prices rose in sympathy, and to such an extent that at the end of the year under review they reached a point higher than any recorded during the last 20 years. Many of the cotton mills which had failed to take advantage of the profitable prices during the first half of the year found themselves compelled to buy Chinese and American cotton, which was cheap in comparison with the Indian staple. This holds good more particularly for the last quarter of 1910 in respect of

American cotton. During the first nine months of 1910 prices for American cotton ruled very high as compared with those of Indian cotton, and the mills gave their attention principally to the latter, imports of American cotton for this reason showing a heavy decrease on those of 1909. In the last three months, however, whilst Indian cotton steadily advanced in price, American rose but slightly, and the mills reverted to the latter for supplies. Large quantities of American cotton were sold in November and December, but these did not reach Japan before the end of the year 1910.

The import of Chinese cotton for the first eight months of the year were below the average, but from September to December, for the reasons above stated, business became much brisker. The import of the new season's cotton from China promises to be in excess of any previous season.

Complaints are still made with regard to the watering of Chinese cotton, which seems to be indulged in as much as ever, no check apparently being put upon the practice by the Chinese authorities. This cotton would assuredly command far better prices except for this failing, which, owing to the superabundance of moisture held by the cotton, renders it unsuited for long storage.

As already stated, there was a considerable increase in quantity and more especially in value of the import of raw cotton compared with 1909. The extension of the spinning mill industry was very marked, spinning frames increasing in number by 3,889 and spindles by 198,812 during 1910.

The general features of the cotton market in 1910 may be put shortly as follows:—Short crop reports and manipulation of the market in the United States sent up prices at the beginning of the year, and middling was quoted at about £5 per picul (133.33 lbs.). The high price checked the demand, and, stimulated by more favourable reports of the new crop, prices began to relax about £1 per picul towards the middle of the year. However, the anticipation in regard to the new crop was not realised, and a reaction set in which sent prices up again by the end of 1910.

The consumption of American cotton in Japan under normal conditions averages about 300,000 bales, but owing to the rise above indicated the Japanese mills turned to Indian and Chinese cottons for relief, and only about half the usual quantity of American was taken.

The following figures show the total import of cotton to Kobe from different sources:—

Country.	1909.		1910.	
	Lbs.	£	Lbs.	£
British India	222,952,426	4,474,737	230,907,377	7,003,770
United States	56,613,785	1,406,352	34,494,697	1,047,943
Egypt	6,460,505	247,182	3,742,373	189,750
China	47,487,879	917,075	106,816,929	2,498,951
Other countries	28,010,072	205,225	19,918,447	191,773
Total	361,524,667	7,280,621	414,889,733	10,932,187

REPORT ON COTTONS GROWN IN SIND DURING 1910-11.

The following is the report on nine samples of seed-cotton recently forwarded to the Imperial Institute for examination by the Superintendent of the Agricultural Station at Mirpurkhas.

(1) *Egyptian Mitafsi*.—This sample yielded 33.9 per cent of lint of ginning, or 4.82 grams per 100 seeds. The lint was clean, slightly harsh, fairly lustrous, and somewhat uneven in colour, varying from white to pale-brown, but free from stains. It could be fairly easily detached from the seed by hand. The seeds were generally fairly large, dark-brown and smooth, with tufts of greenish down at the ends. Thirty-eight per cent of the seeds examined were defective, 22 per cent being mouldy, 6 per cent withered and 10 per cent attacked by insect pests. They would be unsuitable for sowing. The cotton was of good strength, but somewhat irregular length, varying from 0.9 to 1.7 inch, but mostly from 1.2 to 1.4 inch. The diameter ranged from 0.0005 to 0.00095, with an average of 0.00067 inch.

This cotton was of rather uneven colour and somewhat irregular length, but was otherwise of good quality, and was valued at 9d. per lb., ginned, with "fully good fair" brown Egyptian at 9½d. per lb.

(2) *Egyptian Abassi*.—This sample yielded 34.4 per cent of lint on ginning, or 4.7 grams per 100 seeds. The lint was clean, fairly soft and of rather inferior lustre, but white and free from stains. It could be fairly easily detached from the seed by hand. The seeds were generally fairly large, dark-brown, and usually covered with a green or greenish-brown down. Thirty-one per cent of the seeds examined were defective, 20 per cent being mouldy, 6 per cent withered, and 5 per cent attacked by insect pests. They would be unsuitable for sowing. The cotton was of good strength but irregular length, varying from 1.0 to 1.9 inch, but mostly from 1.2 to 1.5 inch. The diameter ranged from 0.0005 to 0.00085 inch, with an average of 0.00070 inch.

This cotton was regarded as worth 10½d. per lb., ginned, with "good" Abassi at 14½d. per lb., the value being reduced by its rather dull appearance and irregular length.

(3) *Sindhi native cotton*.—This sample yielded 38.4 per cent of lint on ginning, or 2.87 grams per 100 seeds. The lint was clean, somewhat curly, harsh, lustrous, of pale-cream colour and free from stains. It could not be easily detached from the seed by hand. The seeds were small, and covered with greyish, velvety down. Twelve per cent of the seeds examined were defective, 3 per cent being mouldy, 4 per cent withered, and 5 per cent attacked by insect pests. The cotton was of fairly good strength, and mostly from 0.8 to 0.9 inch in length. The diameter varied from 0.0007 to 0.0012 inch, with an average of 0.00085 inch.

This cotton was of good quality though rather short in staple. It was exceptionally clean for Indian cotton, and was valued at 6½d. to 6¾d. per lb.,

ginned, with "fine" machine-ginned Bengals at 6½d. per lb.

(4) *"Triumph" American Upland*.—This sample yielded 33.5 per cent of lint on ginning, or 5.30 grams per 100 seeds. The lint was clean, fairly soft, lustrous, of cream colour, and free from stains. It could be very easily detached from the seeds by hand. The seeds were generally large, and in most cases covered with a white fuzz, whilst a few bore a green fuzz. Seventeen per cent of the seeds examined were defective, 2 per cent being mouldy, 14 per cent withered, and 1 per cent attacked by insect pests. The cotton was of uneven strength, some portions being rather weak. The length was irregular and varied from 0.7 to 1.5 inch, but was mostly from 1.0 to 1.2 inch. The diameter ranged from 0.0006 to 0.0010 inch, with an average of 0.00078 inch.

This cotton was of good quality, but its length and strength were somewhat irregular. It was valued at 8.00d. per lb., ginned, with "middling" American at 7.75d. per lb.

(5) *"Peterkin" American Upland*.—This sample yielded 35.2 per cent of lint on ginning, or 3.73 grams per 100 seeds. The lint was clean, fairly soft, lustrous, white to pale-cream in colour and free from stains. It could be fairly easily detached from the seeds by hand. The seeds were generally of medium size, and covered with a white or brownish fuzz; a few smooth, nearly black seeds were present. Sixteen per cent of the seeds examined were defective, 15 per cent being withered and 1 per cent attacked by insect pests. The cotton was of uneven strength, some portions being weak. The length varied from 0.7 to 1.3 inch, but was mostly from 0.9 to 1.1 inch. The diameter ranged from 0.00055 to 0.0009 inch, with an average of 0.00073 inch.

This cotton was of fairly good quality, but was rather weak and of irregular length. It was valued at 7.50d. per lb., ginned with "middling" American at 7.75d. per lb.

(6) *"Toole" American Upland*.—This sample yielded 28.5 per cent of lint on ginning, or 3.51 grams per 100 seeds. The lint was clean, soft, of good lustre, white to cream-coloured, and free from stains. It could not be very easily detached from the seeds by hand. The seeds were fairly large and covered with a white fuzz, and were in good condition, only 8 per cent being defective. The cotton was generally strong and from 1.0 to 1.7 inch long, but mostly from 1.3 to 1.6 inch. The diameter varied from 0.0005 to 0.0008 inch, with an average of 0.00064 inch.

This cotton was of good length and strength, and generally of excellent quality. It was regarded as worth from 9.00d. to 9.25d. per lb., ginned, with "middling" American at 7.75d. per lb.

(7) *"Allen's Improved" long-stapled American Upland*.—This sample yielded 35.7 per cent of lint on ginning or 3.77 grams per 100 seeds. The lint was clean, fairly soft, lustrous, white and free from stains. It was with difficulty detachable from the seeds by hand. The seeds were generally of medium size but rather mixed, some being covered

with a white fuzz whilst others were coated with a white, brown, or greenish, velvety down. Twenty-two per cent of the seeds examined were defective, 17 per cent being withered and 5 per cent mouldy. The cotton was strong but of irregular length; the greater part of the sample had a length of 0.8 to 1.3 inch, mostly from 1.0 to 1.2 inch, whilst a smaller portion varied from 1.5 to 1.8 inch. The diameter of the fibre was also irregular, that of the shorter fibres varying from 0.00065 to 0.0011 inch, with an average of 0.00080 inch, and that of the longer from 0.00050 to 0.0009 inch, with an average of about 0.00064 inch.

The cotton was of very irregular length and diameter, portions of the sample being short and coarse. The irregularity suggests that the product had been grown from mixed seed. It was valued at 7.80d. per lb. ginned, with "middling" American at 7.75d. per lb. If the whole of the cotton had been of the same length as the longer portion, i.e. from 1.5 to 1.8 inch, it would have been worth about 2d. or 3d. per lb. more than the price quoted.

(8) *"Griffin" American Upland*.—This sample yielded 30.5 per cent of lint on ginning, or 3.39 grams per 100 seeds. The lint was clean, soft, lustrous, white and free from stains. It could be fairly easily detached from the seeds by hand. The seeds were of medium size, and generally covered with a white or green fuzz. Fifteen per cent of the seeds examined were defective, 13 per cent being withered and 2 per cent attacked by insect pests. The cotton was, on the whole, of fairly good strength. The length varied from 1.2 to 1.6 inch, but was mostly from 1.4 to 1.5 inch. The diameter ranged from 0.0005 to 0.0009 inch, with average of 0.00071 inch.

This cotton was of good length and strength, and generally of very satisfactory quality. It was valued at 8.75d. per lb. ginned, with "diddling" American at 7.75d. per lb.

(9) *"Black Rattler" American Upland*.—This sample yielded 30.7 per cent of lint on ginning, or 3.15 grams per 100 seeds. The lint was clean, fairly soft, white and free from stains. It could be easily detached from the seed by hand. The seeds were of medium size, but of mixed type, some seeds being covered with a white fuzz and others with a brown or greenish velvety down. Ten per cent of the seeds examined were defective, 8 per cent being withered, 1 per cent mouldy and 1 per cent attacked by insect pests. The cotton was in general of fairly good strength. The length varied from 1.0 to 1.5 inch, but was mostly from 1.2 to 1.4 inch. The diameter ranged from 0.00055 to 0.0011 inch, with an average of 0.00073 inch.

This cotton was of good length, strength and colour, and was valued at 8.30d. per lb. ginned, with "middling" American at 7.75d. per lb.

General Remarks.—These samples represent cotton of remarkably good quantity, and such material would meet with a ready sale on the English market. This is especially true of the American Upland cottons, and if these varieties give satisfactory yields their cultivation in Sind may well be

extended and should prove very profitable. It must however, be pointed out that improved Upland cottons are very liable to undergo deterioration, and it is therefore essential that seed should be carefully selected each season for sowing. The selection must, of course, be made in the field. The seed-cotton should be gathered from the best plants which are also truest to type, and care should be taken in ginning to ensure that the seed does not become mixed with that from any other portion of the crop.

WOOD SUBSTITUTES.

The following article is abridged from the *Glasgow Herald*:—Along with the multiplication and the constantly growing extent of the uses to which wood of all kinds—particularly the harder and weightier classes—has been put there has been for years past a growing scarcity which has suggested a coming famine. When it is also considered that about one-eighth of all the timber used runs to sawdust and shavings it is not to be wondered at that artificial woods in which this resultant waste is a large ingredient and wood substitutes of various kinds have grown immeasurably in importance. Sawdust mixed with common glue has been employed for many years as a material which can be carved and has much the appearance of plain wood. A still nearer appearance to the real article is made by combining "short fibre" or bits of wood a few inches long, bruised into threads and amalgamated with a paste made of glue and finely sifted sawdust. Although utilisation of waste is less an object than the provision of serviceable material having the maximum of rigidity and strength with the minimum of substance, the manufacture of two and three ply wood from thin veneers or shavings may be also mentioned. Boards of this character, which do not readily split or curve, are made in three or even more layers of veneer, laid one upon another and in cross directions and amalgamated under great pressure with strong glass paste.

India-rubber, Mosaic, and Parquetrie.

In this country of course, as well as elsewhere, many striking instances can be pointed to of material of various kinds taking the place of wood, when up to the time of their adoption the latter material had been considered the only fitting substance. Even wood paving which for street and open area purposes has claims concerned with comfort, silence and sightliness which stone or asphalt paving does not possess, has been superseded in special cases, not always permanently perhaps by the much more expensive india-rubber. For spacious interiors rubber flooring has held a high place for many years in the esteem of architects and those responsible for outfit and furnishing. Marble mosaic work, fancy encaustic tiling, hard wood, parquetrie, as well as India-rubber tiling, are mediums found covering large areas of floor in both public and private build-

ings, in spite of the fact that to the heavy first cost of laying there is often added considerable expense in upkeep.

It is due, however, to the most recent and less expensive manufactures in the shape of wood cements or compositions to state that these are much cheaper than the mediums spoken of, and cheaper also than the woods they are intended to supersede. They are also easier fitted, equally light, more durable, and, as compared with wood, have the outstanding advantage of non-conductivity, non-inflammability, imperviousness to dry rot or vermin, and almost non-absorption. Some of the compositions lend themselves to a close and durable imitation of mosaic work of the finest and most artistic order, and this within a tithe of the cost of decorative work resulting from artistic hands and highly expensive mediums.

Composition of Wood Cement.

The wood cements are not of home origin, but have come to us from Germany. As manufactured there for a good many years past the compositions have as an essential constituent magnesium chloride, to which solution there is added pulverised magnesia. In itself this forms a white, absolutely solid, artificial stone; and by adding at the proper stage wood sawdust, the composition when it hardens possesses many of the qualities of both wood and stone. Most of the compositions are prepared and laid on the spot in a plastic condition where large surfaces and cheaper classes of flooring are in question; but some lend themselves to finer finish and effect in the shape of square tiles or plates, hardened and polished in the manufacturer's works, and in this form sent out for laying where and when required. By impregnating the wood dust with oil previous to mixing it with the magnesium paste, the resulting composition is highly non-absorbent. Magnesium chloride, however, being hygroscopic, if the proportions of the composition are not carefully determined upon to suit the special conditions and situations, the salts thereby precipitated are injurious to wood and iron. Different manufacturers have different recipes for obviating this deleterious tendency.

Compositions of the kind referred to have great non-conductivity. Under the test of fire they become charred, but they are non-inflammable, non-absorbent, and proof against dry rot and verminous decay. The Board of Trade certify as to their properties in these respects, and in ship work the classification societies take particular notice of their effect in combination with steel, iron, and wood. One of these societies instituted exhaustive tests recently from several points of view on six different manufacturers of this kind on the market—Litósil, Teakoid, Conolite, Thermos, Dexton, and Veichie. The result of these showed that, generally speaking, the standard conditions were fulfilled, especially so in the case of one of the locally manufactured compositions. The floors are seamless and

jointless, they harbour no dust, and are cleaned with the greatest ease while their hygienic qualities are of the highest order.

Wood Decks Superseded.

Coming to ship work particularly, it will be understood that it is in this that the advantages of composition flooring are most pronounced. The extent to which compositions are taking the place of wood in deck work forms a factor in the economics of shipbuilding and shipowning which no one concerned can disregard. Wood decking has been used very little in cargo-carrying ships for a long time, the deck plating being left bare, or laid with a thin coating of bitumen, corticine, etc. In cargo and passenger ships, even the passenger accommodation has large spaces laid with one or other of the compositions. All these have the economic advantage of being cheaper, lighter, and more durable—at least more readily renewable—than wood plank-ing, while they allow more head room in the 'tween decks. Where it would be necessary to have a wooden deck, say of white or pitch pine 2½ in. thickness, a wood-cement flooring of 1½ in. to 2 in. in thickness according to position, is permissible. Still another advantage is that they dispense with the necessity for the close piercing of deck plating for the reception of bolts and screws, unless on very large open surfaces where a bolt every square yard or so is fitted.

Relative cost varies with the conditions of individual cases, but generally speaking, and where large areas are in question, the price per square yard of the wood-cements is well within two-thirds of the price of woods such as pitch pine.

THE COST OF LIVING.

In a paper on "The Course of Prices at Home and Abroad, 1890-1910," recently read before the Royal Statistical Society, Mr. R. H. Hooker, in comparing prices in 1910 with those of the decade 1890-99, showed that wholesale prices had risen in the United Kingdom by about 15 per cent, in Germany and the United States by about 30 per cent, and by intermediate amounts in France and Canada. Wholesale food prices in 1910 had risen by only about 6 or 8 per cent here, and scarcely at all in France, while a rise of between 20 and 30 per cent was shown in the other countries. The raw materials of industry had risen much more, viz., by 25 to 40 per cent in all countries. A great contrast was shown between the United Kingdom and America, where food and materials had risen by practically the same amount; while in the former country food-stuffs had risen very much less, although they had attracted much more public attention.

The data as to retail prices were scanty, and not very reliable. It appeared that, on the whole, since 1895 they had risen by about as much as wholesale prices, though in the United States they seemed to have lagged behind. Comparisons of

the course of prices with wages, for which a few data were available for the United Kingdom, France, and the United States, indicated that wages had not fallen behind prices except in the last year or two. The curve of wages was, however, always the smoother; and if it did not rise so abruptly during times of high prices, like the present, on the other hand it fell very little during times of low prices. In France, in particular, wages appeared to have risen most, relatively to prices, but the data were very far from conclusive.

Considering the causes of the present high level of prices, Mr. Hooker pointed out that they were threefold. First he showed how the increased production of gold in the early fifties had resulted in a rise of prices in the following quarter of a century, and how a diminished gold production had been accompanied by a steady fall in prices during 1875-95: and then pointed out that the enormous output of gold since then was sufficient to cause a rise of some 10 per cent in the stocks available for currency. Secondly, he considered that we were now near the crest of one of those waves, due to increased demand for materials, especially minerals, which periodically recurred in prices, and which were generally associated with industrial prosperity. Thirdly, the price of food had risen very greatly during the past three months owing to the droughty summer in north-western Europe. The two former influences, superimposed, had resulted in very high cost of materials. The two latter were temporary and when they had passed away prices would again be lower. But the effect of the large output of gold would probably persist for some time, and prices might be expected to oscillate around an average that was not likely to decrease at present.

The relatively great advance of food prices in the United States was due to the inability of agriculture to keep pace with the expansion of population; in England, on the other hand, the diminished supplies from the United States had been fully covered by supplies drawn from other countries, notably Argentina: hence the rise in food prices was relatively small here. Changes in tariffs were responsible for some of the differences noted between prices in England and abroad.

—The India Office has issued an official statement detailing the form in which the balance of the gold standard reserve was invested on November 30th. The cash actually held in India in rupees amounted to the equivalent of £1,934,302. The remainder of the reserve was invested in England, namely, £967,876 in cash placed by the India Council on the London Money Market at short notice and £16,684,401 held in British, besides Colonial, Government and Corporation of London securities, which for this purpose are taken at cost price. The grand total of the reserve amounted therefore to £19,586,579.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, January 2nd.

During the week ending January 1st there was no rain during the week.

Harvesting of winter rice continues. Pressing of sugarcane is going on in Bihar and Orissa.

Standing *rabi* crops and vegetables are doing well. Prospects are good.

The price of common rice has risen in Jessore, Saran, Angul and Sambalpur and has fallen in Hooghly, Gaya, Shahabad, Monghyr, Ranchi and Cooch Behar.

Cattle-disease is reported from Midnapore, the 24 Parganas, Angul, Puri, Sambalpur, Hazaribagh, and Palamanu.

The supply of fodder and water is sufficient in all districts of the Province except in parts of Midnapore.

EASTERN BENGAL AND ASSAM.

Dacca, January 2nd.

During the week ending January 1st there has been no rain during the week.

Rabi crops are in good condition but the area is less than usual.

The harvesting of rape has commenced.

On low land ploughing is in preparation for *aus* rice, and jute still continues.

Winter rice is yielding satisfactory returns and prices continue to fall.

Rinderpest is prevalent in Cachar and Kamrup.

NEW REFERENCE BOOKS.

THE RUBBER INDUSTRY.

Being the Official Report of the Proceedings of the International Rubber Congress, London, 1911. Held at the International Rubber and Allied Trades Exhibition, June 24th to July 14th. Edited by Dr. JOSEPH TORREY and A. STAINES MANDERS. 10 x 6½, 470 pp. 15s. 6d. net.

Published at the Exhibition.

THE INVESTORS' FOUR-SHILLING YEAR-BOOK FOR 1912

10 x 6½, 536 pp. Supplementary to and published for the *Financial Review of Reviews*, by C. LETTS.

THE THEORY AND PRACTICE OF COMMERCE.

Edited by F. HEELIS, F.C.I.S., assisted by specialist contributors. Part I. 8½ x 5½, 32 pp. Sir Isaac Pitman.

2d.

PRACTICAL ADVERTISING.

By MATHER AND CROWTHER (Ld.). 10 x 7½, 1 + 652 pp.

(Contains an article on Trade Prospects for 1912 and lists of newspapers, magazines, and annuals and their charges, and of bill posting.)

Mather and Crowther.

THE WORLD'S CROPS.

The *Bulletin of Agricultural Statistics* for November, 1911, published by the International Institute of Agriculture, Rome, contains the usual tables for the more important cereals with additions and alterations made in accordance with official information received at the Institute up to November 15th. The most important additions consist in the figures of rice production in Egypt (3,896,490 quintals against 4,875,996 quintals in 1910), and the area under rice in India (21,363,310 hectares against 22,166,947 hectares a year ago). The principal alterations are in the figures of production for wheat and rye in Russia in Europe, and of maize in the United States. The Single Numerical Statement of the production, i.e., the ratio, expressed in the form of a percentage, between the production in 1911 and that in 1910, has not undergone any important changes, being now: for wheat 100·2; rye 93·4; barley 99·4; oats 90·8. The production of maize shows a considerable decrease as compared with the production last year; the Single Numerical Statement for the following group of countries; Spain, Hungary, Italy, Roumania, Russia, Switzerland, Canada, United States, Algeria and Tunis being 89·1. That for rice is 109·6 for the following list of countries; Spain, Italy, United States, Japan, and Egypt. The *Bulletin* also contains a short article giving comparisons between the various harvest estimates in Russia. Further information is given regarding autumn sowing in the Northern Hemisphere, which is being done on the whole under good weather conditions and very favourable circumstances generally. A few remarks follow with reference to the cereal crops in the Southern Hemisphere (Argentina, Chili, Australia and New Zealand). The table below refers to wheat and is self-explanatory:—

(Hectare = 2·47 acres; Quintal = 220·46 lbs.)

Wheat.

Name of Country.	AREA.		PRODUCTION.		
	Harvested in 1910-11.	Harvested in 1909-10.	1910-11.	1909-10.	Supposing the production in 1909-10 to be equal to 100, that of 1910-11 is equal to
EUROPE.					
Prussia	Hectares. 1,175,065	Hectares. 1,146,826	Quintals. 23,477,520	Quintals. 24,829,720	Per cent. 94·6
Belgium	153,000	154,000	3,978,000	3,388,000	117·4
Denmark	42,000	42,000	1,287,683	1,238,187	104·0
Spain	3,888,519	3,809,464	42,630,538	37,407,517	114·0
France	6,331,350	6,555,370	87,128,300	68,806,100	126·6
Great Britain	771,320	732,043	17,052,610	14,935,150	114·2
Ireland	18,248	19,275	469,000	467,069	100·4
Great Britain and Ireland	789,568	751,318	17,521,610	15,402,219	113·8
Hungary (not including Croatia and Slavonia)	3,337,809	3,473,997	48,120,000	46,185,350	104·2
Croatia and Slavonia	328,222	320,002	4,322,000	3,183,000	135·8
Hungary (including Croatia and Slavonia)	3,666,031	3,793,999	52,442,000	49,368,380	106·2
Italy	4,751,600	4,758,600	52,362,000	41,750,000	125·4
Luxemburg	10,915	12,131	174,400	169,714	102·8
Netherlands	56,939	54,748	1,537,080	1,189,521	129·2
Roumania	1,930,164	1,948,217	26,033,561	30,162,399	86·3
Russia in Europe (1)	25,786,744	25,331,233	149,100,188	190,348,398	78·3
Switzerland	42,400	42,400	981,500	750,000	130·9
AMERICA.					
Canada	4,053,064	3,932,836	55,246,770	40,820,510	135·3
United States	21,093,921	19,913,260	178,402,235	189,268,640	94·3
ASIA.					
India	12,007,196	11,337,870	100,810,250	97,445,099	103·5
Japan	468,000	471,529	5,598,912	6,457,693	86·7
Russia in Asia (2)	4,092,273	3,427,370	20,536,347	20,760,366	98·9
AFRICA.					
Algeria	1,438,464	1,386,770	9,763,372	10,716,112	91·1
Egypt	519,984	525,827	10,354,500	8,878,500	116·6
Tunis	505,000	453,000	2,350,000	1,100,000	213·6
TOTALS AND AVERAGES	92,802,197	89,851,768	841,716,816	840,257,075	100·2

(1) 63 Governments, (2) 10 Governments.

TARIFF VALUATION OF SUGAR.

THE following statement showing in respect of each of the descriptions of sugar distinguished in the Tariff Schedule IV (excepting molasses and all other kinds of sugar) firstly the total imports into India in the months of October and November, 1911, respectively, and the average value per cwt. as calculated on the returns received from the Customs Houses; and, secondly, a running total showing the total imports into India since the beginning of the year (1st October to 30th September) and the average net value per cwt. so far established, is published in conformity with the procedure laid down in Customs Circular No. V of 1911 in order to enable merchants to compute the probable rate of duty for the year 1913.

Description of sugar.	Imported during month of October 1911.		Imported during month of November 1911.		Imported since 1st October 1911.	
	Quantity.	Average net value per cwt.	Quantity.	Average net value per cwt.	Quantity.	Average net value per cwt.
	Cwt.	Rs. A. P.	Cwt.	Rs. A. P.	Cwt.	Rs. A. P.
Sugar, crystallised, beet	..	..	..	..	..	..
" " and soft, refined in China	200	14 1 0	1,305	13 1 5	1,505	13 3 5
" " and from Java 23 D. S. and above	783,373	12 3 3	535,918	12 11 1	1,269,291	12 6 7
" " and from Java 16 to 22 D. S.	773,202	11 4 1	349,028	11 8 3	1,122,230	11 5 5
" " and from Java 15 D. S. and under	46,022	9 11 4	5,999	6 13 4	52,021	9 6 0
" " and from Mauritius equal to 16 D. S. and over	84,503	13 12 5	8,416	13 11 0	92,919	13 12 4

JOINT STOCK COMPANIES.

Number and particulars of new Companies working exclusively in India with sterling capital and similar Companies increasing their capital, registered in the United Kingdom in the month of October, 1911.

No.	Class and Name.	Shares.	CAPITAL.		New Debentures issued.
			Nominal.	Extra.	
		£ s.	£	£	£
I.—TRADING.					
1	Indian A. L. Portable Acetylene Company	0 1	500	..	..
II.—TEA AND OTHER PLANTING COMPANIES.					
2	British Copra and Trading Syndicate	1 0	1,000	..	..
III.—MINING AND QUARRYING.					
		Pref.			
3	North Anantapur Gold Mines	1 0	..	25,000	..
4	Kashmir Iron Mines and Power Syndicate	1 0	20,000	..	..
	Total, Mining and Quarrying	..	20,000	25,000	..
	GRAND TOTAL	..	21,500	25,000	..

TRADE OF PRINCIPAL COUNTRIES.

THE following summary table has been prepared at the Board of Trade showing the total imports and exports of merchandise of the principal countries for which the particulars can be given up to September, 1911, inclusive, and referring in all cases to the same period, viz., the nine months ended September. The corresponding figures for 1910 and 1909 are added for comparison :—

	Imports (see NOTE). Nine Months ended September.			Exports (Domestic) (see NOTE). Nine Months ended September.		
	1909.	1910.	1911.	1909.	1910.	1911.
Germany	£ 307,463,000	£ 320,467,000	£ 340,633,000	£ 231,386,000	£ 268,468,000	£ 290,013,000
Belgium*	102,993,000 †	115,329,000	123,044,000	76,396,000 †	92,275,000	98,731,000
France	181,582,000	205,439,000	243,050,000	164,814,000	183,637,000	179,740,000
Switzerland †	46,205,000	50,951,000	52,649,000	31,763,000	34,712,000	36,599,000
Spain	27,923,000	28,880,000	31,748,000	25,449,000	27,257,000	26,697,000
Italy	89,909,000	92,943,000	100,250,000	53,801,000	60,152,000	62,310,000
Austria-Hungary	81,074,000	86,287,000	94,131,000	70,307,000	73,030,000	71,856,000
Egypt	16,163,000	16,934,000	20,293,000	14,983,000	14,580,000	17,483,000
United States	222,624,000	214,242,000	236,043,000	237,715,000	248,611,000	297,650,000
Japan ‡	31,480,000	35,427,000	43,185,000	29,216,000	32,992,000	33,230,000
British India	58,709,000	62,193,000	67,583,000	84,293,000	106,210,000	111,747,000
Canada	51,769,000	66,144,000	75,418,000	34,637,000	38,155,000	37,444,000
British South Africa †	20,021,000	27,731,000	28,231,000	36,318,000	40,094,000	42,343,000
United Kingdom	382,400,000	408,871,000	411,965,000	277,937,000	318,577,000	331,178,000

* Value of principal articles only.

† Including bullion.

‡ Exclusive of trade with Taiwan (Formosa) and, since September, 1910, of trade with Chosen (Corea).

† The figures for 1909 are not comparable with those for 1910 and 1911. Considerable quantities of wool declared for home consumption and afterwards re-exported, for which deductions used to be made, are now included in the figures for "special trade," as the bulk of the wool undergoes some process prior to re-exportation.

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

	Imports (see NOTE). Ten Months ended October.			Exports (Domestic) (see NOTE). Ten Months ended October.		
	1909.	1910.	1911.	1909.	1910.	1911.
Germany	£ 343,015,000	£ 358,748,000	£ 383,110,000	£ 260,652,000	£ 300,351,000	£ 324,975,000
Belgium*	114,082,000 †	128,806,000	137,525,000	85,206,000 †	103,493,000	110,083,000
France	202,426,000	226,903,000	268,300,000	184,930,000	208,879,000	201,570,000
United States	249,222,000	270,055,000	265,409,000	279,026,000	291,306,000	340,943,000
United Kingdom	427,426,000	458,605,000	464,042,000	311,268,000	356,268,000	374,724,000

* Value of principal articles only.

† See note † above.

The latest figures available as regards other countries from which returns are received by the Board of Trade are as follow :—

	Imports (see NOTE). Ten Months ended October.			Exports (Domestic) (see NOTE). Ten Months ended October.		
	1909.	1910.	1911.	1909.	1910.	1911.
Russia* (8 months)	£ 53,318,000	£ 66,520,000	£ 71,633,000	£ 81,579,000	£ 87,809,000	£ 100,264,000
Mexico † (7 months)	9,808,000	12,821,000	11,514,000	14,721,000	16,858,000	17,562,000
Australia † (8 months)	32,365,000	38,067,000	44,247,000	34,648,000	40,496,000	40,403,000

* European, Russo-Finnish and Black Sea Frontiers.

† Including bullion and specie.

NOTE.—The values stated for the latest year shown in the foregoing statements are provisional and subject to rectification. In some cases all the values are those declared by importers or exporters, as in the United Kingdom; in others they are based on an official schedule of values which is subjected to revision after the close of each year, the values used in the current returns being those fixed in the latest completed revision. In general, the values so fixed represent the level of prices in the preceding year. The countries adopting the system of official values annually revised are:—Austria-Hungary, Belgium, France, Italy, Spain, and (for imports) Germany and Switzerland. Exports from Switzerland and Germany are returned at "declared" values. Prior to April, 1909, however, all the exports from Germany, and from April, 1909, to the end of March, 1911, about one-third of the exports from that country were returned at official values. The figures in italics are based, wholly or mainly, on the prices of some earlier year than that under which they are shown.

In the case of Russia, Germany, France, Switzerland, Italy, Austria-Hungary, Egypt, Japan, Canada, and the 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.

FOREIGN TRADE OF THE UNITED KINGDOM IN NOVEMBER, 1911.

I.—GENERAL.

THE trade returns for November, 1911, when compared with those for November, 1910, show increases in the values of the Imports into the United Kingdom, and of the Exports both of Foreign and Colonial Merchandise, and of the Produce and Manufactures of the United Kingdom.

The value of the Imports in November was £65,432,935, an increase of £1,343,083, or 2·1 per cent, as compared with November, 1910; whilst the total Exports amounted to £48,820,620, an increase of £4,464,589. The Exports of Produce and Manufactures of the United Kingdom show an increase of £4,088,966, or 11·1 per cent, as compared with November, 1910; whilst there is an increase of £375,623, or 5·0 per cent, in the Exports of Foreign and Colonial Merchandise.

II.—IMPORTS.

The following table shows the value of the Imports for November, 1911, as compared with the corresponding month of 1910 and 1909, according to the different categories of merchandise :—

Imports (Value C.I.F.*)—November.

	MONTH OF NOVEMBER.			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	7,320,300	6,974,923	7,691,841	+ 716,918	+ 371,541
B. Meat, including animals for food	3,884,431	4,017,216	3,397,260	— 619,956	— 487,171
C. Other food and drink—					
1. Non-dutiable	6,221,879	6,173,418	7,009,488	+ 836,070	+ 787,607
2. Dutiable	5,757,458	5,054,040	7,911,514	+ 2,857,474	+ 2,154,056
D. Tobacco	418,252	482,201	641,847	+ 159,646	+ 223,595
Total, Class I	£ 23,602,320	£ 22,701,798	£ 26,651,950	+ 3,950,152	+ 3,049,630
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	1,555	4,203	4,433	+ 230	+ 2,878
B. Iron ore, scrap iron and steel	490,318	520,171	391,608	— 128,563	— 98,710
C. Other metallic ores	744,296	722,235	572,706	— 149,529	— 171,590
D. Wood and timber	2,209,722	1,770,029	2,123,332	+ 353,303	— 86,390
E. Cotton	9,987,092	13,512,514	9,830,724	— 3,681,820	— 156,368
F. Wool	2,624,177	2,486,309	2,263,060	— 239,339	— 361,117
G. Other textile materials	1,198,762	1,195,048	1,764,645	+ 569,597	+ 565,893
H. Oil-seeds, nuts, oils, fats and gums	2,773,314	2,832,116	3,083,412	+ 251,326	+ 310,128
I. Hides and undressed skins	1,002,465	1,088,946	891,353	— 197,593	— 111,112
J. Paper-making materials	436,179	475,288	453,199	— 22,089	+ 17,020
K. Miscellaneous	3,182,662	3,111,298	3,044,787	— 66,511	— 137,875
Total, Class II	£ 24,650,542	£ 27,718,277	£ 24,423,289	— 3,294,988	— 227,253
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	699,501	826,963	1,025,590	+ 198,627	+ 326,089
B. Other metals and manufactures thereof	2,200,896	2,232,046	2,087,526	— 144,520	— 113,370
C. Cutlery, hardware, implements (except machine tools) and instruments	404,397	495,196	516,385	+ 21,189	+ 111,988
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	130,165	175,903	152,956	— 22,947	+ 22,791
E. Machinery	362,381	376,516	473,027	+ 96,511	+ 110,646
F. Ships (new)	82	1,470	1,500	+ 30	+ 30
G. Manufactures of wood and timber (including furniture)	173,988	207,671	227,528	+ 19,857	+ 53,540
H. Yarns and textile fabrics—					
1. Cotton	770,223	815,067	875,530	+ 60,463	+ 105,307
2. Wool	729,180	727,267	743,817	+ 16,550	+ 14,637
3. Silk	973,589	1,034,475	1,110,240	+ 75,765	+ 136,651
4. Other materials	637,084	685,080	660,844	— 24,236	+ 23,760
I. Apparel	344,416	352,919	388,979	+ 36,060	+ 44,563
J. Chemicals, drugs, dyes and colours	989,880	923,946	1,026,440	+ 102,494	+ 36,560
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	1,159,998	977,742	1,216,983	+ 239,241	+ 56,985
L. Earthenware and glass	352,388	365,291	369,835	+ 4,544	+ 17,447
M. Paper	520,096	580,760	582,735	+ 1,975	+ 62,639
N. Railway carriages and trucks (not of iron) motor cars, cycles, carts, etc.	458,966	529,722	525,233	— 4,489	+ 66,267
O. Miscellaneous	2,244,768	2,157,613	2,167,488	+ 9,875	+ 77,280
Total, Class III	£ 13,151,998	£ 13,465,647	£ 14,152,636	+ 686,989	+ 1,000,638
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 206,682	£ 204,130	£ 205,060	+ 930	— 1,622
Total value	£ 61,611,542	£ 64,089,852	£ 65,432,935	+ 1,343,083	+ 3,821,393

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

III.—EXPORTS.

The following table shows the value of the Exports of produce and manufactures of the United Kingdom for the month of November, 1911, as compared with the corresponding month of 1910 and 1909 and the increase or decrease in each principal category :—

Exports of Produce and Manufactures of the United Kingdom.
(Value F.O.B.*)—November.

	MONTH OF NOVEMBER			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	315,311	331,156	284,654	— 46,502	— 30,657
B. Meat, including animals for food	80,837	94,206	115,384	+ 21,178	+ 34,547
C. Other food and drink	2,007,814	2,241,553	2,733,037	+ 491,484	+ 725,223
D. Tobacco	147,943	170,857	220,831	+ 49,974	+ 72,888
Total, Class I	£ 2,551,905	£ 2,837,772	£ 3,353,906	+ 516,134	+ 802,001
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	3,209,374	3,001,754	3,362,129	+ 360,375	+ 152,755
B. Iron ore, scrap iron and steel	45,375	29,443	30,808	+ 1,363	+ 14,567
C. Other metallic ores	7,016	3,265	9,269	+ 6,004	+ 2,253
D. Wood and timber	8,076	10,972	25,183	+ 14,211	+ 17,107
E. Cotton	—	—	—	—	—
F. Wool	432,021	397,262	362,442	— 34,820	— 69,579
G. Other textile materials	21,076	24,767	37,964	+ 13,197	+ 16,888
H. Oil-seeds, nuts, oils, fats and gums	353,338	457,714	411,860	— 45,854	— 58,532
I. Hides and undressed skins	199,274	153,858	170,608	+ 16,750	+ 28,666
J. Paper-making materials	71,194	65,138	82,874	+ 17,736	+ 11,680
K. Miscellaneous	264,760	287,917	317,558	+ 29,641	+ 52,798
Total, Class II	£ 4,611,504	£ 4,432,092	£ 4,810,695	+ 378,603	+ 199,191
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	3,466,500	3,722,283	4,226,250	+ 503,967	+ 759,750
B. Other metals and manufactures thereof	801,852	938,747	1,035,907	+ 97,160	+ 234,055
C. Cutlery, hardware, implements (except machine tools) and instruments	503,710	581,570	712,861	+ 131,291	+ 209,151
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	192,302	231,658	320,184	+ 88,526	+ 127,882
E. Machinery	2,293,950	2,548,318	2,882,123	+ 333,805	+ 588,173
F. Ships (new)	534,046	596,327	474,960	— 121,367	— 59,086
G. Manufactures of wood and timber (including furniture)	148,186	165,408	209,680	+ 44,272	+ 61,494
H. Yarns and textile fabrics—					
1. Cotton	7,810,317	8,091,260	10,378,139	+ 1,386,879	+ 2,567,822
2. Wool	2,350,822	2,680,957	2,689,940	+ 8,953	+ 339,118
3. Silk	163,840	193,183	210,006	+ 16,818	+ 46,166
4. Other materials	1,096,554	1,128,580	1,131,456	+ 2,876	+ 34,902
I. Apparel	858,488	1,009,908	1,158,995	+ 149,087	+ 300,507
J. Chemicals, drugs, dyes and colours	1,486,097	1,639,813	1,678,384	+ 38,571	+ 192,287
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	420,215	408,013	451,331	+ 43,318	+ 31,116
L. Earthenware and glass	341,564	406,743	460,674	+ 53,931	+ 119,110
M. Paper	214,932	273,578	294,076	+ 20,498	+ 79,144
N. Railway carriages and trucks (not of iron) motor cars, cycles, carts, etc.	508,521	726,815	811,813	+ 84,998	+ 303,292
O. Miscellaneous	2,294,256	2,482,286	2,708,909	+ 226,623	+ 414,653
Total, Class III	£ 25,486,152	£ 28,725,482	£ 31,835,688	+ 3,110,206	+ 6,349,536
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 671,894	£ 902,079	£ 986,102	+ 84,023	+ 314,208
Total	£ 33,321,455	£ 36,897,425	£ 40,986,391	+ 4,088,966	+ 7,664,936

Exports of Foreign and Colonial Merchandise.*—November.

	£	£	£	£	£
Total value	6,751,890	7,458,606	7,834,220	+ 375,623	+ 1,082,331

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

IV.—TRADE DURING THE ELEVEN MONTHS, JANUARY-NOVEMBER.

The following table shows the value of the Imports of foreign and colonial merchandise during the eleven months ended November, 1911, as compared with the corresponding period of 1910 and 1909 :—

Imports (Value C.I.F.*)—Eleven months, January-November.

	ELEVEN MONTHS, JANUARY-NOVEMBER			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	76,191,831	70,647,923	68,769,473	— 1,878,450	— 7,422,358
B. Meat, including animals for food	43,439,733	44,663,252	45,925,979	+ 1,262,727	+ 2,486,246
C. Other food and drink—					
1. Non-dutiable	61,495,304	65,666,327	66,643,753	+ 977,426	+ 5,148,449
2. Dutiable	45,261,279	49,447,157	53,204,356	+ 3,757,199	+ 7,943,077
D. Tobacco	4,569,511	4,029,845	4,747,389	+ 717,544	+ 177,878
Total, Class I	£ 233,957,656	£ 234,454,504	£ 239,290,950	+ 4,836,446	+ 8,333,292
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	6,637	30,923	23,208	— 7,715	+ 16,571
B. Iron ore, scrap iron and steel	4,565,249	5,710,641	5,335,321	— 375,320	+ 770,072
C. Other metallic ores	7,573,780	8,131,406	8,132,708	+ 1,302	+ 558,928
D. Wood and timber	22,022,032	24,691,402	24,288,402	— 453,000	+ 2,216,370
E. Cotton	51,656,759	55,814,329	61,752,085	+ 5,937,756	+ 10,095,326
F. Wool	31,280,287	34,216,951	32,732,236	— 1,484,715	+ 1,451,949
G. Other textile materials	10,486,197	10,865,582	12,576,587	+ 1,711,005	+ 2,090,390
H. Oil-seeds, nuts, oils, fats, and gums	23,186,474	31,653,643	32,019,901	+ 2,633,742	+ 3,833,427
I. Hides and undressed skins	10,516,649	11,877,441	10,128,283	— 1,749,158	— 386,366
J. Paper-making materials	3,966,252	4,261,932	4,163,635	— 98,297	+ 197,383
K. Miscellaneous	25,647,840	39,104,734	31,578,972	— 7,525,762	+ 5,931,492
Total, Class II	£ 195,907,796	£ 229,358,984	£ 222,681,338	— 6,677,646	+ 26,773,542
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	7,250,034	8,124,603	10,134,810	+ 2,010,207	+ 2,884,776
B. Other metals and manufactures thereof	22,093,914	22,138,122	25,064,014	+ 2,925,892	+ 2,970,100
C. Cutlery, hardware, implements (except machine tools) and instruments	3,345,737	4,221,344	4,766,435	+ 545,091	+ 1,420,698
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	1,174,140	1,487,082	1,296,848	— 190,234	+ 122,708
E. Machinery	4,099,017	4,074,947	5,315,556	+ 1,240,609	+ 1,216,539
F. Ships (new)	23,805	24,197	62,493	+ 38,296	+ 38,688
G. Manufactures of wood and timber (including furniture)	1,861,886	2,108,312	2,312,021	+ 203,709	+ 450,135
H. Yarns and textile fabrics—					
1. Cotton	8,949,074	9,977,114	10,396,851	+ 419,737	+ 1,447,777
2. Wool	8,960,413	8,877,493	8,851,666	— 25,827	— 108,747
3. Silk	11,859,426	12,594,081	12,440,772	— 153,309	+ 581,346
4. Other materials	6,713,566	7,421,261	7,256,904	— 164,357	+ 543,338
I. Apparel	4,707,849	4,744,544	4,862,370	+ 117,826	+ 154,521
J. Chemicals, drugs, dyes, and colours	9,676,580	10,265,842	10,376,355	+ 110,513	+ 699,775
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	10,564,254	10,868,569	11,170,317	+ 301,748	+ 606,063
L. Earthenware and glass	3,416,411	3,450,246	3,670,086	+ 219,840	+ 253,675
M. Paper	5,131,755	5,813,046	5,973,454	+ 160,408	+ 841,699
N. Railway carriages and trucks (not of iron), motor cars, cycles, carts, etc.	4,345,854	5,175,901	5,977,171	+ 801,270	+ 1,631,317
O. Miscellaneous	20,639,103	21,837,807	21,526,550	— 311,257	+ 887,447
Total, Class III	£ 134,812,818	£ 143,204,511	£ 151,454,673	+ 8,250,162	+ 16,641,855
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 2,312,384	£ 2,302,914	£ 2,247,669	— 55,245	— 64,715
Total value	£ 563,990,656	£ 609,320,913	£ 615,674,630	+ 6,353,717	+ 51,683,974

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

V.—EXPORTS.

The value of the Exports of home produce, and of foreign and colonial produce, during the eleven months ended November, 1911, as compared with the corresponding period of 1910 and 1909, is as shown in the following table:—

Exports of Produce and Manufactures of the United Kingdom.
(Value F.O.B.*)—Eleven months, January-November.

	ELEVEN MONTHS, JANUARY-NOVEMBER			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—					
A. Grain and flour	£ 3,115,478	£ 3,068,997	£ 3,294,318	+ 225,321	+ 178,840
B. Meat, including animals for food	722,292	848,952	926,653	+ 77,701	+ 204,361
C. Other food and drink	15,945,975	18,094,363	20,216,308	+ 2,121,945	+ 4,270,333
D. Tobacco	1,515,039	1,895,105	1,980,104	+ 84,999	+ 465,065
Total, Class I	£ 21,298,784	£ 23,907,417	£ 26,417,383	+ 2,509,966	+ 5,118,599
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	33,972,198	34,712,582	34,918,385	+ 205,803	+ 946,187
B. Iron ore, scrap iron and steel	457,301	447,875	415,277	— 32,598	— 42,024
C. Other metallic ores	89,358	56,102	96,433	+ 40,331	+ 7,075
D. Wood and timber	102,154	111,887	173,657	+ 69,733	+ 71,503
E. Cotton	—	—	—	—	—
F. Wool	4,200,746	3,869,923	3,560,956	— 308,967	— 639,790
G. Other textile materials	190,395	293,350	385,280	+ 91,930	+ 194,885
H. Oil-seeds, nuts, oils, fats and gums	3,047,640	4,568,298	4,432,634	+ 135,664	+ 1,384,994
I. Hides and undressed skins	1,710,940	1,597,514	1,526,279	— 71,235	— 184,661
J. Paper-making materials	606,437	675,888	757,001	+ 81,113	+ 150,564
K. Miscellaneous	2,205,319	2,485,303	2,546,323	+ 61,020	+ 341,004
Total, Class II	£ 46,582,488	£ 48,818,722	£ 48,812,225	— 6,497	+ 2,229,737
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	34,780,368	39,393,735	40,030,465	+ 636,730	+ 5,250,097
B. Other metals and manufactures thereof	7,909,867	9,517,850	10,106,209	+ 588,359	+ 2,196,342
C. Cutlery, hardware, implements (except machine tools) and instruments	4,890,883	5,846,431	6,737,281	+ 890,850	+ 1,846,398
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	1,951,156	3,512,562	2,607,052	— 905,510	+ 655,896
E. Machinery	25,925,063	26,733,668	28,326,500	+ 1,592,832	+ 2,401,437
F. Ships (new)	5,660,509	8,640,856	4,888,032	— 3,752,824	— 772,477
G. Manufactures of wood and timber (including furniture)	1,304,242	1,675,268	1,851,948	+ 176,680	+ 547,706
H. Yarns and textile fabrics—					
1. Cotton	85,220,673	96,023,940	110,683,107	+ 14,659,167	+ 25,462,434
2. Wool	27,736,548	34,387,463	34,387,463	+ 6,650,915	+ 6,650,915
3. Silk	1,685,057	2,079,018	2,208,970	+ 129,952	+ 523,913
4. Other materials	11,299,278	12,258,507	12,021,563	— 216,939	+ 722,290
I. Apparel	8,911,248	11,607,943	12,668,833	+ 1,060,890	+ 3,757,585
J. Chemicals, drugs, dyes and colours	15,299,929	16,971,006	18,409,103	+ 1,438,097	+ 3,109,174
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	3,828,952	4,305,161	4,478,503	+ 173,147	+ 649,356
L. Earthenware and glass	3,367,700	3,982,707	4,317,197	+ 334,490	+ 949,497
M. Paper	2,318,452	2,845,825	3,032,078	+ 186,253	+ 713,626
N. Railway carriages and trucks (not of iron), motor cars, cycles, carts, etc.	5,610,184	6,791,672	7,396,008	+ 604,936	+ 1,786,424
O. Miscellaneous	22,821,412	26,761,616	28,350,057	+ 1,588,441	+ 5,528,615
Total, Class III	£ 270,521,521	£ 313,211,521	£ 332,500,779	+ 19,289,258	+ 61,979,258
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 6,186,754	£ 7,228,041	£ 7,980,194	+ 752,153	+ 1,793,440
Total value	£ 344,589,547	£ 393,165,701	£ 415,710,581	+ 22,544,880	+ 71,121,034

Exports of Foreign and Colonial Merchandise.*—Eleven months, January-November.

	1909.	1910.	1911.	Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
Total value	£ 81,730,544	£ 93,899,485	£ 94,040,950	+ 141,465	+ 12,310,406

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

SEA-BORNE TRADE OF INDIA.

The following is a summary of accounts relating to the Sea-borne Trade and Navigation of British India for the month of November, 1911, and for the eight months, 1st April to 30th November, 1911, compared with the corresponding period of the years 1909 and 1910:—

	MONTH OF NOVEMBER			EIGHT MONTHS, 1ST APRIL TO 30TH NOVEMBER		
	1909	1910	1911	1909	1910	1911
IMPORTS—						
MERCHANDISE, PRIVATE—						
Bengal	Rs. 4,74,15,371	Rs. 4,33,37,377	Rs. 4,98,29,658	Rs. 30,33,30,500	Rs. 32,23,77,304	Rs. 35,20,86,178
Eastern Bengal and Assam	4,39,545	4,98,755	6,79,362	41,57,095	31,28,828	43,04,546
Bombay	3,74,70,423	4,42,39,082	5,37,88,857	26,00,98,730	30,28,19,254	32,00,39,186
Sind	78,33,646	98,55,952	1,19,98,005	6,89,85,053	7,69,83,762	8,54,28,439
Madras	88,41,294	94,88,374	1,05,92,747	6,32,49,262	6,49,26,850	7,55,67,485
Burma	1,06,10,031	89,11,428	1,07,79,068	7,13,54,685	6,88,36,728	7,65,74,747
TOTAL	11,26,10,270	11,63,30,968	13,76,07,697	77,11,75,325	83,90,72,726	91,40,00,581
DITTO, GOVERNMENT STORES	29,11,525	66,08,891	44,74,820	4,19,42,377	2,75,67,492	3,33,48,253
TOTAL MERCHANDISE	11,55,21,795	12,29,39,859	14,20,82,517	81,31,17,702	86,66,40,218	94,73,48,834
TREASURE, PRIVATE—						
Bengal	59,18,062	46,94,119	1,25,74,040	3,22,09,823	3,08,49,766	4,88,23,374
Eastern Bengal and Assam	15,406	15,367	15,366	1,30,568	1,07,199	1,53,609
Bombay	1,68,23,245	3,74,56,666	3,78,12,008	11,15,93,098	16,20,07,827	21,67,85,409
Sind	7,33,959	9,78,766	6,59,417	47,89,714	72,91,538	76,34,257
Madras	12,79,840	3,34,840	11,40,273	89,31,133	50,54,816	27,45,461
Burma	1,60,745	2,40,000	2,96,146	5,37,728	6,75,249	18,47,716
TOTAL	2,49,31,257	4,37,19,758	5,24,97,250	15,81,92,064	20,50,86,395	27,79,89,826
DITTO, GOVERNMENT	—	—	—	9,73,999	6,84,212	7,848
TOTAL TREASURE	2,49,31,257	4,37,19,758	5,24,97,250	15,91,66,063	20,66,70,607	27,79,97,674
GRAND TOTAL OF IMPORTS	14,04,53,052	16,66,59,617	19,45,79,767	97,22,83,765	1,07,33,10,825	1,22,53,46,508
EXPORTS—						
MERCHANDISE, PRIVATE—						
(Foreign Merchandise)—						
Bengal	83,853	1,25,391	19,26,744	11,54,064	17,54,520	59,31,844
Eastern Bengal and Assam	150	200	—	630	2,062	6,557
Bombay	23,37,161	26,64,854	41,02,794	1,60,44,635	2,15,81,453	2,28,71,172
Sind	4,10,878	1,21,485	18,36,520	26,31,817	28,35,519	68,43,014
Madras	85,679	92,441	1,58,516	8,85,442	12,79,250	15,50,412
Burma	36,010	36,999	21,732	2,95,276	3,89,858	4,05,026
TOTAL	29,53,731	30,43,370	80,46,306	2,10,11,864	2,78,42,662	3,76,11,025
(Indian Merchandise)—						
Bengal	7,36,89,463	8,57,25,302	9,74,58,890	46,52,57,140	52,92,04,712	56,43,96,940
Eastern Bengal and Assam	98,37,181	91,59,322	92,70,926	3,06,34,529	3,56,14,530	3,85,77,056
Bombay	2,84,75,826	3,25,99,881	2,60,63,443	25,09,43,415	36,02,14,582	38,35,60,327
Sind	1,05,50,200	1,62,96,497	1,18,44,911	13,60,66,095	12,97,23,902	13,69,52,606
Madras	1,23,13,798	1,35,49,056	1,33,61,730	12,47,55,650	13,70,21,479	14,91,68,667
Burma	71,62,458	91,30,388	87,98,148	8,21,43,898	11,20,69,008	14,34,90,237
TOTAL	14,20,28,926	16,64,60,446	16,67,98,048	1,08,98,00,727	1,30,38,48,213	1,41,61,45,833
Total Foreign and Indian Merchandise exported—						
Bengal	7,37,73,316	8,58,50,693	9,93,85,634	46,64,11,204	53,09,59,232	57,03,28,784
Eastern Bengal and Assam	98,37,331	91,59,522	92,70,926	3,06,35,159	3,56,16,592	3,85,83,613
Bombay	3,08,12,987	3,52,64,735	3,01,66,237	26,69,88,050	38,17,96,035	40,64,34,499
Sind	1,09,61,078	1,64,17,982	1,36,81,431	13,86,97,912	13,25,59,421	14,37,95,620
Madras	1,23,99,477	1,36,41,497	1,35,20,246	12,56,41,092	13,83,00,729	15,07,19,079
Burma	71,98,468	91,69,387	88,19,880	8,24,39,174	11,24,58,866	14,38,95,263
TOTAL	14,49,82,657	16,95,03,816	17,48,44,354	1,11,03,12,591	1,33,16,90,875	1,45,37,56,858
DITTO, GOVERNMENT STORES	1,49,569	55,398	1,56,858	5,22,556	5,26,260	9,66,880
TOTAL MERCHANDISE	14,51,32,226	16,95,59,214	17,50,01,212	1,11,13,35,147	1,33,22,17,125	1,45,47,23,747
TREASURE, PRIVATE—						
Bengal	6,23,033	5,82,859	14,882	8,98,739	41,79,077	6,24,506
Eastern Bengal and Assam	—	—	—	—	15,367	—
Bombay	37,23,897	40,52,565	1,00,84,372	3,14,35,421	3,78,15,104	5,95,03,636
Sind	97,204	4,357	1,45,800	24,45,149	35,82,935	31,91,026
Madras	13,069	5,04,190	39,105	55,08,032	68,56,825	42,31,511
Burma	10,000	50,000	13,250	35,000	1,60,500	2,31,730
TOTAL	44,67,203	60,93,971	1,02,97,409	4,03,22,341	5,26,09,808	6,77,82,400
DITTO, GOVERNMENT	8,100	17,725	—	15,100	37,345	17,450
TOTAL TREASURE	44,75,303	61,11,696	1,02,97,409	4,03,37,441	5,26,47,153	6,77,99,850
GRAND TOTAL OF EXPORTS	14,96,07,529	17,56,70,910	18,52,98,621	1,15,16,72,588	1,38,48,64,288	1,52,25,23,600
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	67,40,647	83,22,412	89,18,755	4,78,08,918	6,21,95,313	6,15,21,730
DITTO, EXPORT DUTY COLLECTED	4,44,324	4,96,239	4,81,267	48,48,005	64,76,866	69,80,941

IMPORTS OF SUGAR.

Imports of Foreign Sugar (excluding Confectionery and Molasses) into British India in the month of November, 1911, and in the eight months ending 30th November, 1911, 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 Nov., 1910.	Share of each country in the total imports in Nov., 1911.	Share in the eight months ending 30th Nov., 1910.	Share in the eight months ending 30th Nov., 1911.	Countries of production of total imports.	Share of each country in the total imports in Nov., 1910.	Share of each country in the total imports in Nov., 1911.	Share in the eight months ending 30th Nov., 1910.	Share in the eight months ending 30th Nov., 1911.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Denmark.	...	...	...	5	China	1,296	412	114,892	3,803
Germany.	356	530	4,741	8,257	Japan	...	...	...	12
Holland.	32	84	625	652	Egypt	...	81	...	918
Belgium.	48	132	542	1,338	Natal	...	3	...	7
France.	1	121	148	126	Mauritius	303,454	8,455	1,950,568	1,231,334
Austria-Hungary.	132,756	84	208,165	236,515	West Indies	29	...	393	18
Straits Settlements	135	66	666	453	Mexico	...	...	1	...
Java	642,927	892,937	7,303,222	6,204,943	South America	...	60	136	497
					Australia	...	2	2	4
					From non-producing countries—	...	...	...	...
					Origin unknown	59	14	409	309
					TOTAL	1,081,092	902,991	9,559,518	7,779,191

QUANTITY of Beet and Cane Sugar imported by sea from foreign countries into each province of British India during the month of November, 1911, compared with the corresponding period of the year 1910:—

PROVINCES.	Beet Sugar.		Cane Sugar.		TOTAL.	
	1910.	1911.	1910.	1911.	1910.	1911.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	6,118	370	445,453	423,455	451,571	423,825
Eastern Bengal and Assam	...	...	1,968	1,890	1,968	1,890
Bombay	27,370	275	341,154	247,765	368,524	248,040
Sind	98,380	125	120,740	185,018	219,120	185,143
Madras	1,260	87	4,972	21,951	6,232	22,038
Burma	93	101	33,584	21,935	33,677	22,036
TOTAL	133,221	958	947,871	902,023	1,081,092	902,981

IMPORTS OF COTTON YARN.

QUANTITY of Cotton Yarn No. 31 and higher counts, imported by sea from foreign countries into each province of British India in the month of November, 1911:—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	TOTAL.
	lb	lb	lb	lb	lb	lb	lb
Mule and water, Nos. 31 to 40	255,500	...	512,258	21,360	169,231	3,600	961,949
" " " 41 to 50	14,228	...	83,532	...	37,500	...	135,260
" " " above No. 50	104,241	...	103,495	...	74,725	...	282,461
Orange, red and other colours, Nos. 31 to 40.	626,000	4,000	236,750	107,113	451,483	15,600	1,440,943
Orange, red and other colours, Nos. 41 to 50.	...	...	...	...	2,800	12,860	15,660
Orange, red and other colours, above No. 50.	725	...	...	...	14,665	5,100	20,490
TOTAL	1,000,694	4,000	936,035	128,473	750,404	37,160	2,856,766

WEEKLY TRADE MOVEMENTS.

For the week ending 30th December, 1911.

COTTON GOODS.

Twist and Yarn.

Foreign—Imports by sea into	Calcutta lbs.	92,126
	Bombay*	...
	Madras	500
Indian—Exports by sea from	Calcutta	213,600
	Bombay*	...
	Madras	...

Grey Piece Goods.

Imports by sea from	Calcutta yds.	4,774,606
	Bombay*	...
Foreign ports into	Karachi	515,081
	Madras	429,280
	Rangoon	302,537

White Piece Goods.

Imports by sea from	Calcutta yds.	669,875
	Bombay*	...
Foreign ports into	Karachi	1,722,857
	Madras	67,430
	Rangoon	263,802

Other Piece Goods.

Imports by sea from	Calcutta yds.	366,634
	Bombay*	...
Foreign ports into	Karachi	1,892,111
	Madras	325,304
	Rangoon	1,234,442

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.*	...
	Bombay*	...
	Karachi	13,191
	Madras	6,878

Raw Cotton.

Imports into Bombay*	By sea cwt.	...
	Coastwise	...
	By rail	...
Imports into Karachi by rail	"	22,548
" " Calcutta by rail and river	"	758

JUTE.

Arrivals by all routes in	Calcutta cwt.	4391,251
	Gunny bags No.	8,892,800
Exports by sea from	Calcutta cloth yds.	31,012,150
	Jute cwt.	550,890
	Chittagong—Jute	38,904

COTTON SEEDS.

Exports by sea from Bombay*	cwt.	...
-----------------------------	------	-----

OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river cwt.	1,781
	By sea	...
	Coastwise	...
	By rail	...
	Karachi by rail and river	...
Exports by sea from	Calcutta	16,147
	Bombay*	...
	Karachi	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river cwt.	1,585
	By sea	...
	Coastwise	...
	By rail	...
	Karachi by rail and river	10,000
Exports by sea from	Calcutta	...
	Bombay*	...
	Karachi	44

RICE.

Arrivals by all routes in	Calcutta cwt.	140,320
	Calcutta	165,049
	Chittagong	...
Exports by sea from	Bombay*	...
	Karachi	11,351
	Madras	98
	Rangoon	25,479

TEA.

Arrivals by all routes in	Calcutta lbs.	13,128,081
	Calcutta	2,994,005
Exports by sea from	Chittagong	623,500

WHEAT.

Imports into	Calcutta by rail and river cwt.	422
	Karachi by rail	391,018
	By sea	...
	Coastwise	...
	By rail	...
Exports by sea from	Calcutta	67,015
	Bombay*	...
	Karachi	282,831

The figures of Chittagong for the week ending 23rd December 1911 not published in the last week's statement are:— Exports by sea—Rice 9,348 cwt., Jute 63,836 cwt., Tea 1,772,534 cwt.

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

	FROM APRIL		FROM JANUARY					
	1910	1911	1910	1911	1910	1911	1910	1911
	Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	2,885,593	3,675,309	5,251,298	7,018,743	851,423	230,048	Not reported.
Bombay	"	2,038,980	*	2,875,969	*	2,807,965	*	13,304,023
Karachi	"	16,903,132	18,477,632	16,949	4,846	4,644,318	2,708,529	Not reported.

* Figures not received

† Incomplete

KEROSENE OIL, WEEK ENDING 30th DECEMBER, 1911.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay*	...	...	...	...
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				334,688
Bengal				...
E. B. & Assam				...
Bombay				...
Sind				...
Madras				958,655
Indian Ports, Non-Br.				...
Foreign Ports				...

IMPORTS OF SUGAR, WEEK ENDING 30th DECEMBER, 1911.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.*	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	10	...	...	2	8	9	29
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	5,321	504	...	5,825
Java	...	...	...	...	...	...	...
Mauritius	...	...	...	...	...	...	...
Other Non-European Countries	...	...	...	...	...	40	40
Total refined							5,894
Total unrefined							...
Grand Total							5,894

*Figures not received

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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	5 per cent. (Sep. 28).
	Bombay	5 per cent. (Dec. 21).
	Madras	7 per cent. (Jan. 8).

EXCHANGE	On demand	1-4 $\frac{1}{2}$
	Telegraphic	1-4 $\frac{3}{4}$
	Transfers	
	3 months	1-4 $\frac{1}{2}$
	6 months	1-4 $\frac{3}{4}$

GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.) Rs. 95-2.

Subscribers to this *Journal* should make arrangements in their offices for the regular scrutiny of the **Enquiries Column**, and for following up week by week such enquiries as appear suitable. There is a steady increase in the number of enquiries received from firms of position in other countries who desire to find agents in India and who would naturally prefer to deal with a firm of high standing. But it is a rule in this Department not to suggest the name of any such firm in India unless expressly authorised by that firm to do so, the reason being that such selection might appear to give an opening for undue preference. It has been ascertained that the failure to respond to these enquiries is often due to a neglect to arrange for such a regular scrutiny of the Enquiries Column as is here suggested.

The Final General Memorandum on the sesame (til or jinili) crop of the season 1911-12 will appear in the *Indian Trade Journal* of the 18th January, 1912. The gist of it in tabular form will, as usual, be exhibited in the portico of the New Imperial Secretariat Buildings, No. 1, Council House Street, Calcutta, on Wednesday, the 17th instant, at 4 P.M.

The spot price of wheat at Karachi on the 6th January was Rs. 30-0-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 9th January was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 251 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 10th instant were as under :—

Jute—C. D. M. and Co. (Red)		
Group per 400 lbs.	Rs. 56	0 0
M. per 400 lbs.	„ 48	0 0
Rice—Ballam No. 1 per B. md.	„	Nil.
Moonghy	„ 3	8 0
Linseed—Bold 4% per B. md.	„	Nil.
Rapeseed—Yellow, mixed, bold, Cawnpore, 4% per B. md.	„	Nil.

Sanction has been accorded to a survey being carried out by the agency of the North Western State Railway for a line of railway on the 2 feet 6 inch gauge from Jacobabad station on the North Western State Railway to Kashmore, a distance of about 73 miles. The survey will be known as the **Jacobabad-Kashmore Railway Survey**.

Sanction has been accorded to a resurvey being carried out by the agency of the Great Indian Peninsula Railway for a line of railway on the 2 feet 6 inch gauge from Talegoan station on the Great Indian Peninsula Railway to Khed, a distance of about 22 miles. This survey will be known as the **Talegoan-Khed Railway Survey**.

Sanction has been accorded to a survey being undertaken by the agency of the Madras and Southern Mahratta Railway Company for a line of railway on the metre gauge between Nipani and the Poona branch of the Madras and Southern Mahratta Railway, a distance of about 34 miles. This survey will be known as the **Nipani Branch Railway Survey**. Sanction has also been accorded to a survey being carried out by the Bhavnagar State for a line of railway on the metre gauge from Botad, a station on the Bhavnagar railway to Jasdán, a total distance of about 34 miles. The survey will be known as the **Botad-Jasdán Railway Survey**.

Sanction has been accorded to a detailed survey being undertaken by the agency of the Bengal Nagpur Railway for a branch line of railway on the 5 feet 6 inch gauge from Bhadrak station on the Khargpur Khurda Road section of the Bengal Nagpur Railway, to Chandballi, a distance of about 30 miles. This survey will be known as the **Bhadrak-Chandballi Railway Survey**.

The total approximate gross earnings of State and Guaranteed railways from 1st April to 16th December, 1911, show a gain of Rs. 2,67,20,331, as compared with the corresponding figures for 1910-11.

The *Journal* of the Russo-British Chamber of Commerce for September-October, 1911, states that, according to the statistics dealing with the Russian cotton industry for 1910, 7,100,000 cwts. of raw cotton were used in the manufacture of cotton yarn by 159 spinning mills with 8,306,732 spindles; and 5,500,000 cwts. of yarn were employed in the manufacture of cotton tissues at 359 factories with 213,179 mechanical looms. The growth of the cotton industry in Russia between 1890 and 1910 may be seen from the following figures :—

	1890.	1900.	1910.
Spindles . . . No.	3,457,116	6,645,559	8,306,372
Yarn produced . Cwts.	2,385,000	4,711,000	6,519,000
Looms . . . No.	87,190	151,306	213,179
Unbleached piece goods produced . Cwts.	2,152,000	3,774,000	5,500,000
Cotton consumed . „	2,686,000	5,163,000	7,124,000

The following figures show the disposition of the cotton industry by governments in percentages of the total spindles and looms, and of yarns and piece goods produced, in 1890 and 1910 :—

Governments.	Spindles.		Yarns.		Looms.		Piece Goods.	
	1890.	1910.	1890.	1910.	1890.	1910.	1890.	1910.
Moscow . . .	25.0	23.0	27.0	23.4	23.0	23.0	20.0	21.6
Vladimir . .	16.0	17.7	20.4	18.1	29.0	30.9	31.0	30.4
Petrokov . . .	6.0	14.4	8.6	18.6	12.0	14.5	15.0	17.0
Kostroma . . .	0.8	8.1	0.9	8.7	12.0	14.0	12.0	14.4
St. Petersburg .	24.0	14.3	18.4	8.3	10.3	5.1	9.3	4.9
Jaroslav . . .	0.7	4.5	1.0	5.4	1.9	0.9	1.7	0.9
Esthonia . . .	11.0	0.7	8.0	5.4	2.4	2.6	2.1	2.5
Riazan . . .	4.1	2.4	5.4	2.6	0.6	1.8	0.5	1.8
Tver . . .	0.6	5.4	0.7	5.0	0.5	4.8	6.8	5.3

The large increase in the production of yarns in the Government of Kostroma is accounted for by the facilities for communication by the Volga with

Central Asia and the Caucasus, whence raw cotton is obtained. The position of the St. Petersburg Government has declined considerably by comparison with the other centres. The proportionate consumption of Russian grown cotton and imported cotton has been as follows :—

	1890.	1900.	1910.
Russian grown cotton . .	Cwts. 640,000	Cwts. 1,970,000	Cwts. 3,626,000
Imported cotton . . .	2,046,000	3,193,000	3,498,000

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 50 weeks ended 14th December, 1911 :—

	IMPORTS.		EXPORTS.	
	Week ended 14th Dec. 1911.	50 weeks ended 14th Dec. 1911.	Week ended 14th Dec. 1911.	50 weeks ended 14th Dec. 1911.
American . . .	Bales. 174,091	Bales. 3,192,541	Bales. 8,659	Bales. 230,533
Brazilian . . .	—	99,198	125	9,954
East Indian . . .	—	129,134	474	21,273
Egyptian . . .	20,550	462,694	3,926	119,250
Miscellaneous . .	2,713*	162,602†	103	4,680
TOTAL . . .	197,354	4,046,169	12,860	385,995

* Including 2 bales foreign East African.

† Including 9,375 bales British West Indian, 5,531 bales British West African, 26,315 bales British East African, and 260 bales foreign East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 16th December, 1911, were as follows :—Wheat, 32s. 11d.; barley, 32s. 5d.; and oats, 20s. 9d.

The *Corn Trade News* gives the following summary of the world's crops as on the 19th ultimo:—*United States of America*.—Officials issued revised estimate crops making total Wheat 621,000,000 bushels, compared with 635,000,000 last year, these estimates being based on a revised acreage; so far from raising estimated yield of Spring Wheat, officials have reduced same slightly. Receipts of Spring Wheat have decreased considerably, and now running lighter than last year's. Winter wheat receipts also smaller than last year's. With moderate outgoings, huge Visible Supply further increased. Reports new Winter Wheat crop more favourable. *Canada*.—Recent weather been very favourable for threshing. Messrs. Ogilvie estimate

90,000,000 bushels still to come forward at Winnipeg, making a total for season 150,000,000 compared with 90,000,000 last year. Grading returns still bad, about one-third below No. 5, that is non-millable Wheat. *Russia*.—Country has good snow cover and the position of crops considered satisfactory. Frost in South fairly severe; Kherson navigation about closing, but Nicolaieff probably remain open. Receipts at ports small. *Argentina*.—Weather been unsettled, stormy and very unfavourable for harvest. Wheat samples from North poor and rusty; all depends now on Southern crop. Northern crop forms fully half of the total. Shippers not offering cargoes, and the general tendency for parcels is to offer for forward shipment. One cable by Continental agency claims damage to Wheat exaggerated. Linseed average samples expected to be of inferior quality; damage to Oats crop also been reported. *Australia*.—No fresh crop estimates, but consider outlook fully maintained; samples received here show fine quality. Chartered fleet increased but little recently, but still of good size. *Roumania*.—Rain and snowy weather favour new seedings, but not Maize movement. Arrivals at ports light, but total Maize exported last week liberal. *Hungary*.—Weather unseasonably mild, but farmers satisfied with crop conditions. Offers of Wheat larger. *Turkey*.—Salonica reports very favourable weather. *France*.—Weather mild and rainy, but colder drier period wanted; crops look all right. Wheat offerings less than expected, markets firm. *Germany*.—Weather and crop news favourable, Wheat offerings light, markets firm. *Italy and Spain*.—Weather and crop conditions normal. *United Kingdom*.—Crops look well, native supplies fair.

The Final Memorandum on the Groundnut Crop of the Bombay Presidency, including Native States, for the season 1911-12, is published and states that on an average of the five years ending 1909-10 the area under groundnut in the British territory included in this forecast has represented some 11.9 per cent of the total area under the crop in British India. The estimates given are up to 10th December. The total area under groundnut is said to be 220,500 acres, or 19.4 per cent over last year's area and 112.4 per cent over the average of the preceding 10 years. The crop is estimated to yield about 55 per cent of the normal in Khandesh, Ahmednagar and Poona. In Nasik, Sholapur and Satara the yield ranges between 50 to 85 per cent. In Belgaum the estimated outturn comes to 70 per cent. The Kolhapur crop is estimated at 85 per cent of the normal, while that in the other States ranges between 50 to 66 per cent. The total outturn stands as under :—British Districts, 128,300 tons; Native States, 58,000 tons, or 186,300 tons in all, or 9.4 per cent below last year's outturn and 121.9 per cent over the average of the preceding 10 years. Besides the above the area which usually returns no statistics is estimated to contain about 1,800 acres under the crop which are expected to yield about 1,400 tons of the oil-seed.

The various **crop forecasts** relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percent- age varia- tion as compared with esti- mate at same date in previ- ous year	Estimated yield	Percent- age varia- tion as compared with esti- mate at same date in previ- ous year	Date of publi- cation in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	- 1.9	Cwts (dyo) 48,700	+ 5.9	21st Dec., 1911.
Cotton	19,524,000	-12.0	Bales* 3,102,000	-18.6	Do.
Sugar- cane	2,209,500	+ 5.0	Informa- tion not yet avail- able.	Informa- tion not yet avail- able.	26th Oct., 1911.
Sesamum (til or jinjili)	2,626,700	-19.0	Do.	Do.	Do.
Ground- nut	860,000	+ 6.0	Do.	Do.	Do.
Rice	54,441,400	- 4.0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	- 1.0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	- 9.0	Do.	Do.	Do.
Linseed	3,371,600	+12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

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

For the week ending 30th December, 1911—

In the Calcutta market—

Behar opium—Rs. 4,600; 4,600; 4,600; 4,600; 4,600; 4,600; 4,600.

Benares opium—Rs. 4,500; 4,500; 4,500; 4,500; 4,500; 4,500; 4,500.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 1st sale of 1912.

In the China market—

At Hongkong—(Exchange Rs. 138 per \$100).

Behar opium—No quotations received.

Benares opium—No quotations received.

At Shanghai—(Exchange: no quotations received).

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 29th December, 1911—
In the Bombay market—

New (1909-10) Rs. 1,275 to 4,000; (new, 1908-09) Rs. 1,320 to 4,200; (old, 1907-08) Rs. 1,450 to 4,675. The latest prices at Hongkong and Shanghai were (new) Rs. 5,527; (old) Rs. 5,342 and 5,712.

Writing on December 18th, the *Manchester Guardian* says:—The movement in the copper market during the last few days has been steadily upward, and the gain between the last two Friday closing prices is as much as £3 per ton. Some profit taking must be expected, but the underlying conditions of the market are still very strong. The immediate cause of the sharp rise last week was the unexpected character of the American statistics, which revealed a reduction of stocks much larger than had been expected or thought at all possible. The gradual and general improvement in copper prospects has been pointed out from time to time in these notes; but after a long period of depressed prices it takes time before the forces of improvement begin to tell upon values. Meanwhile these forces have been acquiring strength by the mere fact that their actual effect on the value has been suppressed, and when they break forth into the open they may come as a surprise to a great many people. The chances now are that the market will move too quickly and carry the price to a point where "bears" of the metal will see an opportunity for coming in; but in all probability the level of values will still be considerably higher in 1912 than it has been during the year just ending. It was suggested a good month ago that copper would be at £60 before the end of the year, and it is now clear that this was not a sanguine but a rather conservative anticipation.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 14th December regarding the Hull oil markets says:—**Linseed oil.**—The market is steady, with spot at 31s. 9d., 31s. 9d. Dec., 30s. 9d. Jan.-April, 28s. 4½d. May-Aug. The exports for the week amounted to 12 tons, of which Denmark took 1, Norway 8, Sweden 1, and West Indies 2. **Cottonseed oil:** The market is steady, with refined cotton oil 23s. 3d. spot; 23s. 6d. Jan.-April; crude oil, 21s. 7½d. spot. The exports for the week amounted to 16 tons, of which Africa took 1 and Germany 5 tons each. **Soy bean oil,** 24s. 9d. spot. The exports for the week amounted to 260 tons, of which America took 79, Australia 1, Belgium 5, Germany 129, Holland 10, Norway 3, and Sweden 33 tons each. **Rape oils:** Ravison, 26s. 3d.; Jamba and brown East Indian not offering. **Cocoonut oil** quiet and easier for English on spot at £40 to £41 per ton ex-mill. **Castor oil** steady but continues quiet. Calcutta on spot, 3½d. to 4d. per lb. ex-store, and forward 3½d. per lb., quay terms. **Colza oil** quiet. East Indian refined, 34s. 6d. per cwt. **Lard oil** steady at 49s. 6d. per cwt. for best English refined. **Olive oil** continues steady, but continues quiet on spot, and

Malaga for December shipment unchanged at £39 10s. c. and f. **Palm oil** firm and dearer with an improved demand. Lagos, for Dec.-Jan. and Jan.-Feb., at £29 15s. to £30; Dec.-Jan. softs at £29 10s. Spot, Niger, at £27 10s. Refined sorts quiet. Clarified nominal, in casks, at £30, and bleached, £33 15s. per ton. **Petroleum** firm. American ordinary in barrels, 5½d.; R. D., 6½d.; and W. R., 7½d. per gal. **Turpentine** firm spot and Dec., 37s. 3d., and Jan.-April, 37s. 9d. per cwt.

In their report on **London tea sales**, dated December 22nd, Messrs. Gow, Wilson and Stanton, Ltd., say:—Offerings of **Indian tea** were on a moderate scale, but the selection was rather unattractive, mostly consisting of plain to medium descriptions. The best enquiry was for all sorts up to 8½d., which met with brisk competition at last sale rates; medium kinds passed with an irregular demand, and in quite a number of instances valuations were difficult to obtain; as sellers, however, were not prepared to make concessions, several parcels were withdrawn from the auction. The very limited amount of fine Tea included showed little alteration in value, and Southern Indian growths with flavour continued in request at late rates. Average for week 8.82d., against 8.85d. last sale. Week's average of Tea sold on Garden Account, Season 1911-12, 32,141 packages, average 8.82d. 1910-11, 29,604 packages, average 8.64d. Season 1911-12 to date 942,702 packages, average 9.29d. Season 1910-11 to date 868,987 packages, average 8.52d.

In their **rubber market** report, dated London, December 21st, Messrs. Gow, Wilson and Stanton, Ltd., write:—Since the sales last week the condition of the market has been quiet and prices have given way. In sympathy with this, the amount put on offer this week (the last auction of the year), which was larger than anticipated, met with a slower demand, and at the opening prices showed a decline of from 2d. to 3d. per lb. As the sale proceeded competition became more restricted, and quotations in many instances fell away to the extent of 4d. and occasionally 5d. per lb. The best enquiry was for the contract qualities, and these sold from 5s. 0½d. toward the beginning of the sale down to 4s. 9d. on the second day.

The Board of Trade are informed that a **British Silk Exhibition** is to be held at Princes Skating Club, Knightsbridge, London, S.W., under the auspices of the Silk Association of Great Britain and Ireland, from 5th to 19th June next. For particulars, application should be made to the Honorary Secretary of the Exhibition, 3-4, Newgate Street, London, E.C.

An **International Exhibition of Industry, Science and Art** is to be held at Liverpool from May to October next. For particulars, application should be made to Mr. H. Theodore Rogers, 30, North John Street, Liverpool.

His Majesty's Commercial Attaché for Russia (Mr. H. Cooke) has furnished the following particulars showing the **output of sugar** in that country for the 1911-12 season (1st/14th September, 1911, to 31st August/13th September, 1912), as estimated at 25th October/7th November:—

	Pounds.*
Beet crop estimate	798,918,500
Of which received at factories and refineries by 7th November	607,790,000
Worked up at factories and refineries	322,593,800
Total output of sugar from above	111,318,800
Stocks remaining over from 1910-11 season—	
Free reserve	18,571,199
Inviolable reserve	7,891,563
TOTAL	26,462,762
Total supply of sugar for 1911-12 season (output and stocks)	137,781,562

* 1,000 pounds=16 tons.

His Majesty's Consul-General at Odessa (Mr. C. S. Smith) reports that, according to the official *Commercial and Industrial Gazette* (St. Petersburg), sugar beet has been grown hitherto only in the south and south-west of Russia and to some extent in the southern portion of Central Russia. Recent experiments, however, in planting sugar beet in Finland have given **unexpectedly good results** as regards the quantity of roots obtained; the percentage of sugar has been 14.6. It may be that the industry will establish itself in Finland, and then very naturally in other parts of Russia further north than those in which the beet is grown at present.

According to a report recently issued by the **German Statistical Office**, the **output of raw sugar** in the 1910-11 season (i.e., from September, 1910 to August, 1911) amounted to 2,330,376 metric tons (metric ton=2,204.6 lbs.) as compared with 1,792,100 tons in 1909-10; and the **output of refined sugar** to 1,808,338 tons, as against 1,567,761 tons in the previous season. 546,281 tons of raw and 513,229 tons of refined sugar were exported in 1910-11, as compared with 310,131 tons and 425,976 tons respectively in 1909-10. The exports to the United Kingdom in 1910-11 amounted to 447,719 tons of raw and 327,735 tons of refined sugar, as against 230,223 tons and 289,836 tons respectively in the previous year.

The **stock of sugar** at the various Port Commissioners' Warehouses in Calcutta on the 2nd January

was 199,622 bags, while the stock in the Bombay godowns and the estimated stock in the Bombay city, as well on the 8th idem amounted to 157,200 bags.

The following information is from a report by His Majesty's Vice-Consul at Resht (Mr. H. L. Rabino) on the trade of the Caspian Provinces of Persia for the two years ended 20th March, 1911, which will shortly be issued: As insurances are effected and advances made on silk cocoons on the strength of bills of lading, the Vice-Consul desires to draw the attention of insurance brokers and shippers to irregularities which take place at Resht. Some agents of steamship companies, either out of ignorance or from excess of confidence in their friends, issue bills of lading sometimes without inspecting the bales to be shipped. Exporters are known to have held bills of lading many days before the goods were delivered to the shippers. In one particular case, small bales were shipped instead of large ones, as declared in the bill of lading, against which advances were made, and it was only on consignees taking delivery of the goods that the fraud was discovered. As a result of representations made on the subject, bills of lading are now only issued in Baku on receipt of the goods for shipment to Europe.

The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possession with cargoes during November, 1911, amounted to 3,535,462 tons, and the tonnage cleared to 5,165,586 tons, as against 3,319,823 tons entered, and 4,685,869 tons cleared, during November, 1910. With regard to the coasting trade, the tonnage entered with cargoes during November, 1911, amounted to 2,711,776 tons, and the tonnage cleared to 2,661,947 tons, as against 2,682,607 tons entered, and 2,655,683 tons cleared in November, 1910. The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes, during the eleven months, January-November, 1911, amounted to 38,427,387 tons, and the tonnage cleared to 54,196,394 tons, as against 38,062,673 tons entered and 52,566,048 tons cleared during the eleven months, January-November, 1910. With regard to the coasting trade, the tonnage entered with cargoes during the eleven months, January-November, 1911, amounted to 28,984,574 tons, and the tonnage cleared to 28,600,208 tons, as against 29,313,159 tons entered, and 28,989,636 tons cleared, during the corresponding period of 1910.

The weather conditions in India for the week ended Tuesday last were marked by a shallow depression in Sind which has given light rainfall in Baluchistan. Conditions were also unsettled in Burma where some rain has fallen. In other parts of the country the weather has been dry.

The embargo against the export of horses from Basra and Baghdad has been withdrawn, and horses will now be shipped at Basra as usual.

In exercise of the powers conferred by section 19 of the Sea Customs Act, 1878 (VII of 1878), the Governor General in Council is pleased to prohibit the taking of dates from any part of British India into that portion of the Indian possessions of the Government of Portugal which is known as the Pargana of Nagar Avelly.

The *Manchester Guardian* writes:—There is a good deal of misconception on the part of the commercial public as to the duties of auditors with regard to stock. In the recent appeal case *Mead v. Ball, Baker and Co.* an interesting decision was given on this point. It had been sought to make a firm of auditors liable for having failed to discover certain frauds which had been going on for some years in connection with the over-valuation of stock and the suppression of liabilities. Judgment had been given for the defendant auditors, and the Court of Appeal dismissed the appeal without calling on the respondents. In the course of his judgment Lord Justice Fletcher Moulton said that "although it is clear that it is not the duty of an auditor to take stock, one cannot say that it may not be his duty to call attention to suspicious items appearing in the stock sheets which are put before him." The Court held that in this case there was nothing in the accounts to arouse suspicion, and that the auditor had not been negligent. This decision confirms previous decisions on the point—viz., that an auditor is bound to use reasonable care and skill in the performance of his duties, but that he is entitled to accept statements (such as stock sheets) vouched for by trusted servants of the business, the accounts of which he is auditing. As Lord Justice Lopes said: "An auditor is a watch-dog, but not a bloodhound." He is not to suspect everyone of dishonesty, but once his suspicions are excited he must report the matter to his employers and probe it to the bottom.

His Majesty's Consul at Philadelphia (Mr. W. Powell) has furnished a report on a new material, manufactured by a secret process, and stated to be a substitute for hard rubber, cork, horn, etc. The manufacture is claimed to be simple and cheap. The material is stated to be made mostly of bye-products or waste substances, indeed of anything that contains vegetable fibre, such as horse dung, cow dung, waste paper, hay or straw that is unsuitable for fodder, shavings, etc. It is claimed that the material can be turned out with a profit at 4½d. per lb. Exhaustive tests made in the United States show, it is stated, that electrically it is equal, if not superior, to hard rubber, fibre, porcelain, cork, horn, etc., and would take the

place of these materials in several of their uses. Its power of resisting heat is said to be almost if not quite equal to that of asbestos, and it is extremely tough and very difficult to break. In its first stages of manufacture, being perfectly plastic, it can be moulded into any shape desired.

His Majesty's Trade Commissioner for Australia (Mr. C. Hamilton Wicks) has furnished the following information regarding the production of ramie fibre obtained from the Agricultural Departments of the States named below:—Ramie fibre has been grown in New South Wales for some years past, but only on an experimental scale. Up to the present the best results have been obtained in North Coast districts. There is no doubt that if sufficient inducement were offered, growers would be glad to put large areas under cultivation. The Commonwealth Government, it is to be noted, encourage fibre growing by giving a bonus of from 10 to 20 per cent upon the market value of the fibre. Since 1897, ramie has been grown in the Kamerunga, Cairns, Mackay, and other districts of Queensland, but never to any extent. The problem of decortication remains to be solved. What is required in Queensland, where the cost of labour is high, is a machine that can be fed by a method somewhat similar to that used in feeding sugar mills, and not one that requires to be carefully hand fed. Ramie fibre is not grown in South Australia, and there is not likely to be any prospect of trade in it for a number of years at any rate.

NOTICES.

CALLS FOR TENDERS.

Provisions for Indian Troops.

The Deputy Assistant Director of Supplies, 8th Division, Lucknow, is calling for tenders up to the 22nd instant for the supply of provisions for Indian troops and followers at Shillong, Dibrugarh, Sadya, Kohima and Manipur from 1st April, 1912, to 31st March, 1913.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Paints, Colours and Varnishes.

(1284)—A Glasgow firm manufacturing paints, colours and varnishes desires to appoint agents in India.

Wolfram.

(1285)—A correspondent desires the names of firms or individuals interested in wolfram mining.

Myrabolams, Beeswax and Asafetida.

(1286)—A firm in Lahore desires to be placed in communication with importers of myrabolams, beeswax and asafetida in the United States.

Kapok and Goat-hair.

(1287)—A firm in Hamburg desires to be placed in communication with shippers of kapok and goat-hair.

Wrapping Paper.

(1288)—A limited company about to manufacture "Kraft" wrapping paper, both glazed and unglazed, desires to be placed in communication with leading firms in Calcutta, Bombay, Madras, Karachi and Rangoon in a position to handle such goods either on a commission basis or by direct purchase.

Perfumery.

(1289)—An English firm of manufacturers and exporters of perfumery desires to appoint agents in Calcutta, Karachi, Delhi, Amritsar, and Rangoon.

Fish Oil and Guano.

(1290)—A Government officer desires to be placed in communication with purchasers of fish oil and guano in Calcutta, Bombay, Karachi and other important centres outside of the Madras Presidency.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 17th January, 1912:—

Foreign and Colonial Publications.

Belgium—Bulletin Mensuel du Commerce Special De La Belgique avec les pays étrangers, en ce qui concerne les principales marchandises, Novembre 1911. China—Returns of Trade (52nd issue) and Trade Reports (46th issue), 1910. Egypt—Bulletin Mensuel du Commerce Extérieur De L'Egypte—No. 11, Novembre 1911. France—Statistiques Du Commerce Des Colonies Françaises pour L'Année, 1909, Tome III. Germany—Auswartiger Handel Deutschlands—November, 1911;—A uswartiger Handeljahre 1910, Parts I to VII. Mexico—Boletín de Estadística Fiscal, Abril De 1911, Numero 363. Nederland—Statistiek van den In-uit-En Doervoer, November 1911.

BUSINESS NOTICE.

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The Indian Trade Journal.

THURSDAY, JANUARY 11, 1912.

TRADE OF BUSHIRE.

It is clear from the figures of the trade of Bushire for the year ending March last that the proportion of the imports ascribed to the United Kingdom and India together continued to be 79 per cent, as in 1909-10, but with this difference that the share of the United Kingdom recovered from 28 to 42 per cent, imports from India falling from 51 to 37 per cent. In exports the proportion attributed to the United Kingdom and India together was 61 per cent as against 57 per cent in 1909-10; separately, the proportion of the United Kingdom increased from 32 to 33 per cent, and of India from 25 to 28 per cent.

There was a slight recovery in the value of cotton goods imported, but owing to small imports from Bombay the total weight was nearly 100 tons less than in 1909-10, and 450 tons less than in 1908-09. Stocks in the earlier part of the period were low in

Ispahan, and during the first months of 1911 considerable profits were being made in Shiraz in coloured goods.

The piece-goods business is reported to be on a much healthier basis than formerly owing to the disappearance from the field, as a class, of the insolvent middlemen and petty traders, who used to speculate heavily and import at times particular goods in such large quantities as to spoil the market and cause themselves and others to make losses.

There was a good demand for white shirtings, which used to be a favourite line of import by the speculators, as sales in this article can be conducted almost on a cash basis.

Mexicans, 96 yards, are now imported but very rarely, and 48 yards grey shirtings come but rarely from Manchester: the trade is almost entirely in the hands of the Bombay mills.

Dubahrs, in which there was in 1906 and 1907 a large trade, are in demand less and less each year. Their place in the taste of the country-side has been taken to an extent by crimps (for women's clothing) and by black and white ground prints ("Hakisteri" imitation Russian prints) for the clothing of tribesmen.

"Hakisteri" prints are also taking the place of lamsa prints for the inner coats of the better-class Persians: each year sees a declining purchase of lamsas, and the demand in Shiraz has fallen a great deal: whereas they stood in Bushire at 38 Krans (say 12s. 8d.) per piece 6 years ago, they are now sold at only 31 to 33 krans (11s. 8d. to 12s. 5d.). Similarly, asteri prints for linings and discharge prints for the tribes have ceased to catch the taste; blue and white dubahrs are, however, now turned out as cambrics and considerably worn.

As regards other white fabrics, the market was fair for white shirtings throughout the period, and improved still further after the end of it, prices rising to 42 Krans (15s. 10d.) per piece. White mulls also found a better sale than in 1909 for reasons given above. White shirtings dyed in Bombay (known as Kasawari) and formerly used for trouserings by the tribesmen of the south have given place to dyed nainsooks (22 yards) known as "Piranshahi Siah."

Cambrics are much less used, as a large class is taking to wearing coatings, buttoning up at the neck. The price for gauze has fallen, owing to large stocks, and in both these and muslin there is considerable

competition from Bombay, purchases being more often than not effected through that market.

There was a great demand for all twills during the latter part of the year, which were selling locally at very profitable prices, as much as 4 shillings a piece being realised inland. Red twills were in more demand than purple, the consumption of which is confined to the Bushire and Shiraz districts. Black twills now have a soft finish for the southern market; they are also in use amongst the tribes as trouserings.

The only fault to find about black Italians is that consignments cannot be pushed locally owing to the interminable delay—sometimes twelve months—that it takes to fulfil orders: otherwise the sale was good in 1910-11.

Turkey red flowered prints are used principally in the districts of the Gulf ports: they are often dyed locally purple colour. The "3 flower" and "7 flower" brands are typical of this demand.

Perhaps the most interesting feature of the last year or two has been the introduction by Jewish firms from Manchester of lower qualities in certain kinds of goods. The weight has been reduced and the stuffs are much thinner than formerly. Nearly all British importers have been obliged to follow suit as regards these materials, the original object being more no doubt to make sure of some profit in these times of bad markets than a desire on the part of the Persian consumers to buy cheaper goods. The quality has been reduced, but the price very little. Instances of this occur particularly in dubahrs, red mulls, lamsas, and imitation Russian prints, which as regards fast colours are not perhaps such good imitations as some years back.

This is not the only lead given by Jewish firms, for "splits" introduced by them, 22-23 inches, 24-25 inches, or 25-26 inches wide, with selvedge only on the one side, are now being imported by almost all firms.

The imports of loaf sugar to Bushire for the past few years has been:—

	Tons.
1906-07	7,216
1907-08	4,901
1908-09	3,324
1909-10	4,899
1910-11	3,721

The diminution for the past year is largely to be explained by a part of the stock of the previous year still remaining in the south, consequent upon the increase of disturbances; by a large diversion of

sugar intended for the Ispahan market *via* the Moham-merah-Ahwaz route, and for the Yezd market *via* Bandar Abbas. The Persian market for loaf-sugar has always been somewhat of a speciality by reason of its insistence on cones, and the rapid diminution in the weight and size of these since 1906 almost leads one to infer that the time is near when the bazaars and population will take to packets of sugar as ordinarily consumed in Europe.

The quantity of crystal sugar imported during the past five years has been:—

	Tons.
1906-07	3,478
1907-08	1,975
1908-09	2,344
1909-10	2,201
1910-11	2,254

Austrian granulated crystals are still preferred and quoted as the standard, and of the import for 1910-11 quite 1,500 tons were Austrian, imported from Hamburg *vi* London, or else from Bombay and Karachi. The balance is comprised of a German brand, Java sugar from Bombay which had a certain vogue, Mauritius, and China sugar, *i.e.*, Javanese sugar refined in Hongkong. But it is satisfactory to note that some 100 tons of English refined crystals, imported from the United Kingdom, had a promising trial, and met with favour resulting in larger shipments after the end of the year under review.

The legitimate imports of tea showed a serious decrease of over 60 tons, while the import ascribed to Indian origin is 120 tons less than in 1909-10. The 242 tons imported in 1910-11 compare very unfavourably with the average import of the past five years, 561 tons. As compared with legitimate import, tea smuggled in along the coast line adjacent to Bushire cannot have been far short of the quantity first-named. Export statistics by sailing boats give the following as transhipped to the Persian coast (*i.e.*, smuggled from):—Bahrain 115 tons, Kuwait 30 tons, Debai 24 tons, and this total is only slightly inferior to that for 1909-10 for the reason that the market for tea in the interior of southern Persia was very poor owing to disturbances in the buying centres.

Turning now to exports, conditions were exceptionally favourable for a revival of the export of wheat during the latter half of 1910, and during 1911. The Customs duty was reduced in June, 1910, to 6 or 8 per cent *ad valorem*, whereas it used to be double and the import of sacks, re-exported with

cereals, is now free. In 1910 the harvest of wheat in districts centring on Bushire was estimated at over 15,000 tons available for export, though the actual production was calculated to be over 22,000 tons: this production covered a belt of land extending from the Hendian district, 100 miles north of Bushire and inland to the mountains, varying from 30 to 15 miles in width, and together with the produce of the valleys of Behbahan and Zeidun probably reached about 40,000 tons. North of Bushire the estimated production for the harvest of 1911 is slightly in excess of that of 1910, being about 23,500 tons wheat, the amount available for export being perhaps two-thirds of this. More attention might be paid to purchase of the produce of the districts of Behbahan and Zeidun, situate 25 and 48 miles from Bandar Dilam.

The export of Bushire barley in 1910-11 was almost entirely to Hamburg, where it seems to find a firmer market than in London, partly no doubt because of favourable terms of shipment, and because of shipment in bulk which for various reasons is not the usual practice of British shippers in Bushire. It is calculated that the barley harvest of 1911 in the grain-growing districts of the province north of Bushire yielded about 7,000 tons, besides also a considerable quantity from districts to the east and south.

The total export of opium decreased from 86 to 37 tons, of which 21 tons to China and 14 tons to the United Kingdom. This represents a great loss to Persian trade, for in former years the export stood at:—

	China.	United Kingdom.
	Tons.	Tons.
1907-08	45	147
1908-09	96	66
1909-10	53	30

Although prices in Hongkong showed enormous advances, exporters from Persia were little able to benefit, as the introduction of Persian opium into China, under the Convention as to the annually restricted import, remained practically in the hands of one or two Hongkong firms, and a large number of chests from Bushire were thus lying unsold at the end of the year. The subsequent announcement that the introduction of both Persian and Turkish opium would be altogether prohibited from the beginning of 1912 will have a still more damaging

effect. Re-shipments from Hongkong to London are already taking place.

A favourable demand for gums led to much speculative buying of insoluble gum, the export to India alone being nearly 1,000 tons. This was the heaviest export for many years. The export of tragacanth to the United Kingdom, Germany and the United States showed an advance beyond that of 1909-10.

The almond crop of 1910 was a bumper one estimated at over 1,170 tons; the crop of 1911 was estimated at about 572 tons. In ordinary years about 60 per cent of the output is exported *via* north and Russia, but in 1910 owing to the state of the route to Shiraz a larger percentage went that way.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS

THE *Board of Trade Journal*, published on the 21st ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about:—

SWITZERLAND.—Proposed Reduction of Customs Duties on Frozen, Salted and Smoked Meat.

URUGUAY.—Proposed Customs Duty on Sheep Dips.

UNITED KINGDOM.—Agreement empowering the British Self-governing Dominions to withdraw from Anglo-Swedish Commercial Treaties.

BELGIUM.—Customs Decisions.

FRANCE.—Transit of Fresh, Chilled or Frozen Meat. Customs Decisions. Exhibits for the Forthcoming International Exhibition of Aviculture at Paris.

TURKEY.—Temporary Prohibition of Export of Cattle from Janina.

UNITED STATES OF AMERICA.—Regulations respecting Glue Stock. Duty-free Importation of Articles for certain Exhibitions at New York. Additional Duty on certain Fish the Product of French Fisheries. Marking of Imported Paper. Customs Decisions.

JAPAN.—Bonded Warehouse Charges.

JAPAN (COREA).—Customs Treatment of Goods transported by through Railway Traffic between the Korean and South Manchuria Railways.

—It is stated that arrangements are being made by a group of English, Belgian, and Swedish capitalists to acquire control of the **match manufacturing businesses** in the Ninove, Grammont, and Nederbrakel districts of Belgium. The total yearly output of matches in Belgium is estimated at about 6,000,000 gross of boxes, of which more than 80 per cent are exported, principally to England and the Indies.

HAND-LOOM WEAVING IN BOMBAY.

IN connection with the subject of hand-loom weaving in the Bombay Presidency, Mr. W. T. Pomfret, Consulting Expert, submitted a Report to the Registrar of Co-operative Credit Societies in April last on the work that had been done during the preceding twelve months. He said:—With the exception of the Northern Division of the Presidency, the various hand-loom weaving centres have been visited by me and Mr. Gandhi (the weaving expert). During the above time we have been getting acquainted with the working conditions of the hand-loom weaver which will be of great help to us in following the work during the next year. The most important work has been in finding out in what particular part manufacturing cloth can be improved to which the weaver can offer the least resistance. The conclusion arrived at is to improve the method of working the shuttle across the warp. Instead of the weaver throwing it across by means of one hand and catching with the other, the fly shuttle arrangement must be used, which will be the means of increasing the production and lessening the cost of cloth. Many towns of the Presidency have been visited for pushing on the work of co-operation and organizing the weavers and explaining the many advantages of using different motions from those which they have been familiar with for many years. The result of such work cannot be seen during the first year of working. Nothing has been explained to the weavers, but what can be carried out successfully, especially if the standard of work already done is maintained during the next two or three years. In the majority of towns visited, the hand-loom weaver is opposed to making any change (1) not being acquainted with the fly shuttle arrangement, (2) owing to the great friendship which he has for the loom on which his father worked. To convince the weaver that the fly shuttle loom is capable of doing the work as described, such a loom should be sent to each hand-loom weaving centre and worked by a competent weaver who can show to the weavers the advantages of such a motion. Such an object lesson will be very convincing to the weaver of its advantages. Assuming that the weavers are making more cloth in a given time by the fly shuttle motion, there will gradually develop a demand for improved methods of warping and sizing, as the present system of warping and sizing will not be capable of preparing sufficient warp for the increased production of cloth. I do not anticipate much opposition from the weavers in relation to this part of the work, because it will be a necessity.

The formation of a weavers' co-operative credit society is one part of the scheme, and the successful working of the same another; the latter is far more important than the former. There is not a great difficulty in getting a number of weavers to join hands and form a society. But the question invariably put to me is "How are we going to manage it?" I have never pressed the weavers to form a society on my first visit, as it is certainly the

best to allow what one has said to take root and develop in an ordinary natural way. On my next visit the principle of the work is again explained, and in every town there appears to be a greater interest taken in the work. New a general idea is obtained of the amount of money that the weavers can subscribe amongst themselves and the leading merchants in several towns have promised to lend money as loans to aid the moneyless weavers. Just now they appear to think that there is something in what has been explained on the previous visit. From observation I can see that the latent enterprise of the weaver is being stirred a little. Let them think over the work again for some time. On the next visit, the interest or acquaintance has further developed, because they ask "What is the price of the yarn at the mills?" Having been told, the difference between the local merchants' price and the mill price is soon found. In many towns there is 25 per cent. difference. If money could be obtained for buying a stock of yarn sufficient for one month's working, the yarn would be ordered there and then.

Vital Part of the Work.

Now comes the most vital part of my work; they are ready for doing something and likewise I must be ready too. At this period I invariably give the weavers a short lesson on the difference between the strength of warp and weft yarn, as they do not know the difference between the two. A bundle of yarn is bought, and it is used for warp as well as weft, which is wrong. The difference is known only after the yarn has been put to work. In power weaving the difference is known to be the working of the yarn. It should be the same in hand-weaving. Much time has been devoted in explaining by simple methods, the method of finding the counts, and strength of yarn, which is a very important part of weaving. It will take some time before the result of such labour is visible to persons not acquainted with the weaving. Progress is being made, though slow, but sure. Confidence is being gained, which is a good foundation for future work. It is the rising generation of weavers that should be trained in relation to the improved methods of manufacturing. What is the best way of doing this? The same method that has been adopted in other countries, that is, starting weaving schools in the various hand-loom weaving centres; but not as experimental schools. Let the experimental work be done elsewhere by men who have had a practical experience of weaving. Such schools could be worked with a recurring grant of about Rs. 600 per year.

For experimental work offer prizes for the best practical suggestions in relation to the improvement of any machines or methods in vogue for weaving and let the prizes be of such a value that the leading men of Bombay Presidency will take part. It must not be thought sufficient for the suggestion to be down on paper, but it must show the

advantages by actually working for at least one month before closing of the competition. This would be a far less expensive scheme than has been in vogue in different parts of India. The small weaving schools would be able to work the best of the practical improvements and the boys would get familiar with the motions or improved methods of manufacture. In such a way the knowledge of experienced men would get within the mind of the student, and instead of the next generation of weavers working on the most primitive methods, they will be working on improved motions, suitable to meet the competition of that day.

A large central weaving school—as suggested to the Government some time ago—will not be the best medium of developing the work. Small schools at various centres will be less expensive to the Government and the students. If such a school is ever required, there is the Victoria Jubilee Technical Institute, capable of doing the more advanced part of the work. Now we are making fly shuttle looms for the cottage weaver and in two or three weeks' time several will have been sent out to those districts in which there is a co-operative credit society. Such a loom will cost about Rs. 15 to Rs. 20. A good fly shuttle weaver will be sent to work the loom until a weaver of the district has got accustomed to it. Probably healds, reed and warp yarn will be sent with the loom. When the fly shuttle loom has got into general use, then a better method of warping and sizing will be pushed forward.

Government Resolution.

The Report was forwarded to Government who have now issued the following resolution:—The Governor-in-Council desires that the practical demonstration of the work of improved looms should be arranged for on a more extended scale than has hitherto been possible, and His Excellency-in-Council is prepared to employ for the purpose more men of the type of Mr. M. P. Gandhi if they can be found. A list of places where in the aggregate more than 250 hand-loom are at work is appended. The Governor-in-Council wishes that as soon as arrangements can be made to obtain trained teachers a small weaving school should be started in each of the following districts:—Dharwar, Nasik, Bijapur, Ahmednagar and East Khandesh. The committee of the Victoria Jubilee Technical Institute having agreed to the erection of a special building in the compound of the Institute, for starting a hand-loom weaving department and inaugurating a series of experiments in warping and sizing, Government have sanctioned a grant of Rs. 7,500 for the erection of the building and a recurring grant of Rs. 2,000 per annum to meet the cost of working the new department. The latter is expected to start work next January. The Registrar of Co-operative Credit Societies should take steps to give effect to the instructions contained in paragraphs 1 and 2 above.

INDIAN SUGAR INDUSTRY.

PROFESSOR P. G. Shah, M.A., B.Sc., M.S.C.I., Forman Christian College, Lahore, contributes an article on this subject to a contemporary and from it we take the following statements:—

Besides these large and increasing imports of sugar amounting to 10 million cwt., worth 10 crores of rupees, India consumes a large quantity of sugar of her own manufacture. The total amount of sugar manufactured by India is difficult to calculate accurately, but has been variously estimated to approach 5 million tons of raw and semi-refined sugar including the output from the Native States. India has the largest single produce of sugarcane in the world, with an area of 25 million acres under sugarcane; she produces about 40 per cent of the total supply of the sugarcane production in the whole world, though she does not hold any rank among the manufacturers of refined sugar. Sugar is a valuable and useful article of food suitable for the warm climate of India: and the vast population of India ensures a very good and flourishing market for the commodity. Thus with a large supply of raw materials, and a good market for the finished product in the neighbourhood, there seems to be no reason, theoretically at least, why Indian sugar should not hold any position against the imported article, which comes over long distances and pays large freight charges.

Consumption in India.

We will now try to see why this theoretical possibility is not being realised restricting our attention to cane sugar only. The details of the consumption of sugar in India will be of great help in our study. India produces about three million tons of sugarcane annually, but a good part of it is chewed as such for its nutrient value; a large part of it is crushed by primitive wooden mills and the juice is boiled down to "gul" while only a portion is treated directly for obtaining crystal sugar. The "gul" or "gur" or jaggery is valued and used by the people more than sugar, for its flavour, cheapness, and also for its larger nutritive value in the form of albuminoids, etc., which are removed in the refining of sugar. Calculation brings the figures for consumption per head to about 20 lbs. of gul and 7 lbs. of sugar (out of which 4 lbs. are supplied by foreign sugar). Gul, therefore, brings comparatively more price than sugar, though its cost of production is far less. Thus, the price of gul is about Rs. 13-8, the same, if treated for sugar, is about Rs. 7-8. This difference of Rs. 1-8 per B. Maund does not always pay the manufacturer to prepare sugar from Indian gul, because the percentage of sugar in it is scarcely above 50, and because much of the sugar is inverted, and the colour spoiled. On the other hand, manufacturing sugar directly from the cane juice does not pay so much as preparing gul from it. For example, 1,000 lbs. of cane juice (worth Rs. 10) would yield 180

lbs. of gul worth Rs. 13-8, the same if treated for sugar, would yield 80 lbs. of sugar worth Rs. 7-8 and 80 lbs. of molasses worth Rs. 5, making a total of Rs. 12-8 or say 13. This income falls very much short of gulmakers' receipts, and does not meet the expenses of sugar refining depreciation of machinery, interest on capital, etc., all of which are not to be paid by the gulmakers. This shows that sugar manufacturing will not pay as much as gulmaking: unless we calculate the price of the sugar as that of the Benares sugar which fetches at present Rs. 11 to 13 per B. Md. (though loaded with impurities); but, surely, the high price charged for Swadeshi goods is bound to be an economic failure in the long run, and should not be counted upon in all proper considerations of the prospects of any industry.

Not a Case of Indian vs. Foreign.

As long as gul fetches good price in the market, sugar manufacture in India will always be at a discount, and we should not expect our sugarcane fields, vast as they are, to be utilised for manufacturing refined sugar directly. Sugar factories will not also get cheap sugarcane, as the gulmaker can afford to pay a little more, since the cost of production is so small for him. The competition therefore is, in a way, not between foreign and Indian sugar as between Indian refined and Raw sugar, the manufacture of the latter being conducted in a way most detrimental to the cause of the former. The number of sugar factories is smaller than gul factories because of this great difference in profit in spite of wasteful management. The cause of failure of many sugar factories in recent years is the increasing price of the raw-produce sugarcane, the contracts for which are broken during the season. At the same time the importation of cheaper sugar from Java and Mauritius has introduced a tendency to reduce the price of the finished product. Thus a rise in the price of the Raw-produce (both sugarcane and gul) and a fall in the price of the refined sugar are among the most serious difficulties in the financial management of factories.

Manufacturing Defects.

Besides these difficulties, there are more important defects in Indian Sugar Manufacture, on the Technical and Scientific side which is utterly neglected at present, except in a few cases. The whole process has been followed with a hidebound orthodoxy involving a large waste on all sides. The Indian farmer is of course a hard worker and a frugal cultivator, but he is ignorant and poor. Though sugarcane can be grown on almost any soil, if there is a good manure, good irrigation and good drainage, the quality of the crop in India has never been so high (except in some portions of the Deccan) as in other cane growing countries, both with respect to the yield of cane per acre and to

the percentage of sugar in the cane.

Country.	Yield of cane per acre in Tons.	Yield of sugar per acre in Tons.	Tons of cane to one ton of sugar.	Cost of production per Ton.
Java	36	3.6	7.1	£ 8½
Sandwich Islands	33.4	8	10	8½
Egypt	22	2.2	10	9½
Bengal	20	2	10	10
Queensland	16	1	16	18½
Japan	15.2	1.1	14.3	13 to 16
Mauritius	...	1.6	...	6
Hawai	...	3.6	...	...
Cuba	25	...	9	...

These figures, though not very complete, give an idea of the relative state of cultivation in these countries.

Farmers' Ignorance.

The soil is exhausted by centuries of continuous cropping; and the poverty and the ignorance of the farmer has prevented him from using the best manures which are necessary in large quantities for the present state of the soil. The system of cultivation in small farms prevents him from taking full advantage of the Western methods of Agriculture with costly appliances: it is also detrimental in the interests of the sugar manufacturer as it prevents the concentration of crop round the factory. It is necessary that cane should be crushed soon after being cut and, under the present circumstances, the farms being situated in distant parts and the conveyances not being cheaply and readily available, the crop gets spoiled and a large proportion of sugar, as much as 10 to 15 per cent of the sugar, becomes inverted before it can be worked up into juice. Again, the irregularities of rainfall makes sugar cultivation a hazardous job for the farmer who is more willing to cultivate cotton the price of which also is increasing. Moreover, in those cases where a constant supply of water is available from the Irrigation canals, the farmer shows a tendency to use excessive water without providing for a good drainage. Besides these there are many points of agricultural importance, e.g., the best way of keeping the land fallow after the best rotatory and secondary crops, necessity of keeping the land fallow after three or four years, etc., which must be properly and intelligently attended to by the cultivator.

Central Factory System.

It is necessary to point out that the central factory system alone can work satisfactorily with sugarcane. This system is the key of the success of cane-sugar factories in other countries. For example, Mauritius which is a small island with an area of 800 square miles, had 200 factories a few years ago,

but now they have been centralised to 80 factories which turn out about 200,000 tons of sugar annually. Similarly Cuba has 71,000 acres of sugarcane area centralised into 186 factories, each factory dealing with the crop of about 380 acres; the production of sugar in Cuba is fast advancing, being 1,545,000 tons in 1909, 1,765,000 tons in 1910, and the estimate for 1911 being 2,000,000 tons. Besides these results which are convincing in themselves there are many reasons why India should resort to this or a similar system. The success of a sugar factory depends upon the quality and the quantity of the crop of the cane; the expected improvements in the sugarcane cultivation are not likely to be realised under the present system. As long as the farmer gets a good return by pressing the cane and boiling down the juice to gul, he is not likely to spend more money for heavy manuring or better water supply, etc. No theoretical attempts to improve the crops by spreading agricultural knowledge among the farmers will succeed unless the factories themselves take the matter into their own hands directly or indirectly. In the other countries, a factory is located in the midst of an area of sugarcane or its rotatory crops: the sugarcane is sent to the central factory by suitable conveyances to be crushed immediately after being cut. Looking to the fact that contracts for sugarcane have been so often abandoned, it is a necessity for the success of a factory to have its own sugarcane fields or to finance them or at least to manage them; and then it is an easy thing to introduce all possible improvements with expert scientific skill. Certainly, it would require larger capital and resources, but the attempt if properly conducted is bound to succeed. It is only a matter of detail to lay down the lines on which such a system can be worked out in different parts of India, dependent upon the climatic and the agricultural conditions, nature of land tenure, water supply, modes of transportation, etc., but this principle should be acknowledged and brought into practice if the industry is going to be a success. One factory started strictly on such a basis on lines similar to the colossal plans of Tata Iron and Steel Works will do much more good to the Indian Sugar Industry, than 50 of the ordinary ones, dependent as they have to be on the mercy of the cultivators for the quality and quantity of the cane, which cannot be stocked even for a part of the season.

The Refiner's Faults.

But the defects in Indian Sugar Industry do not stop with cultivation: if the cultivator has done any harm to the industry, the refiner has done far greater. The methods pursued at present are of very crude type; the cane is crushed generally not soon after being cut, in primitive wooden mills, the juice is clarified by wasteful methods, boiled down to the viscous state, allowed to solidify and sold as such under the name of gul. Lehman has shown that "more than one fourth of the total

quantity of the juice is left in the refuse by crushing with crude wooden mills, 20 per cent of the sugar is lost often by fermentation in careless work, and over 13 per cent of the total juice is lost by under-liming." Thus about one half of the sugar is lost in the manufacture, and only one half comes out in the market as output: and even the gul that is prepared contains such a large amount of inverted sugar which spoils the colour of the refined product beyond curing. The manufacture of gul therefore on a small scale by individual farmers has led to a loss both with respect to the quality and the quantity of the crystal sugar obtained from the cane. It is true that farmers cannot afford to work on a large scale, but improvements in the small scale machinery will surely benefit them. The attention that is being bestowed upon the industry by the different provincial Governments is surely fraught with important consequences; specially the work of Mr. Hadi under the auspices of the U. P. Government is noteworthy. He has devised an economical plant for manufacturing sugar directly from the juice on a small scale. Though the method is said to be a great and ingenious improvement on the older methods in various points, it cannot be expected to do much for the Indian sugar industry in the face of foreign competition. The figures worked out earlier have been taken from the results of actual work by that method in the experimental farm at Manjri, and show that the manufacture does not pay so much as the gul-making. Again the work of Clark and Banerji (Agri. Jour. of India, 1910, V) has shown that 19.2 per cent of the sucrose entering the factory in the form of juice was lost by inversion, and that 4.7 per cent was removed with the scums. Production on a small scale in isolated patches is bound to be attended with far greater loss than in a single large factory worked under expert technical advice.

Methods of "Gul" Makers.

If such a factory were working, the farmers, will prefer to sell their cane to it, rather than undergo the troubles of preparing gul. A large portion of the gul prepared by the small farmer with crude appliances is used for refining to get crystal sugar, though it contains a large proportion of inverted sugar. In manufacturing refined sugar from this gul, about 22 per cent of the gul is lost, 45 per cent is sold as molasses, only 33 per cent being recovered as yellowish sugar. If the sugar was prepared directly from the juice without stopping at gul, the loss would have been obviated, the yield would have been increased, and better quality secured. It should be impressed, therefore, upon the minds of these small farmers or gulmakers that it is a great loss to the country to prepare gul by such methods: they should know that it is bad and injurious to stop at gul: and if they cannot improve their methods, they must co-operate to get better machinery, or send the same to a sugar

factory in the neighbourhood. Many of the sugar factories at present refine sugar only from gul or the raw sugar which had been prepared by wasteful methods of crushing, boiling and clarifying; the quality of this sugar is always yellow, as it cannot be improved without the use of animal charcoal, against which people seem to have strong objections; but if the cane juice were directly worked up by the factories using the best machinery for crushing, etc., the yield would have been increased and the sugar would be white, without using any animal charcoal, sulphurous acid being quite sufficient.

Refining and Crushing.

Moreover, there are many improvements in the refining and crushing for which we must take a leaf out of the foreigner's book. The crushing by wooden mills should be abandoned as soon as possible in favour of heavy iron and steel rollers, which ensure more complete extraction. Even where large factories are not possible of being established, similar smaller mills driven by bullocks would be very useful and economical. They would extract at least 70-80 per cent of the juice, whereas the wooden mills extract only up to 50 or 60 per cent of the juice present in the cane. In other countries, under the central factory system, heavy crushing machinery is used, 9 to 12 rollers being common: the residue in the bagasse is re-extracted after being soaked in water; the cane is crushed as such or sometimes after being cut into thin slices by a shredding machine. This method extracts more than 90 per cent of the juice and is very economical. Extraction by a diffusion process is also said to work more satisfactorily as no impurities are introduced except crystallisable sugar, the colloids remaining in the fibre, and a maximum amount of sugar can be recovered from the cane. But it requires an ample supply of water and fuel (about $\frac{1}{2}$ ton of wood for one ton of cane) besides the bagasse being utilised for the purpose. However a detailed study of the two methods and their suitability to the conditions of India will surely be of considerable importance.

Improvements Suggested.

Improvements in the refining after getting the juice require great attention. The clarification is not done well here sometimes too much or too little of lime being added: the proper liming should be controlled by chemical examination of the test portions from time to time: an inquiry should be made to find out the best agent for neutralising the acidity of the juice and precipitating the albuminoids, e. g., lime, chalk, crude soda, or calcium phosphate, etc. Besides these, there are various other points, e. g., determination of the ripeness of the cane for being cut and crushed, separation of the bye-products from molasses, and the general refining of sugar which require the help of a trained chemist, who is conspicuous by his absence in this field in India.

Machinery for filtration under pressure is necessary for the rapid separation while evaporating. Double and Triple effect vacuum pans form a neces-

sary though a costly part of the sugar machinery, but its use will soon repay the cost, as it prevents the sugar from charring or turning yellow and increases the yield. These and similar other costly appliances, e. g., large centrifugals, the machinery for drying the sugar in the centrifugals, etc., which though comparatively small items can be cheaply and profitably used only by large central factories with the least waste of fuel and power.

Bye-Products.

The utilisation of bye-products has been always a very important factor in the success all large industries and is the chief cause of the rapid industrial development in the Western countries. The molasses on the liquid separated in the centrifugals can be more profitably worked and utilised than at present. It is sold generally by the factories to the rum distilleries, instead of which a small distillery might be set up, if the excise department gives the permission, to get the profits thereof also, by distilling spirits and separating the various important products as is done in Germany with beet sugar molasses. Another better use can be made of the molasses, which may be worked for the sugar by the strontia method to get one more crop of sugar, and then used for distillation. The strontia method of separating the available sugar will ensure considerable economy, which on a large scale is sure to profit the factory by increasing the yield of sugar, and diminishing the amount of waste material. There is another, and perhaps more profitable, use that is made of molasses in Louisiana, which should be noticed by all sugar factories. The bagasse or the megasse is soaked in molasses and is then given to the cattle as a very valuable food: thus a large price for a useful fodder can be easily secured from the wastages of the factory. The attempt made at the Manjri farm near Poona to utilise the molasses in this way promises great success, in utilising the nutrient elements in bagasse and molasses which were being wasted, and in bringing in a good price.

The megasse is used generally as fuel in India: it can be worked up in the manufacture of paper also, but it is found that it requires mixture with bamboo or some other fibrous plant to make good paper out of it. Moreover as it can be easily dried and used as a fuel directly, saving other expenses of fuel in evaporating or refining: unless any cheaper fuel is available, the bagasse cannot be spared for paper manufacture, for which there are few chances of success as long as the required chemicals are not manufactured cheaply in India. The ash of the megasse contains a fairly good quantity of potash and other mineral salts, which can be separated and sold in the crude or the purified form to the soap manufacturer, etc. It is used as a manure at present, but it can be more profitably utilised for separating the mineral salts present in it. Perhaps the compounds so prepared may not stand the competition of imported chemicals, but will surely command a good market for immediate consumption in making crude soap, in clarifying cane juice, etc., etc.

Price of 'Gul.'

It has been pointed out that the preparation of gul from cane is very injurious to the industry: but as long as present conditions prevail, gul will have to be made for direct consumption, if not for refining. So all sugar factories must prepare gul also: and as the season for working cane does not exceed 100 days in a year to get work for the remaining part of the year, the gul or the raw sugar is to be made and stocked. This raw sugar can be refined after the cane season is over: so, for the present it is necessary that the factories must have two plants, one for making gul during the season, and the other for preparing raw sugar and refining it after the season. It was shown that the price of gul should go down if sugar manufacture is to succeed: this could be done by extensive cultivation; but it may be helped by the factories making cheap and good gul, using all the modern improvements, and selling it at a low price, which will soon bring down the market price also. If the price of gul is once lowered, its preparation will be abandoned by the farmers, who will be forced to send the cane to the central factory (for the conveyance of which a network of light truck railway can be laid out): and then the manufacture of sugar directly from the juice may be followed with much facility.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, Jan. 9th.

DURING the week ending January 8th there was no rain.

Harvesting of winter rice still continues. Pressing of sugarcane is going on in Bihar and Orissa. It has commenced in some districts of Chota Nagpur.

Standing *rabi* (Spring) crops and vegetables are doing well. Prospects are good.

The price of common rice has risen in Burdwan, Nadia, Shahabad, Champaran, Bhagalpur, Angul, Palamau and has fallen in Midnapore, Hooghly, Saran, Darbhanga, Darjeeling, Cuttack, Sambalpur, Hazaribagh, Manbhum and Cooch Behar.

Cattle-disease is reported from Midnapore, the 24 Parganas, Angul, Puri, Sambalpur, Hazaribagh and Palamau.

The supply of fodder and water is sufficient in all districts of the province except in parts of Midnapore.

EASTERN BENGAL AND ASSAM.

Dacca, Jan. 9th.

During the week ending January 8th only a slight shower of rain fell in some parts of Assam.

The condition of the *rabi* (Spring) crops continues good.

Harvesting of potatoes in the plains has commenced; a good outturn is expected.

Prices of common rice continue to fall, the average being 2 per cent less than this time last year.

Rinderpest is prevalent in Kamrup and Nowgong.

THE CARBONISATION OF COAL.

II

In his second Cantor lecture on the above subject delivered at the Society of Arts, Professor Vivian B. Lewes discussed the methods employed for the destructive distillations of coal. The following is an abstract of the lecture:—

In the destructive distillation of coal, both for gas and coke production, the coals dealt with are bituminous in their character, and are comprised in Classes 2, 3 and 4 of Gruner's classification; that is, they all contain enough resin constituents to yield a gas of good illuminating value and a high percentage of hard coke, but the quality and quantity of both gas and coke will depend upon the conditions under which the distillation is carried out, and these have been gradually evolved during a century of practical experience to the point which gives the results attainable at the present time. The idea of converting coal into coke first arose from the desire to supplement charcoal for metallurgical work by some other form of fuel which would have much the same characteristics, this being necessitated by the fact that the timber on which the charcoal supply was dependent was rapidly becoming depleted. The characteristics desired were—local intensity on combustion strength of structure, smokeless burning and infusibility, together with as small a proportion of sulphur as possible, and the only raw coal which could have been employed to at all fulfil these requirements was anthracite, which has always been comparatively high in price and somewhat difficult to deal with in practice. The bituminous coals which were the ones generally available, could not, for instance, have been used in the blast furnace, on account of their swelling, softening and forming arches, which would have interfered with the descent of the charge in the furnace and passage of the hot gases, whilst the intensity of the heat would have been low, owing to the amount withdrawn by the gases and vapours and rendered latent in distilling off these volatile products, and also because of the oxygen present in the coal. When, however, bituminous coal is converted into coke the residue is infusible, its friability is decreased, and with the concentration of the carbon, although the total increase in calorific value appears small, no heat being withdrawn by the distillation, the local temperature is very largely augmented.

With the increase in coal mining which took place in the first half of the last century, another important reason for the coking of coal presented itself. In all collieries raising bituminous coal the percentage of slack and small coal was high, and where any of the coal is of younger formation, the smalls will sometimes amount to 40 or 50 per cent, and as before the introduction of automatic stocking machinery the demand for this was very limited, all the screenings and smalls of a colliery had to be sold at a very low and unremunerative rate. With a comparatively small amount of labour, however, these screenings could be

converted, in the old coke heaps and beehive ovens, into larger masses of hard coke exactly suited for metallurgical and furnace work. Another reason, which was not at first recognised but which has now assumed great importance, is that the sulphur present as pyrites and other sulphur compounds in all coal can be substantially reduced at a very low cost in properly made coke, this being due to the fact that the larger pieces of pyrites having been hand picked, a considerable proportion of the impurities including residual pyrites, can be got rid of by crushing the coal and washing it, when, being heavier than the coal, it can to a great extent be separated by gravity in the trough and jigger washers. On coking the washed coal the heat expels a considerable proportion of the remaining sulphur, which comes off with the gases as sulphuretted hydrogen, carbon disulphide and other organic compounds of sulphur, whilst quenching the red-hot coke on its removal from the oven eliminates another small percentage, so that a very substantial decrease in this deleterious constituent of coke for metallurgical work can be obtained.

Classification of Coke.

Coke may be divided into two main classes:—

1. Metallurgical and furnace coke, made by processes in which everything has been done to obtain the largest yield of coke, having definite characteristics, and in which the by-products, gas and tar, are either disregarded or considered of secondary importance.

2. Gas coke, made by processes designed to give the largest yield of gas, in which as much of the carbon as possible shall be in gaseous combination, the coke residue and tar being looked upon as of secondary importance.

In making the first class of cokes the factors which are desired in the process are—to use coal only rich enough in resinic volatile matter to give the necessary coking or binding properties to the mass, to crush the coal to uniform size, to use large charges densely packed, and to carbonise for long periods raising the outer crust of coke first formed to as high a temperature as possible so that, as the heat penetrates into the mass, the hydrocarbon gases and tar vapours being evolved shall be decomposed by contract in their passage through the envelope of red-hot carbon, depositing as much of the gasified carbon as possible. Thus it is only the more stable hydrocarbon gases and most volatile vapours that escape—the ideal carbonisation from the coke-maker's point of view being the retention of the whole of the carbon in the mass. In gas manufacture, on the other hand, the gas yield is increased to the highest limits compatible with leaving in it enough hydrocarbon gases to comply with Parliamentary requirements as to illuminating and heating value, and the coke is looked upon only as a by-product that will pay a share of the coal bill.

The class of coals used for making metallurgical and furnace coke are those which on heating fuse to a sufficient extent to convert the mass of powdered

coal into a pasty mass from which on slow heating the volatile matters distil out, leaving a fixed carbonaceous residue which binds the free carbon into a hard mass. It seems probable that the nature of the luting material between the particles when a coking coal is carbonised is entirely dependent upon the temperature attained and the length of time for which it acts. It is, in fact, the residuum of the least volatile portion of the coal, and if the action has not been carried on for a sufficient length of time at a high enough temperature, hydrogen and oxygen will be found in it, and the last traces of these are very difficult to eliminate. It is only coal that contains a certain quantity of bituminous matter that will yield a well-caked coke; if we take coals containing a very high percentage of carbon, like anthracite or steam coal, they will not coke, and in the same way tertiary coals, like lignite, containing a large proportion of humus will not coke, so that the largest proportion of coking coals come in the true bituminous class; thus, the coals used for gas making are nearly all coking coals with the exception of cannel, which is now very little employed and in which the high ash content is a drawback.

Classification of Coking Coals.

The coking coals themselves, however, may be divided into two classes—(1) the most bituminous, which give the largest percentage of gas, and are so chosen for gas making, and (2) the less bituminous, which are the best for coke works; the reason being that high gas yield means a high proportion of carbon lost as hydrocarbon gases, whilst this loss is less as the volatile matter decreases, enough however remaining to yield the pitch for binding purposes. The degree of heat and rapidity with which the maximum temperature of the outer layer is attained affects the coking properties of some kinds of coal, and some of the South Staffordshire coals, which when slowly heated yield a friable mass useless as coke, will, when heated rapidly to a high temperature out of contact with air, yield a hard coke; this being due to the hydrocarbons all escaping as gases and vapours when slowly heated, whilst they are largely decomposed to pitch when they have to pass through an exterior mass of coke at a high temperature, and so yield the necessary binding material. Indeed, it is generally found that the coals showing the least coking power must be carbonised quickly at high temperatures if successful results are to be obtained. With highly bituminous coals like the Durham and Yorkshire on the other hand, quick heating would lead to such frothing and swelling of the mass, owing to the large volume of the gases liberated, that it is difficult to carbonise them in any of the narrow chamber ovens.

During the past thirty years many improvements have been made in the earlier forms of recovery plant coke ovens, and at the present time only half the gas produced in the carbonisation is needed for firing the ovens. This has led to attempts being made to so arrange the working of the plants as to fit them for the

production of the gas supply for large towns, the economies incidental to working with large charges offering an important reduction in the cost of coal gas, and as soon as Legislature abolishes the absurd trammels that bind the English gas maker to a standard of illuminating value—which means nothing—and adopt a standard of heating power—which means everything—some advance may be made in this direction in localities where there is a good market for metallurgical coke. In spite, however, of the enormous economies in coal, ammonia and tar products, and improvement in atmospheric conditions brought about by the recovery plant, less than one-third of the coal used for coking is carbonised in such ovens. The old beehive oven still holds its own in the North of England, polluting the air and wasting the commercial assets of the country to an even greater extent than it did in the first half of the last century, when it had the field to itself. To explain this extraordinary state of things we must look beyond our insular prejudice and inertia. The real cause is that the very "fat" gas coals of the northern fields do not lend themselves to carbonisation in narrow chambers or vertical retorts filled to the utmost by ram or gravity, the great rapidity of evolution of the gas during early periods of the carbonisation leading to such frothing up and swelling of the semifused mass on the exterior of the charge that trouble ensues.

Coke varies very much, not only in its chemical and physical characteristics, but also in external appearance; it may be generally accepted that with the same kind of coal the higher the temperature and the longer the exposure of the coke to it, the harder, more dense and less easily combustible will it be, whilst the appearance is largely conditioned by the method of carbonisation. In the beehive oven, where most of the heating of the mass is from the top, the escaping gases from the carbonising coal have to pass upwards through the whole mass of red-hot coke above, contact with which decomposes the hydrocarbons and deposits the carbon in almost metallic-looking films throughout the mass, and this gives the bright light grey surface that used to be so highly prized in the beehive coke. On the other hand, if the gases are drawn away so as to prevent as far as possible excess of surface contact and pressure, this silvery appearance is not produced: and the coke looks black and dead, as is seen in gas and also to a less extent in recovery-oven coke. Some observers claim that this deposition in bright films is characteristic of the decomposition of methane and is given only by this particular gas, but the difference in the form of the deposited carbon is due to whether it has been decomposed by radiant heat or contact heat. If an easily decomposed hydrocarbon like acetylene is heated by passing between the walls of a very highly heated tube, placed vertically to reduce contact as far as possible, the radiant heat is sufficient to decompose it, and the carbon is deposited as a cloud, but where the hydrocarbon is more resistant and comes in actual contact with the

heated surface, then the carbon is deposited in a dense form as a film of great density, which in time builds up masses of retort carbon, and it is only when the film is very thin that the bright appearance is produced. The duller surface of recovery-oven coke gave rise to great prejudice against it in the minds of the iron smelters when recovery plant was first introduced; this was probably caused by the fact that until the recovery plant was perfected, the heat being applied from the outside of the oven instead of the inside, as was the case with beehive ovens, the coke was not so thoroughly carbonised and was softer and was too easily attacked by the carbon dioxide in the blast furnace and so was not so strong or so economical in practice.

Coke-Oven Phenomena.

In most oven carbonisation the face of the coke nearest the hot wall of the furnace shows a curious undulated surface, consisting of discs 6 to 8 inches in diameter, and which are higher at the centres than at the periphery. These are generally known as "cauliflower heads" by the coke burners, and crevices of cleavage run into the mass from the lowest point to the area which was last heated to the fuel temperature in the carbonising process. So regular are these appearances and so like the columnar structure found in some formations, that they have sometimes been spoken of as if they represented a form of crystallisation, which is of course wrong, and they appear to be formed from the escape of gases which causes the whole mass to swell; after the first few hours this ceases, and a general contraction of the whole body takes place which being fairly even in every direction, fissures the coke in circular masses. If the coke is drawn when the volatile matter just ceases to come off, the heads are not found, but the crevices are there. The coke, however, is left heated to its highest temperature for a considerable period to harden it, and this causes further shrinkage, which taking place mostly where the crevices have been formed, owing to the heat entering the mass most easily at these points, leaves the central portion between the cracks standing up a fraction of an inch above the densest part. Near the doors of the oven black dull-looking masses of coke are often found, resembling gas coke and known as "black heads": these are formed by the coke at this point not being sufficiently heated to complete properly the carbonisation. As a rule it is found that the higher the temperature at which the oven has been worked, the more thorough has been the decomposition of the hydrocarbon gases and vapours passing through the red-hot coke, and the carbon so deposited increases the yield. High temperatures and long exposure to the heat after carbonisation is finished also render the coke harder, denser and less easily ignited.

The composition of the coal has so great an influence in the yield of coke that any comparisons

of the percentage yield by the various forms of oven are bound to be misleading, but the alterations from the earlier forms of oven to the modern oven may be taken as representing a 10 to 12 per cent greater yield of coke. Taking it very roughly, a good caking coal containing 87 per cent of carbon would yield:—

Carbonised in heaps	61	per cent coke.
" beehive ovens	64	" "
" Appolt and Coppee	68	" "
" modern recovery ovens	68-77	" "

whilst the by-products, tar and sulphate of ammonia also form an important asset.

The improvements in the recovery ovens since their first inception have been largely in the arrangement of the flues for heating the sides of the chambers, the superiority of vertical over horizontal flues being now generally admitted, and allowing the necessary temperature to be attained with a consumption of less than half the gas produced by the carbonisation. A great difficulty that was found was to get even and continuous heating of the chamber walls. When in the early Hoffman ovens the Siemens regenerative principle was adopted, the alternate application of heat to only one-half the chamber wall, the heating being alternated every half-hour, gave fluctuations in temperature which affected the carbonisation and strained the brickwork and this same trouble was found in the United Otto and Koppers ovens. In this later oven, introduced in 1905, Dr. Otto doubled the number of regenerators so as to reverse alternately in four sections, whilst Coppee in his newest type makes the reversal in five sets out of ten sets of flues, and Collin extends the reversal to alternate flues thus ensuring the most even temperature. Other alterations have been made in the handling arrangements and in the plant for the recovery of the by-products, which are now nearly equal in quantity to those obtained in gas manufacture, so that as far as the products of the carbonisation gas, we may state the approximate performances of the two methods as being:—

	Coke.	Gas.	
Gas making	13 cwt. inferior coke, less 2'6 cwt. for heating.	12,500 c. ft. 15 candle power.	
Coke ovens	14'2 cwt. superior coke.	9,500 c. ft. 10 candle power, less 4,500 for heating.	Tar, sulphate of ammonia, cyanogen — about equal.

[For previous article see *Indian Trade Journal* of December 28th, 1911 (page 410).]

—His Majesty's Consul at St. Louis (Mr. T. E. Erskine) reports that, according to the local press, a combine is proposed of the independent glucose manufacturers who do about 30 per cent of the glucose trade in the United States. One large plant in Missouri and three in Iowa, with a total capital of 10,000,000 dollars (about £2,050,000), are included in the proposal.

COTTON YARN IN CHINA.

No other staple article of Japan's export trade has suffered so much from the Chinese disturbances as cotton yarn. At one time this staple dropped to thirty *yen* or thereabouts, causing great commotion in the market. The price is now (25th November) somewhat improved, but none the less anxiety is felt among merchants interested. The great commotion in the cotton yarn market, remarks the *Nippon*, is due to the alarm caused by the news of the outbreak of the insurrection in Central China. The cotton yarn business in Japan stands in such close relation to the Chinese market that the spinning is wholly governed by the state of the demand in China, instead of being influenced by the domestic consumption. The future of the cotton yarn business does not admit of optimistic views.

In the period of post bellum expansion the capitalization of the spinning industry witnessed an astonishing increase. The capital invested in this industry stood at 45 million *yen* at the end of 1906, and increased by a bound to 90 million *yen* at the end of 1907, with a further increase to 94 million *yen* since then. The paid-up capital, which amounted to 38 million *yen* at the end of 1906, has now reached 67,500,000 *yen*, almost double that of the previous five years. Again the spindles installed numbered 1,450,000 in 1906, but now amount to 2,100,000, the ratio of increase being 44·7 per cent. The production totalled 945,000 bales at the end of 1906, and has now increased to 1,130,000 bales, the ratio of growth not exceeding 20 per cent. in spite of the enormous increase in both capital and number of spindles. A reaction from over-production is responsible for this phenomenon.

When the domestic consumption during the past five years is compared with the export, the result is as under:—

	Domestic Consumption.	Export.
	bale.	bale.
1906	677,819	267,348
1907	757,011	226,471
1908	710,726	167,844
1909	766,367	258,878
1910	775,615	359,163

It will be seen that the domestic consumption does not show any increase. Furthermore the domestic consumption is almost wholly governed by the conditions of export of cotton textiles. For instance, the domestic consumption showed an increase in 1910, but this was due to an enormous increase in the export of cotton textiles, which indeed rose by about 5,600,000 *yen* in value as compared with the preceding year, the cotton yarn consumed for the production reaching some 23,000 bales. When this amount is deducted, the domestic consumption in that year shows a decrease instead of an increase. In view of the decline of the general purchasing power of the Japanese people an increase in the

domestic demand can not be expected. On the other hand, the export of cotton yarn shows a marked increase in the past five years, chiefly due to the development of China's trade. China is the best customer for the Japanese spinners, who wholly rely on her demands for their production. The home spinners must, therefore, devote their attention to a study of the Chinese market, and at the same time make endeavours to improve the domestic finance, the unsatisfactory condition of which renders any increase in home consumption well nigh hopeless.—*Japan Mail*.

INVENTIONS AND DESIGNS.

APPLICATIONS in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 31st December, 1911:—Nobel's Explosives Co., Ltd., 195, West George Street, Glasgow—Improvements in apparatus for filling projectiles or the like. A. J. Postans, engineer, Syon Park Cottage, Brentford, England—Improvements in, or relating to, stropping machines for razors. C. B. Redrup, engineer, 321, Cowbridge Road, Canton, Cardiff, and A. R. Edwards, carpenter, 32, Penllyn Road, Canton, Cardiff, England—Improvements in, or relating to, non-refillable bottles or the like and charging apparatus therefor. W. Paterson, engineer, Amberley House, Norfolk Street—Improvements in, and relating to, filtering apparatus. C. Vacher, farmer, Kelowna, British Columbia—Improvements in spraying devices for irrigation. Nobel's Explosives Co., Ltd., Glasgow—Improvements relating to nitroderivatives of aniline. Hamilton's Aerial Railway Syndicate, Ltd., 170, Hope Street, Glasgow—Improvements in, or connected with, aerial or suspended railways. A. A. Perkins and E. Double, mechanical engineers, 545, Mateo Street, Los Angeles, California, United States—Method of excluding water from oil wells. A. B. Starr, mechanical engineer, No. 31 Nassau Street, New York—Improvements in, or relating to, crimping vessels. L. N. Reddie, chartered patent agent, Birkbeck Bank Chambers, London—Improvements in sound boxes for talking-machines. L. Lumiere, manufacturer, 262, Cours Gambetta, Lyons, France—Improvements in sound boxes for talking-machines. B. G. Royal, engineer, Corner of Front and Copper Street, Camden, New Jersey, United States—Improvements in talking-machines. P. D. H. Ohlhaber, merchant, Sande, near Bergeford, Germany—A process of maintaining the vitality of the active organisms in dried yeast. A. Fisher, gentleman, 8, MacLise Road, Kensington, London—Improvements in, and relating to, sound conduits or amplifying devices for talking-machines and the like. H. C. Braun, engineer, 236, Pontonville Road, King's Cross, London—Metal spinning machines specially applicable for capsuling bottles. H. K. Harris, gentleman, Runwell, Wickford, England—Improvements in, and relating to, advertising

devices and the like. J. F. F. W. Ure, barrister-at-law, 12, Sloane Court, Chelsea, London—Improvements relating to pneumatic tyres. H. S. H. Shaw, and F. L. Martineau, consulting engineers, both of No. 64, Victoria Street, London—Improvements in pumps and motors. G. Henning, director, and F. W. G. Pfeil, procurist, 23, Bernburgstrasse, Berlin—Telescoping masts. L. Salter, civil engineer, 50, Cepthall Avenue, London—Improved portable chain stitch sewing machine. Major A. H. Nolan, Civil Surgeon, Prome, Burma—A latrine seat. L. H. Raw, gentleman, 615, Salisbury House, London, and R. Sumner, gentleman, of the Lodge, Somers Road, Francombe, Surrey—Improvements in, and relating to, the treatment of china grass and other fibrous substances. D. Elder, sheep farmer, Onehunger, New Zealand—An improved wire wrapping machine. L. N. Reddie, chartered patent agent, Birkbeck Bank Chambers, Chancery Lane, London—Improved automatic brake for disc talking-machines. W. N. Dennison, Camden, New Jersey, United States—Improvements in, and relating to, talking-machines. Gramophone Company, Ltd., and L. N. Reddie, chartered patent agent, Birkbeck Bank Chambers, Chancery Lane, London—Improvements in talking-machines. J. L. Davis and J. B. Cox—Gramophones and like disc machines. L. Lumiere, manufacturer, 262, Cours Gambetta, Lyons, France—Acoustical instruments and disc talking-machines. J. H. Messenger, gentleman, 36, Beaumont Street, Portland Place, London—Improvements in pneumatic tyres. R. D. Wagner, engineer, 6, Rue du Mont Thabor, Paris—Improved socket and screw spike applicable especially for fixing rails to wooden sleepers. H. Leitner, electrical engineer, Maybury, Woking, Surrey, England—Improvements in system of train lighting and the like. A. Beldam, engineer, "Elmwood Manor," Baldock, Hertfordshire, England—Improvements in, or connected with, vehicle tyres. P. B. Jagger, engineer, Carlton Studios, London—Improvements in means for attaching rails to concrete sleepers; and an improved collapsible core for making hollow concrete posts and the like, and a method of manufacturing pipes from concrete and means therefor. T. Gare, engineer, 230, Bristol Road, Birmingham—Manufacture moulding, and remoulding of India rubber goods. Sir B. Leslie, engineer, 5, Chester Gate, Regent Park, London—A new drawbridge. J. W. Cook, machinist, 18, Exchange Street, Manchester, England—Improvements in, and relating to, carding engines. S. C. Davidson, merchant, Sirocco Engineering Works, Belfast, Ireland—Improvements in tea leaf rolling machinery. V. Scappaticcio, gentleman, 69, West Twenty-Third Street, New York—New and useful improvements in, and relating to, rope and cord making machines. H. W. Izod, engineer, 41, Church Road, Upper Norwood, Surrey, England—Improvements in, and relating to, the manufacture of carburetted air. S. G. S. Dicker, chartered patent agent, 37, Farnival Street, London—Improvements in, or relating to, electrical impulse transmitting or calling devices for telephone systems.

COTTON CULTIVATION IN THE CENTRAL PROVINCES AND BERAR.

Mr. D. Clouston, M.A., B.Sc., Deputy Director of Agriculture, Central Provinces and Berar, contributed an interesting paper on the above subject to the last Indian Industrial Conference from which the following is abridged:—

The area under cotton in the Central Provinces and Berar, which in 1868-69 was only 2,037,617 acres, had increased to 4,176,561 acres 40 years later (1908-09): while in 1909-10 it had topped 4½ million acres. The great increase in the area has been largely at the expense of wheat and millets. The rapid expansion in the cultivation of this staple has in no small degree been due to the improved railway facilities which have been introduced within the last half century. The two great cotton marts outside the Provinces were Bombay and Mirzapur on the Ganges, to which cotton was carried by road by the Banjaras. The load (*bojha*) of about 210 lbs. consisted of two loose bags slung pannier-fashion on a bullock's back. The cost of transport in this way often exceeded half the value of the cotton. Much loss was suffered in transit, too, for the cotton was eaten by the bullocks, stolen by the drivers and damaged by the dust. The dirty state in which this fibre had been exported had long been a cause of complaint among English mill-owners, and it is not surprising that Indian cotton became a byword among English mill-owners, whose opinion was that it would never be used by them, except as a makeshift in the event of a shortage in the American supply.

The first real attempt at improvement of this staple in these Provinces dates from 1866, when Mr. Rivett Carnac was appointed Cotton Commissioner (i) to introduce foreign staples, (ii) to improve the indigenous plant and (iii) to watch over all affairs relating to cotton and to further, so far as might be legitimately possible, all interests connected therewith. At this time the cottons of the Central Provinces and Berar were classified as *Chanda jari*, *bani* or *Hinganghat* and *Berar jari* or *Oomras*. The staple of this cotton was described 40 years ago as being fine and silky and quite suitable for the English mills—being nearly equal to middling American. It is interesting to note that samples of the selected *bani* now grown on the Akola Farm have this year (1911) been valued at 8·40d per lb., when middling American was selling at 8·07d, which proves that this, our long stapled cotton, has been improving rather than deteriorating in the quality of its staple. *Berar jari* or *Oomras* was slightly inferior to *Hinganghat*. The Cotton Commissioner decided to concentrate his attention on the improvement of *bani* or *Hinganghat* mainly, and to improve it by seed selection. Large quantities of *Hinganghat* seed from the locality of the same name were sent to Berar, Nimar, Jabulpore and Chhattisgarh, as well as to other Provinces. In 1867, 855 tons of seed of this variety were distributed. The results were disappointing: *bani* did

badly in most places and from the selection of seed no results of proved value were obtained. Trials made with American cottons at this time proved equally unsatisfactory. Though grown with great care they gave poor yields of lint and the fibre was weak.

The next important attempt at improvements dates from the year 1904, when the Government of India in response to an appeal from the British Cotton Growing Association urged Provincial Governments to take up the question of cotton improvement once more, and suggested the following lines on which it might be carried out. (i) The botanical examination and classification of all existing varieties of cotton, both wild and cultivated. (ii) The introduction of better varieties and improved methods of cultivation. (iii) The provision and distribution of good seed of the varieties ordinarily grown. Steps were again taken in these Provinces to improve the staple; but, forgetful of the failures of the past an attempt was made once more to push *bani* at the expense of *jari*, which once more ended in failure.

In 1906 it was decided to work out a scheme of improvement on scientific and economic lines with the sole aim in view of benefiting the grower. The different indigenous races were classified, and plant-to-plant selection was started in the case of each. Exotic varieties were freely tried, and field experiments were started, designed to ascertain the relative values from an economic aspect of these, and of the indigenous cottons. The result of the classification of the cottons grown in all the cotton growing taluks showed that the so called *jari*, the almost universally prevailing type, consisted of a heterogeneous mixture of different races—the plants of which differ greatly in their habit of growth and in the quality and quantity of their lint. The character of the mixture was found to vary greatly in different parts of the Provinces. In the Tapti valley and Nimar the finer types, viz., *malvensis* and *vera* predominate; in quality the lint of this mixture is probably very similar to that of the *jari* or *Oomras* grown 50 years ago. In the South including all Berar, where cotton cultivation is more advanced and the cultivators more intelligent, the coarser but more productive types, viz., *rosea* and *rosea cutchica* were found to be in excess: this mixture is commonly known as *Berar jari*, *katevilayti* or *varadi*. Its origin is doubtful: it is said to have been introduced from Khandesh. The classification of 6 typical samples, three from the Central Provinces and three from Berar is given below:—

Locality.	PERCENTAGE OF—				
	Malvensis and bani.	Vera.	Rosea.	R. cutchica.	Upland American.
Hoshangabad, Central Provinces.	26	61	12	0	1
Nimar, Central Provinces.	38	55	0	5	2
Bhopal.	57	42	1	0	0
Kelapur, Berar.	14	7	37	26	16
Amraoti, Berar.	19	22	33	24	2
Ellichpur Berar.	16	16	59	8	1

The *jari* types in most cases form at least 90 per cent of the mixture: the remaining 10 per cent being made up of American Upland varieties, locally known as *gogli* kapas and *bani*. These cottons vary greatly in the quality of their staple and in their percentage of lint to seed. The lint of *buri* and *bani* is nearly 1" in length, while that of the *roseas* is but little more than $\frac{1}{2}$ ". *Rosea* gives 39 per cent of lint to seed, while *bani* gives 26 per cent only. As it was found difficult to discriminate between *bani* and *malvensis*, when there was no lint available, they have been classed together. The former, however, forms only a negligible part of the mixture, except in a narrow strip of country bordering on the Nizam's Dominions and far from the railway. The repeated attempts made to restore its pristine glory have failed, because the ryot knows that it is a poor yielder, that it is difficult to pick, as the bolls are so small and the plant so tall and straggly, and that it is less hardy than *katevilayti*. The percentage of exotic cotton of the Upland type in the mixture varies from 1 to as high as 15 per cent; but it generally falls below 2 per cent. A trial of numerous exotic varieties resulted in *buri* being selected as the most promising. It has since been proved to be immune to wilt disease and to be more suitable than *jari* for districts where the rainfall is high.

In the past far too much stress has been laid on the importance of quality of staple as opposed to quantity. In the absence of accurate knowledge as to the outturn per acre, ginning percentages and relative values of the lint of the different races grown, the methods of improvement adopted were largely based on the requirements of Lancashire Mills. What was good for the ryot was lost sight of. After having gained a fuller experience we are compelled to admit that, under present conditions, quantity is a more important consideration than quality, and that over nine-tenths of the cotton area *rosea* is a variety which will pay best, on account of its yield and very high ginning percentage, as will be evident from the statement below:—

Variety.	AVERAGE YIELD FOR 4 YEARS IN LBS. PER ACRE			Value at 1911 prices in Nagpur.
	of Kapas.	of lint.	of seed.	
G. Neglectence				Rs. A.
Malvensis	373	112	261	57 5
Vera	343	115	228	51 11
Rosea	402	161	241	69 14
R. Cutchica	412	150	262	66 0
Berar Jari	371	132	239	58 5
G. Hirsutum (Buri)	303	100	203	57 15
G. Indicum (Bani)	255	74	181	44 3

It is certain that large quantities of such long stapled cottons as *bani* and *buri*, which Lancashire requires, could be grown in the Central Provinces and Berar should the prices paid for the lint prove remunerative to the grower. At present they do not, except under the very special conditions to be noted later. It will be gathered from the statement below that, if we were to deal directly with Lancashire instead of disposing of the lint locally, the price realised for our short stapled cotton relative to that of middling American, would be even higher than the trade pays for it here, and that to substitute a long stapled cotton for it would, under these circumstances, prove still less remunerative for the cultivator. By exporting his cotton to Lancashire he would, under the most favourable conditions, get about 33 per cent more for a long stapled cotton such as *bani* than for his short stapled *rosea*; but the outturn of lint of the latter would, on the other hand, exceed that of the former by about 117 per cent, so that, if he were to grow and export *bani* at present prices, it would be at a comparatively heavy loss.

Variety.	VALUATION OF LINT PER LB. IN DECEMBER 1910 BY			Middling American.
	Manager, Empress Mills, Nagpur.	Wolstenholme & Holland, Liverpool.	Guidam & Co., Manchester.	
Rosea	6.49d.	7d.	6.75d.	
Malvensis	7.42d.	8.20d.	7.75d.—8d.	
Buri	8.67d.	7.90d.—8d.	8d.—8.25d.	8.07d.
Bani	8.81d.	8.40d.	8d.—8.25d.	

The purchaser pays the same price for the lint of pure *rosea* as for that of the Berar *jari* or *katevilayti* now grown over nearly all the cotton tract; but *rosea* gives a ginning percentage of 39, while in the statement below, kindly supplied by the Manager, Empress Mills, Nagpur, it will be seen that for Berar *jari* the percentage for the past three years has been about 35 only: so that *rosea* will give over 11 per cent more lint than the mixture at present grown.

Ginning percentages obtained at factories.

	1908-09.	1909-10.	1910-11.
Yeotmal	35.17	34.16.	33.85.
Akola	35.00	35.43.	34.38.
Amraoti	X.	35.71.	35.40.
Nagpur	35.07.	35.77.	34.65.
Wardha	34.33.	35.10.	34.29.

Rosea is a hardy variety and therefore suffers less than others from the vicissitudes of the climate and the cracking of our black cotton soil; it is the earliest, too, of all the races grown, and its seed

gives the highest germinating percentage. It is capable of great improvement in its ginning percentage by plant-to-plant selection. The selected strain which is now being propagated on the seed farms has given an average of 40.3 per cent of lint. If it were possible to substitute *rosea* for the *Katevilayti* now grown, the higher ginning percentage alone would in a normal year result in an increase in the Central Provinces and Berar of 51,000,000 lbs. of lint. We believe that this is possible and that to effect it merely requires time and organisation, as the cultivators everywhere are clamouring for the seed.

At present prices there is no possibility of growing *bani*, except at a comparative loss, owing to its low ginning percentage. An effort has been made to raise it by selection, and one strain has been improved to the extent that it gives 29 per cent of lint; but even at that it is hopeless to think of growing it at a profit.

Rosea cutchica is slightly inferior in the quality of its staple to *rosea* and gives from 2 to 3 per cent less lint.

Malvensis and *vera* give about the same outturn of lint, which is nearly equal in quality to that of *bani*. There is great variation in the quality and percentage of lint of different strains of *malvensis*, and it is therefore believed that there is much scope for that reason for its further improvement.

At present prices, it pays to grow *buri* in fields where *deshi* cotton is subject to wilt disease and this is being done. Many cultivators who have tried it, have found that it pays, too, when grown in the well manured *khari* soil found near the villages. Of *buri* the new variety recommended for certain classes of soil, seed for 3,000 acres was distributed in this way last year: while this year twice that quantity will be dealt with.

Plant-to-plant selection of all these different cottons has been carried on continuously during the last five years and all the seed shown on the experimental farms has been propagated in each case from a single mother plant. The seed of these selected strains of *rosea buri* and *malvensis* is supplied to the different private seed farms whose owners in turn distribute it to the cultivators. From the experimental and seed farms 120,000 lbs. of seed were distributed last year; about 150,000 lbs. will be distributed this year; while next year, if the crop is a normal one, the distribution will run up to at least 200,000 lbs. There are already 41 of these seed farms in existence, scattered over 16 taluqs.

The greatest difficulty of all is that of getting the *kapas* ginned without injuring the quality of the seed. Up to the present nearly all the seed has been hand-ginned. As the seed farms have increased in number, great difficulty has been experienced in getting sufficient labour at the proper season. During the picking season, i.e., from October till January the women coolies are employed

in the *juar* and cotton harvest, and the seed-grower has therefore to store his *kapas* till the slack season comes round which coincides with the beginning of the hot weather. By that time the price of lint has generally fallen: moreover, the buyer reduces the price still further, on the ground that the cotton has been hand-ginned and is therefore "dirty". The grower has still another difficulty to contend with: in the event of plague breaking out in his village, flea-infected plague rats sometimes harbour in the *kapas* and die there. In the light of these facts it has been decided to get the work done in future by power rather than hand gins. All the seed cotton of the Experimental Farm, Akola, has been ginned for the last 4 years on two Platt's gins driven at a slow speed by a small 5 H. P. steam engine. The germinating percentage of the seed ginned in this way is as high as that of hand-ginned seed. Arrangements are now being made to set up similar ginning plants—but with an oil instead of a steam engine. We thus hope to have the whole cotton belt studded with hundreds of village seed farms, with small central ginning factories here and there, capable of dealing with all the selected cotton grown thereon. These farms will also continue to serve as centres at which seed of new varieties will be grown for distribution. In the rice tract where the rainfall is high it was done distinctly better than *deshi* cotton.

Trials are at present being made of gins driven at different rates of speed by the Gardner oil engine with the view of ascertaining the brake horse power required to drive a gin at different speeds, and the extent to which the damage done to the seed at the time of ginning can be reduced by running the gins at a lower speed. Mr. Low, the Director of the Department, hopes to have a well-organized system of seed farms all using the same type of ginning plant; and he has agreed to maintain a departmental machanic who will spend his whole time in setting up these plants; in training men to drive this one type of oil engine, viz., the Gardner, and in executing repairs, when necessary.

We believe that a great and permanent improvement of cotton can be effected by working thus from within. The trial of exotic varieties will be continued, but here the difficulties in the way of attaining success are greater owing to the soil and climatic conditions being unsuitable for long season cottons. The rainfall of the cotton tract ranges from 30" to 45" annually, nearly all of which is obtained during the first three months of the growing season, i.e., from the end of June till the end of September. After this the dry weather sets in and exotic cottons suffer from "red leaf blight". Sometimes, too, they are still further damaged by frost in December or January. Requiring as they do a longer growing season they are subject to forms of damage which our indigenous varieties, being earlier and hardier, escape. Of the exotic varieties tried up to date, *buri* is by far the most promising. It is comparatively early: it is, moreover, immune

to wilt disease, and therefore meets a distinct want in this part of India, where, owing to continuous cropping with cotton, this disease in places is becoming serious.

JAVA AND THE SUGAR CONVENTION.

Mr. H. C. Prinsen Geerligs writes to the *West India Committee Circular* :—

If we want to form a good idea of what the Brussels Convention has meant for the Java cane sugar industry, it is necessary to go back in mind for a score of years and consider the position of that industry since the year 1883.

In that year the terrible sugar crisis, brought along by the stimulated development of the European beet sugar industry and over-production of sugar, caused a sudden drop in prices to such an extent that the selling price on the world's markets came considerably under the self-cost of production.

The sugar manufacturers of Java suffered very heavy losses, and many of them, who lacked the necessary capital to bear the loss, were compelled to sell their estates, which, by this commercial crisis, came for a great part into the hands of banking corporations and similar strong bodies. At the same time a mysterious and still yet, notwithstanding the ardent and painstaking efforts of a number of able botanists and pythopathologists, not classified disease called "sereh disease" befell the cane fields, doing them considerable damage. In the year 1882 this disease was detected first in the most western sugar-growing residency of Java, from whence it spread continuously in an eastern direction, so that about the year 1892 the whole island was infested and the returns of sugar per acre seriously decreased.

The sugar manufacturers, assailed from both sides, did not lose heart; they invoked the aid of science in order to learn in which way their agricultural and technical methods could be improved, and did not hesitate to invest enormous capital in the estates, bringing them on the most modern and economic footing.

Three experimental stations were established in different parts of the island, originally with the sole idea, it is true, of finding measures to combat the sereh disease; but soon these establishments extended their work beyond the narrow lines of those investigations: and suggested considerable improvement on every subject of the agricultural, technical, chemical and industrial parts of the sugar industry. The capital necessary for the introduction of all the improvements was gladly and readily furnished and invested in the threatened industry, and this brilliant combination and co-operation of brains, zeal and capital not only saved the Java sugar industry from impending ruin, but brought it in the first rank of the sugar industries of all the sugar-growing countries and colonies.

A glance at the statistics of the returns of cane and of sugar per acre in the years after 1893 (in which they were gathered in a reliable way for the

first time) up to the present time, shows how steadily the sugar production per unit of planted area has increased after the industry was put in good order again.

YEAR.	CANE.		SUGAR.	
	Piculs per bouw.	Tons per acre.	Piculs per bouw.	Tons per acre.
1893-94	782	27.11	81.15	2,813
1894-95	888	30.78	86.94	3,014
1895-96	789	27.38	83.29	2,866
1896-97	875	30.33	88.16	3,055
1897-98	1,001	34.67	103.15	3,575
1898-99	949	32.93	103.95	3,598
1899-1900	979	33.97	93.75	3,251
1900-01	888	30.78	90.1	3,123
1901-02	922	32.05	99.35	3,444
1902-03	1,039	36.05	104.35	3,615
1903-04	1,089	37.78	117.0	4,055
1904-05	1,092	37.85	113.3	3,927
1905-06	1,094	37.92	104.8	3,631
1906-07	1,118	38.75	120.3	4,170
1907-08	1,213	42.08	121.4	4,205
1908-09	1,172	40.63	116.8	4,040
1909-10	1,126	39.03	116.3	4,032

It is evident that, although this large increase of output was only to be obtained by spending more money, yet the self-cost of the sugar per ton underwent a steady decrease. As I already mentioned in the *International Sugar Journal*, 1904, page 340, the well-known Dutch statistician Van den Berg computed the prime cost of sugar in Java per ton at £10 17s. 10d. in 1885, at £10 5s. 2d. in 1886, at £8 18s. 2d. in 1887, and at £3 17s. 10d. in 1888, all expenses included, save interest on capital and debt for the sugar delivered at the warehouses in the Java ports. Assuming the outlay on the capital at £1 1s. 9d. per ton, we may put down the average prime cost in 1888 at £9 19s. 7d. per ton of sugar. Mr. Engelberts calculated the figures for 1900 and found them to be £7 10s. 5d. per ton, including all charges of management, agriculture, manufacture, carriage to the coast, upkeep of factory and machinery, buildings, interest on the floating capital and commission. This does not include new machinery used for increasing the capacity of the plant, nor new transport material, nor the interest and sinking fund of the capital invested in the sugar-house and appliances. Computing again the cost of interest and sinking fund at £1 1s. 9d. per ton, we have for the years 1901-2 an average prime cost of £8 12s. 2d. per ton of sugar. In the year 1904 I calculated the cost of production again without calculating the interest on the capital at £7 5s. 11d., while my latest researches, published in the *International Sugar Journal*, 1911, page 7, produce the same figure for the years 1908 and 1909, but then including new machinery.

These figures show a considerable decrease during the years between 1885 and 1904, and only a very slight one after that date. The output per acre has continued its upward course, but the factories have been greatly extended and they renewed their

machinery out of the profits, while the price of labour has increased in the latter years. On the other hand, the world's price of sugar showed the same downward course during the years under consideration. The average price which Java sugar fetched for refining crystals, basis 96 polarisation, delivered at the buyers' doors in the Java ports amounted to the following sums in the different years :—

Guilders per Pounds sterling		Guilders per Pounds sterling	
picul.	per Eng. ton.	picul.	per Eng. ton.
1894	7.65 . £10 9 8	1902	5.02 . £6 17 8
1895	6.38 . 8 14 11	1903	5.82 . 7 19 2
1896	7.31 . 10 0 5	1904	6.26 . 8 11 7
1897	6.20 . 8 10 0	1905	6.33 . 8 13 6
1898	6.75 . 9 5 1	1906	6.03 . 8 5 4
1899	7.02 . 9 12 5	1907	6.17 . 8 9 2
1900	7.02 . 9 12 5	1908	6.77 . 9 5 7
1901	6.52 . 8 13 9	1909	6.76 . 9 5 4

We see from these statistics, that, notwithstanding the steady decrease of the prime cost, there have been years in which the market price came under the average cost of production of the Java sugar. When remembering this, we must bear in mind that the average cost of production is composed from very much varying figures; some factories, situated in much favoured spots, producing at considerably less cost, while, on the other hand, others, and they the majority, producing the sugar at a much higher cost.

It was very disappointing to see that every effort to press the cost of production down below the market price was neutralised every time by a renewed lowering of the latter, not caused by fair competition, but by the system of bounties and premiums held up in the European beet sugar producing countries.

It was a happy fact that the bad years just previous to the signing of the Brussels Convention were rather good ones from an agricultural and industrial point of view. When those years had brought unfavourable weather or a new outbreak of cane disease, the Java sugar industry would certainly have had to deplore the shutting of a number of sugar factories. The worst was that the proprietors began to lose confidence; for years and years they had spent capital in renewing their plants and improving their agriculture, and instead of having profit of this outlay, the profit on sugar had been replaced by a loss, and they were reluctant to continue the investment of new sums. If the competition had been a fair one, nobody would have grumbled against the low price, as in that case the tables were sure to turn one day, but as the low price was caused by the European premiums, nobody could know what step the European Powers would take next to increase their sugar export and dump their surplus production on the open market. If the uncertain state of affairs had lasted a few years longer, and a less favourable year or series of years had come over Java, I am sure that a considerable number of factories would have been closed.

The Brussels Convention did away with premiums, open or masked, with heavy surtaxes, with bounties, drawbacks and cartels, and thereby restored confidence and fair trade in sugar.

Owing to the constant endeavours, the Java sugar industry was at the period of the Convention already quite equipped for the struggle, and while in most other cane-growing countries the new factories had still to be constructed and the plantings extended, Java could at once profit of the more favourable and fair condition, in which the unprotected cane-growing colonies had come, and has managed to bring to perfection her cane agriculture and sugar manufacture in a way up to now unparalleled by other colonies.

THE COTTON INDUSTRY OF RUSSIA.

The cotton spinning and weaving industry of Russia is one of the most important in Europe, coming third, and is the fourth largest in the world, as shown by the following figures. It differs from those of all other European countries in so far that Russia produces her own cotton, whilst England, Germany, France, and others import their raw material from America and Egypt :—

	Spindles.
Great Britain	54,899,000
United States	28,850,000
Germany	10,500,000
Russia	8,671,000
France	7,270,000
India	6,255,000
Austria	4,683,000
Italy	4,580,000

Within the last few years Russian enterprise in cotton spinning, with an assured home market and a growing population, has shown a tendency towards more rapid development. This is shown by her large and increasing imports of textile machinery, most of which is made in England, mainly in the great textile machine works of Oldham and Bolton.

English Textile Machinery Exported to Russia.

	1906.	1907.	1908.	1909.	1910.
Tons	3,155	5,190	8,669	15,249	14,670
Value	£250,800	£390,600	£584,300	£935,100	£876,600

These figures show an almost continuous progress, only exceeded during 1910 by the United States, £1,142,000, and India, £1,223,000, the exports of cotton machinery during 1910 to Germany and France were less than to Russia, being respectively £869,000 and £825,000. For the first half of this year Russian machinery imports reached £499,600, an amount only exceeded by India, £513,700; all other countries took less.

The increase is more strikingly shown by the following figures during the five years 1901—1905 both inclusive: Russia imported textile machinery to the amount of £1,894,000, giving an average of £378,800; during the five years 1906—1910 the imported machinery amounted to £3,027,000, giving an average of £605,400 per annum. The total

textile machinery imported for the decade, excluding 1911, amounts to £4,921,000, an average per annum of £492,100.

Russia has developed this important industry very rapidly, it was first organized on modern lines in 1825, less than 90 years ago, when one or two factories were erected within a short period. Into these the operatives were transferred from their cottages, where they had worked at a home industry. The principal centre of textile industry is in the district of Moscow, where there are 6,000,000 out of the 8,671,000 spindles; the remaining portions are in Poland, 878,000 spindles; the Baltic Provinces, where there are 1,584,000 spindles; and Finland, with 209,000 spindles. The proportion of mule to ring spindles is approximately as follows:—

	Mule spindles.	Ring spindles.
Moscow district	2,250,000	3,750,000
Baltic provinces	600,000	984,000
Poland	330,000	548,000
Finland	61,000	148,000

There are also 138,000 power looms, and 2,000 hand-loom in weaving sheds, and at least 40,000 hand-loom worked by operatives in their own cottages—a total of 180,000 looms. The total number of persons employed in cotton spinning and manufacturing is about 390,000.

With regard to employment, female labour is largely depended on; for instance, in the Moscow district, out of a total of 308,000 operatives in the various factories nearly 120,000 are women, of whom 80 per cent are employed in the textile industries; their numbers are on the increase. The proportion of women employed is greatest in the larger factories; they begin work between the ages of 15 and 17, and after the age of 30 are considered to be less efficient, and are therefore to a large extent dispensed with.

Of the hands employed in the cotton industry 43 per cent are women; in the silk industry about 62 per cent; and in the wool industry 41 per cent. Their wages may be said to average about £1 10s. per month, whilst male operatives receive £2 10s. The women's pay is very low; it is highest between 25 and 30 years of age; before and after those limits it is less. The maximum is about £1 15s. per month, and it is calculated that a woman can only afford to pay about 3½d. per day for her food, which consists to a large extent of rye bread. It is estimated that about 76 per cent of the male operatives can read and write, and only 25 per cent of the females.

Import of American Staples.

Russia requires annually about £25,000,000 worth of raw cotton, more than half of which is grown within her own borders. Her imports of American staples are valued at £9,930,000 per annum. The yield per acre in Central Asia has been estimated at 300 lb. of ginned cotton, and it appears possible that by careful irrigation of large stretches of territory at present uncultivated the output of Russian cotton may be very greatly increased. The consumption of cotton per thousand

spindles has been 236 bales per annum. The spindles may be divided into probably two-fifths mule spindles and three-fifths ring spindles. Small quantities of Egyptian and East Indian cotton are also worked up. The relative quantities are respectively:—

	Bales.
Russian cotton	1,188,000
American "	482,000
Egyptian "	51,000
Indian "	29,000

total 1,750,000 bales; the stock kept in hand during the past twelve months exceeds 440,000 bales. The total acreage under cotton increased from 657,000 acres in 1908-1909 to 1,023,000 acres during 1910-11, and the total crop of unginned cotton from 563,740,000 lb. to 917,588,000 lb. The acreage by States is as follows:—

	1908-09.	1909-10.	1910-11.
Fergana	455,000	544,000	808,000
Syr-Darya	64,000	71,000	79,000
Samarcand	59,000	50,000	59,000
Transcaspian	79,000	70,000	76,000
Total acres	657,000	735,000	1,022,000

These figures show want of enterprise to meet an increasing demand in three provinces and enormous development in Fergana, due probably to a large population and good irrigation, which dates from the times of the Khans. During the forty years of Russian Government nothing has been done. With increased irrigation the country could produce a much larger crop, estimated by experts at possibly 3,000,000 bales. Suitable land exists in the other three provinces, but there are no irrigation works. The unginned cotton crops have been as follows:—

	1908-09.	1909-10.	1910-11.
	lb.	lb.	lb.
Fergana	334,230,000	411,170,000	744,230,000
Syr-Darya	37,220,000	43,860,000	46,840,000
Samarcand	30,290,000	26,110,000	33,590,000
Transcaspian	161,990,000	50,040,000	92,910,000
Total	563,730,000	531,180,000	917,570,000

The prospects for the 1911-12 season are reported to be bad, as the Fergana crop has been seriously affected by a cold spring, followed by an exceptionally hot summer without rain. The three smaller provinces have not suffered to the same extent. The mills in the Moscow spinning district use Russian-grown cotton to the extent of 75 per cent of their requirements, whilst those nearer St. Petersburg only use imported cotton. Last year various measures were suggested for the improvement and encouragement of cotton-growing in Russia, one of which was the creation of a system of credit for cotton-growers and of a special fund to encourage the industry.

With regard to skilled labour and expert management, the managers and foremen in many Russian cotton mills are Lancashire men. When many of the mills were first erected British carders, spinners, and weavers, as well as managers and assistant-managers, were imported to start the work, train the native operatives, and organize the cotton industry on a stable basis.—Times.

THE CAMPHOR INDUSTRY.

SOME interesting particulars regarding the camphor industry are published in a contemporary, from which the following is abridged:—

In Formosa, as is well known, the camphor is extracted by felling the tree and cutting the trunk into chips, which are then boiled, the camphor being taken up by the steam, then cooled and condensed and finally deposited in a solid mass. In India and Ceylon where the trees are comparatively young, the idea has always been to extract the camphor from the leaves and chips. This method also has been tried with some success in the United States, where an extensive experiment with this cultivation was started under the auspices of the Department of Agriculture some years ago. The results so far obtained are excellently summarised in a paper written by Mr. S. C. Hood, Scientific Assistant, and Mr. R. H. True, Physiologist in Charge, Office of Drug-Plant, Poisonous-Plant, Physiological Fermentation, Investigation, Bureau of Plant Industry, and recently published in that Department's "Year book of Agriculture."

Camphor appears to have been first grown in Florida as an ornamental tree, and later on in the Southern and South-western States as a windbreak. The first effort to extract camphor from the branches of the camphor-tree *Ginnamomum camphora*, in America, was made in 1904. The results obtained were favourable and the price of the drug was so high that further systematic experiments were considered justified by the agricultural authorities. The tree can be propagated by seed, cuttings or root cuttings, but Messrs. Hood and True state that for commercial purposes the first method was found preferable. This bears out Indian and Ceylon experience, but the trouble here has always been difficult to obtain good seed. A lot of information is given as regards the methods of planting the camphor and fertilising it, etc., in America, but this is not of much importance here. It is interesting, however, to learn that the best method of growing the trees there is found to be in hedges kept trimmed back to a height convenient for working. It was also ascertained that they respond to trimming more readily than almost any other tree or shrub. The trimming is done by machinery, but the perfect clipping machine has yet to be evolved. After cutting, the prunings are taken to the distilling plant at once, since if they are allowed to dry in the sun or remain exposed to the dew and rain, there is some loss of camphor. The next process is steam distillation, the process being much the same as carried out, though with more crude utensils, in Formosa. When steam is passed through a suitable receptacle filled with the leaves, the camphor is extracted in the form of a vapour and passes off with the steam. If the camphor containing steam is conducted into a condenser, the steam is condensed to water and the camphor is deposited as a solid or semi-solid mass floating on the water or deposited on the inside of the apparatus. The volatile oil re-

mains as a pale liquid floating on the water. Any of the standard types of retort employed for other volatile oils can be used for camphor, but metal ones should be avoided, as they are attacked by the camphor and a deposit of oxides and sulphides of the metal is carried over with the camphor injuring its appearance. It is, however, almost impossible to avoid some of this impurity, since metal must enter into the construction of some part of the apparatus, and as all crude camphor must be refined before using, this impurity is later removed.

A more difficult problem has been the finding of a suitable condenser. It is out of the question, Messrs. Hood and True point out, to use wooden boxes or inverted syrup evaporators, as in China and Formosa, and none of the types of condensers used for oils can be employed, since the condensed product is a solid and deposits on the inside, completely filling it. The United States Department of Agriculture hopes, however, soon to solve this problem and to be able to recommend a condenser which will meet all the requirements of commercial work. As received from the condenser, the camphor is in a very impure state, and the first thing to be done is to remove the oil by centrifugal force. The next is to submit it to a regular process of sublimation in iron kettles, from which the camphor can be secured in either transparent slabs or "flowers of camphor," whichever is desired. An acre of camphor in the United States is found to yield 8,000 lbs. of trimmings from each of the cuttings, making a total of 8 tons per acre per annum. This is considered a safe estimate if the hedges are planted 15 ft. apart and the plants are grown 8 ft. high and 6 ft. apart in the row. An important point is that 200 acres must be considered a minimum area to warrant the building of a distilling and refining plant; while to produce camphor at a minimum cost Messrs. Hood and True maintain that an estate should not be less than 500 acres. Another point to be kept in mind is that camphor trees grown under varying conditions in America are found to show considerable variations in the yield of camphor from leaves and from branches. For instance, a few trees which had grown up in the shade of other trees or of high buildings only yielded 0.70 per cent of crude distillate, whereas other trees, which had grown on poor soil and had received no care, yielded up to 2.77 per cent distillate. These figures, however, represent the extremes on either side; as a general rule a yield of from 1.75 to 2.25 per cent may be expected, calculated on green material. The crude oil contains from 75 to 80 per cent pure camphor, which thus equals an output of from 1.35 to 1.50 per cent, calculated on green material.

According to the British Consul at Tamsun the energetic action taken by the Japanese Government against the savages in the interior of Formosa has had the result of opening up in the north of the island an extensive forest district rich in camphor trees. Several important native tribes, whose

chief occupation in the past was head-hunting are reported to have been conquered or to have voluntarily surrendered, so that in the course of the present year a new and important region has been made available for Japanese civilisation. The Japanese Government are also said to be encouraging the planting of camphor estates in every way they can. Another factor which may have the effect of adding to the supply of camphor and, therefore, of keeping down the price, is the reported discovery of camphor forests in German East Africa. It is not stated, however, whether the trees referred to are the true camphor. Lastly, there is always the possibility of the resuscitation of the synthetic camphor industry. As a result of the fall in price of natural camphor, which took place some time ago the manufacture of the synthetic article received a heavy blow, for it was dependent for its raw material on turpentine oil, which is a fairly expensive commodity. It is now stated that a French Company is in possession of a new process for the preparation of a cheap turpentine oil, but this announcement has not been confirmed.

THE HIGH COST OF LIVING IN FRANCE.

THE Government of France recently ordered an official inquiry for the purpose of discovering the causes of the growing high cost of provisions in the country. No communication has been made as yet in regard to the results of this inquiry, but a recent number of the *Bulletin of Social and Economic Intelligence* issued by the International Institute of Agriculture, Rome, contains an article based on an important publication which has been issued by the French General Statistical Office and on numerous studies made by authorised experts, which deals with the gravity of the increase in the price of food and the causes of the increase, as to which there seems to be a general agreement, and makes known also the measures taken by the Government to put a stop to the rise in prices.

It is generally agreed that the present rise in prices is not special to the year 1911. A careful examination of the variations in prices for a certain number of ordinary commodities reveals the fact that there has been a general tendency to increase since 1887, and that since 1904 in particular the increase has been continuous and so rapid that a large Parisian Administration, the "Assistance Publique", has had its expenditure increased by more than 18 per cent in four years.

The causes of this disquieting phenomenon are not all of equal import; some are temporary, such as the influence of the disasters which have been affecting agriculture for two years past: floods, poor crops of wine and wheat, unprecedented droughts, and epidemics raging amongst all the herds of cattle. On the other hand, the price of some of the commodities increases in proportion to the fluctuation of the law

of supply and demand. Thus milk, butter and eggs are consumed to a much greater extent than formerly in consequence of the improvement in the conditions of the working classes, and also in consequence of the new medicine and the new hygiene, under which many persons are submitted to a regimen of milk and eggs.

The article of which we are giving a summary also points out as other causes of the rise in prices, a certain falling off in the stock of French cattle, and the rapid increase in the wages of agricultural labourers and reduction of their hours of labour; and lastly, whilst showing how the question is still under discussion, it indicates the part played in the rise in prices, according to eminent economists, by the depreciation in the precious metals, due to the abundance of gold.

Even when the causes of the rise are of a permanent character, it is very rarely that it is impossible to combat them. The agricultural syndicates and co-operative societies, which have already centralised forces that were formerly dispersed, may undoubtedly one day impose a regulating influence on commerce. The co-operative creameries of Charentes will henceforth obtain a real stability of price in this way together with an increased and improved production.

As far as the Government is concerned, it first took measures for the purpose of facilitating the importation of Colonial, Argentine or Canadian cattle, and rendering the transit of agricultural produce and fresh fish to the inland markets easier. It also arranged for the application of a special regulation to the maize imported for feeding cattle, the institution of the system of rebates in the octroi laws, and the study of the regulation of markets and slaughter houses.

Lastly, the Government has introduced a provision into the Finance Bill authorising the Communes to open Municipal or co-operative bakeries, butchers' shops, etc., for the purpose of regulating prices. In order to prevent any competition which would be disastrous to existing commerce, the Bill arranges that each Communal or inter-Communal group of 5,000 inhabitants may have only one Municipal or co-operative institution of this kind.

This institution will not enjoy any fiscal or other privilege of a nature to alter the conditions of a natural competition, and whenever a Municipal Council decides to start an enterprise in the profits of which the Municipality itself shares (*régie intéressée*) or to encourage the institution of a co-operative society by granting it a loan, the shopkeepers of the locality will have the right to bring their complaints before the Council of the State, upon whose decision will depend the approval or non-approval of the rules of the projected institution. As will be seen the Government has proposed to Parliament to enter on a new path that is already being traversed by several other countries.

INDIAN CUSTOMS REVENUE.

Total Gross Indian Sea and Land Customs Revenue (excluding Salt Revenue) in thousands of rupees:—

SEA CUSTOMS.	IN THE NINE MONTHS, APRIL TO DECEMBER, OF									
	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12
IMPORTS.										
<i>Special Import Duties.</i>										
Arms, ammunition, and military stores	2,54	2,40	3,15	3,07	3,16	4,06	3,99	3,76	3,74	3,67
Liquors—										
Ale, beer, porter, cider and other fermented liquors	1,76	1,83	2,12	2,13	2,22	2,17	3,71	3,74	5,93	5,79
Spirits and liqueurs	51,20	55,52	56,24	58,80	55,16	68,02	69,50	69,81	79,52	80,39
Wines	2,95	2,76	2,70	2,89	2,75	2,92	2,87	2,84	4,17	4,23
Opium and its alkaloids	3	2	3	3	2	3	2	3	5	4
Petroleum	39,88	31,32	31,69	28,81	26,75	31,91	40,01	34,96	43,57	56,00
Silver, bullion and coin	29,57	28,86	29,35	19,54	31,04	37,34	50,08	44,42	1,26,90	79,82
Sugar (countervailing duties, 1899)	16,40	2,07	11	1	1	...	...	...	1	...
Sugar (countervailing duties, 1902)	3,25	17	8	1	...	...	...	...	1	...
Tobacco	1,38	1,60	1,88	2,25	2,19	2,76	2,50	3,26	22,32	19,87
<i>General Import Duties.</i>										
Articles of food and drink (excluding sugar)	10,71	11,22	12,99	14,21	14,41	18,07	20,02	18,00	19,09	19,38
Sugar (ordinary duties)	19,45	21,04	24,56	25,82	34,90	33,54	39,40	43,90	47,63	42,63
Chemicals, drugs, medicines and narcotics (excluding opium and its alkaloids and tobacco), and dyeing and tanning materials	7,24	8,58	8,04	8,26	8,65	10,70	9,70	10,56	12,27	12,03
Cotton manufactures—										
Piece-goods, grey	39,39	33,23	41,95	47,16	47,96	50,19	39,67	45,58	42,90	50,02
" white	12,05	14,16	20,14	20,88	17,63	28,51	21,54	17,42	22,69	27,29
" coloured	16,70	20,53	23,81	24,25	24,63	27,96	27,24	21,34	29,75	32,71
Other goods	1,87	2,97	4,21	4,64	4,92	5,19	4,93	4,91	6,49	6,68
Metals (excluding silver, bullion and coin) and manufactures thereof	22,18	23,81	27,14	22,99	25,12	30,71	36,00	32,90	38,25	37,83
Oils (excluding petroleum)	1,14	71	67	95	1,54	2,01	1,06	88	1,04	86
Manufactured articles	45,60	53,10	62,22	62,76	62,02	73,20	73,93	68,89	85,99	93,77
Raw materials and unmanufactured articles	6,71	6,60	7,55	8,97	8,48	10,40	12,54	10,95	10,81	11,06
TOTAL IMPORTS	3,32,00	3,22,55	3,60,63	3,58,43	3,73,56	4,39,69	4,58,80	4,38,15	6,03,13	5,84,67
EXCISE DUTY ON COTTON GOODS	12,92	14,19	16,00	18,73	18,55	22,25	22,09	24,01	25,50	31,09
EXPORT DUTIES—										
Rice, husked or unhusked, including rice-flour	71,00	66,65	78,95	69,21	57,84	56,19	42,27	52,08	69,23	74,86
LAND CUSTOMS AND MISCELLANEOUS	6,09	6,78	7,28	6,37	6,78	7,50	6,57	7,44	7,37	8,53
GRAND TOTAL	4,23,01	4,10,17	4,62,86	4,52,74	4,56,73	5,25,63	5,29,73	5,21,71	7,05,23	6,99,15

—According to the *Frankfurter Zeitung* of 10th December, all German shipping securities have continued to appreciate. German shipping companies have had a splendid season last year, and many of them will show greater profits than they have ever made previously. Emigration to the United States is the one branch of the shipping industry which shows only moderate results. Freights during the year, and particularly during the second half, have been active all round. Freight rates are one and a half times and even twice as high as what was previously considered satisfactory. Exports to overseas countries have reached proportions scarcely commensurate with reports regarding the condition of trade. The congestion at the Hamburg docks during the past few months has been so great that

it has led to great inconvenience both on the wharves and at the railway depôts. The purchasing power of foreign countries has considerably increased a circumstance which is easily explained when one bears in mind the good prices which have ruled for coffee and nitrates, etc., and how large shipments of grain and wool have been. Shipments to the Far East declined somewhat, owing partly to the political situation in China, and partly to a falling off in the soy bean trade. A large number of new vessels have been ordered during 1911, and it is stated that the total carrying capacity at present available by no means corresponds to the demand. Owners of tramp steamers have also had an exceptionally good season.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the first half of December, 1911. (Prices are stated in annas and pies per ser of 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	2 9	...	...	...	...	...	...	1 2
Toungoo	1 7	...	...	...	...	...	...	1 2
EASTERN BENGAL AND ASSAM—								
Rangpur	1 8	1 8	...	...	...	...	...	1 1
Backarganj	1 7	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 1	1 7	...	...	...	...	...	0 1 1
Patna	1 2	1 0	0 9	...	...	...	...	0 1 1
UNITED PROVINCES—								
Cawnpore	...	1 3	1 0	0 10	1 0	...	0 10	0 9 1
Fyzabad	...	1 3	0 10	...	...	...	0 9	0 10
Meerut	...	1 3	1 0	1 0	1 1	...	0 11	0 8
PANJAB—								
Delhi	...	1 5	1 0	1 1	1 2	...	0 11	0 9
Amritsar	...	1 2	0 11	0 11	1 4	...	0 11	0 7
Rawalpindi	...	1 3	0 11	0 11	1 2	...	0 11	0 7
SIND—								
Karachi	...	1 7	...	1 3	1 7	...	1 3	0 8
BOMBAY—								
Belgaum	...	1 9	...	1 5	1 5	...	...	0 10
Ahmadnagar	...	1 7	...	1 5	1 6	...	...	1 0
Bombay	...	2 3	...	1 8	1 7	...	...	0 10
Ahmadabad	...	1 6	...	1 3	1 5	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	1 3	...	...	...	...	1 0	0 11
Nagpur	1 7	1 3	...	1 1	...	...	1 0	1 0
Raipur	1 5	1 3	...	...	...	...	0 11	1 0
MADRAS—								
Bellary	2 3	...	...	1 2	...	1 1	...	0 11
Madras	2 2	...	...	...	...	1 3	...	0 7
Salem	2 5	...	...	1 6	1 9	1 5	...	1 0

—At the meeting of the directors of the Glasgow Chambers of Commerce and Manufacturers held on December 11th, Mr. Thomas Henderson, in moving the adoption of the minutes of the Foreign Affairs Committee, referred to the subject of the Indian currency reform. The President of the Karachi Chamber of Commerce suggested that the Indian Mint should be thrown open to the unrestricted coinage of gold on terms such as governed the Australian branches of the Royal Mint. Australia was quite a different country from India. The trouble with the latter was that the more gold that was sent to it the more it was absorbed and hoarded, and it would take centuries to overcome the hoarding disposition of the natives, who collected the gold sovereigns, and these disappeared or were

melted down and made into bangles and armlets for their relations. He thought the Foreign Affairs Committee had done right in inviting the opinions of the Chambers of Commerce in Calcutta, Bombay, Madras and Rangoon on the whole question. The Chairman said the question whether India would absorb gold currency or whether it would be at all workable was a matter more for those on the spot to decide. There was a strong feeling that it was not suitable for the country. The President of the Karachi Chamber thought that although nominally not suitable it could be forced on the country, and that the country in the end would thank those who forced it; but he (the Chairman) had grave doubts on that subject.

SPINNING AND WEAVING RETURNS.

The following statistics of cotton spinning and weaving in Indian mills in November, 1911, compared with the corresponding period of 1909 and 1910, are published by the Commercial Intelligence Department:—

No. 1.—Abstract Statement of the Quantity (in pounds) of Yarn Spun.

	MONTH OF NOVEMBER			EIGHT MONTHS, APRIL TO NOVEMBER		
	1909	1910	1911	1909	1910	1911
British India.						
Bombay	31,184,314	31,566,670	37,453,783	294,298,446	298,411,762	284,833,064
Madras	3,616,512	3,338,150	3,802,136	27,885,367	27,468,526	27,940,163
Bengal	2,323,661	3,977,948	2,803,618	21,637,213	25,850,179	20,470,780
United Provinces of Agra and Oudh (also Ajmer-Merwara)	3,211,469	3,029,736	3,608,919	26,304,017	25,480,572	25,315,551
Panjab	829,609	626,206	672,831	6,754,456	5,034,036	4,158,807
Central Provinces and Berar	2,115,676	2,031,834	2,334,445	20,797,559	19,326,713	18,577,194
TOTAL	43,281,241	44,620,544	50,675,732	397,677,038	401,571,848	381,295,559
Foreign Territory.						
Native States of Indore, Mysore, Baroda, (a) Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Quilon (b), Kishengarh, Ujjain and Pondicherry (c)	2,484,057	2,600,373	2,032,146	23,104,005	22,302,906	21,672,390
GRAND TOTAL	45,765,298	47,220,917	52,707,878	420,781,063	423,874,754	402,967,949

(a) Incomplete (b) Mill closed since October, 1909 (c) Including the production of one mill only from April, 1909
(d) Excluding Nandgaon, Bhavnagar and Wadhwan for which returns have not been received

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 and coloured piece-goods]

		MONTH OF NOVEMBER			EIGHT MONTHS, APRIL TO NOVEMBER		
		1909	1910	1911	1909	1910	1911
British India.							
Bombay	pounds	16,877,246	19,236,075	20,357,589	127,010,047	137,433,999	148,907,162
	yards	70,743,851	78,706,070	84,714,766	549,082,757	594,262,572	647,621,520
	dozens	71,127	79,064	58,587	426,039	467,671	366,611
Madras	pounds	592,930	626,370	697,384	5,177,893	4,776,066	5,035,593
	yards	1,764,795	1,956,159	2,253,571	15,842,737	15,104,380	16,215,909
	dozens	1,311	6,038	5,962	10,567	22,370	23,559
Bengal	pounds	262,647	330,222	241,110	1,812,384	1,914,031	1,620,532
	yards	1,364,812	1,962,478	1,410,853	9,016,040	10,492,469	9,792,156
United Provinces of Agra and Oudh (also Ajmer-Merwara).	pounds	761,188	751,463	922,803	7,566,614	6,520,956	6,144,986
	yards	2,794,594	2,713,613	3,713,186	27,949,074	26,342,359	25,677,769
	dozens	3,214	6,919	7,778	36,226	34,695	33,429
Panjab	pounds	12,778	41,857	80,060	270,676	298,896	440,766
	yards	31,087	118,145	235,502	658,941	877,347	1,252,503
	dozens	32	9	19	2,066	101	1,874
Central Provinces and Berar.	pounds	1,147,431	1,014,256	1,117,009	6,853,088	7,429,110	8,081,978
	yards	4,245,971	3,815,726	4,269,792	26,278,547	28,466,554	31,319,983
	dozens	765	869	1,280	4,219	4,116	5,641
TOTAL	pounds	19,654,220	22,000,243	23,415,955	148,690,702	158,373,059	170,231,017
	yards	80,945,110	89,272,182	96,597,670	628,828,096	675,545,672	731,879,940
	dozens	76,449	92,899	73,626	479,117	528,953	431,114
Foreign Territory.							
Native States of Indore, Mysore, Baroda, (c)	pounds	1,248,589	1,167,775	900,229	8,284,896	9,804,287	9,448,429
Nandgaon, Bhavnagar, Hyderabad, Wadhwan, Kishengarh (a) and Pondicherry (b)	yards	4,644,440	4,607,819	3,395,451	32,956,763	39,932,454	37,516,127
	dozens	7,014	3,096	7,233	55,017	44,847	37,927
GRAND TOTAL	pounds	20,902,809	23,168,018	24,316,184	156,975,598	168,177,345	179,679,446
	yards	85,589,550	93,880,031	99,993,121	661,784,859	715,478,126	769,396,067
	dozens	83,463	95,995	80,859	534,134	573,800	469,041

(a) From August, 1910 (b) Including the production of one mill only from April, 1909
(c) Excluding Nandgaon, Bhavnagar and Wadhwan for which returns have not been received

WEEKLY TRADE MOVEMENTS.

For the week ending 6th January, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta lbs.	51,022
Imports by sea into	Bombay "	243,882
	Madras "	379,550
Indian—	Calcutta "	10,000
Exports by sea from	Bombay "	1,709,400
	Madras "	18,000

Grey Piece Goods.

Imports by sea from	Calcutta yds.	8,858,957
Foreign ports into	Bombay "	4,320,953
	Karachi "	812,161
	Madras "	3,349,403
	Rangoon "	588,849

White Piece Goods.

Imports by sea from	Calcutta yds.	735,471
Foreign ports into	Bombay "	4,289,090
	Karachi "	3,010,199
	Madras "	1,088,408
	Rangoon "	1,350,748

Other Piece Goods.

Imports by sea from	Calcutta yds.	998,419
Foreign ports into	Bombay "	3,521,336
	Karachi "	1,267,236
	Madras "	1,681,397
	Rangoon "	1,890,611

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	†
	Bombay "	7,950
	Karachi "	15,854
	Madras "	9,828

Raw Cotton.

Imports into Bombay*	By sea cwt.	6,373
	Coastwise "	17,710
	By rail "	226,783
Imports into Karachi by rail	"	64,369
" " Calcutta by rail and river	"	*223

JUTE.

Arrivals by all routes in	Calcutta cwt.	*408,794
Exports by sea from	Calcutta { Gunny bags No.	3,551,300
	Calcutta { " cloth yds.	3,040,800
	Chittagong—Jute cwt.	174,271
		39,554

COTTON SEEDS.

Exports by sea from	Bombay cwt.	144,626
---------------------	-------------	---------

OIL SEEDS.

Linseed

Imports into	Calcutta by rail and river cwt.	*748
	Bombay { By sea "	103
	Coastwise "	31
	By rail "	4,152
	Karachi by rail and river "	...
Exports by sea from	Calcutta "	21,626
	Bombay "	13,001
	Karachi "	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river cwt.	*503
	Bombay { By sea "	...
	Coastwise "	244
	By rail "	4,002
	Karachi by rail and river "	...
Exports by sea from	Calcutta "	44
	Bombay "	2,015
	Karachi "	9,730

RICE.

Arrivals by all routes in	Calcutta cwt.	*93,665
	Calcutta "	175,698
	Chittagong "	3,126
Exports by sea from	Bombay "	16,354
	Karachi "	10,040
	Madras "	17
	Rangoon "	31,718

TEA.

Arrivals by all routes in	Calcutta lbs.	*2,697,960
Exports by sea from	Calcutta "	2,720,577
	Chittagong "	882,417

WHEAT.

Imports into	Calcutta by rail and river cwt.	*553
	Karachi by rail "	426,660
	Bombay { By sea "	2,098
	Coastwise "	77,242
	By rail "	17,015
Exports by sea from	Calcutta "	33,316
	Bombay "	418,454
	Karachi "	...

* Incomplete.

† Figures not received.

The correct figure, for the week ending 30th December, 1911, of imports of white and other piece goods and refined sugar from Java into Karachi are respectively 1,732,857 cwt., 1,893,110 cwt., and 5,331 cwt., and of exports of Rice from Karachi is 11,341 cwt.

The figures of Bombay for the week ending 30th December, 1911, not published in the last week's statement, are given below:

Imports into Bombay by sea—(a) Cotton goods—Twist and yarn 170,849 lbs., grey 2,206,788 yds., white 1,389,657 yds., other, 2,358,448 yds. and cotton (raw) 14,123 cwt. (b) Linseed 170 cwt. (c) Refined sugar from—United Kingdom 21 cwt., Java 57,479 cwt., other Non-European countries 357 cwt.

" " " coastwise—Cotton (raw) 9,696 cwt., wheat 167 cwt., linseed 127 cwt. " " " by rail—Wheat 78,809 cwt., linseed 4,258 cwt., rape and mustard seed 871 cwt., cotton (raw) 178,352 cwt.

Exports from Bombay by sea—Twist and yarn 1,967,400 lbs., wheat 4,940 cwt., rice 4,880 cwt., linseed 23,152 cwt., rape and mustard seed 20,390 cwt., and cotton seeds 213,990 cwt.

" " " by rail—Piece goods (Indian and Foreign) 9,270 cwt.

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	. Cwt.	2,905,262	3,692,324	3,006	21,626	80	44	Not reported.	
Bombay	. "	2,069,285	2,904,418	4,005	13,001	14,776	2,015	173,782	144,626
Karachi	. "	17,134,531	18,896,136	...	...	30,673	9,730	Not reported.	

The figures of Bombay up to the week ending 30th December, 1911, not published in the last week's statement, are:—Wheat 2,871,102 cwt., linseed 5,894,448 cwt., rape and mustard seed 1,583,037 cwt., cotton seed 6,516,970 cwt.

KEROSENE OIL, WEEK ENDING 6th JANUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	552,790	552,790
Bombay	...	99	...	99
Karachi	...	...	...	...
Madras	...	...	466,032	466,032
				943,268
Exports by sea from Burma to				
			Bengal	...
			E. B. & Assam	...
			Bombay	...
			Sind	...
			Madras	...
			Indian Ports, Non-Br.	...
			Foreign Ports	...

IMPORTS OF SUGAR, WEEK ENDING 6th JANUARY, 1912.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	14	...	...	...	43	13	70
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...	...
Java	34,966	...	28,976	67,009	2	35,496	166,449
Mauritius	...	...	20,416	3,500	...	...	23,916
Other Non-European Countries	...	...	376	...	1	4,166	4,543
						Total refined	194,978
						Total unrefined	6
						Grand Total	194,984

—The following table gives the export of tin and tin ore from the Federated Malay States for the past five years, together with the duty paid, the average price and the labour force in the mines excluding dulang passes:—

Year.	Tin and tin ore exported.		Duty paid.	Average price per pikul.	Labour in tin mines excluding dulang passes.
	Pikuls.	Approximate value in Singapore.			
1906	816,787	73,184,113	10,036,607	89 60	212,660
1907	813,636	69,386,877	9,293,738	85 28	229,778
1908	854,065	57,034,453	7,286,843	66 78	192,322
1909	818,887	55,684,365	7,150,465	68 00	184,699
1910	736,818	57,116,989	7,162,026	77 51	170,361

One ton=16'80 pikuls.

The output of gold in 1910 was 16,767 ounces as compared with 16,243 for the previous year.

—The following statement, showing the weight of tin (tin exported in the form of ore having been taken at 70 per cent of gross weight of the ore) exported from the Federated Malay States during the nine months, January to September, 1910 and 1911, is taken from the Federated Malay States Government Gazette of 27th October:—

State.	Nine months ended September, 1910.			Nine months ended September, 1911.		
	Tin.	Tin exported in the form of Ore.	Total.	Tin.	Tin exported in the form of Ore.	Total.
Perak	Pikuls.	Pikuls.	Pikuls.	Pikuls.	Pikuls.	Pikuls.
Selangor	77,103	241,284	318,387	72,875	249,336	322,211
Negri Sembilan.	30,758	149,000	179,758	37,244	132,361	169,605
Pahang	120	26,285	26,405	77	20,719	20,796
	8,391	20,833	29,224	10,859	21,039	31,898
Total	116,372	437,402	553,774	121,055	423,455	544,510

(Pikul=133½ lbs.)

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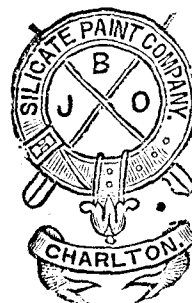
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[ANNAS 4.]

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NOTES.**MONEY MARKET.****Wednesday Evening.**

PRESIDENCY BANK RATES	Calcutta	6 per cent. (Jan. 11).
	Bombay	6 per cent. (Jan. 11).
	Madras	7 per cent. (Jan. 8).
EXCHANGE	On demand	1-4 $\frac{3}{4}$
	Telegraphic	1-4 $\frac{1}{8}$
	Transfers	
	3 months	1-4 $\frac{3}{8}$
	6 months	1-4 $\frac{1}{2}$

GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.) Rs. 95-9.

The spot price of wheat at Karachi on the 13th January was Rs. 30-0-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 16th January was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 249 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 17th instant were as under :—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 56 0 0
M. per 400 lbs.	50 0 0
Rice—Ballam No. 1 per B. md.	4 2 0 to 4 4 0
Moonghy	3 8 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold,	
Cawnpore, 4% per B. md.	Nil.

The total approximate gross earnings of State and Guaranteed Railways from 1st April to 23rd December, 1911, show a gain of Rs. 2,74,06,504, as compared with the corresponding figures for 1910-11.

Colonel F. Firebrace presided at the half-yearly general meeting of the Great Indian Peninsula Railway held on December 11th. He said that the coaching traffics showed a large increase. The receipts from the goods traffic had decreased, the net result being that the gross receipts were Rs. 1,41,355 less than in the corresponding half of last year. The coaching traffic was largely increasing year by year. The carriage of cotton and cotton seed showed a very large decrease. The character of the previous monsoon rains had an important bearing on the crops. The rains of 1910 were not evenly distributed as regards the requirements of the cotton crop, and consequently that crop was deficient. Another reason for the decrease in earnings was to be found in the opening of the Nagda-Muttra line to the north—a new route to Delhi, and controlled by the Bombay and Baroda Central. The trade of India, however, was increasing very rapidly all over the country. There was ample room for the two lines and also ample traffic for both. He himself was starting for India in a few days. In regard to the prospects of the half-year now running, the approximate returns of the gross traffic received up to the end of November were some 25 lacs of rupees better than in the corresponding half of last year. The traffic to and from the Durbar at Delhi was sure to have a considerable effect on their earnings, which should show a further increase. The monsoon had been fitful, a state of great scarcity had been declared at Gujerat; further, the latest reports showed that the cotton crop would be somewhat below the average. Still the country served by the Great Indian Peninsula had not been affected seriously, and so the situation had already been benefited by the movements of grain, food stuffs and fodder into the affected districts. The report was agreed to.

At the meeting of the Bombay, Baroda, and Central India Railway Company on December 8th, Colonel Sir W. S. S. Bisset, who presided, alluded to the negotiations which had been in progress between the Secretary of State and the directors for the revision of the company's contract so as to include the Nagda-Muttra Railway, and stated that the preliminaries to the revision had now been arranged. Under the agreement the company's system would be consolidated, the clauses of the existing contract being cancelled under which the Secretary of State reserved power in certain circumstances to withdraw the Rajputana-Malwa Railway from the system. The Nagda-Muttra Railway, with a length of 349 miles, would be

included in the system, thus giving the long desired, direct, and unbroken communication between Bombay and the cities of Agra and Delhi. Describing the new financial scheme, he said the directors felt able to hold out the confident expectation that each half-year in future a minimum dividend of two per cent, or at the rate of four per cent per annum, would be available. He hoped to be able to leave for India shortly to visit the company's system, and to make any new arrangements which might be necessary to give effect to the new contract, which was to come into operation from the 1st January, 1912.

The Corn Trade News gives the following summary of the world's crops as on the 27th ultimo:—*United States of America*.—Winter Wheat has plenty of moisture and now good snow cover. Receipts further decreased and much smaller than year ago, but yesterday larger quantities were forecasted. *Canada*.—Receipts keep large grading about as recently. *Argentina*.—Weather of past week been generally favourable, but general rain occurred Xmas day and was considered damaging to crops. Offerings still very scanty. To-day's cable advices from Buenos Aires mention further rains. *Australia*.—Harvest indications maintained around 80,000,000 bushels compared with 96,000,000 bushels last year. Offerings a trifle better. *Russia*.—Some complaints of insufficient snow cover in the Eastern region, main winter crop there is Rye, but very important. In other parts of country crops have mostly good snow cover. Arrivals at ports and shipments continue light. *Roumania*.—Weather mild and favourable, crop condition satisfactory. Brazil still reports small arrivals, but liberal Danubian shipments being made, both of Wheat and Maize. *Hungary*.—Weather mostly mild and wet, crops doing well, but colder weather desired. *France*.—Weather very wet, causing some floods and agriculturalists beginning to fear crops will suffer unless change comes soon. Markets generally firm, but this partly owing to Argentine crop news. *Germany*.—Nothing unfavourable about crops. Fair to good quantities native Wheat and Rye still being exported. *Italy*.—Crops are developing well but colder weather would be welcome. *Spain*.—Condition of Autumn sown crops quite satisfactory but some floods in North. Confirmed last harvest was large, but grain not of good weight. *United Kingdom*.—Weather has been excessively wet, drier period wanted.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 23rd December, 1911 were as follows:—Wheat, 32s. 9d.; barley, 33s. 5d.; and oats, 20s. 8d.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 51 weeks ended 21st December, 1911:—

	IMPORTS.		EXPORTS.	
	Week ended 21st Dec., 1911.	51 weeks ended 21st Dec., 1911.	Week ended 21st Dec., 1911.	51 weeks ended 21st Dec., 1911.
	Bales.	Bales.	Bales.	Bales.
American . . .	111,650	3,304,191	8,598	239,431
Brazilian . . .	6,052	105,250	334	10,288
East Indian . .	35	129,169	—	21,278
Egyptian . . .	16,841	479,535	3,801	123,051
Miscellaneous .	830*	163,432†	20	4,700
TOTAL	135,408	4,181,577	12,753	398,748

* Including 186 bales British West Indian, 70 bales British West African, and 165 bales British East African.

† Including 9,561 bales British West Indian, 5,601 bales British West African, 26,480 bales British East African, and 260 bales foreign East African.

NOTE.—Cotton "in transit" or "for transhipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The statement below shows the quantity of cotton goods calendered and proportion thereof to the total production in Indian mills in the month of October, 1911, and in the seven months from April to October, 1911, compared with the corresponding periods of 1910:—

	1910.		1911.	
	Oct.	Seven months, April to Oct.	Oct.	Seven months, April to Oct.
BRITISH INDIA— Quantity calendered lbs.	12,818,506	83,666,111	14,764,316	91,512,114
Ratio of calendered goods to production %	59.27	61.35	63.13	62.33
NATIVE STATES (excluding Hyderabad)— Quantity calendered lbs.	99,471	870,646	81,034	395,346
Ratio of calendered goods to production %	11.89	15.88	12.43	7.56
TOTAL INDIA (excluding Hyderabad)— Quantity calendered lbs.	12,918,007	84,536,757	14,845,380	91,907,460
Ratio of calendered goods to production %	57.50	59.59	61.75	60.45

The total quantity and value of gold extracted from the Indian mines during the month of November, 1911, were 48,675 ozs. and Rs. 27,75,081. The output for the same month as compared with the corresponding months of 1910 and 1909 was as follows:—

Month of November.

	1911.	1910.	1909.
Mysore . . . { Ozs. 47,425 45,716 45,959			
Rs. 27,02,331 26,32,074 26,50,357			
Nizam's Territory . . { Ozs. 1,250 1,221 1,301			
Rs. 72,750 69,103 70,429			

In its issue of December 27th the *Manchester Guardian* says:—The advance in the copper market made further progress last week, and a gain of 25s. per ton between the two Fridays is to be added to the 60s. per ton which was gained in the preceding week. Anticipations when the market first began to move in November were limited to a modest £60 up to the end of the year. These anticipations have been greatly exceeded, mainly because of a much greater reduction in American stocks than was thought at all probable. The whole of the metal market, including iron, has been on the move, and speculators have been exceedingly active. It is possible that some reaction will take place, for there must be a great many speculative buyers who have very handsome profits to take, but on the whole the movements throughout the metal market are sound enough. A period of activity is no doubt setting in, and the buying which has taken place has not come before it was justified. The main danger now is that the speculative fever will become rampant and bring about a rise far too rapid to be of advantage to general industry. Both the electrical and the older engineering industries are on the way to recovery from a long time of comparative quietness, and it is likely that the world has now need of all the copper which can be produced at any rate for a year or two.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 21st December regarding the Hull oil markets says:—**Rape oils**: Ravison, 26s. 2d.; Jamba and brown East Indian not offering. **Linseed oil**: The market is firm, with spot at 35s. spot Dec.; 34s. 7½d. Jan.-April. The exports for the week amounted to 68 tons, of which Africa took 1, America 29, Bulgaria 1, India 11, Norway 4, Turkey 6 and the West Indies 16 tons each. **Cotton seed oil**: This market is firm, with refined cotton oil at 24s. 1½d. spot; 24s. 6d. Jan.-April; crude oil, 22s. 7½d. spot. The exports for the week amounted to 126 tons, of which Africa took 17, France 9, Germany 28, Holland 46, and Sweden 26 tons each. **Soy bean oil**, 26s. to 26s. 9d. spot. The exports for the week amounted to 202 tons, of which Belgium took 13 tons, France 15, Germany 32, Holland 116,

Norway 7, and Sweden 19 tons each. **Cocoanut oil** quiet. English ex mill, £40 to £41 per ton in casks. **Castor oil** steady. Calcutta on spot, 3½d. to 4d. per lb. Forward unchanged. **Colza oil** quiet. East India refined, 34s. 6d. per cwt. **Lard oil** steady but quiet at 49s. 6d. per cwt. for best English refined. **Olive oil** quiet at £45 10s. per tun for Spanish ex store. Forward quite steady. **Palm oil** flat. Lagos, £30; Softs, £29 12s. 6d. to £29 10s.; Benin, £28 15s. to £28 10s., and hards £28 to £27 15s.; refined sorts quite unchanged. **Petroleum** firm; American ordinary 5½d.; W. R. 7½d.; R. D., 6½d.; and Russian, 6½d. per gallon. **Turpentine** firm. Spot and Dec. 38s. and Jan.-April 38s. 6d. per cwt.

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

For the week ending 13th January, 1912—
In the Calcutta market—

Behar opium—Rs. 4,600; 4,600; 4,500; 4,400; 4,450; 4,500; 4,500.

Benares opium—Rs. 4,500; 4,500; 4,400; 4,300; 4,350; 4,400; 4,400.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 1st and 2nd sales of 1912.

In the China market—

At Hongkong—(Exchange Rs. 140 per \$100).

Behar opium—\$3,400; 3,400; 3,400; 3,400; 3,400; 3,400; 3,400.

Benares opium—No quotations received.

At Shanghai—(Exchange: no quotations received).

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 6th January, 1912—

In the Bombay market—

From 31st December, 1911, to 1st January, 1912, (new, 1909-10) Rs. 1,275 to 4,000; (new, 1908-09) Rs. 1,320 to 4,200; (old, 1907-08) Rs. 1,450 to 4,675; from 2nd to 6th instant (new, 1909-10) Rs. 4,000; (new, 1908-09) Rs. 4,500; (old, 1907-08) Rs. 4,675. The latest prices at Hongkong and Shanghai were (new) Rs. 4,874 and 5,550; (old) Rs. 4,943 and 5,689 respectively.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 12th instant was 211,722 bags, while the stock in the Bombay godowns and the estimated stock in the Bombay city as well on the same date amounted to 220,300 bags.

The quantity of sugar exported to Afghanistan from Russia in 1910-11 was 1,750 tons, or more than double the quantity for the preceding year.

The estimated area under rice cultivation in fifteen principal rice-producing districts of Burma, up to December 31st last, is reported as 7,274,232 acres, or 74,417 less than the area actually cultivated last year. The area destroyed by floods is estimated at 414,977 acres and the fallow area at 593,140. Slight variations have been made in the percentage estimate by several districts with the result that the total percentage estimate approximates to 99. Reaping is in full progress and the condition of the crop is the same as previously reported. The amount available for export is estimated at 2,450,000 tons of cargo rice.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	— 1.9	Cwts (dye) 48,700	+ 5.9	21st Dec., 1911.
Cotton	19,524,000	—12.0	Bales* 3,102,000	—18.6	Do.
Sesamum (til or jinjili)	4,164,700	—15.6	Tons. 311,300	—30.4	18th Jan., 1912.
Sugarcane	2,209,500	+ 5.0	Information not yet available.	Information not yet available.	26th Oct., 1911.
Groundnut	860,000	+ 6.0	Do.	Do.	Do.
Rice	54,441,400	— 4.0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	— 1.0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	— 9.0	Do.	Do.	Do.
Linseed	3,371,600	+12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

On an average of the five years ending 1909-10, the area under sugarcane in the Madras Presidency has represented 3.4 per cent of the total area under sugarcane in British India. The total area planted with sugarcane in ryotwari villages up to the end of December, 1911, was 57,200 acres or 26 per cent

more than the area planted in the corresponding period of 1910. It was also more than the averages of five and ten years by 22 and 15 per cent, respectively. The increase as compared with 1910 was marked in the districts of Bellary and Trichinopoly and was due partly to timely rains and partly to high prices. The standing crop is reported to be either fair or good and is estimated to yield 82 per cent of the normal. The harvest has not yet begun in some taluks and in the remaining taluks harvests were made in November or December reported to be the normal period in those taluks. The probable outturn of manufactured jaggery will be about 105,534 tons. The total area under sugarcane reported from villages other than ryotwari was 2,820 acres or 15 per cent more than the area reported for the corresponding period of 1910. The probable outturn of manufactured jaggery will be 5,166 tons.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 6th January, 1912:—D. L. V. Browne and J. Masson—Improved process and apparatus for sterilising and purifying liquids and regenerating perishable liquids and materials. J. Stone and Co., Ltd.—Improvements in electric lighting, heating and ventilating systems, more especially for railway vehicles. E. B. Killen—Improvements in or relating to rubber tyres and their attachment to wheels. A. F. O. von Augezd—Improvements in parachutes. E. A. J. Duchemin—Improved portable apparatus for the decortication of textile plants. G. R. Inshaw—Improvements in rotary engines and pumps. R. D. McCarter—Improvements in and relating to metallic railway ties or sleepers. J. Edge—Improvements in or in connection with the stripping rollers of carding engines. C. A. Vandervell and A. H. Midgley—Improvements in and relating to variable speed self-regulating dynamo electric machines. W. S. Simpson and H. Oviatt—Improvements in connection with furnaces for the direct production of iron and steel from iron ores. J. M. Neil—Process for the precipitation of precious metals from cyanide solution. J. S. Juarez—Improvements in the tyres for wheels. N. P. Woodward and L. Burn—Improvements in fountains for decorative purposes. H. Brook—Improvements in or relating to the jointing of ropes of rubber to be used for wheel tyres and the transmission of power. A. J. L. Lassen—Improvements in means for closing bottles. F. Scherrer—Fire-escape with extensible landings and railings to enable persons to save themselves from fire.

The *Manchester Guardian* of December 23rd writes:—The announcement just made by the German Coal Syndicate that they have decided to abolish the rebate on coal supplied to iron manufacturers producing for the export trade is of considerable importance to the international iron market, for the rebate now granted by the Steel Syndicate to its members engaged in the export trade is contingent on this bounty from the Coal

Syndicate. The coal bounty will not be paid after the 23rd instant, and it is probable that the Steel Syndicate will now withdraw their rebate, which amounts to from 15 marks to 20 marks per ton, according to the class of steel in question. The natural consequence will be that those firms who are only able to compete in the export markets with the aid of these bounties will have to withdraw. These will chiefly be the "pure" works, so that their trade will fall to some extent into the hands of the large "mixed" concerns, who will have the advantage of cheaper coal. There is some difference of opinion as to whether the absolute amount of the German export trade in steel will decline, some taking the view that there will be no reduction, or at least not for long, but that the "mixed" works will begin to cater more seriously for it. Others are of opinion that German producers will to some extent lose their hold in this direction. The matter is one which is full of possibilities, and developments will be watched with interest. The present coal bounty is 1.5 marks per ton.

It appears from the Administration Report of the Karachi Port Trust for the year ending 31st March, 1911, that the revenue receipts and expenditure for the period were Rs. 35,43,452 and Rs. 31,56,870, respectively. The revenue receipts were the highest ever realized since the constitution of the Trust exceeding the next best year (1909-10) by Rs. 2,56,211. The Reserve Fund was increased by Rs. 1,00,000 and now stands at Rs. 21,25,474, the sanctioned limit being 25 lakhs. Revenue from the Wharves at Keamari amounted to Rs. 19,81,353 as against, in the previous year, Rs. 20,59,796, a decrease of Rs. 78,443, chiefly due to falling off in the Import trade principally in railway materials, coal and timber. The working expenses of the wharves were Rs. 7,92,090 as against those of the previous year Rs. 8,42,753 or a decrease of Rs. 50,613. The net financial result of the working was a decrease of Rs. 27,830. The actual revenue expenditure exceeded that of the previous year by Rs. 2,21,984. The total expenditure on Capital Works from current revenue, opening balances, Depreciation and Replacement Funds and Loans amounted to Rs. 14,43,523. The expenditure under Depreciation and Replacement Fund amounted to Rs. 81,409. The principal item was Rs. 41,277 for 4 new 35 cwt. Armstrong cranes for the Keamari wharves. The actual expenditure from current Revenue and Opening Balance on Capital Works during the year was Rs. 49,809 and Rs. 8,471 respectively. On the subject of Grain Elevators the Report states:—"This matter has not proceeded. An application was made by a local firm for a site on the Board's premises for the erection of an elevator as a speculation, but the Board declined to entertain it, and have so far seen no reason to depart from their declared policy of awaiting an actual practical demand from the trade and North Western Railway."

At a meeting of the Viceroy's Legislative Council on the 10th instant, the Life Assurance Companies' Bill, the Provident Insurance Societies' Bill and the Indian Stamp (Amendment) Bill were referred to Select Committees.

It is notified by the Government of India that, subject to certain exceptions, **acetylene** when liquid or when subject to a pressure greater than $1\frac{1}{2}$ atmospheres shall be deemed to be an **explosive**, and that the **manufacture, possession and importation** of such acetylene is **absolutely prohibited**.

The **weather conditions in India** for the week ended Tuesday last were marked by a disturbance in North-West India which, moving eastwards into the United Provinces and the east of Central India, has given moderate to heavy rainfall over the east and south of the Punjab and nearly the whole of the United Provinces, while some light falls have occurred in Central India and Rajputana. A few falls are reported from Assam and South Burma. During the week a hailstorm of considerable force passed over Agra.

In the *Indian Trade Journal* of November 5th, 1908, January 14th, 1909, and May 25th, 1911, attention was drawn to the **potentialities of the dried gut trade**, and mention was made of the fact that a London firm (whose name will be furnished on application to the Director-General of Commercial Intelligence, Calcutta) was prepared to take as much dried animal gut as may be available from time to time. This trade, we now learn, has been taken up in a very promising manner in the United Provinces, and many persons are engaged in it both on a large and small scale. In fact it is said that the Mussalman weavers of Shahjahanpur are taking to this trade when business in their own line happens to be slack. Difficulty, however, is still found in interesting export firms to purchase supplies from small producers, who can only afford to sell for spot cash. There is a good profit to be made out of shipments of dried gut, and plenty of scope for energetic workers. In the opinion of the Director of Industries, United Provinces, Cawnpore, this trade might be suitably linked up with those concerned with bristles and feathers and all three be appropriately handled by a firm of hide and skin exporters.

NOTICES.

CALLS FOR TENDERS.

Grain Bags.

The Secretary to the Tender Board, Johannesburg, South Africa, is calling for tenders up to the 23rd instant for the supply of 153,000 $2\frac{1}{2}$ lb. grain bags. Form of tender and specification may be seen at this office.

Firewood.

The Deputy Assistant Director of Supplies, Peshawar, is calling for tenders up to the 26th instant for 14,810,210 lbs. of firewood.

Army Rations.

The Deputy Assistant Director of Supplies, Ootacamund, is calling for tenders up to the 29th instant for the supply of beef and mutton for various troops.

Hides.

The Superintendent, Government Harness and Saddle Factory, Cawnpore, invites tenders up to the 30th instant for the supply of about 31,625 cow hides.

Elephants.

The Superintendent, Chittagong Hill Tracts, is inviting tenders up to May 31st for the right to catch elephants in a specified tract.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Matches.

(1291)—A London match company desires to appoint a first class agent in Bengal for the sale of safety and sulphur matches of English, Swedish and Belgium manufacture.

Kapok.

(1292)—A dealer in Amsterdam desires to be placed in communication with actual producers of or first-hand dealers in kapok.

Copper.

(1293)—A firm in Japan desires to be placed in communication with importers of copper.

Wines.

(1294)—A firm in London desires to appoint agents in Delhi for the sale of ports and sherries.

Indian Produce.

(1295)—A firm in Japan desires to be placed in communication with sellers of gunny bags, palmyra fibre, bristles, rapeseed cake, bone meal and waste spinning bands.

Knife Cleaner.

(1296)—A London firm of manufacturers desires to appoint agents in Bombay, Madras, Karachi and Rangoon for the sale of a cheap knife cleaning apparatus.

Castor Oil.

(1297)—A firm in Tasmania desires to be placed in communication with shippers of castor oil.

Bedsteads.

(1298)—A British firm desires to be placed in communication with buyers of bedsteads in Baroda, Ahmedabad and Hyderabad (Deccan).

Magnetos.

(1299)—A leading London firm, manufacturers of high and low tension magnetos for all sizes of petrol and gas engines, also sparking plugs, distributors, etc., desires to appoint suitable agents in India.

Gas and Oil Engines.

(1300)—A British firm manufacturing gas and oil engines is desirous of appointing agents in Calcutta, Bombay, Madras, Karachi and Rangoon.

Belt Preparation.

(1301)—A Dublin concern desires to appoint agents in Calcutta for the sale of a preparation for preserving and increasing the efficiency of machinery belts.

Grey Peas.

(1302)—A firm in Marseilles desires to be placed in communication with sellers of grey peas in the Bombay Presidency.

Ochre, Fuller's Earth, and Gypsum.

(1303)—A firm in Ajmer desires to be placed in communication with purchasers of yellow ochre, fuller's earth and gypsum.

Hides and Skins, Oilseeds and Myrobalans.

(1304)—A firm in Trieste desires to be placed in communication with shippers of hides and skins, oilseeds of sorts, myrobalans and incense.

Bentwood Furniture.

(1305)—A firm in Hamburg desires to be placed in communication with importers of bentwood furniture in Calcutta, Bombay, Madras, Karachi and Rangoon.

Corks.

(1306)—A firm in Paris is desirous of being placed in communication with importers of corks.

Motor Cars.

(1307)—A London company of motor car manufacturers desires to appoint agents in Calcutta, Bombay, Madras, Karachi and Rangoon.

Children's Clothing.

(1308)—A Coventry firm manufacturing children's frocks, millinery, etc., desires to appoint agents in Calcutta, Bombay, Madras, Karachi and Rangoon.

Bones.

(1309)—A Bombay firm desires to be placed in communication with sellers of bones.

Saddle Felts.

(1310)—A Lancashire firm desires to appoint agents for the sale of saddle felts.

Chrome Tanning.

(1311)—A chrome tanning expert desires to get into touch with those interested.

Furniture Leather.

(1312)—A firm in Leeds desires to appoint agents in Calcutta, Bombay, Madras and Delhi for the sale of furniture leather.

Fish Guano and Fish Food.

(1313)—An Aberdeen firm desires to be placed in communication with importers of fish guano and fish food.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 24th January, 1912 :—

Parliamentary Publications.

Colonial Reports—Annual—No. 699—Trinidad and Tobago—Report for 1910-11; No. 700—Mauritius—Report for 1910. Treaty Series—1911—No. 26—Declaration between the United Kingdom and Sweden relating to the Amendment of Treaties of Commerce between the two countries. Iron and Steel, 1910—Return of. Shipping Casualties (Uncertificated Officers)—Return of. Coal Tables, 1910—Return of Statistical Tables relating to the Production, Consumption, and Imports and Exports of Coal in the British Empire and the Principal Foreign Countries in each year from 1886 to 1910, etc. Colonial Reports—Annual—No. 701—Grenada—Report for 1910.

Foreign and Colonial Publications.

Austria-Hungary—Statistik des Auswartigen Handels des Vertragszollgebietes der Beiden Staaten der Oster.—Ungar.—Monarchie—Im Jahre 1910—IV. Band. Canada—Weekly Report—December 11th, 1911; Census and Statistics Monthly—November, 1911. China—Customs Gazette—No. CLXXI.—July-September, 1911. Jamaica—The Royal Jamaica Society of Agriculture and Commerce and Merchants' Exchange—Twenty-Seventh Annual Report, 1910-11. Japan—Monthly Trade Return of Japan Proper and Karafuto (Sagalien) with Chosen (Korea)—October, 1911; Appendix to Monthly Return of the Foreign Trade of the Empire of Japan; Monthly Return of the Foreign Trade of the Empire of Japan—October, 1911. Sudan Government—Central Economic Board—Monthly Report—No. 59—November, 1911. United States of America—Department of Agriculture—Annual Report of the Office of Experiment Stations for the year ended June 30, 1910; Annual Report of the Porto Rico Agricultural Experiment Station for 1910; Annual Report of Alaska Agricultural Experiment Stations for 1910. Canada—Weekly Report—December 18th, 1911; Report of the Minister of Agriculture for the Dominion of Canada for the year ended March 31st, 1911; Dominion Department of Agriculture Ottawa, Canada—Tobacco Division—Report for the year 1910—Tobacco Bulletin No. A-12. Sudan Government—Harbour Regulation, Dues and Tariffs—1st January, 1910. Swedish Chamber of Commerce—Year Book for 1908, 1909 and 1910.

Indian Publications.

Department of Agriculture, Central Provinces and Berar—Report on the Agricultural Stations in the Central Provinces and Berar for the year 1910-11. Progress Report of Forest Administration in the Andamans for 1910-11.

BUSINESS NOTICE.

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The Indian Trade Journal.

THURSDAY, JANUARY 18, 1912.

WORLD'S COAL PRODUCTION AND CONSUMPTION.

A Return recently issued by the Board of Trade gives some interesting details regarding the production and consumption of coal in several countries.

The production of coal in the five principal coal-producing countries of the world in 1907, 1908, 1909, and 1910, for instance, was as follows:—

Countries.	1907.	1908.	1909.	1910.
	Tons.*	Tons.*	Tons.*	Tons.*
United Kingdom	267,831,000	261,529,000	263,774,000	264,433,000
Germany	140,685,000	145,298,000	146,397,000	150,372,000†
France	35,411,000	36,044,000	36,519,000	37,254,000†
Belgium	23,324,000	23,179,000	23,140,000	23,532,000
United States of America‡	428,896,000	371,288,000	411,432,000	447,837,000†

* Tons of 2,240 lbs. † Provisional figures. ‡ Including lignite.

In each of the above countries, with the exception of the United Kingdom, the production in 1910 exceeded that of any previous year, their aggregate output being 923 million tons, or an increase of 42 millions on the output of 1909, and 27 million tons more than in 1907, when the highest previous total was reached. Except in the United States and Germany the increases were small, the former country accounting for over 36 million tons and the latter for 4 million tons of the increase over 1909. In the United Kingdom the output in 1910 fell short of that of 1907 by nearly 3½ million tons, while the figures for Belgium show little variation during the last four years. Of the remaining countries included in the tables, Russia alone has a production exceeding 20 million tons.

It will be seen that the production in the United States in 1910 exceeded that of the United Kingdom by nearly 70 per cent. The production of Germany was about four-sevenths, and that of France and Belgium together less than a quarter of the production of the United Kingdom. The total known coal production of the world (exclusive of brown coal or lignite) in 1910 was about 1,035 million tons, of which the United Kingdom produced more than one-fourth. As compared with its population, the production of coal in the United Kingdom still surpasses that in the United States. It amounts to nearly 6 tons per head; whilst in the United States it is under 5 tons per head. In Belgium it amounts to 3½ tons, in Germany to about 2½ tons, and in France to under one ton per head.

The following statement shows the production of coal in the principal parts of the British Empire in the years 1907, 1908, 1909, and 1910 (the amounts are in every case stated in tons of 2,240 lbs.):—

Country.	1907.	1908.	1909.	1910.
	Tons.	Tons.	Tons.	Tons.
British India	11,147,000	12,770,000	11,870,000	12,047,000
Australia	9,681,000	10,194,000	8,186,000	9,759,000*
New Zealand	1,831,000	1,861,000	1,911,000	2,197,000*
Canada	9,385,000	9,720,000	9,376,000	11,425,000*
Union of South Africa	4,679,000	4,938,000	5,534,000	6,436,000*

* Provisional figures.

In Australia the output during 1910 amounted to about 2½ tons per head of population, in New Zealand to nearly 2½ tons, in Canada to 1½ tons, and in the Union of South Africa to over one ton.

The consumption of coal in some of the chief consuming countries is shown in the following statement in which the countries are given in the order of importance as coal consumers in 1910:—

	1907.	1908.	1909.	1910.
	Tons.	Tons.	Tons.	Tons.
United States†	417,867,000	369,935,000	398,942,000	434,815,000*
United Kingdom	182,674,000	176,228,000	177,745,000	179,939,000
Germany	128,411,000	129,845,000	129,628,000	130,226,000*
France	52,710,000	52,993,000	54,193,000	54,861,000*
Russia	29,686,000	30,008,000	28,513,000*	27,420,000*
Austria-Hungary	24,211,000	25,028,000	25,329,000	24,500,000*
Belgium	22,805,000	22,515,000	22,413,000	23,850,000

* Provisional figures.

† Including lignite.

It will be seen from these figures that the total consumption of coal in the United States is now considerably more than twice as great as that in the United Kingdom, which has the next largest consumption, and that during the last two years it was more than equal to the combined consumption of the United Kingdom, Germany, France and Belgium. The consumption of coal per head of population in the countries included in the preceding table is shown in the following statement, which applies to the years 1908, 1909, and 1910:—

Year.	United Kingdom.	United States.	Belgium.	Germany.	France.	Austria-Hungary.	Russia.
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
1908	3'99	4'06	3'05	2'06	1'35	0'51	0'19
1909	3'99	4'41	3'01	2'03	1'38	0'51	0'18*
1910	4'01	4'72*	3'17	2'01*	1'40*	0'49*	0'17*

* Provisional figures.

† Including lignite.

It appears from the foregoing that the coal consumption in the United States is greater in proportion to the population, as well as absolutely, than in the United Kingdom, and that Belgium and Germany are the only other foreign countries in which the *per capita* consumption of coal exceeds 2 tons per annum. Both in France and Germany the consumption per head appears small, but in these countries a large quantity of fuel of other sorts, such as lignite, wood, peat, and denatured spirits, is also used.

The statistics of lignite production show that the principal producing countries are Germany, Austria, and Hungary, which in 1909 produced 67,554,000 tons, 25,625,000 tons, and 7,536,000 tons respectively;

in 1910 the output in Austria was 24,729,000 tons, whilst the provisional figures available show a production of 68,357,000 tons in Germany and 7,610,000 tons in Hungary in the same year. The quantity of lignite produced in the United States is included in the figures of coal produced, which have already been given. The latest available figures giving the production of lignite separately relate to 1905, when it amounted to 6,149,000 tons. In no other country does the recorded production reach one million tons. In the United Kingdom it has for some years been nil.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE Board of Trade Journal, published on the 28th ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about:—

DOMINION OF CANADA.—Establishment of Lansdowne (Ontario) as a Customs Manifesting Station.

COMMONWEALTH OF AUSTRALIA.—Customs Tariff Amendments. Customs Decisions.

DOMINION OF NEW ZEALAND.—Additional Export Duty on Gold.

BRITISH SOUTH AFRICA.—Customs Decisions.

FEDERATED MALAY STATES.—Quarantine Restrictions relating to Animals.

EAST AFRICA PROTECTORATE.—Heavy Packages of Machinery, etc., to be Landed at the Kilindini Wharf.

SOUTHERN NIGERIA.—Prohibition of Importation of Manillas and Certain Brass, etc., Rods.

BRITISH GUIANA.—Regulations respecting Exportation of Balata.

BELGIUM.—Conversion of certain *ad valorem* into Specific Duties.

TURKEY.—Certificates of Origin for Goods Imported by Post.

MOROCCO.—Valuations of Principal Articles of Import.

—His Majesty's Consul at Luderitzbucht (Mr. E. Muller) reports that in the twelve months ended 31st March, 1911, 42,000 metric tons of ore were extracted from the Tsumeb and Otavi Valley copper mines in German South-West Africa, as compared with 49,500 tons in the previous year. The 31,600 tons shipped or at the port ready for shipment in 1910-11 had an average content of 16 per cent of copper, 24 per cent of lead, and 290 grams per ton of silver. Mr. Muller adds that new discoveries of copper ore have been made in the neighbourhood of Tsumeb, which promise well, the ore being said to bear 20 per cent of copper.

STATISTICS OF INDIAN SEA-BORNE TRADE.

THE following Resolution dealing with proposals for improving the statistics of Indian Sea-borne Trade is published in the *Gazette of India* of the 13th instant:—

The Government of India have had under consideration certain proposals for improving the Statistics of Indian Sea-borne Trade. In his despatch No. 184 (Revenue), dated the 25th October, 1907, the Secretary of State forwarded for the consideration of the Government of India a copy of a Resolution, adopted at the Colonial Conference of 1907, in favour of greater uniformity in the trade statistics of the British Empire, together with a note which had been prepared by the Board of Trade containing certain suggestions as to the manner in which the desired uniformity should be secured.

The proposals considered by the Government of India were directed to the attainment of three objects: firstly, the improvement of the system of classification at present employed in the Sea-borne Trade Statistics of India; secondly, the revision of the method of arrangement of articles in the detailed tables, and, thirdly, the revision and amplification of the lists of articles to be distinguished separately.

The existing system of classification in the Sea-borne Trade Statistics of India shows the articles under seven main heads as follows:—

- I.—Animals, living.
- II.—Articles of food and drink.
- III.—Metals and manufactures of metals.
- IV.—Chemicals, Drugs, Medicines and Narcotics, Dyeing and Tanning Materials.
- V.—Oils.
- VI.—Raw materials and unmanufactured articles.
- VII.—Articles manufactured and partly manufactured.

This system of classification, which was introduced into the Indian Statistics in 1885, was based on that adopted in the Import Summaries of the monthly statistics of the United Kingdom in 1884. It has, however, been discarded from the latter since 1903, and is undoubtedly defective in so far as it ignores the broad lines of classification of articles, (a) with reference to their nature, and (b) with reference to the purposes for which they are used. The classification now adopted in the trade accounts of the United Kingdom distinguishes between four main heads:—

- (1) Food, drink and tobacco.
- (2) Raw materials and articles mainly unmanufactured.
- (3) Articles wholly or mainly manufactured.
- (4) Miscellaneous and unclassified (including parcel post).

The Government of India have decided to abandon the present system of classification into seven main heads and to introduce the system of classification into four main heads as specified above. This classification

will be adopted in the Summaries which will be prefixed to the Monthly Accounts and to the Annual Statement of the Sea-borne Trade of British India, on the model of those prefixed to the Monthly Accounts and Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions. A classification of Summaries, also in the form appended to this Resolution, will be substituted for the "Classified List of Articles the trade of which is separately recorded in tables 9 to 11," which is at present prefixed to the Tables of Accounts in Volume I of the Annual Statement of the Sea-borne Trade of British India.

With regard to the method of arrangement of articles in the detailed tables following the Summaries, the Government of India have decided to adopt, so far as possible, both in the Monthly Accounts and Annual Statement, the arrangement followed in the United Kingdom returns. In the detailed tables of these returns there is no sub-division under main heads, but the articles are arranged continuously in alphabetical order, provision being made for grouping together within the alphabetical order such articles as are related industrially or commercially. The arrangement which will be adopted in the Indian tables is shown in the lists of articles imported, exported or re-exported, appended to this Resolution. It should be observed, however, that this arrangement will not affect Tables 8 and 10 in Volume II of the Annual Statement of the Sea-borne Trade of British India, which, as they have special reference to payment of Customs duty, will follow, as at present, the arrangement of articles adopted in the Schedules to the Import Tariff. For convenience of reference to the summaries and Classification of Summaries mentioned in the preceding paragraph, there will be shown opposite to each article in the detailed tables a number indicating its appropriate main group in the Summaries and a letter its position within that group.

With regard to the revision and amplification of the list of articles separately enumerated in the returns of Sea-borne Trade, a list of articles to be dealt with was prescribed by the Government of India in 1875, and was last revised in 1897. An attempt was subsequently made in 1905 to distinguish the more important articles comprised in the sub-heading "Other sorts," but it was not found possible at that time to complete the revision contemplated. The matter has again been taken up, and three revised lists of articles imported, exported and re-exported have now been framed after reference to the several maritime Chambers of Commerce. These lists are appended to this Resolution. The main differences between them and the list of 1875, as subsequently revised, are as follows:—

- (1) The scope of some of the existing comprehensive headings has been narrowed by the elevation of certain sub-heads to the position of independent heads. For example, the comprehensive heading "Hardware and Cutlery including Elec-

tro-plated ware" has been split up into "Cutlery" under "C" and "Electro-plated ware" under "E". The ground on which this change has been effected is that the sub-heads in question constitute distinct branches of trade or manufacture, and, as such, their subordination to, or grouping with, other sub-heads is undesirable.

- (2) A considerable number of articles, the trade in which is at present registered under the sub-head "Other sorts" or "All other articles unenumerated," have been selected for separate enumeration.
- (3) Certain items which occur in the existing list, but which now represent trade on a relatively small scale, have been omitted from the revised lists. Such omitted articles will be merged in the relevant "Other sorts" sub-heads or in the head "All other articles unenumerated."

The new lists will be adopted along with the revised system of classification and arrangement above described in the trade returns with effect from the 1st April, 1912. The immediate result of the amplification should be to make the published statistics of the sea-borne trade of India more useful, and to facilitate comparison with the statistics of other countries. The question of additions to, or alterations in, the lists will in future be considered annually by the Director-General of Commercial Intelligence in the light of applications received or of other information.

The changes detailed above will also be introduced into the several tables of the annual volumes of sea-borne trade published by the maritime Local Governments.

The Government of India are satisfied that no loss of information now presented will be entailed by the abandonment of the existing classification into seven main heads, or by the changes to be introduced in the list of articles and in the tables of the published accounts. With the exception of the items which have been omitted as being too unimportant for retention, the existing detailed heads will be preserved under the revised arrangement. As regards such heads the retrospect will therefore not be affected by the changes proposed, and continuity of record in respect of individual items will not be lost.

—The *Uganda Official Gazette* of 15th November contains the text of the **Uganda Cotton Purchasing Rules No. 2, 1911**, made under the Uganda Cotton Ordinances. It is provided that from 1st January, 1912, only two qualities of cotton shall be bought or sold in the Uganda Protectorate, one including only clean and unstained cotton and the other only dirty and stained cotton; no mixture of the two may be dealt in.

ENGLAND'S LEAD IN THE COTTON TRADE AND HOW IT WAS GAINED.

THE commercial supremacy of English cotton piece goods throughout the world is one of the accepted facts of international trade. In the open markets—those unprotected by a tariff—Lancashire goods enjoy something approaching a monopoly, especially in all cases (and they are the vast majority) where cost of production is the decisive factor in the competition for sales. In the protected markets they are, of course, placed at what is calculated to be an overwhelming disadvantage in competition with the products of the local protected industry, but they still retain their advantage over similar goods imported from any other country. Thus Great Britain enjoys the lion's share of the export trade in cottons not only with her own colonies and dependencies (where in some cases they have now a fiscal preference) and with neutral markets in which there is no obstacle to importation, but also (and this is a very important fact not sufficiently appreciated) with the markets which are protected by high tariffs. The British home market is, of course, open to all free of duty, yet it is a remarkable fact that Great Britain sells more cotton goods in the protected markets of her principal rivals in this industry than those rivals are able to sell in her open market. The United States and Germany both buy more cotton goods from Great Britain than Great Britain buys from them, and there is, in fact, no cotton manufacturing country in the world which sells more cotton goods to England than it buys from England. The reasons for the remarkable and enviable position of Great Britain in this particular industry are worthy of close investigation. They include the causes which enabled England to gain her lead of other countries in the manufacture of cotton goods and the causes which have enabled her to keep that lead.

Historically, the manufacture of cotton cloth in Great Britain dates from the year 1600, or thereabouts. A petition of London merchants, in 1621, preserved amongst the State Papers, sets forth that "about 20 years past divers people in this Kingdom, but chiefly in the county of Lancaster, have found out the trade of making of other fustians made of a kind of bombast or down, being a fruit of the earth, growing upon little shrubs or bushes, brought into this Kingdom by the Turkey merchants from Smyrna, Cyprus, Acra (Acre), and Sydon, but commonly called cotton wool." This is the first unmistakable reference in history to the weaving of cotton fabrics in England and only 20 years later there is a historical reference to an export trade in these cotton goods. A book called "The Treasure of Traffic," by Lewes Roberts, published in 1641, speaking of the textile industries of the town of Manchester, says:—"They buy cotton wool in London that comes first Cyprus and Smyrna and at home work the same and perfect it into fustians, vermillions, dimities and other such stuffs, and then return it to London, where the same is vented and

sold, and not seldom sent into foreign parts." Thus were Manchester cottons first introduced—nearly 300 years ago—into foreign markets.

For the next 200 years the cotton industry continued to be carried on in a small, but gradually increasing way in Lancashire, side by side with the older textile crafts of woollen, linen, and silk weaving. For most of this time cotton was used only for the web or "filling" of cotton cloths, the warps being of linen or wool, for it was not until the water frame was introduced towards the end of the eighteenth century that cotton, a comparatively short fibre, could be spun into yarns fine enough and strong enough for warps. The inventions of Arkwright, Kay, Crompton, Hargreaves, Cartwright, and others during the period 1775-1825, and the application first of water-power and then of steam-power to the driving of the new machines, led to an enormous expansion of the cotton industry in Lancashire, and the gradual driving out of the woollen industry to the East (Yorkshire), the linen industry to the West (Ireland), and the silk industry to the South (Cheshire), where they remain to this day. The cotton industry offered better profits and wages, and so attracted capital and labour in Lancashire from these other branches of the textile industry. It also attracted and stimulated the co-operation of the most ingenious mechanics in still further perfecting the machines by means of which the cost of production had been so much diminished.

A very important reason for the permanent establishment of the cotton industry in Lancashire rather than elsewhere in England is to be found in the physical geography of the country. Professor Chapman, of Manchester University, to whose writings on the history and economics of the cotton industry an acknowledgment is due, says of the peculiarly suitable combination of conditions to be found there:—

"There is, firstly, the climate, which for the purpose of cotton-spinning is unsurpassed elsewhere, and which became of the first order of importance when fine spinning was developed. In the Lancashire atmosphere in certain districts just about the right degree of humidity is contained on a great number of days for spinning to be done with the least difficulty. Some dampness is essential to make the fibres cling, but excessive moisture is a disadvantage. Over the county of Lancashire the prevailing West wind carries comparatively continuous currents of humidified air. These currents vary in temperature according to their elevation. Hot and cold layers mix when they reach the hills, and the mixture of the two is nearer to the saturation point than either of its components. The degree of moisture is regulated by the ratio of the actual amount of moisture to the moisture of the saturation point for that particular temperature. Owing to the sudden elevation, the air is rarified, its temperature being thereby lowered, and in consequence condensation tends to be produced. In several places in England and abroad where there is a scarcity of moisture artificial humidifiers have been tried, but

no cheap and satisfactory one has hitherto been discovered. To the advantages of the Lancashire climate for cotton-spinning must be added—especially as regards the early days of the cotton industry—its disadvantages for other callings. The unpleasantness of the weather renders an indoor occupation desirable, and the scanty sunshine, combined with the unfruitful nature of much of the soil, prevents the absorption of the population in agricultural pursuits. In later years the port of Liverpool and the presence of coal supplemented the attractions which were holding the cotton industry in Lancashire. All the raw material must come from abroad, and an enormous proportion of English cotton products figures as exports. The proximity of Liverpool has aided materially in making the cotton industry a great exporting industry."

But what has been said so far goes only a very little way to account for the present unique position of the Lancashire cotton industry. It had the advantages of an early start amid propitious natural conditions, but equal advantages have not prevented other industries elsewhere from going down before foreign competition, or at best surviving only as one of a number of equal rivals. It is, therefore, necessary to look for other causes which have helped Lancashire to keep the start originally gained. Amongst these, the comparatively early and complete development in England of the commercial and financial machinery of foreign trade has been one of the most potent. This is a matter of economic history, and need not be enlarged upon here; it is enough to point out that whereas the cotton manufacturers of America and Germany have commonly to send out travelling representatives to foreign markets to push the sale of their goods, the buyers in many of these markets have long ago come to Manchester and have established there their own houses for the purpose of buying and exporting Manchester textiles. There are whole streets in Manchester in which the names on the office and warehouse doors are preponderantly foreign. German, French, Greek, Italian, Portuguese, Spanish, Scandinavian, American, Turkish, Moorish, Persian, South American—firms of all these nationalities and others are buying not only for their own national markets, but for foreign colonies, and, in fact, for any part of the world in which they can obtain orders. The largest shippers of Manchester goods to India happen, for instance, to be a Greek firm, Messrs. Ralli Bros. In this extraordinarily complete and co-mopolitan equipment of commercial connections, to which must be added the great number of British merchant firms who have their own houses with resident partners in India, China, Africa, the South American Republics, and the British Colonies, the Lancashire industry has for half a century or more enjoyed a solid advantage over every foreign competitor.

Another point is that whereas for the cotton industry in America, Germany, and all other protected countries the home market is the principal outlet and the export trade more or less a side line, in

Lancashire the conditions are reversed. The English mills are devoted mainly to the export trade, which is especially catered for, and employs at least 80 per cent of the looms: the home trade is a comparatively small thing. Lancashire, therefore, gives the foreign buyer not what it suits Lancashire's convenience to sell at any particular moment, but what from long experience and intimate study of the tastes of individual foreign markets the Manchester export merchants know to be suited to their needs. The business of catering for the varying preferences of the foreign consumer in every quarter of the globe is nowhere so diligently and intelligently pursued as it is in Manchester.

Add to this the fact that the cotton industry in Lancashire owing partly to its long history, partly to its concentration in a comparatively small area intersected with railways, canals, and roads, has developed technical specialisation to a degree as yet unapproached in any other country. Spinning, weaving, bleaching, dyeing, printing, finishing are all separate and distinct businesses carried on by specialists who concern themselves with nothing else, and who by continual competition with one another in an absolutely open field are driven to keep efficiency up and cost of production down, or else go out of business. In each of these processes the capitalist has the opportunity of securing the economic advantages of production on the largest possible scale within the narrowest limits of variety, and for all the processes the buyer at successive stages has the widest field of choice amongst competitive specialists. In this, again, the organisation of the British cotton industry is unique.—*Economist*.

—At the eighty-third congress of German naturalists Professor Engler delivered an interesting lecture upon the world's reserves of coal and petroleum. He estimated the world's reserves of coal at not less than 3,000 milliard tons. Taking as a basis the present production, he said those reserves would last Germany for 3,000 years, England 700 years, the rest of Europe 900, and North America 1,700 years. But, of course, owing to the great depth of most coal deposits, an entirely exhaustive exploitation of those reserves was totally unthinkable, considering the present state of their technical means. If they considered at the same time that they got the use of but a small part of the energy concealed in coal (15 per cent at the most), they had to come to the sad conclusion that there would come a day when all their coal reserves would be entirely consumed. The reserves of petroleum still unexploited underground in various deposits all over the world could not be estimated with any degree of certainty. However, if they took that quantity as equal to ten times the production since 1860, they arrived at a figure of 5,000 million tons, which, at 50 million tons a year, would last another hundred years. That estimate was, of course, quite approximate, but he did not think they were far from the truth if they said that the end of the oil production (taking as basis the present rate of production) was not very far off.

SOME ASPECTS OF INDIAN COMMERCE AND INDUSTRY.

MR. G. FINDLAY SHIRRAS, M.A., of the Indian Educational Service, on special duty in the Finance Department of the Government of India, contributed a paper on the subject of Indian Commerce and Industry to the Industrial Conference at Calcutta, from which the following is abridged:—

Industrial Development.

The development of industrial undertakings and industrial education is certainly one of the foremost of administrative problems especially in those provinces where there are rich resources not yet systematically developed and where too unfortunately there is little aptitude or enterprise shown in utilising them. We must not be blind to this principal cause of the failure of Indian industry. There is an awful lack of enterprise in agriculture, handloom weaving, sugar production, oil-pressing, not to mention the production of manufactured articles of a complex character. Cotton weaving, e.g., is conducted on archaic and exceedingly wasteful lines.

Agriculture.

Agriculture means the culture of the people who live on the soil, as well as the cultivation of the soil itself. Our chief difficulty lies in the fact that Indian agriculture is in the hands of small men, the capital is required in small sums, and it is supplied by small capitalists to men of small commercial intelligence at anything but a small rate of interest. During my tours in the United Provinces, Bengal, Eastern Bengal and Assam, Central Provinces and the Bombay Presidency I was much struck by the lack of real practical knowledge amongst the ryots who are conservative to a fault. Many conclusions arrived at agricultural colleges in this country are never heard of even by the better class cultivators. We perhaps are to be blamed slightly in this matter. There is only one way of improving the ryots' welfare and that is the eternal truth of getting into their skins, of realising their ideas and feelings. The Soy bean, for example, has undoubtedly enormous interest for India and a struggle between bean oil and cotton oil in the soap countries in the world has already begun. If its introduction into this country is successful there should be little difficulty in competing with Manchuria. Dry Farming, which has been so successful in America, might be introduced in a larger degree. Dry Farming means roughly the cultivation of drought resisting plants and also the most advantageous use of rainfall on the soil by careful preparation. A great deal can be done in the way of co-operation whether in the form of credit societies or of supply societies, e.g., for providing the materials of agriculture, productive societies, e.g., co-operative dairies and sale societies such as lac or grain societies. When in Eastern Bengal and Assam I found some startling rates of interest. Three villagers borrowed a maund of rice when the market price was Rs. 6 per maund. Not being able to pay in cash they made a bond for Rs. 7 stipulating

for interest at 150 per cent compounded every three months. In less than three years they were sued for Rs. 200 and the Munsif decreed the entire claim. In another case three villagers executed a bond for Rs. 9 for cloth purchased stipulating for interest at 187½ per cent every quarter. The same Munsif gave a decree for the principal with simple interest at 75 per cent. I know of another case where two men took a loan of Rs. 15 at Re 1 interest a day which comes to 2,433½ per cent yearly. At the end of three years an *ex parte* decree for a claim of Rs. 999 was given. There is scope for a more extensive use of agricultural machinery, but sufficient attention will have to be paid to the peculiarities of local agricultural methods. The work of Mr. W. H. Moreland, Director of Agriculture, United Provinces, has been very successful in this respect. Co-operative rural societies may own jointly agricultural implements and will decrease the limitations imposed by the scarcity of capital in agriculture. Bengali ryot like his frater in the Deccan is supremely critical of any machine containing unnecessary parts or whose utility is not obvious. Superficial finish of machines, e.g., highly varnished and coloured metal surfaces so attractive to the European, is not desired by the Indian cultivator. There are local peculiarities, e.g., the ryot of Eastern Bengal and Assam does only about ½ or ⅔ of the work of an efficient English labourer, his pair of bullocks can do but ½ the work of an English pair of horses. His oxen are trained to go counter-clockwise and gears must be designed accordingly. The flexor muscles are better developed than the extensors so the ryots work more effectively with a drawing than with a thrusting stroke. Lastly, he would rather sit down to turn a horizontal wheel, than stand up and turn a vertical wheel for a much shorter period.

Weaving.

Of industries closely allied to agriculture weaving is the most important. 80 per cent of the weavers in Eastern Bengal and Assam are engaged in agricultural pursuits. Dacca has always been famous for its muslins—Abrawan or “running water,” Bafthwa or “woven air,” Shabnam or “evening dew,” though these are almost a thing of the past; and the demand in Europe for the old cotton flowered and sprigged muslin has almost entirely fallen off; when Burke prepared his impeachment of Warren Hastings the output of muslins and silks of Dacca was declared to have an annual value of Rs. 52,50,000. Though this sum is probably exaggerated yet in Europe there was an exceptionally huge demand for these celebrated goods. To-day European taste has entirely changed and chiffon and similar substitutes have taken the place of Dacca muslins. Another reason for the decline is that there is an increasing sale of Japanese silks. A few years ago, I got three grades of chiffons from London and the prices were roughly 12 annas, Re. 1 and Re. 1 annas 7. Prices of similar grades of Dacca muslins are about 13 or 14 annas and one rupee thirteen annas to 3 rupees ten annas a yard.

The chiffon indeed looks even better than the local muslins. The salvation of weavers does not lie in the adoption of large and often expensive looms. It will be more expedient, firstly to utilise existing looms to better advantage by slight alterations which will increase the yield in many cases to 30 per cent, and secondly to assist the weavers by yarn cheap and to sell their products dear. There is no use at present for a central weaving school in Dacca until we have first looked to these points. In Eastern Bengal and Assam quite 75 per cent of the weavers are dependent on Mahajans. In many provinces that I have visited, a weaver gets very little more than the cost price in good seasons and very much less than this price in bad years. What is wanted is an organisation to enable the weavers to dispose of their wares as economically as possible. There is no need at present for large expenditure on bricks, mortar, and laboratory appliances. Our industrial development is not, as many are apt to think, a matter that can be hustled and hurried.

Sugar.

The most striking fact of Indian Commerce in recent years has been the tremendous and unparalleled expansion in our sugar imports. This is specially phenomenal when we remember that India is probably the largest producer of sugar in the world and sugar is indispensable for a warm country like that we live in. It, however, cannot be said that the cultivation of sugarcane in India is contracting seriously because of these imports. We have to remember that the sugarcane in India is often grown in small patches which defy estimate and moreover the great mass of the sugarcane of this country is not converted into crystalline sugar but is consumed in the form of crude sugar or gur which is more nutritious than refined sugar. It is at the same time impossible not to believe that this huge importation of foreign sugar at the rate of 107 lakhs of cwts. yearly or nearly 2 seers per head of population can be continued without affecting the internal industry as a whole. You ask then what is to be done? We are not taking pains enough in the struggle for markets. We ought to develop the **central factory system**, i.e., factory situated in the centre of a tract of land reserved for sugar and its rotation of crops only. The cane is then as near the mill as possible and cultivation, cutting, etc., can be done with the least possible waste. The complete triumph of this system is seen in the regeneration of the sugar industry in Formosa by the Japanese and in Porto Rico. The Java planters, according to the British Consul in the island, are devoting a large portion of their profits to improving their methods of production, while steps are being taken to provide better transport and machinery of the latest type. The price of imported sugar will fall probably as a result of this and Indian sugar will be subject to serious competition in its own markets. A protective tariff, I do not think, will cure this lack

of enterprise. The ryots are strongly averse to using effective crushing mills. The most suitable mills are the three roller mills, and these might be purchased by some of our rural co-operative societies. At the Allahabad Exhibition, the Hadi plant proved its excellence and sugar making by this process among better class cultivators would be profitable. In some provinces there is great need for the Central Factory system. In Eastern Bengal and Assam, the East India Company had extensive mills, and even to this day there still remain some large sugar factories. In Rangpur specially as the district has a belt of country on both banks of the Jamuneswari suited for cane cultivation, there are special advantages for a central factory.

I cannot go into detail in the present paper with regard to the production of goods of a complex character on a large scale by up-to-date methods. It is necessary, nevertheless, to refer to the importance of choosing a good locality in which raw material and fuel can be obtained cheaply, and from which goods produced can be readily transported to the consuming markets. There is need also of obtaining well-paid skilful artisans, as the results of the experiments of employing captains of industry on this basis has been exceptionally successful in Japan. We must not forget that Indian industry is limited by capital.

Capital.

The investment of British capital in India has been discussed at length in two interesting papers read by Mr. George Paish before the Royal Statistical Society in 1909 and in 1910 respectively. Mr. Paish remarks: “No one can doubt the beneficent effect upon the prosperity of India of this expenditure of British capital for the development of the natural resources of the country, and the linking up of district with district, which has so powerfully helped to diminish the severity of famines. The great sums shown below have been lent to India at an exceptionally low rate of interest, and having regard to the immense increase in the wealth of the Indian people which has resulted, and is resulting, from the construction of railways, the burden of the low interest charge is quite negligible.” The details being as follows:—

	£ (000's omitted)
Government	178,995
Municipal	3,522
Railways	136,519
Banks	3,400
Commercial and Industrial, etc.	2,647
Electric lighting and power	1,763
Financial, land and investment	1,853
Gas and water	659
Iron, coal and steel	803
Mines	3,531
Motor traction and manufacturing	90
Oil	3,184
Rubber	4,610
Tea and coffee	19,644
Telegraphs and telephones	43
Tramways	4,136
Total	335,399

It is interesting to note that Australasia has borrowed 380 millions, Canada and Newfoundland 373 millions and South Africa 351 millions, the United States 688 millions and Argentina 270 millions, followed by Brazil, Mexico and Japan with 94, 87 and 54 millions respectively.

It is the fashion in some quarters to protest against the incoming of British capital. India could well do with more of it. Canada and the Argentine Republic are having their railroads constructed for them and are increasing their trade in a way they could never do without this capital. The bulk of the Canadian and Argentine shares have gone into railroad construction. India is credited with the comparatively small sum of Rs. 4½ crores for her railways including the much required feeder railways for developing new centres of industry. The opening up of communications has had a great deal to do with the increase of incomes of ryots and the industrial classes. Between 1875 and 1895 agricultural income rose from Rs. 26 to Rs. 35 or 39 per cent, the non-agricultural income from Rs. 28 to Rs. 34 or 18 per cent, and as these two classes were 97 per cent of the population the average annual income of the masses had risen from Rs. 27 to Rs. 35 or 28 per cent. The income of all classes taken together had risen from Rs. 30 to Rs. 39 or an increase in the average income of 29 per cent. These figures have been carefully compiled and deserve high respect. The increased prosperity consequent on the opening up of the country is seen in an increased consumption per head of salt, in a large development of excise revenue during the period, in the great increase of Savings Bank Deposits and in the decreasing severity of famines.

Labour.

I have already referred incidentally to Indian labour. I had intended to show you how production was hungering for labour which is at present like an army without leaders. I should have liked to show you a very practical scheme of my own, viz., the formation of labour exchanges. This exchange would be concerned with the numbers, movements, and condition of labour. There is of course always the risk that Government might appear to guarantee the terms of employment, but this disadvantage could be easily overcome. It would be to the interest of the Government itself to furnish information which may guide it in legislation and it would be in the direct interest of the labourers so that employers and employed may be brought together without the evils of the present Arkati system. Similar schemes have been successful in the United States of America, in Switzerland, and more recently in the United Kingdom.

A great deal remains to be done with regard to our industrial development. As I have said a protective tariff has often been put forward as the best means to tend to an effective development. It is a contentious matter on which there is at

present no necessity to enter into, but it may be observed that tariffs alone will not expand the industries of India. The Bombay millowners handicapped their own industry by unwise methods of finance and control which militate against prosperity far more than the Excise duty. A pressing need for India to-day is the unlocking of hoarded capital which ought to be put to reproductive uses. The process has begun and its continuance is imperative to the industrial development of India. Twenty years ago, hardly any manganese ore was produced in India, but last year the quantity exported was 572,979 tons and the value was Rs. 91.9 lakhs. The advance on the previous year was therefore 14.5 per cent in quantity and 16.2 per cent in value. No attempt has yet been made to manufacture ferro-manganese. Again nothing has been done in regard to the manufacture of sulphuric acid on a large scale, as everyone knows that sulphuric acid is the key to most economic and to many metallurgical industries. This has been frequently manifested by Sir Thomas Holland. India pays 30 crores annually for products obtained in Europe from minerals identical with those lying idle in her own soil. A great deal is to be done in the utilisation in India itself of raw materials, such as oil seeds which are utilised in Europe and America for the manufacture of various articles of commerce. In the last two years, the share of seeds in the total value of raw produce exported, has been successively 17.4 per cent and 22.4 per cent. In 1910-11 it rose to 26.7 per cent. If well organised oil mills are established, there is no doubt that the export of cotton seed would decrease but there is every likelihood of a ready sale for the manufactured article in the form of article of food and the edible oil might also form a suitable substitute for ghee of which the supply is now falling short of demand. Then again there is the case of paper. The raw materials for paper making are available in the country though not in an exactly accessible form. Large supplies of wood-pulp and wood meal could be made available from the forests of spruce and silver fir in the mountains and fibrous grass from the forest at the foot of the Himalayas. Vast quantities of hides and skins are exported which ought to be manufactured into leather and enormous consignments of cotton cloth which might be made within India itself if the staple of her cotton was systematically improved. It is surprising to find that in the classical days of Greece and Rome three products of India attracted the notice of curious enquirers—a tree from which the Indians made cloth (the cotton plant)—a reed from which a sweet juice was expressed (sugar-cane) and a plant yielding a dark blue dye known as indigo (indigo). These are the very industries which are in jeopardy to-day. These plants were not known to the ancient agriculture of Egypt and Mesopotamia. India has found herself surpassed by America and Egypt in growing crops that were peculiarly her own. In Egypt the cotton plant produces fourfold, in the West Indies the sugarcane produces nearly threefold

the return that they yield in India. And the cultivation of indigo now appears to be doomed by the manufacture of artificial dye in German laboratories. The Indian industrial progress has certainly been great during the last three decades, but during the next two decades remarkable development will take place. We have to remember that the foundations of India's industrial prosperity have already been laid, her productive power is capable of infinite expansion, and the time is now at hand to improve Indian agriculture by strictly practical means so that its products can compete in the markets of the world, to extend her railways and irrigation, to coax British capital and above all to foster a strong spirit of co-operation.

MYSORE INDUSTRIES.

We take the details below from the Mysore Administration Report for 1910-11:—Excluding gold, the principal exports during the year were arecanut, coffee, cardamoms, food grains, hides, jaggery, cotton and silk; and the principal imports, food grains, yarn, dhal, piece goods, wheat, chillies, kerosene oil and salt. The value of imports was Rs. 2,83,89,215 and that of exports, excluding gold, Rs. 4,23,98,467. Fifteen mining companies were at work during the year, 10 for gold, 3 for manganese and 2 for mica.

The chief gold producers were the Mysore, Champion Reef, Ooregum, Nundydrug and Balaghat mines and the returns from the first three mines were satisfactory. The increase in the case of the Champion Reef mine was all the more gratifying, taking into consideration the adverse circumstances with which it had to contend in regard to the frequent occurrence of quakes and air blasts underground, which seriously hindered the operations at times. The returns from the Ooregum mine were not so good as they were expected to be, but from the present indications in the developments it is hoped that they will again attain their former high level. The Tank mine ceased operations altogether, but a portion of the block is being worked in depth by the Nundydrug company with profitable results. Prospecting operations were carried out on the east Betarayaswami block, and to the south of the field on a block belonging to the Mysore company and on the Kempinkote block. The result of these operations proved in the case of the last one the existence of old workings. Operations were also commenced by the Ooregum company on the Manighatta block. The work which was being carried out by the New Shimoga Gold Fields, Ltd., on the Honnegudda and Siddarhalli blocks in the Shimoga and Kadur districts was suspended owing to lack of funds.

The total quantity of gold produced during the year under report was 547,867 oz. approximately estimated at Rs. 3,14,83,742 against 552,857 oz. estimated at Rs. 3,17,92,840. Comparing the out-

put of gold for 1910-11 with that for the previous year, there was an increase of 7,897 oz. in the Mysore and Champion Reef mines and a decrease of 12,887 oz. in the Ooregum, Nundydrug, Tank block, Balaghat and other mines.

The royalty due on the gold obtained during the year under report was approximately Rs. 17,80,276 against Rs. 15,90,242. The increase in royalty is due to the receipt, during the year, of 2½ per cent of dividends paid by certain gold mining companies in accordance with the terms of the new leases held by them.

There was no improvement in the price of manganese and the industry in this mineral therefore continued in a depressed condition. The following statement shows the approximate quantities of ore obtained and sold and royalty realized thereon:—

Year.	Tons extracted.	Tons sold.	Royalty. Rs.
1909-10	37,843	29,755	16,883
1910-11	28,265	17,960	7,577
Decrease	9,578	11,795	9,306

The chrome industry during the year shared the same fate as that of manganese and did not therefore offer any encouragement to the licensees for pursuing the business. Consequently no ore was extracted from any block in the State during the year under report and the industry in this ore is now at a standstill.

The Bombay Mining Syndicate who held a mining lease and a prospecting license for mica in the Seringapatam taluk met with no success during the year under report. A prospecting block in the Yedatore taluk gave some promise. Several mica deposits to the east of Kikri in the Sringeri jahgir were opened up and a quantity of 60,000 lbs. of muscovite mica of a fairly good quality was unearthed.

There was a slight change introduced during the year under report in the system of issue of licenses for collecting corundum. The power of granting licenses for this mineral was taken away from the Deputy Commissioners who were hitherto allowed to issue them for short periods over small areas, and all licenses are now being issued by Government in the Geological department. During the year under report no appreciable work, however, was carried out on the areas for which the prospecting licenses were granted.

A small quantity of 38 maunds of asbestos was removed from a block in the Hosdurga taluk for experimental purposes. Excepting this, no regular business was carried on in the industry of this mineral during the year under report.

During the year, certain localities in the taluks of Hosdurga and Holalkere where iron smelting and steel making industries were being carried out were inspected and information in regard to the processes employed in connection with those industries collected. A collection of samples of iron ore, native iron and steel, as well as crucible

clay and other materials used in the above processes, was obtained and furnished to the Bombay Government in compliance with a requisition made by that Government at the instance of Sir Robert Hadfield.

The number of persons employed in the mining industry during the year 1910-11 was 27,116 as against 29,168 in 1909-10. Of these, 26,339 were engaged in gold mines alone.

COTTON SPINNING IN 1911.

AN analysis of trading results of Lancashire cotton spinning companies for the twelve months ended November 30th, 1911, recently published by Mr. William Tattersall, of Manchester, was briefly alluded to in the *Indian Trade Journal* of January 4th (page 2). The particulars given relate to 76 mills, with a share capital of £2,806,798, and loans £1,394,792. The value of machinery, including plant, amounts to £3,288,317, and the total spindleage is 6,570,532, there being 2,687,348 twist and 3,883,184 weft spindles. The year opened fairly well and moderate profits were declared at the December and March stocktakings, but the results published at the end of June and September were irregular and rather disappointing. Of the 76 companies 45 have made a total profit of £79,724, and 31 concerns report a total loss of £48,711 during the past twelve months. On these figures the profit on share capital works out at a little more than one per cent per annum, while the gain on share and loan capital combined is three-quarters per cent per annum. Although the results are not at all satisfactory, there is a distinct improvement on the previous year, when the loss on share capital was over 10 per cent per annum, and on share and loan capital combined over 7 per cent per annum. As 1911 draws to a close the prospects are decidedly brighter than for a long time back. For over three months spinners have enjoyed a remunerative trade, and most companies are expected to report satisfactory profits at the end of December stocktakings. This better state of affairs has had its effect upon the share market and quotations have recently steadily hardened.

The following table gives the profits and losses of the spinning trade for the past 10 years:—

Year.	No. of Companies.	Average per Company.			
		Profit.	Loss.	Profit.	Loss.
		£	£	£	£
1902	85	—	1,436	—	16
1903	90	—	45,322	—	503
1904	90	31,729	—	352	—
1905	90	693,070	—	7,701	—
1906	90	590,002	—	6,555	—
1907	100	1,321,157	—	13,211	—
1908	100	586,511	—	5,865	—
1909	100	—	272,072	—	2,720
1910	100	—	368,006	—	3,680
1911	76	31,013	—	408	—

THE WORLD'S TRADE IN TEA.

THE London correspondent of the *Tea and Coffee Trade Journal*, writing under date the 26th October, 1911, says:—The increase in the consumption of tea throughout the world continues. At the present time, instead of planters having to sell their tea almost for anything they could get, and to tax themselves in order to exploit new markets, as was the case from ten to five years ago, the demand for British-grown tea is greater than the supply, and prices have been paid this year for common tea which have not been equalled for twenty years. The average price of all tea has also risen considerably.

Consumption Exceeds Supply.

Rather more than four years ago consumption overtook supply. Prices thereupon rose, and the planter after a time began to reap some slight reward for his long years of hard, almost unremunerative, toil and for his persevering efforts to find new markets for his teas. Since then production has continually increased, but consumption has increased still faster, and is now distinctly in advance of supply. We say in advance of supply rather than of production, because in all probability large quantities of tea are grown and consumed in all the producing countries, particularly in China, of which no record reaches the outside world.

	1910-11, lbs.	1909-10, lbs.	1908-09, lbs.	1907-08, lbs.
United Kingdom	174,100,700	180,083,200	168,093,400	161,438,400
Australia	9,595,900	8,604,800	8,936,800	10,946,200
America	5,606,900	5,609,900	5,500,500	3,744,300
Russia and China	40,347,500	30,490,500	25,443,100	27,755,600
Other ports	10,478,800	10,849,500	12,877,800	9,837,700
Total from North India	240,129,800	235,637,900	220,851,600	213,722,200
Southern India	18,255,000	16,616,000	15,243,100	15,262,400
Total from all India	258,384,800	252,253,900	236,094,700	228,984,600

Russia and China are coupled together in this table, because practically all the tea sent from India and Ceylon to China consists of dust and siftings which are manufactured in factories belonging to Russian firms into "brick" tea for consumption in Asiatic Russia.

A statement appeared in a Chinese newspaper last February to the effect that the Chinese Minister of Trade intended to stop the importation of foreign tea into China. This would have been injurious to the Indian and Ceylon planters, who are in the habit of sending to Hankow every year about 15,000,000 lbs. of dust and siftings to the value of about £400,000. It was not, however, necessary for them to move in the matter, as the rumour was not confirmed. It is said that the factory owners protested through the Russian Ambassador against the proposed course, and even threatened to remove their factories from China. The admixture of about 10 per cent to 15 per cent of the strong liquoring dust from India and Ceylon greatly improves the "bricks" and facilitates their sale.

The proportion borne by the various countries in supplying the world's demand remains much the same as last year, all of them having increased their output except Ceylon.

By far the greatest part of the tea concerning which we have reliable statistics is grown in India and Ceylon, most of the rest coming from China, Japan and Java. Small quantities are grown also in Natal, Nyasaland, Burma, the Straits Settlements, the Mauritius, Queensland, the Fiji Isles, Brazil, and the Caucasus, but are almost entirely consumed locally; some also in Annam, part of which is exported to France.

Record Crop For India.

India produced a record crop during the year 1910-11, her exports up to 31st May 1911, to which date we have official figures, including Southern India, reaching the large amount of 258,384,800 lbs., about 4,000,000 lbs. more than during the preceeding twelve months. It seems probable that when we see returns for the twelve months ended 30th September we shall find that the increases even greater, and that the crop of 1910-11 is as much as 15,000,000 lbs. ahead of that of 1909-10.

The following table gives the distribution of exports from India during the last four years:—

Rubber Cultivation Reduces Ceylon's Output.

The area under tea in India has not much increased during the year; the difficulty of obtaining coolies is so great that most planters now devote their attention rather to increasing the productive power of the existing gardens than to extending their area.

Up to the end of 1910 the total export from Ceylon had fallen over ten million pounds. During the early months of this year it recovered considerably, but not sufficiently to bring the total nearly up to the record output of 1909-10, which was very little short of 192,000,000 lbs. The deficit is attributed partly to the draught and partly to the greater attention given to rubber. Some experts think that with favourable climatic conditions the output of the island will remain at about the same level for some years to come, for although the increase in rubber planting tends to reduce the area under tea, better cultivation increases the yield. Also there is much high ground in Ceylon very suitable for tea where rubber cannot be grown. About 61 per cent of Ceylon's crop goes

to the United Kingdom, the rest mostly to Australia, Russia and America.

There is a growing opinion in Ceylon that there is an excellent opportunity just now for establishing a good trade with the United States in natural green teas, to take the place of the coloured teas formerly imported from China and Japan. Ceylon has paid increasing attention to green tea the last few years (a new and well-equipped finishing factory is now in course of erection at Colombo), with the result that during the year under consideration 1,500,000 lbs. more of it were exported from Ceylon to America than in 1909-10. It is expected that a good deal more green tea will be made in the island during the current year.

The great feature of the year with regard to British-grown tea, both Indian and Ceylon, is the immense increase in direct shipments to foreign countries, particularly to Russia. Many Russian merchants who formerly made their purchases in London now buy almost entirely in Calcutta and Colombo.

Labour Problem Confronts Natal.

Owing to drought it is probable that the output of Natal tea will be about 50,000 lbs. less this year than last, viz., 2,042,000 lbs., instead of 2,092,000 lbs. The demand for this tea increases steadily. If the output were doubled the whole would probably easily be consumed in South Africa. So far, though, from there being any prospect of a substantial increase in the crop, it seems as if, owing to the scarcity of labour, the planters would have difficulty in keeping it up to its present level. Until this summer the greater part of the work has been done by indentured labour from India, but the Indian government last June refused to allow any more coolies to go to Natal. Local labour is almost unobtainable, as tea cannot pay the high wages offered by gold and other industries. It has been suggested that men should be brought from Nyasaland; but even if that were practicable they would cost twice as much as Indian coolies. One writer on the subject thinks that the tea and sugar industries of Natal will soon be things of the past, but that is hardly likely.

It is estimated that there are about 20,000 acres of land in Nyasaland suitable for tea growing of which about 600 are at present under tea, while there is an increasing demand for land round about the existing gardens. Some of the land is leased by the Government at 6d. an acre, some sold outright at 10s. Last year's output was about 56,000 lbs. The aroma and flavour of the tea are said to be very good, superior to low country Ceylon. Tea promises to be very profitable in Nyasaland, as labour is cheap, the natives like the work, and the tea area is within 20 miles of the Shire Highlands Railway.

Colour Regulations Affect China.

Exports from China increased on the whole during the year. Shipments to the United Kingdom and to Russia rose, but the United States took 23 per cent less green and 71 per cent less black tea than during the preceding year.

The trade with the United States has been affected by the new regulations, which came into force 31st May, 1911, forbidding the importation of artificially faced or coloured teas, of which, until this year, about 15,000,000 lbs. have been annually shipped to the States from Shanghai. In spite of the publication of this law about 40,000 chests of coloured tea were manufactured and sent to Shanghai for exportation. Some of it was actually shipped to the States, but was rejected as impure. It has been suggested that possibly the manufacturers did not take the prohibition seriously, or thought that the authorities would be induced to relent.

The production of tea in Java increases steadily, though not rapidly, but the total output is still so small compared with that of India and Ceylon that it does not make much difference so far as satisfying the world's demand is concerned. In Java, as in most of the other tea producing countries, production is hampered by the labour difficulty, the supply of native labour not being sufficient for both rubber and tea and the Government putting difficulties in the way of importing Chinese labour.

During the year exports to the United Kingdom and Australia increased considerably, but less was sent to the Netherlands. The United Kingdom and the British colonies take about 40 per cent of the whole amount exported.

Slight Increase in Japan's Exports.

Exports from Japan increased during the year, but not to any great extent. The quality of the leaf is not as good as it has been. Machinery is now generally used, and has not been brought to sufficient perfection to turn out as good tea as was formerly made by hand.

When the United States passed the law forbidding the importation of coloured tea a regulation was issued by the Japanese government prohibiting the manufacture or handling of such tea in Japan. As, however, Canada gave some large orders for tea of this kind the Government decided that the regulation should not come into force until September.

Formosa produces about 24,000,000 lbs. a year. The tea is different from all other teas, being partly fermented, and therefore something between a black and a green tea. It is principally used for flavouring. The best kinds are highly valued. The first crop of this year is reported as being of exceptionally good quality.

The amount of tea grown in the Caucasus does not affect the world's supply, though the quantity is steadily increasing. The tea can be delivered in St. Petersburg at a cost of about 2s. a pound.

Brazil Experiments with Tea.

Experiments in tea growing have for some time past been made in Brazil. A sample lately received in London was of excellent quality, resembling good Ceylon. Possibly at some future time the shortage in the world's tea supply caused by the inter-planting of rubber in the old tea-producing countries of Asia may be supplied from the rubber districts of Brazil.

The tea grown in Burma is almost entirely made into letpet (pickled tea) and eaten as a condiment. It therefore does not affect the world's supply of tea for drinking.

Turning from the consideration of the production of tea throughout the world to that of consumption we find that it also, as we said above, has considerably increased.

Great Britain Second Largest Consumer.

In the United Kingdom consumption per head of population has risen to 6.39 pounds higher than in any other part of the world except Australasia.

The following table shows the amount contributed by the various producing countries in supplying the tea consumed in Great Britain and Ireland during the last two years and the proportion these amounts bear to one another. The figures of those given by the President of the Board of Trade in the House of Commons on the 8th of August last:—

	Year ended 30th June 1910.		Year ended June 1911.	
	lbs.	Percent- age.	lbs.	Percent- age.
British East Indies (except Ceylon)	164,456,000	57.00	149,885,000	54.68
Ceylon	91,098,000	31.58	95,083,000	34.69
China	12,192,000	4.22	8,834,000	8.23
Java and other countries	20,757,000	7.20	20,303,000	7.40
Total	288,503,000	100.00	274,105,000	100.00

Russia India's Best Tea Customer.

Russia continues to be India's best customer outside the United Kingdom. Her whole population (over 120,000,000) drink tea, and drink a good deal of it. They are gradually giving up China tea and taking more from India and Ceylon. There has been a succession of very good harvests, causing consumption by the peasantry to increase. It is possible that their buying power may diminish a little this year, as the harvests in several districts are not good, but this is not likely to make much difference in the total amount imported. Official statistics show an increase of 7,110,000lbs. or 29.6 per cent, imported from India during the year ended 31st March, 1911. The increase from Ceylon is estimated to 13th July at 1,400,000lbs. Calcutta has now a direct steamer service to Russia.

During the year under consideration Australasia took about 750,000lbs. more than India, rather less than usual from Ceylon, and a good deal more from Java, than during the preceding year.

Increased Consumption in United States.

In the United States there is no doubt that tea is gradually, though slowly, coming into favour. This has probably been partly caused, lately, by the high price of coffee. During the year under consideration the States imported over 20,000,000lbs. of British grown tea, in the proportion of about 12,000,000 from Ceylon and over 8,000,000 from India.

As we remarked when speaking about China tea the prohibition of the importation of coloured tea

into the States will probably have the effect of increasing the consumption of British-grown tea. The new regulation will doubtless raise the standard of the tea imported. Until this law came into force a certain amount of "scum," i. e., floating colouring matter, was allowed, but will be permitted no longer. This will be to the advantage of Indian and Ceylon green teas, which are absolutely free from colouring matter.

On the continent of Europe tea drinking is increasing generally. The increase in the consumption of Indian tea is particularly marked in Belgium, doubtless owing to the good work done at the Brussels Exhibition, which will no doubt be carried on at the three exhibitions shortly to take place at Dresden, Turin and Charleroi.

Complaints are still made that it is difficult to get good tea in France (though a French paper said a little while ago that Paris had gone tea mad) except at the very best hotels and cafes, where very high prices are charged. The fault is, doubtless, a good deal in the making, but is also due to the quality of the tea itself. The greater part of the tea consumed in France comes from Annam, and is of very poor quality, but as it comes in duty-free, while other tea has to pay a tax of 11½d. a pound, it is naturally cheaper in proportion. Also, French merchants frequently buy their tea by the appearance only, without tasting it, so that even if they buy it in England they often do not get tea likely to give what an Englishman calls a "good cup."

It is extremely difficult, practically impossible, to get reliable statistics as to the consumption of tea in India itself, but there is no doubt that it is increasing. It is estimated at from 7,000,000lbs. to 12,000,000lbs. a year, but these figures are more or less conjectural. The natives are certainly taking more, and many native traders are interested in the trade.

Problems Confronting Distributor.

We think that the above details prove that the position of the tea producer is happier than it has been for many years past, though his life is far from being an idle or even an easy one, nor is it by any means free from cares and anxieties. The position of the distributor is not at the present moment quite as happy. He has, on the one hand, to pay high prices for his teas, and, on the other, to satisfy consumers accustomed for years to paying very low prices for really good tea. In England he suffered this spring, as usual, from the dislocation of trade which takes place yearly before the declaration of the Budget, owing to the anticipation of a change in the duty. This year, also, the strike greatly interfered with his trade, tea being affected by the stoppage of work at the docks as much as any commodity and more than many.

Nevertheless, in spite of all these drawbacks, the trade continues to be in a fairly flourishing condition both with regard to production and to distribution tea being considered by most people, in spite of all that has been said to the contrary, a necessity of life.

MINERAL PRODUCTION OF THE UNITED KINGDOM IN 1910.

THE following table, showing the quantity and value (definitive figures) of the minerals produced in the United Kingdom in 1910, as compared with 1909, is taken from the General Report with Statistics on Mines and Quarries, 1910, Part III, recently issued by the Home Office:—

Description of Mineral.	1909.		1910.	
	Quantity. Tons.	Value at the Mines and Quarries. £	Quantity. Tons.	Value at the Mines and Quarries. £
Alum shale	9,120	915	8,674	867
Arsenical pyrites	179	408	944	876
Arsenic	2,880	28,187	2,153	17,602
Barium (compounds)	41,766	40,528	41,667	43,939
Bauxite	9,500	2,408	3,792	882
Bog ore	2,676	669	2,563	640
Chalk	4,436,923	175,020	4,631,432	183,057
Chart, flint, jasper, &c.	52,225	11,654	73,904	12,795
Clay and shale	14,967,810	1,718,056	14,090,320	1,761,410
Coal	263,774,312	108,274,900	264,433,028	108,377,567
Copper ore	3,531	13,859	3,986	14,922
Copper precipitate	186	5,495	192	5,980
Diatomite	240	120	—	—
Fluorspar	42,483	16,029	61,621	20,678
Gold ore	5,538	3,817	6,154	7,500
Gravel and sand	2,164,837	159,441	2,109,852	164,281
Gypsum	238,396	65,943	255,559	68,242
Igneous rocks	6,283,297	1,235,046	6,608,705	1,263,410
Iron ore	14,804,382*	3,678,802	15,226,015*	4,022,269
Iron pyrites	8,429	3,819	9,380	4,018
Lead ore	29,744	259,254	28,534	232,346
Limestone (other than chalk)	11,811,122	1,226,967	12,512,736	1,296,169
Manganese ore	2,768	2,243	5,467	4,673
Mica	23,927	8,225	21,743	9,341
Natural gas cubic ft.	236,800	Not stated.	202,000	Not stated.
Ochre,umber, &c.	16,313	15,189	16,515	15,377
Oil shale	2,967,057	815,937	3,130,280	690,827
Phosphate of lime	4	6	—	—
Salt	1,818,519	542,324	2,050,030	581,504
Sandstone	4,600,084	1,339,106	4,386,261	1,300,705
Slate	402,184	1,007,013	416,324	1,003,994
Sulphate of strontia	14,042	10,532	4,761	3,570
Tin ore (dressed)	8,289	617,376	7,572	655,871
Uranium ore	6	Not stated.	76	Not stated.
Wolfram ore	376	28,340†	274	27,094†
Zinc ore	9,932	40,320	11,238	52,298
Total values	...	119,376,939	—	122,105,582

* Exclusive of 457 tons in 1909 and 395 tons in 1910 of micaceous iron ore, used for paint, and placed under the heading "Ochre, umber, &c."
† Value of 333 tons only for 1909 and of 254 tons only for 1910.

The increase in the total value of the minerals raised during the year is mainly accounted for by the increased value of coal. The average price of coal was 8s. 2.36d. per ton in 1910, as compared with 8s. 0.7d. in 1909.

The quantity of coal exported, exclusive of coke and manufactured fuel and of coal shipped for the use of steamers engaged in foreign trade, was, 62,085,476 tons, or nearly a million tons less than that for 1909. This decrease is due to the falling off in the exports to Continental countries. The decrease would, however, have been greater but for the fact that more coal was exported to South America, than in the preceding year. France received over 9½ million tons, Germany over 9 million tons, Italy over 8½ million tons, Sweden nearly 4 million tons, Russia nearly 3½ millions, Egypt, Spain, Argentina, and Denmark each over 2½ million tons, and the Netherlands nearly 2¼ millions. Adding the 2,930,467 tons exported in the form of coke and manufactured fuel, and the 19,525,735 tons shipped for the use of British and foreign steamers engaged in foreign trade, the total quantity of coal which left the country was 84,541,678 tons, as against 86,037,006 tons in 1909.

The amount of coal remaining for home consumption was 179,891,350 tons, or 4.005 tons per head of the population, 36,487,218 tons were used in the manufacture of coke and briquettes, and 20,485,514 tons in the blast furnaces for the manufacture of pig iron, as against 35,924,723 tons and 19,463,471 tons respectively in the previous year.

Of the metallic minerals raised in the United Kingdom, iron ore is by far the most important. During the year the output of ores of this metal was 15,226,015 tons, valued at £4,022,269. The ore yielded 4,975,735 tons of iron, or nearly one-half of the total quantity of pig iron made in this country.

—Mr. W. S. Hamilton, I.C.S., Director of Agriculture and Industries, Punjab, states:—Well-boring operations are now progressing more satisfactorily, as the borers become better acquainted with their work. The number of applications for their services is very large in some tracts, such as the Rewari Tahsil, where many of the wells cannot be worked all day. The search for a sand stratum bearing sweet water below the salt water bearing stratum now tapped has nowhere succeeded. The proposal made last year to form committees in each zail for securing that only suitable animals are let loose as bulls for breeding has in many places been welcomed by the people and if the interest can be kept up and dissensions avoided there is hope that the general standard of the bulls in breeding tracts will be raised considerably. The exports of barley from the Punjab through Karachi have been very large in the year which has just closed. The Karachi Price Current gives the exports of barley from Karachi as 2,492,329 cwt. This is quite unusual. The wholesale price of barley has reached Rs. 2-8-0 a maund and the sowings just completed in the Gurgaon and Rohtak districts are extensive.

MANUFACTURE OF PONT-L' EVEQUE CHEESE.

Pont-l'Eveque cheese, one of most favoured varieties known in France, is made in small squares $4\frac{1}{2}$ inches wide and 1 inch thick. Its rich, yellow colour is obtained by using rocoa, a colouring matter made from the pulp surrounding the seeds of the tropical plant *Bixa orellana*. Sometimes the cheese has a reddish appearance. When fully matured the colour is uniform throughout the cheese underneath the crust. It has considerable elasticity and emits a pleasant aroma. It is one of the oldest brands of cheese known in France, having been made as long ago as the thirteenth century.

It is estimated that \$386,000 worth of Pont-l'Eveque cheese is manufactured annually in this country, the principal centre of production being the district of Pont-l'Eveque, in north-western France. The making of the cheese continues throughout the whole year, but the best results are always obtained in September and October.

In the process of ripening, the mold, so important in the preparation of Brie and Camembert cheese, is not considered essential. Dependence is not placed on the germs in the air or surrounding substances but upon the ferments which are added to the milk by the rennet at the time of curdling.

Curdling the Milk-Division of the Curd.

The curdling of the milk, an operation which forms the basis of all cheese making, is obtained in the manufacture of Pont-l'Eveque by means of a commercial rennet. It is effected at a temperature of 89° to 94° F., depending on the outside temperature. The temperature of the milk at the moment of curdling must be carefully watched to avoid obtaining a hard, dry cheese. When the milk is too sour in the first place the attempt may meet with failure.

After the milk has been thoroughly strained it is heated to the proper temperature for renneting. The rennet is then added, diluted in a quantity of water, depending upon the strength of the rennet, or in such quantity as is calculated to bring about the coagulation in 20 to 40 minutes. Many cheese makers add one-twentieth part of boiling water so that the milk, which has an initial temperature of 89° or 90° F., is brought to nearly 94° . This is also the proper time for adding to the milk the required amount of colouring matter. After adding the rennet the milk is stirred for five minutes to mix the ingredients thoroughly; then the receptacle is covered to prevent the contents from cooling.

The coagulation completed, the breaking of the curd is begun. This is effected by cutting vertical slices in two opposite directions, forming angles of 45° . The division of the curd aids the separation of the whey from the curd. With a skimming ladle the curd is raised in thin, horizontal slices and placed upon beds of reed or rye straw. The drainage may be assisted by exerting a light pressure upon the curd. To protect it against too rapid cooling, dry, hot cloths should be thrown over the curd. In

about 30 minutes the separation of the curd from the whey should take place. During this time the position of the curd should be changed from time to time in order to insure better drainage.

Molding, Salting, Drying, and Ripening.

Wooden boxes in the form of squares are used for molding the cheese. These boxes are made of beech or ash and the sides are pierced with holes. Boxes of tinned iron are sometimes used. The curd is placed into the mold little by little with the fingers, care being taken to press it down firmly so the lumps of curd will be free from surface fissures. After the mold is filled it is turned over on a dry mat, this operation being repeated six or eight times within an hour. The temperature should be 64° to 66° F.

After about 24 hours the cheese is taken out of the molds and the entire surface covered with a thin layer of fine salt, particularly the surface exposed to the air. Twelve hours later it is again turned and salted, special care being taken with the side exposed to the air. The next day marks the end of the salting process. Following the salting comes the drying, which takes place in the drying room. In this room are placed open worktables to receive the cheese, which is placed upon a layer of straw. The temperature should be about 59° F. The cheeses are turned over every day and occasionally washed with additional colouring matter and light brine, for a period of 8 to 20 days, according to the season.

From the drying room the cheeses are taken to the cellar. There they are placed on a plain surface, one against the other, and covered with a cloth to prevent too great an evaporation. They are turned from time to time to insure perfect uniformity in the ripening process, which is usually completed in about 20 days. The first quality cheese thus obtained is noted for delicacy of flavour and savoriness.

For a cheese $4\frac{1}{2}$ inches square and 1 inch thick about 7 pints of milk are required. It is a curious fact that 7 pints of milk cost in the Paris markets about 30 cents, while a square of Pont-l'Eveque cheese of the first quality may be bought for 20 cents.

Cheese of Second and Third Quality.

Cheeses of the second class are always made during the spring and summer months, the milk used being that of the mornings milking added to that of the evening before and even to that of the noon before when the milking is done three times per day. The milk of the previous day is partly skimmed. Before the curdling there is added a quantity of boiling water equal to about one-fifth or one-eighth that of the milk the temperature of the curdling this time being about 98° F. The rennet is added to the milk in such quantity as to produce a rapid curdling in about 15 to 30 minutes. The succeeding operations are as described for first quality cheese.

The third class cheese is produced chiefly during the winter months. The milk of one or even two days before is used after having been skimmed. It is brought to the curdling point by the addition of

boiling water until the liquid burns the fingers. The curdling takes the same length of time as for the second class and the same operations are repeated. Second and third class cheeses must be left in the cellar for some time.

The principal markets for Pont-l'Eveque cheese are Pont-l'Eveque, Breuil-en-Auge, Beaumont, and Trouville, situated in the north-western part of France.

THE WHEAT CROP OF THE WORLD.

BEERBOHM'S *Evening Corn Trade List* dated December 22nd gives the following revised estimate of the world's wheat crop based on the latest official reports:—The total yield for the countries mentioned now works out at 432,000,000 qrs. against 441,600,000 qrs. last year, and an average yield for the five years ending 1910 of 411,000,000 qrs.:—
(In Quarters of 480 lbs., 000 omitted.)

	1911. Qrs.	1910. Qrs.	1909. Qrs.	1908. Qrs.	1907. Qrs.	1906. Qrs.
*Austria . . .	7,500	7,200	7,300	7,800	6,300	7,200
†Hungary . . .	24,000	22,700	14,200	19,000	16,850	25,900
Belgium . . .	1,800	1,550	1,750	1,750	1,950	1,750
Bulgaria . . .	8,000	7,100	4,600	4,500	4,500	5,150
Denmark . . .	500	550	500	500	500	500
France . . .	40,000	31,500	44,500	39,500	47,500	41,000
Germany . . .	18,700	17,700	17,200	17,270	15,935	18,000
Greece . . .	750	650	750	750	750	750
Holland . . .	700	550	750	600	650	600
Italy . . .	24,000	19,200	23,800	21,000	24,600	23,000
Portugal . . .	1,000	800	700	400	400	800
Romania . . .	11,500	13,400	6,900	6,700	5,350	13,600
Russia . . .	67,000	102,800	97,600	71,000	63,675	63,300
Servia . . .	1,750	1,650	1,800	1,750	1,400	1,850
Spain . . .	19,500	17,200	17,200	14,500	12,700	17,500
Sweden . . .	1,000	900	800	720	725	750
Switzerland . .	500	350	550	500	500	500
United Kingdom .	8,000	6,500	7,900	6,750	7,250	7,580
Total for Europe .	236,200	252,300	248,800	218,500	211,535	229,730
Algeria and Tunis .	5,500	5,700	5,100	4,100	5,140	5,500
Argentine Republic	21,000	17,500	16,500	20,150	24,500	19,100
Australasia . . .	10,500	13,100	12,400	9,500	6,000	10,000
Canada . . .	24,000	18,700	21,000	14,000	10,500	15,400
Chile . . .	2,000	2,300	2,300	2,175	1,800	1,750
Egypt . . .	4,700	4,000	3,900	2,250	1,500	1,500
India . . .	46,300	44,000	35,370	28,750	39,700	40,000
United States of America .	78,000	79,400	83,000	80,000	76,000	88,000
Uruguay . . .	1,200	1,300	1,250	1,000	1,000	800
Japan . . .	2,800	2,700	2,900	2,900	2,800	2,475
Total out of Europe	195,800	180,300	188,620	162,825	168,940	181,525
GRAND TOTAL . .	432,000	441,600	437,420	381,325	380,475	411,255

*Including Bosnia and Herzegovina. †Including Slavonia and Croatia.

INDIAN PAPER INDUSTRY.

A recent American Consular Report quotes a letter from one who has had a good deal to do with the manufacture of paper in India. The contention that before success can be attained in India in increasing output of paper we must have a wood-pulp manufactory is, says a Rangoon paper, not based on actual conditions. The material supply has nothing to do with the reasons why the working of Indian mills have not given satisfaction of late years. The trade is simply suffering from a lack of facilities for manufacturing with economy—that is, modern machinery capable of large output, the same as is now employed in other parts of the world. Machinery designed and manufactured in the last century can hardly hope to compete with modern, up-to-date time and labour saving machinery in use in Europe and in the United States. Before any serious thought can be bestowed upon pulp mills, whether wood or bamboo, the demand for the material must be created. The existing Indian paper mills do not want wood pulp because they have ample supplies of grass fibres, a much superior material for paper making. The material is fairly cheap. Indian mills as now equipped could not use woodpulp profitably, even if it were available at a very low price, for the reason that their machinery is not adapted to the making of cheap mechanical wood-pulp papers. The mills have a constant demand for a better class of paper than is made of woodpulp. It must not be supposed that the Indian paper mills have to depend solely upon grass babui. There are a number of other excellent grasses and fibres growing in India. Many of them have been experimented with from time to time and shown to be useful paper-making material, and that these grasses have not been utilized more is owing mostly to the fact that the large resources of babui grass render the adoption of any other grass fibre unnecessary. Some of the grasses referred to would make valuable paper-making material with a properly selected plant for the preparation and treatment of the fibres. These resources would need to be utilized before it would be necessary to give attention to wood pulp. Bamboo will take precedence of wood pulp in India. Experiments made with this fibre years ago were satisfactory, but a special plant for the suitable treatment of the pulp would be needed. The Burmese Government offers to back a scheme for the use of bamboo in making pulp, but the promoters must first find the means of utilizing the pulp, which can only be done by promoting new paper mills devised for utilizing both bamboo and grass fibres. There can be no doubt of the success of other paper mills built on a modern plan and equipped with reference to the use of the abundant raw materials at hand. India is essentially a paper-making country and could easily be independent of other parts of the world for paper supplies. In fact, with the advantage of cheaper steamer freights for export which may come in time, India will be in a stronger position to supply the East with paper than any European paper-making country.

EGG INDUSTRY IN GERMAN CHINA.

THE exportation of eggs from Tsingtau in 1910 was 1,821,183 dozens, against 955,409 dozens in 1909, the bulk going to Vladivostok. One factory engaged in the export of prepared dried eggs and the manufacture of egg cognac, egg noodles, and albumen also uses about 3,300 dozens a day.

While this industry has existed here for several years, the products being shipped to Germany, no effort was made until recently to secure trade in the United States. A sample shipment has gone forward under the requirements of the American pure-food law, and it is confidently expected that a thriving business will result. The egg supply is drawn from the southern part of Shantung, Chili, and Honan Provinces, and with the latest German machinery a local firm has entered upon the business with hope of a substantial extension this year. The nature of the machinery and the system employed in making the various products are held secret, and the only information obtainable has been in connection with the sample shipment mentioned.

The eggs arrive at the factory packed in old kerosene oil boxes. They are carefully examined by being held close to a strong electric light which shows the least defect. The fresh ones are washed and passed on to several Chinese boys who open them and separate the yolk from the white.

With the aid of a suction pump the yolk passes through a large pipe into a vacuum in the machine and is dried in 15 seconds. It is then passed on to a large receptacle into which the matter falls in the form of flakes which look clean, have a good colour and a fresh odour. The flake is again passed through a machine and comes out in a powdered form ready for shipment. It is said that this product can be kept indefinitely if stored in a dry, cool place.

The whites of the eggs are put in small glass-bottom trays about a foot square, and placed on shelves in a room having a temperature of 40° to 55° C. After thoroughly drying the material is broken up in small pieces and ready for export. These sheets are sometimes powdered or reduced to a crystal form resembling granulated sugar.

The factory is taxed to the limit of its capacity and it is the intention of the company to enlarge.

A market for egg shells has been recently established in Germany, where they are used as poultry feed.

To make 10 kilos (22 pounds) of dried yolks 1,500 eggs are required; to make 10 kilos of whole dried eggs 1,000 must be used, while 2½ kilos (5½ pounds) of albumen are made from the whites of 1,000 eggs.

The price of the whole dried egg is about \$0.73 Mexican (31 cents United States currency) a pound of albumen \$1.03 Mexican (44 cents), of dried yolk about \$0.53 Mexican (24 cents). Shipments are made in tin-lined cases holding 50 and 100 pounds.

Another German firm has also opened a factory and it is rumoured that still another will open shortly. New industries and new shops are being started in Tsingtau and its natural trade development along all lines augurs well for its future.

THE CALCIUM CARBIDE INDUSTRY.

Of late years, says the *Times*, the manufacture of carbide of calcium has become an industry of very large proportions, and after the boom of some years ago has settled down to a condition of comparative prosperity, resting on a firm basis of agreement between the respective producers, and a steadily increasing demand on the part of the public.

Method of Manufacture.

Two constituents only are required for the manufacture of carbide—lime and carbon in some form, preferably coke or anthracite. A large amount of power is, however, needed, and hence in reality there are three points which govern the choice of a site for works for the manufacture—lime or limestone must be available, coke or anthracite must be obtainable, at low prices, and power must be cheap. As with most industries of this type, the larger the output the lower becomes the relative cost of production, and it is for this reason that the more successful carbide works carry out operations on a very large scale. The large carbide works have mostly been established in situations where water power is available to an almost unlimited extent, and, fortunately enough, in certain parts of Norway where this is the case enormous deposits of limestone are available for use in the manufacture.

Calcium carbide is manufactured in electric furnaces of various types, but in all the general principle is the same, involving equally the employment of two inclined electrodes which maintain the furnace at a very high temperature, generally in the neighbourhood of 5,500 deg. F. The capacity of the furnaces in the older carbide works was often about 200kw., but in the more modern factories it reaches as much as 1,500kw., with a producing power up to 50 or 60 tons of carbide a week. It has generally been estimated that, on a moderate scale, the amount of power required is about 1 c.h.p. per year per ton of carbide, but with the very large installations, such as the works at Odda in Norway, this figure is largely decreased. In this case the factory is capable of a yearly output exceeding 30,000 tons of carbide, and the power plant consists six turbo-alternators, each of about 4,000 h.p., of which one, however, is a standby.

It is of the utmost importance that the materials employed for the manufacture of carbide should be of the greatest possible purity—that the anthracite, if used, should give only a small quantity of ash, and that the limestone employed in the production of lime should be free from all impurities or other constituents such as magnesia and particularly, the oxides of phosphorus. If this be not the case the value of the resulting carbide is much reduced—so much as to be unsaleable if the proportion of foreign material is at all appreciable. As regards the quantities of ingredients required, it might be supposed that these would be in the ratios as

indicated by the chemical equation of the changes effected, in which case for the production of carbide, 950 lb. of burned lime and 1,260 lb. of carbon would be needed. But as a matter of fact, a rather larger proportion of lime is required, the average figures being about 2,000 lb. of lime to 1,200 lb. of anthracite for one ton of carbide.

Factors of Commercial Success.

The electrical arrangements adopted in a carbide works depend largely on the situation of the factory, which is governed by accessibility to a loading station or harbour, and the available source of power; and in several instances it has been found advisable to have the power-house some distance from the works. In this case, particularly where the installation is a large one, high voltage transmission is adopted, and transformers are arranged as close as possible to the furnaces; as the voltage required for these is very low (often about 50 volts) it is obvious that, with the enormous currents necessary, the low tension cable should be as short as possible.

It is not difficult to see that with the great developments of recent years, and the very large factories which have been established in the best situations for power supply, the cost of production of carbide has been reduced to as low a figure as is likely to be commercially attained. As with nearly all commercial products the cost of manufacture of carbide is very largely reduced when carried out on a large scale, and with such factories as those mentioned already in the field the chance of comparatively small works being run on a profitable basis is very small. On the other hand, although the selling price of carbide has been very much cut of recent years, there is no doubt that the demand will increase in the future, with a consequent likelihood of higher prices being realized.

Carbide is very largely employed for the production of acetylene, the use of which seems to be steadily gaining ground; but there is another field which is already of great importance, and which will probably continue to advance very rapidly. This lies in the manufacture of fertilizers such as nitrolim, which is made from carbide and nitrogen extracted from the air. At Odda a very excellent combination has been made by establishing nitrolim works close to the carbide factory, and this again is another instance of how the manufacture on a large scale renders it difficult for small establishments to compete with the large works. When it is remembered that carbide can be obtained in England in bulk for under £12 per ton it is not hard to calculate by a few simple estimates that, even if the water power were available at practically a nominal charge, it would scarcely be possible to work an installation of less than 1,000 h.p. as a commercially profitable concern—and indeed it is doubtful if a very much larger factory would be warranted.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, Jan. 16th.

DURING the week ending January 15th there was no rain in Darjeeling, Cooch Bihar, Midnapore, Howrah, the 24-Parganas, Khulna and Orissa districts. Light rain fell in the rest of the Province.

Harvesting of winter rice is approaching completion. Pressing of sugarcane continues. The standing crops are doing well. Prospects are good.

The price of common rice has risen in Burdwan, Midnapore, Gaya, Darbhanga, Darjeeling, Hazaribagh, Palamau and Manbhum and has fallen in Jessore, Bhagalpur, the Sonthal Parganas and Angul.

Cattle-disease is reported from Midnapore, the 24-Parganas, Nadia, Angul, Puri, Sambalpur and Palamau.

The supply of fodder and water is sufficient throughout the Province.

EASTERN BENGAL AND ASSAM.

Dacca, Jan. 16th.

DURING the week ending January 15th weather has been cloudy with light showers in some tracts.

All rabi (Spring) crops promise to give satisfactory yields; but, owing to unfavourable conditions at sowing time, the area cropped and the total outturn have been reduced.

Prices of common rice continue to fall, the average being one per cent less than last week.

Rinderpest is prevalent in Kamrup and Nowgong.

NEW REFERENCE BOOKS.

THE WEALTH OF JOHN BULL.

By E. J. HOWELL. 9½ x 6½, 76pp. 1s.
Revised Edition. Bournemouth: Richmond-hill Printing Works.

THE OFFICIAL YEAR-BOOK OF NEW SOUTH WALES, 1909-10.

By J. B. TRIVET, F.R.A.S. 10½ x 6½, 634pp.
Published by the authority of the Government of the State of New South Wales.

THE LAW OF RAILWAY COMPANIES.

By J. H. BALFOUR BROWNE, K.C., and H. S. THEOBALD, K.C. Fourth Edition. By J. H. BALFOUR BROWNE and H. CONACHER, LL.B. 10 x 6½, lxxxvii + 1,285pp. 45s.
Stevens and Sons.

THE CONCRETE INSTITUTE.

Transactions and Notes. Vol. III. 8½ x 5, 328pp.
The Offices of the Concrete Institute.

JOINT STOCK COMPANIES.

Number and particulars of Joint Stock Companies registered in each province in British India in the month of November, 1911.

No.	Class and Name.	Situation of Registered Office.	Objects.	Nominal Capital.
	I.—BANKING, LOAN AND INSURANCE.			Rs.
	(a) <i>Banking and Loan.</i>			
1	Darbhangha Bank	Bengal	Banking	10,00,000
2	Jaunpore Bank	Jaunpore, United Provinces	"	5,00,000
3	Deccan Hubli Bank	Hubli, Bombay	"	7,00,000
4	Coonoor Subramania Vilasa Upakara Nidhi	Coonoor, Madras	Money-lending (mutual)	1,00,000
	Total, Banking and Loan . . . . .	.....	.....	23,00,000
	(b) <i>Insurance.</i>			
5	Surma Valley Pioneer Company	Silchar, Eastern Bengal and Assam	General assurance	20,000
6	Damodar Provident Fund Company	Chittagong	"	5,000
7	Crown Assurance Company	Calcutta, Bengal	Life insurance	1,00,000
8	Indian Universal Business Company	Lahore, Punjab	General assurance	10,000
9	Punjab General Business Company	Piplan	"	50,000
10	Hindu Helping and Relief Fund	Rawalpindi	"	1,00,000
11	Bannu Coronation Company	Bannu, North-West Frontier Province	"	10,000
12	Deccan Mutual Provident Society	Poona, Bombay	"	1,00,000
	Total, Insurance . . . . .	.....	.....	3,95,000
	Total, Banking, Loan and Insurance . . . . .	.....	.....	26,95,000
	II.—TRADING.			
	(a) <i>Co-operative Associations.</i>			
13	Guzerat Cultivators Association and Co-operative Trading Agency	Broach, Bombay	Starting Co-operative Stores	1,00,000
	(b) <i>Others.</i>			
14	Konchi Akyosaung Company	Rangoon, Burma	General trading and agency	1,00,000
15	Sigy and Company	Rangoon, Burma	General merchants, agents	30,000
16	Cachar Industrial Company	Silchar, Eastern Bengal and Assam	Trading in hide	1,00,000
17	General Electric Company (India)	Calcutta, Bengal	Mechanical and electrical engineering	7,50,000
18	Behar Trading Corporation	Shahabad, Bengal	General trading	50,000
19	Bareilly Electric Supply Company	Bareilly, United Provinces	Supplying electric light, etc.	2,00,000
20	Bombay Art Jewellery Works	Bombay	Trading in jewellery	4,00,000
21	Motor Transit and Trading Company	Bimlipatam, Madras	Running motors and trading	1,00,000
22	Madras Engineering Company	Madras	Electrical engineers, etc.	30,000
23	Anglo-American Drug Company	"	Chemists and druggists	20,000
	Total, Others . . . . .	.....	.....	17,80,000
	Total, Trading . . . . .	.....	.....	18,80,000

JOINT STOCK COMPANIES—continued.

No.	Class and Name.	Situation of Registered Office.	Objects.	Nominal Capital.
	III.—MILLS AND PRESSES.			Rs.
	(a) <i>Cotton mills.</i>			
24	Madras Company	Madras	Spinning and weaving cotton	3,00,000
	(b) <i>Mills for Wool, Silk, Hemp, etc.</i>			
25	Elgin Mills Company	Cawnpore, United Provinces	Manufacturing and selling woollen cloth	32,00,000
	Total, Mills and Presses . . . . .	.....	.....	35,00,000
	IV.—TEA AND OTHER PLANTING COMPANIES.			
26	Jaybirpara (Doors) Tea Company	Calcutta, Bengal	Planting tea, coffee, cinchona, etc.	2,50,000
27	Eastern Tea and Trading Company	"	Promoting agriculture, trade, etc.	2,00,000
	Total Tea and other Planting Companies . . . . .	.....	.....	4,50,000
	V.—MINING AND QUARRYING.			
28	Lower Burma Oil Fields	Rangoon, Burma	Mining and refining petroleum, coal, etc.	5,00,000
29	Vizagapatam Commercial Mining Syndicate	Vizagapatam, Madras	Mining and quarrying	50,000
	Total, Mining and Quarrying . . . . .	.....	.....	5,50,000
	VI.—LAND AND BUILDING.			
30	Fyzabad Bar Association Building Company	Fyzabad, United Provinces of Agra and Oudh	Constructing and maintaining building for Bar Association	8,000
	VII.—ICE MANUFACTURING.			
31	Bharat Ice Association	United Provinces	Starting Ice Factories at Saharanpur and elsewhere	2,00,000
	VIII.—SUGAR MANUFACTURING.			
32	Maithil Company	Bengal	Manufacturing and dealing in sugar, etc.	16,000
	GRAND TOTAL . . . . .	.....	.....	92,99,000

ABSTRACT TABLE OF COMPANIES REGISTERED IN THE MONTH OF NOVEMBER, 1911.

	Rs.
4 Banking and Loan Companies	23,00,000
8 Insurance Companies	3,95,000
1 Co-operative Association	1,00,000
10 Trading Companies (other than specified above)	17,80,000
1 Cotton Mills Company	3,00,000
1 Woollen Mills Company	32,00,000
2 Tea and other Planting Companies	4,50,000
2 Mining and Quarrying Companies	5,50,000
1 Land and Building Company	8,000
1 Ice Manufacturing Company	2,00,000
1 Sugar Manufacturing Company	16,000
GRAND TOTAL	92,99,000

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,002,282	3,716,760	8,007	56,954	121	72	Not	reported.
Bombay	"	2,092,296	2,953,323	6,101	15,482	17,987	2,526	396,957	176,80
Karachi	"	17,357,647	19,298,432	...	...	73,309	30,260	Not	reported.

KEROSENE OIL, WEEK ENDING 13th JANUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	...	...	...
Karachi	...	...	...	...
Madras	...	282,808	...	1,967,885
Exports by sea from Burma to				
Bengal				...
E. B. & Assam				...
Bombay				...
Sind				...
Madras				556,336
Indian Ports, Non-Br.				...
Foreign Ports				...

IMPORTS OF SUGAR, WEEK ENDING 13th JANUARY, 1912.

Country of Shipment.	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	30	...	...	17	2	4	53
Germany	...	...	...	422	...	...	422
Austria-Hungary	...	...	27	...	...	...	27
Other European Countries	...	...	40,173	80,189	...	...	190,966
Java	70,604	...	48,310	2,248	...	...	51,624
Mauritius	1,066	...	1,669	640	...	373	2,682
Other Non-European Countries	...	...	...	...	...	...	...
Total refined							245,774
Total unrefined							10,050
Grand Total							255,824

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1911-12.				SEASON 1910-11.			
	Sold in sale of 12th January.		Sold to 12th January.		Sold in sale of 10th, January.		Sold to 10th January.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
Assam	5,066	7 10-3	176,141	7 11-4	8,074	7 10-3	176,747	7 4-9
Cachar	6,294	7 0-1	182,011	6 11-8	4,907	6 11-6	127,014	6 3-4
Sylhet	5,339	7 0-4	108,558	6 11-9	4,309	7 1	92,353	6 4-5
Darjeeling	2,245	10 2	70,803	9 7-5	2,642	10 4-6	68,315	9 6-1
Dooars	7,845	7 4-4	190,578	7 4-5	8,832	7 10-7	188,645	6 10-4
Terai	718	6 10-7	22,148	7 1-6	383	7 7-6	22,192	6 7
Chittagong	103	6 4-9	7,787	6 11-6	178	6 9-9	7,986	6 3-2
Chota-Nagpore	19	7 8	1,540	7 6-8	37	6 3	1,521	7 5-7
Kumaon and Kangra	291	7 0-3	3,580	6 10	99	6 7-8	3,307	6 4-7
Madras	...	...	40	6 4	...	...	43	5 5-8
Dehra Dun	...	...	399	6 2-8	...	...	583	6 5-3
Nepal	...	...	605	6 10-8	...	...	76	5 11
All other places	...	...	...	...	...	...	...	...
TOTAL	27,920	7 6-2	714,190	7 7-1	29,461	7 9-8	688,782	7 0-9

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)
 Season 1911-12 Average price of 38,514 packages Dust* sold to 12th January 6a. 4-8p.
 " 1910-11 " 42,403 " 10th " 6a. 2-9p.
 * On account of gardens which sell only that grade on this market.

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MONEY MARKET.

	Tuesday Evening.
PRESIDENCY BANK RATES	
Calcutta	7 per cent. (Jan. 18).
Bombay	7 per cent. (Jan. 18).
Madras	7 per cent. (Jan. 8).
EXCHANGE	
On demand	1-4 $\frac{1}{8}$
Telegraphic	1-4 $\frac{1}{8}$
Transfers	
3 months	1-4 $\frac{1}{2}$
6 months	1-4 $\frac{1}{2}$
GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.)	Rs. 95-10.

The spot price of wheat at Karachi on the 20th January was Rs. 30-6-10 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 23rd January was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 249 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 23rd instant were as under:—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 60 0 0
M. per 400 lbs.	52 0 0
Rice—Ballam No. 1 per B. md.	Nil.
Moonghy	3 8 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold,	
Cawnpore, 4% per B. md.	Nil.

The final forecast of the winter rice crop of Eastern Bengal and Assam for 1911-12 will be exhibited at the portico of the New Imperial Secretariat Buildings, No. 1, Council House Street, Calcutta, at noon on the 1st proximo.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	- 1.9	Cwts (dye) 48,700	+ 5.9	21st Dec., 1911.
Cotton	19,524,000	-12.0	Bales* 3,102,000	-18.6	Do.
Sesamum (oil or jinjili)	4,164,700	-15.6	Tons. 311,300	-30.4	18th Jan., 1912.
Sugar-cane	2,209,500	+ 5.0	Information not yet available.	Information not yet available.	26th Oct., 1911.
Ground-nut	860,000	+ 6.0	Do.	Do.	Do.
Rice	54,441,400	- 4.0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	- 1.0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	- 9.0	Do.	Do.	Do.
Linseed	3,371,600	+12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

The total approximate gross earnings of State and Guaranteed Railways from 1st April to 31st December, 1911, show a gain of Rs. 2,81,23,407 as compared with the corresponding figures for 1910-11.

Sanction has been accorded to the following surveys being carried out by the agency of the South Indian Railway, viz.:—a reconnaissance survey for a line of railway on the metre gauge from Dharampuri station on the South Indian Railway to Korur station on the same railway via Lokur and Salem, a distance of about 86 miles; and a detailed survey for a line of railway on the metre gauge from Attur

to Chinnasalem, a distance of about 20 miles with an alternative from Attur to Tirumandora, a distance of about 30 miles.

It appears from statistics furnished by the Central Asian Railway that a total of 78,400 tons of cotton was exported from Russian Central Asia between the 1st September, 1910, and the 1st September, 1911. More than half of this quantity was carried by the Central Asian Line through Krasnovodsk.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 52 weeks ended 28th December, 1911:—

	IMPORTS.		EXPORTS.	
	Week ended 28th Dec., 1911.	52 weeks ended 28th Dec., 1911.	Week ended 28th Dec., 1911.	52 weeks ended 28th Dec., 1911.
American	Bales. 131,453	Bales. 3,437,490	Bales. 7,798	Bales. 249,213
Brazilian	—	105,150	380	10,668
East Indian	—	129,744	—	21,278
Egyptian	7,024	486,563	858	123,777
Miscellaneous	1,081	162,912*	126	4,834
TOTAL	139,558	4,321,859	9,162	409,770

* Including 9,561 bales British West Indian, 5,599 bales British West African, 26,482 bales British East African, and 260 bales foreign East African.

NOTE.—Cotton "in transit" or "for transhipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

We take the following paragraph from an English contemporary:—**Commercial interests in Russia are seriously disturbed by the exceptionally large number of failures in several parts of the country.** Reports continue to come from St. Petersburg, Moscow, Lodz, Odessa, and Saratow of important suspensions of payment by dealers engaged in various branches of trade, but particularly by those connected with textiles. The Government reports minimise the importance of the situation. They say that it only represents a temporary set-back, and they give various theories as to the cause, asserting at the same time that the season's crop troubles have not had much to do with it. Independent opinion, however, attributes the disquieting position almost entirely to the failure of the crops, and considers the very marked falling off in demand for textiles on the part of the masses to be directly due to the diminished purchasing power thus brought about. Dealers, encouraged by the increased demand for textiles which accompanied the good crops of the past two years, had laid in large stocks

and are now in a very unfortunate position. Manufacturers criticise the Government for circulating assuring reports regarding the crops and say that they would certainly have curtailed output had they been aware that these were going to fall out so badly. Meanwhile all that can be done is to reduce production, but it is not probable that the difficulties will be overcome without further losses.

In their weekly report on the **Shanghai piece-goods market**, dated December 28th, 1911, Messrs. Noël, Murray & Co., Ltd., say:—Sales of **Indian yarn** are reported from Bombay of 5,000 bales for shipment July–September, at, it is said, cheaper prices for Finlay and Currimbhoy Spinings. Locally we hear of sales of 410 bales, but the quantity is probably larger as there is good enquiry from the North; the sales comprise 200 bales M. Petit Sun 10's at Taels 105.00 for Tsingtau, 10 bales Pabaney Mule 12's at Taels 107.00 and 200 bales Lukhmidass Khimjee at Taels 106.00 for No. 12's for Tientsin. From second hands, sales have also been made of No. 10 Jamshed (Map) at Taels 105.00, Tricumdass (Ring) at Taels 104.50. Svadoshi Mill (Ring) Kose at Taels 113.00, M. Petit (Sun) at Taels 105.00 and Sorab Mill at Taels 107.00—about 300 bales in all for Tientsin. At the close prices are firmer and an advance of Taels 1.00 to Taels 2.00 per bale is asked. A wire from Bombay reports that there is a brisk demand for cotton from Japan, which has caused a rise in prices of from 6 to 8 annas per picul. From second hands 800 bales of Japanese yarn have been disposed of at Taels 12.00/12.30 for 16's and Taels 115.00/122.00 for 20's. The market is a strong one and at headquarters the prices now are Yen 135.10 for January, Yen 134.50 for February. No. 16's Blue Fish are now quoted at Taels 123.00, Two Deer Taels 119.00 and No. 20's Men and Fish at Taels 112.50. A better feeling is reported and some movement of purchases of **local yarn** is taking place. The Heng Foong mill is said to have sold 300 bales of No. 14's Clouded Stork Chop at Taels 101.50 and the clouded Dragon Chop of the Yue Yuen Mill has fetched Taels 102.00 for 300 bales of 14's. In the Shops, Bundles have sold at Taels 99.75/101.23 for 10's, Taels 98.75/110.75 for 14's and Taels 105.75/111.25 for No. 16's. We cannot hear of business in cotton, but the ideas of holders are firmer. Tungchow and Taichong being named at Taels 24.00, Four Chop at Taels 23.80, Best Steam Ginned and Shanghai at Taels 23.40, Seed at \$11.20 and Tachong Seed at \$12.20.

The prices of **British corn** per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 30th December, 1911, were as follows:—Wheat, 33s. 0d.; barley, 33s. 4d.; and oats, 20s. 7d.

Reports concerning the **damage done to the Argentine crops** by rain, hail, and floods continue. The estimate of the damage done has risen from about 5 per cent to 10 per cent.

The *Corn Trade News* gives the following summary of the **world's crops** as on the 2nd instant:—**United States of America**.—Winter wheat lost much of its snow cover and a few complaints mentioned from centre of belt, but damage apparently not serious. Receipts last week increased moderately and were larger than year ago. **Canada**.—Receipts at Winnipeg are smaller, but still large, no improvement in grading. Messrs. Ogilvie have estimated some 2,000,000 qrs. unthreshed and much of this likely to be unfit to ship; this indicates continued poor grading, but no material change in situation is generally accepted. **Argentina**.—Weather continues more or less rainy and unfavourable for harvest, no improvement in outlook can be mentioned although our own agent says complaints of southern crop not serious. There is still notable lack of offerings. **Australia**.—No change to report as regards this harvest. **Russia**.—Weather variable and some frost without snow; very few complaints about Winter crops. Shipments last week very small. **Roumania**.—Weather continued mild and favourable. Supplies keep up fairly well, but shipments smaller last week. **Hungary**.—Crop reports still favourable; some snow last week, but colder weather with frost desired. **France**.—Weather turned drier; crop conditions still favourable. **Germany**.—Weather is very mild, crops developing well, but colder weather desired. **Italy and Spain**.—Weather and crop news favourable. **United Kingdom**.—Weather finer, crops look well. **North Africa**.—Rains wanted some parts, otherwise favourable.

The production of the principal **corn crops in Bulgaria, Russia and the United States** is now estimated as follows:—

	Wheat.	Barley.	Oats.	Rye.	Maize.
	1,000 cwts.	1,000 cwts.	1,000 cwts.	1,000 cwts.	1,000 cwts.
Bulgaria	38,564	8,710	5,811	7,381	28,860
Russia	272,867	176,206	245,191	380,920	41,134
United States	332,767	68,655	263,430	16,556	1,265,387

The total production of **wheat** in the following countries is estimated at 1,679 million cwts, or 1.4 per cent below last year:—Austria, Belgium, Bulgaria, Denmark, Spain, France, Germany, Great Britain and Ireland, Hungary (including Croatia and Slavonia), Italy, Luxemburg, the Netherlands, Roumania, Russia in Europe (63 Governments), Switzerland, Canada, United States, India, Japan, Russia in Asia (10 Governments), Algeria (Departments of Alger and Oran), Tunis, and Egypt. For the same countries (omitting India), the total

production of **barley** is estimated at 584 million cwts, or 0.1 per cent below last year. For **oats**, the total production in the same countries (omitting India and Egypt) is estimated at 1,069 million cwts, or 9.1 per cent below last year. For **rye**, the total production in the above-named countries (omitting Great Britain and Ireland, India, Japan, Egypt, and Tunis) is estimated at 775 million cwts, or 5.2 per cent below last year. The total production of **maize** in the following countries is estimated at 1,590 million cwts, or 10.5 per cent below last year:—Austria, Bulgaria, Spain, Hungary (including Croatia and Slavonia), Italy (where the estimate relates to late sown maize only), Roumania, Russia in Europe (63 Governments), Switzerland, Canada, United States, Japan, Russia in Asia (10 Governments), Algeria, Egypt and Tunis.

The demand for **copra**, says the *Glasgow Herald*, is steadily increasing for various purposes. The area of supply is also growing, but up till now the largest production of the world is in the Philippine Islands. Copra, indeed, forms more than one-fourth of the entire exports of these Islands. In the last fiscal year the exports of copra were 118,500 tons, and of this quantity France got fully 75,000 tons. France appears to be the largest consumer in the world. Other Continental nations took 32,000 tons, but the United States took only 7,000 tons from her dependency, and Great Britain only 4,000 tons.

His Majesty's Consul at Lourenco Marques (Mr. R. C. F. Maughan) reports that a discovery has been made of a **large tree**, a species of *Balanites*, which is stated to reach a height of 40-50 feet, and grows in large numbers in the neighbouring Lebombo mountains and on the banks of the Umbeluzi river. This tree produces at maturity about 1,200 lbs. of nuts, the almond or kernel of which is stated to give some 60 per cent of a **fine oil** not unlike the best olive oil.

The *Manchester Guardian* of December 30th says:—It came out at Glasgow late yesterday that the **war of rates** long carried on by the Galician producers of **wax** has terminated. These producers have for months been carrying on a rate-cutting war and selling their output under cost. An agreement has now been reached whereby prices will be advanced. The effect on the Scottish oil companies' shares at Glasgow was instantaneous, as the Scottish companies will now be able to raise their prices. An advance of a farthing per lb. on the Scottish output of wax is estimated to be equivalent to £60,000 a year.

In one of the experimental farms in the **Central Provinces** a plot of land was sown with a Japanese variety of **soy bean** which had been acclimatised at Nagpur. The crop proved to be very hardy and grew splendidly, giving a yield of over 800 lb. of beans per acre, but when the seed was analysed by

the Agricultural Chemist it gave a very disappointing oil percentage, viz., 10 per cent. This variety is evidently best suited for forage purposes, and some new varieties which have been obtained from Manchuria will be tried with regard to their oil-producing qualities.

Imports of tobacco from each principal country into British India in the month of December, 1911, and total duty realised thereon have been as follows:—

	Unmanufactured.	MANUFACTURED.					Total tobacco.
		Cigars.	CIGARETTES.			Other sorts.	
			Weighting less than 3 lbs. per 1,000.	3 lbs. or more per 1,000.	Total.		
Imports—	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.
From the United Kingdom.	247	674	...	...	117,718	25,477	144,116
From Holland.	1,740	3,913	...	...	...	...	5,653
From Belgium.	1,373	480	...	...	...	...	1,853
From Egypt	792	...	...	...	7,102	3	7,897
From the United States of America.	...	181	...	...	187	16,081	16,452
From other countries.	7	1,841	...	...	735	671	3,254
Total	4,169	7,092	...	...	125,742	42,232	177,226
Total duty realized thereon Rs.	6,845	10,740	1,43,647	13,834	157,481	50,645	2,25,720

Messrs. H. A. Watson & Co., Metal and Mineral Brokers in their **Metal Report**, Liverpool, January 2nd, say:—The market for **Standard Copper** steadily advanced to £63 15s. Cash and £65 Three Months, on the 21st ultimo, afterwards easing off under profit-taking sales down to £62 18s. 9d. Cash this morning, but recovering again this afternoon closes at £63 7s. 6d. Cash and £64 5s. Three Month. A very large turnover has taken place during the past fortnight, notwithstanding the intervention of the holidays. The set-back was only a temporary and natural reaction after the steady rise, and does not reflect any weakness in the position, which remains as strong as ever. Considerable orders for Manufactured Copper continue to be placed by all the large consumers, and so far there is no sign of any falling off in this direction. The European stocks show decreases all round, but the Visible Supply shows an increase caused by the inclusion of some large shipments from Australia. The Statistics for the past fortnight

show an increase of 714 tons in the Visible Supply, and a decrease of 1,041 tons in the Liverpool and Swansea Stocks. The arrivals from America at Liverpool and Swansea during the past fortnight amount to 1,251 tons, making 39,424 tons 1st January to date, against 33,485 tons same time last year. The present prices for Manufactured Copper are as follow:—Strong Sheets £79, B.S. £67 10s. to £68, Tough £67 10s. to £68, Electrolytic Jan. £66, Feb. £66 5s., India Sheets £76, and Yellow Metal 6½d. per lb. **Tin**.—Straits: The market advanced to £205 10s. Cash and £193 10s. forward on the 20th ultimo, the former subsequently reaching £206, while the latter fell to £191 5s. on the 28th, and closes lower to-day at £201 Cash and £187 10s. Three Months. Consumption is well maintained but doubt as to the effect of the New Standard Contract on February 1st is evidently affecting the forward quotation. **Bolivian**.—We quote £165 to £186 per ton according to quality. **English**.—Ingots: £198 to £200 per ton. **Antimony**.—English Regulus, £26 10s. net per ton; Antimony Ore, we quote nominally £6 5s. to £6 10s., basis 50 per cent. **Bismuth**.—£7 6s. per lb. **Iron**.—Cleveland Warrants have shown more activity, Cash Iron having sold up to £50 9½s. on the 27th ultimo, closing easier to-day at £50 6½s. Cash, £50 10½s. One Month, and £51 6s. Three Months. **Lead**.—Dull; English Pig, £16; Soft Spanish, Sellers, £15 12s. 6d.; Buyers, £15 11s. 3d. **Nickel**.—£167 to £171 per ton. **Quick-silver**.—Lower; Firsts £7 15s. per bottle. **Spelter**.—Dull; Silesian, Ordinary Brands, Jan.-Feb. £26 15s.; Specials, £27. **Sulphate of Copper**.—Inactive Prompt £22 15s., February-April £23 to £23 5s., May £22 12s. 6d. **Wolfram**.—Steady; £29 6s. to £30 per unit. **Bar Silver**.—Spot 25¼d.; Two Months, 25¼d.

There have been, says the *Glasgow Herald*, considerable fluctuations in the **price of aluminium** during the past twelve months, the average figure being lower than for the previous twelve months. This reduction in price has resulted in many new applications for the metal in various industries, and the increase in demand for the metal for all purposes has been well maintained. Perhaps the largest development in this direction is to be found in the automobile and electrical industries. Many of the leading switchboard makers are now fitting aluminium busbars as standard, where the advantage of lower weight and better cooling, especially on low voltage heavy current boards, is of considerable importance, in addition to the saving in prime cost, which at the present relative prices of the two metals is something like 35 per cent in favour of aluminium. One at least of our leading electrical manufacturers has also standardised aluminium round rod for cross connections in their standard switchboards and panels, using a special tool for forming the sockets on the ends, thus doing away with the sweated sockets formerly employed for

copper. Another field where aluminium has practically superseded copper is for long-distance overhead transmission lines. A typical example of this class of work is the 110,000 volt transmission scheme of the Hydro-Electric Power Commission of Ontario, where no less than 2,000 tons of bare aluminium cable have been used. Exhaustive tests carried out by the Commission's engineers showed that aluminium possessed distinct advantages over copper for this class of transmission, quite apart from the lower capital cost. Another use of aluminium which has come to the front recently is for the windings of the field coils of railway and tramway motors. By using bare oxydised aluminium wire of rectangular section in place of cotton covered copper wires it has been found possible to produce an aluminium wound field coil of the same dimensions and efficiency of a copper coil.

The *Manchester Guardian* of Monday, January 1st, writes:—There were only three market days in **copper** last week, but a good deal of activity was witnessed in spite of the holiday season. The markets opened with very strong buying, and at one time three months' standard warrants reached nearly £65 per ton. Some of this was lost later and Friday's closing price was 5s. below that of the preceding Friday. The set-back has, however, no special significance, and the position is thought to be quite as strong as ever. Dealers are now looking forward to the final American statistics for 1911, which will be published early this month. The current belief is that these will again be very favourable. A steady increase in the rate of copper consumption is still probable, and the statistical position is likely to improve for some months, although it is quite possible that the next American figures will not appear so extraordinarily good as the last set. The advance of American prices for electrolytic and Lake copper suggests that makers are not now very eager for more orders. In Europe there is no doubt of the strength of the demand, and it is equally certain that general trade conditions are much better than they were a few months ago. The only serious danger to the market is that prices may be forced up too fast and too far.

The *Statist* in discussing Indian trade conditions says:—**India** has been a hoarder of gold from time out of mind. But until the closing of the Indian mints to silver the gold imports were only about half the silver imports. Since the closing of the mints the imports of silver have been more or less stationary, while the imports of gold have been increasing. During the past two years the increase has been quite phenomenal. The question of real interest is, What is the motive for the demand, and especially for the demand for sovereigns? The demand for bars is mainly for ornaments and for hoarding; and, as already said, it has existed from time immemorial.

But the demand for sovereigns is new, and it is becoming exceedingly large. Does it mean that sovereigns are being hoarded? Or does it mean that they are getting into the circulation? In other words does it mean that just as during the eighteenth century English opinion turned against a silver currency and in favour of a gold one, and that during the nineteenth century the change which had previously taken place in England occurred all over the forward nations of Europe and America, the same thing is happening now in India? Is India, that is to say, insisting upon having a gold currency—not merely a gold standard of value, but an actual gold currency? If she is, considering her absorbing power both for currency and for ornaments, the Money market must be prepared for a drain of indefinite magnitude in the future.

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

For the week ending 20th January, 1912—

In the Calcutta market—

Behar opium—Rs. 4,500 ; 4,500 ; 4,500 ; 4,475 ; 4,500 ; 4,550 ; 4,550.

Benares opium—Rs. 4,400 ; 4,425 ; 4,430 ; 4,410 ; 4,440 ; 4,500 ; 4,500.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 2nd sale of 1912.

At Hongkong—(Exchange Rs. 141 per \$100).

Behar opium—\$3,400.

Benares opium—\$3,400.

At Shanghai—(Exchange Rs. 188 per 100 Taels.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 13th January, 1912—

In the Bombay market—

(New, 1909-10) Rs. 4,000 ; (new, 1908-09) Rs. 4,500 ; (old, 1907-08) Rs. 4,675. The latest prices at Hongkong and Shanghai were (new) Rs. 4,874 and 5,580 ; (old) Rs. 4,943 and 5,719, respectively.

A group of Budapest capitalists have decided to erect in Esseg a jute weaving factory having a capacity for 250 to 300 looms ; the company will have a capital of about £166,700.

Messrs. Samuel Montagu and Company, in their annual bullion letter, 1911, say:—It may be taken for granted that the quantity of sovereigns throughout the world is increasing largely. In 1910 the Mint report estimates that the increase in the United Kingdom circulation alone since 1900 was £18,000,000. The chief cause of an increased external use is that the prosperity of India and Egypt make sovereigns the most convenient metallic form of remittance for settling the balance of trade. Moreover, there are foreign countries possessing a similar gold standard to ours who prefer the British coin to their own, for they save themselves the expense of coining, and thus also retain the

means of settling with Great Britain at a later date. The British sovereign can always count on a hearty welcome within the Indian Empire, where circulation is increasing, and vast sums lie in the hands of its people. The Indian Government report a net importation during the fiscal year 1910-11 of 8,162,000 sovereigns and £7,609,000 in bar gold, which two items, with other gold coin, make the imposing total of £15,984,000. At the beginning of the year India drew sovereigns direct from London. Egypt had already supplied £2,000,000 to India out of the £10,500,000 it had withdrawn from the Bank of England during the previous season, but as the returns of the sovereigns from the provinces to Cairo was slow, it was not until February that Egypt was in a position to release sovereigns for shipment, and by that time the Indian demand had fallen somewhat into abeyance.

The following table gives particulars of the exports of cultivated rubber from the Federated Malay States during the month of October, and the ten months ended October, 1910 and 1911:—

	October, 1910.	October, 1911.	Jan.-Oct., 1910.	Jan.-Oct., 1911.
	Lbs.	Lbs.	Lbs.	Lbs.
Perak . . .	257,039	530,376	1,906,308	4,228,415
Selangor . . .	1,058,708	1,362,609	6,789,149	9,299,021
Negri Sembilan . .	168,314	289,065	1,125,118	1,906,234
Pahang . . .	786	807	4,145	9,484
TOTAL . . .	1,484,847	2,182,857	9,824,720	15,443,154

In their rubber market report, dated London, January 4th, Messrs. Gow, Wilson and Stanton, Ltd., write:—Since the last auction the market has maintained a steady tone, prices fluctuating but little. At this the first auction of the New Year some 506 tons were brought forward, the sale being started on Wednesday, the 3rd, instead of the 2nd as had been advertised, in order to allow more time for samples to be got on show. At the opening there was good general competition for all descriptions, and prices marked an improvement of about 1d. per lb. on previous quotations, and during the afternoon of the first day this advance was increased to fully 2d. per lb. On the second day Wednesday's best figures were hardly maintained. The highest price of the sale was 5s. 1d. paid for a number of parcels of light crepe and for one of the smoked sheet.

It appears that the Arab Steamers, Ltd., Bombay, propose to maintain a regular service between Bombay and the Gulf Ports from this month.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 19th instant was 162,872 bags, while the stock in the Bombay

godowns and the estimated stock in the Bombay city as well on the same date amounted to 197,200 bags.

The British Vice-Consul at Leipzig (Mr. R. M. Turner) reports, on the authority of the *Leipziger Neuester Nachrichten*, that recently imitations of gauzelike stuffs, tulle, muslin, lace, etc., have been manufactured by a process, the discovery of a Frenchman, in which a solution of cellulose is poured over a hard surface. The manufactured materials are stated to possess the sheen of silk and to be sufficiently strong to serve various purposes, including that of trimming, etc. By the process both the so-called Malines tulle and the heavier "kongress" stuffs can, it is claimed, be manufactured. By suitably colouring the solution before it is poured over the roller, very fine gold, silver and other metal colours can be obtained on the stuffs. The material remains quite smooth. A large factory containing 30 of the new machines already exists in France, and has been producing materials of this kind for some time. Each machine is capable of producing 800 metres of stuff in 24 hours at a cost of 15 centimes (1½d.) per metre. It is said that the difference between the stuff prepared by the new process and the real woven article is almost imperceptible to the naked eye.

A new and distinctly interesting departure in electro-plating has been introduced by a London Company. The process is the invention of two Italian chemists and the secret of its success is a liquid that solves both china or glass and the metal that is to be deposited. The liquid holds some of the metal in suspension and penetrates the pores of the article to be plated ; the metal is then precipitated by chemical reaction, and a metallic conducting medium, the essential for electric deposition, is thus obtained. Teapots, cream jugs and preserve dishes of earthenware or glass may be ornamented with gold and silver on the outside—the interior of the vessel being uncoated ; no injurious effect can result as the metal does not come in contact with the contents ; moreover, the metallic covering is inseparable and at the same time makes the article practically unbreakable. In addition to earthenware, porcelain and glass of all kinds, the Marino process enables wood to be metal plated. For instance, in aeroplane construction, propellers, frames, struts, etc., could be so plated, combining strength with lightness and weather-resisting qualities. In tropical countries it should be useful in preventing the wood-destroying ravages of the white-ant and the tupelo. Galvanizing is also much simplified and cheapened, notable differences from the usual methods being that the thickness or depth of the deposit can be regulated as required, and the absence of heat enables springs and similar steel articles to be treated without affecting the temper.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta during the week ending 13th January, 1912:—S. G. Brown—Improvements relating to telephone transmitters and receivers. H. Brown—Improvements in and relating to electric signalling on railways. G. Reynaud—Process for the manufacture of India rubber. Belanger Spinning Process Company—Devices for spinning and twisting textile fibre. L. H. Friedman—Improvements in type-writing machines. H. Jackson—Improvements in the manufacture or preparation of pulp for paper making and in apparatus therefor. A. Shepherd—Improvements in bobbins for spinning. R. Stock—An improvement relating to motor ploughs. General Dehydrator Company—Dehydrating system. Raja Babu—Automatic chursa.

The weather conditions in India for the week ended Tuesday last were marked by a light precipitation in Baluchistan, Kashmir, the north-east of the Central Provinces and the West of Orissa. A few light falls of rain have occurred in the east Punjab, the north-west United Provinces and the Upper Assam Valley. During the week heavy rain was reported from Lahore.

It is notified by the Government of India that the orders of August last under the Merchandise Marks Act, admitting as properly marked all consignments of paper in which the watermark constitutes a false description merely on the ground that the counter-indication as to origin is omitted therefrom, provided that the indication of origin is correctly given on every wrapper in which any such paper is made up, are cancelled as experience gained in the working of this concession has convinced the Government of India that it fails to provide adequate safeguards for the trade having regard to the local custom of selling paper in quantities smaller than one ream. The concession has also been found in other respects to work unsatisfactorily.

A Resolution of the Government of Bengal, dated 20th January, 1912, on the subject of a technological institute in Calcutta is published in this week's *Calcutta Gazette*. A committee has been appointed to enquire into and advise Government on the question.

The pearling season has ended on the Trucial Coast. The take was poor and the market low.

Reviewing the financial conditions during the past year the *Bankers' Magazine* writes:—"The principal financial features of the year abroad were the exceptional ease in the New York money market as the result of quiet trade in the United States, the unfavourable economic conditions in France,

and the overstrained position in Berlin; while at home there has been good trade—the combined imports and exports for the eleven months showing an increase of £28,899,000, as a result of which it has been a satisfactory year, both for English railways and banks in the matter of gross earnings, but while the former have been able to increase their dividends, banking profits have been once again encroached upon by the writing down of securities. With few exceptions, the position of credit has been well maintained during the year, the suspension of the Birbeck Bank, already referred to, while a most regrettable incident, being, to some extent, the logical though not, of course, the necessary outcome of the continued slump in Consols, while some important mercantile failures in the Levant have been attributable to the chaotic political conditions in that district. The most disturbing event of the year from the standpoint of credit, was the sudden failure of the Bank of Egypt. Partly as the result of this suspension, some mercantile embarrassments were reported in Egypt. The reconstitution of the Yorkshire Penny Bank, though in some respects the outcome of the feelings of apprehension engendered by the suspension of the Birbeck Bank, was a matter which had ultimately a favourable rather than a disturbing effect, as it was felt that its reconstitution with a large capital and reserve had long been called for owing to the size and importance of the institution. A remaining financial feature of the year which requires special mention is the further growth which occurred in new capital creations. The year 1910 still holds the record for such creations, the total then being as high as £267½ millions, but, with that one exception, the total for 1911 is quite the highest reached."

A London report, dated December 29th, states that **Indian raw hides** continue in trifling supply. No encouragement is given there to the export of ox and cow, either from Bombay or Madras. Better results seem to be obtained from the tanned product. London buyers are now showing preference for light cow kips over heavier weights, and the commoner sorts find more custom than slaughtered goods. Cow calf skins attract little attention, and should only be exported in the form of leather. Buffalo hides are in fair request, and commercial quantities, not at present available, would sell well. Kips and calf skins are without much prospect. Reporting on the same date as regards **tanned East India goat and sheep skins** a London firm of brokers say:—"The market has a healthy appearance. Trade reports continue encouraging on the Continent as regards goat skins, and there is no reason to suppose that other centres of consumption are likely to diminish their requirements. The certain curtailment of supply in January, and the probability of moderate receipts for March, cannot fail to place the market in a stronger position, and it is more than likely that the turn of prices in favour of importers will soon

arrive. The trade, however, is too well supplied for any sudden or substantial advance of value to ensue. Sheep skins are in a strong position and should continue to give good results. Supply is steadily diminishing. The best tannages are already too dear to leave room for much advance on present prices, but there is margin in fair to good middle class kinds. Ordinary and common sorts are relatively very cheap, but the competition of the other descriptions of sheep leather abundant and cheap and showing no signs of favourable change, should keep the Indian product more or less on its present level.

Stock in brokers' hands:—

	Goat.	Sheep.	Total Skins.
Madras . . .	900,000	600,000	1,720,000
Bombay . . .	140,000	80,000	

There have been no public auctions of **tanned hides** and few dealings on the market during the week. Shipments for December are much reduced, and fears engendered by the higher exports of the last six months of an alteration in the position of supply and demand may pass away for a time. Value continues to be well supported, without, however, much anxiety to acquire stock or any evidence of faith in the future. The trade can take 2,000 to 2,500 bales a month on the present level of value, and, should this scale not be appreciably raised during the next six months, it is difficult to see a justification for anticipating lower prices. Stock in brokers' hands 45,000, of which 80 per cent are calf skins.

A very satisfactory volume of business is being done in the **leather trade** at the present time, says the *Glasgow Herald*. During the first six months of 1911, however, the market was depressed, buying being restricted to immediate requirements. With a general improvement in trade orders came to hand more freely, and since July a much steadier tone has prevailed than has been the case for a long time. During the latter months of the year the markets have been very strong, and at the present time the stocks of leather on tanners' hands are unusually low. The advance in prices which has taken place may be attributed principally to an increasing demand all over the world for leather goods, and at the present time it looks as if this demand is going to exceed the supply. The improvement which has taken place recently in the engineering industries has also caused a better demand for leathers specially designed for machinery purposes. Since the change in the tariff laws of the United States a few years ago large quantities of raw and partially manufactured leathers have been exported to that country, while Canada, owing to the growth of her population, has also been buying larger supplies than ever. The war that broke out some months ago in the Mediterranean and the disturbances which have taken place in China have had a somewhat disturbing effect on the leather market in this country and on the Continent. Fairly large

supplies of dried hides now come from China, but the recent disturbances in the Yang-tse Valley have interfered to some extent with the shipments this year. The prospects for the future may be considered good, and there will probably be a brisk demand for light leathers in the immediate future. Heavy leathers are to-day higher in price than they have been for sometime. Although the volume of trade has been large, tanners complain that the year has not been a remunerative one for them. It is true that leather is higher in price to-day than it was at this time last year, but the advance that has taken place in raw hides has prevented the tanners from getting the advantage they ought to have got from the improvement in the leather market. There is therefore still room for improvement at the present time so far as the margin of profit is concerned. Indeed, it might be said that throughout the whole year the high price of raw materials has made it difficult for tanners to obtain a corresponding profit in leather as the result of the year's trading. At present the prices of hides are from ½d. to ¾d. higher in Glasgow hide market than they were at the end of December last year. From the beginning of 1911 prices gradually advanced until the months of July and August, when they touched the highest level of the year. Since that time they have gradually declined to the extent of about ¼d. per lb. from the top price. In the United States market prices have also advanced since midsummer, and the South American market has followed the same course.

Trade by the **Nushki route** in October last, the latest month for which particulars are available, showed an increase of Rs. 1,62,768 over the corresponding figures of the previous year.

The *Nachrichten für Handel* (Berlin) of 27th November states, on the authority of the German Consul in Batavia, that although the **Fibre Congress** held at Sourabaya last July may not have quite fulfilled the expectations entertained of it, a great deal of knowledge was gained on the subject of fibres through the deliberations of the Congress as well as from the exhibits and from the small botanical garden attached to the Exhibition. It would appear that, notwithstanding the advances made, there is plenty of room for improving the present **machinery** used in the treatment of fibres, and it offers a profitable field for inventive skill. An interesting feature was the display of **mats and imitation Panama hats**, some of these latter being more beautiful and dearer than the real Panama hats. The Philippine Islands had a splendid section devoted to Panama hats. This industry is also assuming large dimensions in Java. In the neighbourhood of Batavia hats were manufactured and exported to the value of some £25,000 in 1910. The **ramie fibres** on view were excellent in appearance, but they have not the elasticity requisite for

spinning purposes, and consequently in this connection they fall far short of cotton. In the deliberations of the Congress **kapok** played the most important part. Javanese kapok enjoys a good reputation, partly owing to the suitability of the climate for its cultivation, and partly owing to the way it is worked up there into mattresses, cushions, life belts, etc. The weight of the fibre is very light. Spinning tests have also given good results.

NOTICES.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Rosa Oil.

(1314)—An officer in a Native State desires to be placed in communication with firms in India who are interested in **rosa oil** and who are prepared to state the quantity they are prepared to take and the prices they are prepared to pay.

Wheat Bran.

(1315)—A Stockholm firm desires to be placed in communication with exporters of **wheat bran**.

Oil Engines.

(1316)—A firm of Swedish manufacturers of patented stationary and portable oil engines wish to obtain a representative in India.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 31st January, 1912:—

Parliamentary Publications.

Supplement to Volumes I and II of Annual Statement of the Trade of the United Kingdom with Foreign Countries and British Possessions for the year 1910-(1911). Wages and Effects of Deceased Seamen—Account of the Sums Received and Paid in respect of Wages and Effects of Deceased Seamen in the year ended 31st March 1911. Seamen's Savings Banks, Money Orders, and Transmission of Wages.

Foreign and Colonial Publications.

Ceylon—Customs Returns—November, 1911. France—Annuaire Statistique de la Ville de Paris—XXXe Année—1909. United States of America—Fisheries of the United States—1909; Geological Survey—Mineral Resources of the United States—Part I—Metals and II—Non-metals, 1909; Department of Agriculture—Field Operations of the Bureau of Soils—1908—Tenth Report with maps.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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The Indian Trade Journal.

THURSDAY, JANUARY 25, 1912.

SEA-BORNE TRADE OF CALCUTTA IN DECEMBER.

It is most satisfactory to have to record a further marked expansion in the aggregate value of the foreign sea-borne trade of Calcutta in the month of December, 1911, as compared with the same month of 1910. The total value attained to Rs. 13.38 crores, or an improvement of Rs. 2.8 crores, equal to an expansion of 26.47 per cent: this is better than the increased value of the previous month and it is interesting to record that, in the three months that have passed since the serious blow inflicted on Calcutta's trade with other countries owing to the upheaval at home (September), the ratio of progress over the previous year's figures was 48, 20.65, and as shown above, 26.47 per cent. Both imports and exports helped to swell the volume of trade: the increase in imports was by Rs. 1.16 to Rs. 5.32 crores or 27.91 per cent: exports rose to Rs. 8.06 by Rs. 1.63 crore or 25.52 per cent. The improvement

in the past month is all the more gratifying when it is considered that it embraced no less than 12 non-working days in comparison with only 8 days in December, 1910. Unfortunately while most important imports showed expansion in value on the month's transaction, the improvement was largely stultified by a marked contraction in landings and clearances of sugar: consequently the receipts of general merchandise valued at Rs. 3.79 crores only rose by Rs. 2.83 lakhs or .75 per cent. But the demand for the precious metals was abnormal and induced imports of treasure valued at Rs. 1.53 crore, an advance of no less than Rs. 1.13 crore or 280.86 per cent: receipts of gold aggregated Rs. 1.37 crore and of silver only Rs. 15.95 lakhs: of the gold received as much as Rs. 1.23 crore consisted of sovereigns. Exports of treasure were of no importance and only amounted to Rs. 18,636: the bulk therefore of shipments comprised Indian merchandise. Three quarters or nine months of the current financial year have now elapsed and the aggregate value of Calcutta's sea-borne trade during that period can only be designated as very gratifying to all interested in the commercial status of the premier city of the East. It totalled 110.48 crores, an advance of Rs. 11.3 crores or 11.39 per cent. Imports and exports have both expanded on a considerable scale, but the former has preponderated owing to the very large demand for gold and silver: in the former the improvement was Rs. 6.03 crores or 15.27 per cent, the total amounting to Rs. 45.52 crores: exports, on the other hand, valued at Rs. 64.96 crores rose by Rs. 5.27 crores or 8.81 per cent. The import trade as stated already has been largely influenced by the heavy imports of gold and silver: the increase was by Rs. 2.93 crores or by 84 per cent to Rs. 6.42 crores: gold rising by Rs. 2.72 crores absorbed Rs. 4.75 crores (of which Rs. 3.82 crores consisted of sovereigns), silver expanding by Rs. 21.29 lakhs to Rs. 1.66 crore. Imports of gold into British India have generally this year been on a most liberal scale. Taking the first eight months of the current and past 2 years, the imports have been Rs. 7.29, 12.42, and 18.88 crores, respectively: of the last item Bombay accounted for Rs. 14.62 and Bengal for Rs. 3.37 crores; in the past 2 years there have been no imports of gold on behalf of the State.

It has already been remarked that owing to the King-Emperor's visit to India, the non-working days in December were considerably increased in comparison with December, 1910. As a matter of

fact the Customs' Treasury was closed on 12 days out of 31: last year the number of days was eight only. Yet, in spite of this, revenue collections (inclusive of Tea Cess, Rs. 28,260) were greater than in the corresponding period of 1910: and the total duty rose by Rs. 7.11 lakhs to Rs. 36.65 lakhs or by 24.06 per cent. There was again a serious decrease in receipts from imports of sugar owing to a smaller business, and the receipts fell by Rs. 1.48 lakh: tobacco also dropped by Rs. 29,771 and there was a very small decline in payments under silk goods. But otherwise all important revenue headings showed a larger demand although under individual items in no case was it marked, if we except salt: still there was sufficient evidence to emphasise the greatly improved trade in the last quarter of 1911. Clearances under salt were on a large scale, the quantity amounting to 13,98,757 maunds as against only 8,06,387 maunds in December, 1910, an expansion of 73.45 per cent. Of the former quantity 8,06,188 maunds were cleared on cash payments, the balance going out under the credit system. The heavy clearances were largely influenced by a slump in price, the result of imports of Aden salt outside the combine. The latter at once reduced rates against this outside influence, of which buyers naturally took advantage. In revenue, salt contributions advanced from Rs. 6.06 to Rs. 13.39 lakhs or by Rs. 7.32 lakhs, an improvement of 120.69 per cent: this was partly made up by adjustments under the salt credit system but, all the same, at the close of December the amount still remaining unadjusted under this system, was Rs. 22,11,358. The collections in the first three quarters of the current financial year have now aggregated Rs. 3.03 crores, inclusive of Tea Cess, representing an increase on the previous year of Rs. 32 lakhs or 11.80 per cent. Sugar gives the most serious decrease in revenue, amounting to Rs. 3.28 lakhs, but tobacco collections were also smaller by Rs. 2.35 lakhs. With these exceptions receipts have been of the most expansive nature, as the following increases show:—

Salt	Rs. 13,71,224	Silver	Rs. 3,17,738
Cotton	7,72,404	Rice	3,09,653
Oils	5,78,682	Liquors	1,70,579

The total increase shown under salt does not represent the actual augmentation in clearances for consumption: these were only Rs. 3.9 lakhs, the balance (Rs. 9.83 lakhs) being the value of the increase in salt credit adjustments.

Imports on behalf of the State continued to decline in value in December, falling from Rs. 26.74

to Rs. 9.75 lakhs or by 63.35 per cent. There was some improvement in telegraph stores and woollen goods, but otherwise all other headings were smaller in value on the month's transactions. In the nine months the imports of Government Stores were valued at Rs. 1.23 crore, a decrease of Rs. 34.75 lakhs or 21.96 per cent: copper, woollen goods, and Portland cement alone gave improved results.

The small increase in value of imports of merchandise during December last in comparison with the same period of 1910, does not on analysis show that the trade of Calcutta in that month was not expansive. On the contrary, most lines exhibit a greater business done but, to a great extent, their expansiveness was neutralised by a continued and great contraction in imports under sugar, the total value of which fell by Rs. 22 lakhs to Rs. 20.66 lakhs or by 51.70 per cent: the total quantity fell from 577,721 to 365,946 cwts. Molasses, it is true, rose from 124,812 to 232,613 cwts., but there were no receipts of unrefined sugar and the refined product dropped from 431,569 to only 132,315 cwts. and so far this year the imports of refined have fallen by 618,656 cwts. How small the trade has been is shown by the fact that only 29,651 bags were brought into the port: at the same time no sugar was transhipped but 72,739 bags were re-exported as against 95,558 bags in the previous month. High prices have curtailed the demand here and scarcity in Europe has diverted much Java sugar. Outside sugar, the imports of salt were smaller by 13,684 tons, wood was not imported to so great extent, and there was a very small contraction in value of woollen goods; all other important imports were received on a larger scale. Amongst the latter cotton goods were the most noticeable, the total value of Rs. 1.64 crore being greater by Rs. 11.28 lakhs. In piece-goods the quantity received was 96 million yards, a jump of 8.7 million yards and Rs. 14.83 lakhs in value: but under cotton hosiery the value receded by Rs. 2.11 lakhs. The trade continues to be satisfactory and the price of the raw material low, though the quotation for Mid-American at Liverpool on the 11th January was 5.33d. per lb. or higher than on any mail day since October last. But the prospects are not all brightness owing to the disputes in the cotton trade in Lancashire which has now been happily settled and the mills re-started, yet there still remains the ominous shadow of the miners' threat of a universal strike in the coal trade. The group embracing hardware, metals, machinery and railway materials have all and individually

risen in value, having aggregated Rs. 89 lakhs or an expansion of Rs. 9.51 lakhs. The decrease in foreign mineral oil referred to last month has not continued and the value (Rs. 9.88 lakhs) is greater by Rs. 4.46 lakhs, while the quantity has risen by over 1 million gallons: the improvement was solely in American kerosine oil and denotes the much larger demand induced by the rate war between the competing countries. During the same period from Burma there was a fall of nearly two million gallons: so far this year while foreign kerosine has risen from 13 to 23.7 million gallons, the Burma product has only advanced by 1.5 million gallons. Increases are likewise observable under liquors, provisions, chemicals, drugs, etc., and even tobacco. In the coasting trade the value of imports of cotton goods rose during December from Rs. 8.26 to Rs. 28.16 lakhs, largely in grey piece-goods: but in the year the total value has fallen from Rs. 162 to Rs. 144 lakhs. Oilseeds also expanded by Rs. 7.69 to Rs. 9.11 lakhs in the month and during the year from Rs. 4.07 to Rs. 36 lakhs.

Jute continues the predominating feature of the export trade and in the month of December was far and away the chief contributor to the larger business done. Combining both the raw material and its production the total value rose from Rs. 2.8 crores to Rs. 4.02 crores or an increase of Rs. 1.21 crore in the month: to this the raw material contributed Rs. 1.08 crore and jute goods Rs. 13.51 lakhs. In the nine months the increase in raw jute was greater in value by Rs. 4.41 crores, but the finished article was still in defect to the extent of Rs. 1.20 crore, the net improvement being Rs. 3.20 crores; total combined shipments have aggregated Rs. 26.6 crores against Rs. 23.39 crores last year. Of raw jute the quantity sent away from Calcutta was 2.04 million cwts., or 571,985 bales, in the month, or an increase of 766,965 cwts., equal to 214,750 bales, the United Kingdom and Germany taking the greatest supplies: so far this year 10.38 million cwts. or 2,908,420 bales have been shipped, an increase of 474,662 bales. Jute still continues in ample supply and to the end of 1911 for this season the imports into Calcutta and the mil stations have aggregated 305 lakhs of maunds or 6,275,990 bales, an increase of 31 lakhs of maunds or 981,969 bales for the same period of last season: this leaves a very little to equal last year's total and, unless there be a considerable falling away, the forecast will be well exceeded. But the quality leaves much to be desired, and first class stuff is

quite scarce; yet the price continues high and Rs. 52 per bale is quoted at present. From Chittagong 150,046 cwts. or 42,013 bales were shipped in December or 1.11 million cwts., equal to 310,968 bales, in the year. The number of gunny bags (23.26 million) shipped in December gives little variation on last year's figures, but gunny cloth, standing at 71.31 million yards, has improved by 5½ million yards: in the year 225 million bags and 666 million yards of cloth have been sent away. New Zealand has taken the largest quantity of gunny bags and the best customers for cloth have been the United States and the Argentine. Exports of jute manufactures to Dundee have risen from Rs. 12.14 to Rs. 17.63 lakhs in the year. In spite of the high range in price of raw jute, the local mills are doing much better, the manufactured article responding more favourably in selling rates. With the commencement of the new year the mills have resumed working five days per week; the new jute tax, under the Town Improvement Trust for Calcutta, at the same time came into operation. The position of the industry is believed to be much more favourable than it was, and labour is in much better supply. Though not so great as in the previous month, exports of grain and pulse were still on a very large scale: quantity rising from 803,489 to 1,617,187 cwts. giving a value greater by Rs. 36.22 lakhs. Wheat was again in defect, the quantity shipped being smaller by 34,027 cwts.: but rice exports were large and barley shipments phenomenal, the former rising by 177,466 cwts. to 622,022 cwts. and the latter from 104 to 166,329 cwts.: pulses also increased from 123,069 to 509,315 cwts. In the year the following food products have increased their exports by the quantities stated:—

Pulses	1,955,592 cwts.
Rice	1,462,476 "
Barley	1,249,677 "

The causes for these excessive shipments have before been referred to in these articles, and they will continue to influence the export trade for some time yet: the scarcity of rice in China and elsewhere have greatly assisted the larger exports of rice.

The shortage in hides and skins shipments in November did not continue in December: for exports rose in value by Rs. 14.65 lakhs to Rs. 48.44 lakhs, though for the year the total value (Rs. 4.76 crores) has risen by only Rs. 27.84 lakhs, but the demand at home just now is considerable. In spite of the large exports of oilseeds last season, the demand at present is even better and last month

133,237 cwts. (almost entirely linseed) were sent away as compared with only 40,677 cwts in December, 1910, giving an increase in value of Rs. 12.32 lakhs: in the year exports were larger by 259,527 cwts. and Rs. 1.25 crore: tea seed rose from 2,011 to 3,443 cwts. in the month. Cotton twist and yarn also showed exports greater by 416,400 lbs. and Rs. 2.41 lakhs: but for the year there is a shrinkage of 1.71 million lbs., which is not surprising when the production in Bengal for only the first seven months of the year was smaller by over 4 million lbs.: there has also been a shrinkage in despatches to Indian ports. The total shipments of coal to both foreign and Indian ports aggregated 246,099 tons, a decrease of 14,162 tons in December: in the 9 months exports have fallen by 256,113 tons to 2,142,745 tons. In the foreign trade in December the quantity sent away rose from 66,042 to 94,782 tons, but to Indian ports the despatches declined by 42,902 tons to 151,317 tons: in the 9 months foreign shipments were reduced by 28,724 tons and to Indian ports by 227,389 tons. The trade, more especially for Indian consumption, continues to be heavily handicapped by the scarcity of tonnage and this has now become acute inasmuch as steamers are now unobtainable at even Rs. 7 per ton. At the same time there is not much coal of an average fair quality available and with the feverish demand locally at home in anticipation of the miners promised strike, a coal famine in Bombay is within the bounds of possibility. But there has been a marked increase in despatches by rail from Bengal and in the first 6 months of the current year these have risen from 1.08 million to 1.52 million tons. Lac shipments rose last month by 10,391 cwts. and Rs. 1.09 lakh: small increases are also discernible in the values of raw silk, saltpetre, and hemp exports; but other principal products show a falling off in demand. Chief amongst these was opium, to which the port has now become accustomed for some time past: in December exports fell by 956 chests to 2,314 chests, and in value by Rs. 24.61 lakhs to Rs. 75.7 lakhs: the contraction for the 9 months aggregates 6,814 chests and Rs. 2.00 crores. At the last sale held on the 10th January (the first of 1912 series) only 1,740 chests were auctioned but the price obtained was quite satisfactory, averaging Rs. 3,433 per chest. The position of the monopoly at present is far from assuring: it is reported (16th January) that the Republican party in China has been successful and that a Republic will be decreed by Edict: this party have

sympathised with a resumption of opium cultivation in China and, should the rumour prove correct, the revenues of India may once more expand under opium. Raw cotton droops continuously and in the month has lost 23,052 cwts. and for the year 38,182 cwts: the large American crop (estimated at 15 million bales) and the low range of prices now in vogue, has considerably lessened the demand for the Indian product. There was a set-back in exports of tea from Calcutta in December: the quantity actually shipped was 20.64 million lbs. valued at Rs. 1.01 crore, or a decline of 1.14 million lbs. and Rs. 3.46 lakhs: for the year 162.27 million lbs. have left the port carrying a value of Rs. 7.79 crores, and is an increase of 5.57 million lbs. and Rs. 51.22 lakhs. From Chittagong exports were 6.34 million lbs. or for the 9 months 49.4 million lbs. From the whole of British India up to and inclusive of the 16th January the total exports of tea for the season were 229.54 million lbs., an increase of 6.87 million lbs.: of this 14.66 million lbs. went from Southern India. To the United Kingdom there has been a supply greater by over 12 million lbs., but the Russian demand fell by over 8 million lbs. To the 31st December Ceylon exports were for 1911, as much as 181.56 million, or an increase of 5.5 million lbs. on 1910. At the 29th Calcutta sale held on the 12th January the average price worked out at 7 as. 6.2 pie as compared with 7 as. 9.8 pie last year, but for the season the price stands at 7 as. 7.1 pie against only 7 as. 0.9 pie. In London stocks of Indian tea on the last day of 1911 were 73.9 million lbs.; at the close of 1910 the figures were 79.18 million lbs. The year 1910 closed most prosperously for the industry and this prosperity has continued throughout 1911. Taking the working profits of, approximately, 20 representative tea companies they have in 1908, 1909, and 1910 been £890,000, £1,260,000 and £1,450,000, respectively, and it may be safely stated that for 1911 there will be a further substantial improvement. Indigo gives a deficit on the month of Rs. 2.44 lakhs, and manganese ore, silk, and tobacco did not improve. In closing this article on Calcutta's trade in December, it may be emphasised that at the present time Calcutta's prosperity is great. It is only necessary to scan the freight market reports to fully realise this. Rates just now at what is often the duller time of the year are well ahead of anything paid last year and the level is well maintained right up to June, with business reported up to July-December at rates which in ordinary times would offer no attraction to shippers to book forward.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The *Board of Trade Journal*, published on the 4th instant, relating to Tariff Changes and Customs Regulations, gives particulars about:—

FRANCE.—Proposed Reduction of Import Duty on Molasses for Feeding Animals.

DOMINION OF CANADA.—Customs Decisions.

COMMONWEALTH OF AUSTRALIA.—Further Customs Tariff Amendments. Customs Decision respecting "Bituminous Paint." Customs Decisions. Free Importations of Blow-Pipes. Free Importation of Timber for Violins. Closing of Customs Station at Cunnamulla. Importation of Opium. Invoice Values.

DOMINION OF NEW ZEALAND.—Customs Decisions. Glass-workers' Tools Free of Duty.

NYASALAND PROTECTORATE.—Export of Grain grown by Natives Prohibited.

MAURITIUS.—Importation of Explosives.

GREENADA.—Regulations Controlling Importation of Firearms by Passengers.

ST. LUCIA.—Importation of Rum and Tobacco.

FIJI.—Revised Customs Duties.

EGYPT.—Revised Valuation Tariff for Sacks. Revised Valuation Tariff for Iron and Steel Manufactures.

RUSSIA-UNITED STATES OF AMERICA.—Denunciation of Commercial Treaty.

SAMOA.—Prohibition of Importation of Air-guns and Air-pistols.

FRANCE.—Postponement of New French Tare Regulations.

SPAIN.—New Customs Tariff.

PHILIPPINE ISLAND.—Tariff Classification of Wheel and Axles for Railway Cars.

VENEZUELA.—Tariff Classification of Metal Collar, etc., Studs.

BOLIVIA.—Increase of Customs Duties.

—A new application for electric energy appears to have been found in the United States in connection with the **celluloid industry**. As this material is so highly combustible the necessary heat for forming the various articles has usually been supplied by high pressure steam, and as celluloid becomes soft at a temperature of about 250 deg. F. and ignites at about 30 deg. beyond that temperature, it is necessary to exercise a careful control over the heat. With the electrical method the heat is applied by hot plate elements, and in the manufacture of celluloid combs, for example, the blanks are placed on the plate successively and are removed one by the workman as they are softened. A large electrical manufacturing house has placed on the market a special heating element for this purpose measuring 18 inches by 30 inches and provided with quick starting connections taking 450 and 900 watts in order to heat the plate rapidly. The normal consumption amounts to about 225 watts.

WEATHER IN INDIA DURING 1911.

The following is a summary of the general weather conditions of India during the year 1911:—The cold weather period of 1910-11 contrasted very favourably with the corresponding seasons of the two previous years, both of which were marked by an almost complete failure of the winter rains. January was a very unsettled month over nearly the whole region stretching from Baluchistan across northern India to Upper Burma, but particularly in the northern and western parts of north-western India. February on the other hand was exceedingly dry, and in most places absolutely rainless. In the usual region of the winter rains the excess of precipitation in January more than counterbalanced the deficit in February, and the aggregate of the period ranged much above the average in Baluchistan, Kashmir, the North-West Frontier Province, the Punjab, the United Provinces, Central India West, Berar and Assam. A slight excess also occurred in Rajputana, but in almost all other parts of northern and central India the recorded quantities fell far short of the normal. The defect amounted to about an inch, or 75 per cent in the province of Bengal, and to three-quarters of an inch, or 78 per cent, in the Central Provinces East. In the peninsular region, where under ordinary conditions amounts ranging between 2" and 1.2" are received, little or no rain fell during the two months. Of climatic elements other than rainfall, humidity and temperature were approximately normal, while the proportion of cloud was appreciably high in north-west India and in Eastern Bengal.

The Hot Weather Period, March to May.

In the weather in north-west India there was a marked resemblance between this period and the corresponding season of 1907. March was exceptionally disturbed owing to the advance eastwards from Persia into northern India of a succession of disturbances of the cold weather type. The accompanying precipitation was unusually heavy over nearly the whole of northern India, in some places surpassing all previous records for March. Much snow fell in the western Himalayas and the hill districts of the North-West Frontier Province, and in the Hazara Hills the snow line came down to 3,000 feet. The chief effect of this heavy precipitation was to hinder the development of the usual hot weather characteristics, and except in Burma, Eastern Bengal and Assam the weather in India in April and May was even drier than usual. Notwithstanding the scanty fall in April and May, the total precipitation of the season over the plains of India was 11 per cent above the normal. The excess was, however, confined to Upper Burma, Assam, Eastern Bengal, the United Provinces, north-west India and Mysore. In the region embracing the divisions of the Punjab, the North-West Frontier Province and Baluchistan the recorded amount was more than double the normal. On the

other hand the west coast, the Bombay Deccan, Hyderabad, the Madras Coast North and the Central Provinces had a very deficient fall. The deviations from normal of other climatic elements were conditioned by those of rainfall, but were in general not strongly marked. The only noteworthy feature was the prevalence of cooler weather than usual over northern India throughout the greater part of the period, due doubtless to the influence of the heavy snowfall of March and the winter months.

The Monsoon Period, June to September.

Meteorologically the monsoon season of 1911 contrasted very unfavourably with the corresponding periods of the previous three years, all of which were characterized by large and well-distributed rainfall. The Arabian Sea current appeared on the west coast a few days later than usual, but extended with great rapidity into the interior. The Bay current on the other hand was somewhat early in its arrival in northeast India, but it failed for some time to advance up the Gangetic plain beyond Bihar. The Arabian Sea monsoon withdrew almost completely from its usual field of activity on June 18th, and the break thus begun extended eastwards to the region of the Bay current, and by the 26th had embraced practically the whole country excluding Burma. A fresh advance of the Arabian Sea monsoon began on July 5th, and by the 10th feeble monsoon conditions had re-appeared over the whole country excepting northwest India. This phase of activity lasted however only for short time, for a second break set in, about the 15th and, with but slight interruptions, lasted up to about the middle of August. Thereafter a marked, though gradual, improvement occurred, with the result that the drought which at one time threatened to prove as serious as in 1877, became mitigated considerably. In September the monsoon was fully up to its normal strength, but was directed to an unusual extent to the United Provinces and Central India at the expense of northwest India and the Peninsula.

As ordinarily happens during seasons of weak monsoon conditions, few disturbances were recorded, and of these the only noteworthy one was that which occurred during the last fortnight of September, and produced a trail of abundant rainfall across the north of the Peninsula, and a heavy burst around Delhi and Meerut between the 26th and 28th.

The retreat of the monsoon from the north-west occurred on September 21st, about a week after the normal date.

The aggregate rainfall of the whole season, June to September, was in defect of the normal by 3.9" or 11 per cent. The deficit was common to almost all parts of the Indian region, the few exceptions being Lower Burma, Assam, Eastern Bengal, Chota Nagpur, Bihar and the Central Provinces East: in these areas an excess occurred but was under 18 per cent in amount. Precipitation was especially scanty in northwest India, which received barely half its normal seasonal supply. In Gujarat,

where under normal conditions there is a fall of 33" of rain a total throughout the season of only about 13" was recorded. There was a decided defect also in the United Provinces West (—27 per cent), Central India West (—28 per cent), Berar (—25 per cent), the Konkan (—26 per cent), Hyderabad (—22 per cent), the Bombay Deccan (—33 per cent), and the Madras Deccan (—21 per cent).

Thus the most striking characteristics of the monsoon of 1911 were:—

- its extreme weakness and unsteadiness, particularly in the Arabian Sea current, from June 18th to about the middle of August;
- the distinct increase in its activity from the third week of August, more especially in the United Provinces and Central India; and
- its almost complete failure in Gujarat, Sind and parts of Rajputana.

Humidity and cloud were in general below the normal, the variations being fairly well marked in northwest India, which constituted the region of greatest percentage defect of rainfall. Temperature was higher than usual by about 2° in the Punjab and the North-West Frontier Province, but elsewhere the departures from the normal were of no significance. The abnormalities of temperature, humidity and cloud were thus determined mainly by those of rainfall.

The Retreating Monsoon Period, October to December.

The most striking features of the meteorology of this period were:—

- the general weakness of the retreating monsoon and its abnormally early withdrawal about the 19th of October from the northern and central parts of the Peninsula, where the subsequent rainfall of November and December was due to cyclonic conditions;
- the occurrence in the fourth week of October of a cyclone in the Bay;
- the advance into northern India from the highlands to the west of the Indus of four disturbances of the early cold weather type during the period from October 21st to November 20th, with resulting heavy rain in the plains and much snowfall in the Himalayas and the Afghan mountains;
- the prevalence of unusually fine dry weather in December in the usual region of the winter rains.

According to the limited data of the meteorological observatories the total precipitation of the period was in large defect in Bengal, Orissa, the Konkan, Hyderabad South and the Madras Deccan, and was in marked excess in Assam, Chota Nagpur, Bihar, the United Provinces, the Punjab East and North, the North-West Frontier Province,

Baluchistan, Central India East, the Central Provinces and Malabar. There was a considerable defect also in the Bombay Deccan.

Absolutely no rain fell in Gujarat where upwards of half an inch is received under normal conditions.

Of climatic elements other than rainfall, humidity and temperature were nearly normal, while cloud was in marked excess in Bengal, the United Provinces, the North-West Frontier Province, Central India, and the peninsular region including the Central Provinces.

PRICES OF COMMODITIES.

The following are the index-numbers of the prices of forty-five commodities worked out to the month of November by Mr. A. Sauerbeck, the average of the eleven years 1867-1877 being 100 :—

Average.	Monthly Numbers.
1878-1887 = 79	February, 1895 = 60.0
1890-1899 = 66	July, 1896 = 59.2
1901-1910 = 73	May, 1907 = 82.4
	February, 1909 = 71.9
1883 = 82	November, 1910 = 77.8
1896 = 61	December, 1910 = 77.9
1900 = 75	March, 1911 = 78.9
1903 = 69	June, 1911 = 80.0
1905 = 72	July, 1911 = 78.9
1906 = 77	August, 1911 = 79.5
1907 = 80	September, 1911 = 80.3
1908 = 73	October, 1911 = 80.7
1909 = 74	November, 1911 = 80.6
1910 = 78	

There was a slight reaction in the index-number, principally owing to sugar and coffee, which could not maintain their high prices. Among materials metals were somewhat better, and the gradually improved position of iron is a healthy sign of the tendency of trade. Among textiles cotton was practically unchanged, but a further fall took place since the commencement of this month. Flax and jute had a slight reduction, but wool was rather higher. In the case of "other materials" tallow and most sorts of oil were rather cheaper.

The prices and index-numbers of silver compare thus (60.84d. per ounce being the parity of 1 gold to 15½ silver=100) :—

	Price.	Index-number.
Average, 1890-1899	34d.	55.8
Average, 1901-1910	26½d.	43.4
Average, 1893	35½d.	58.6
Average, 1909	23½d.	38.9
Lowest, November, 1902	21½d.	35.6
End December, 1906	32½d.	53.1
End December, 1909	24½d.	39.9
End December, 1910	25½d.	41.2
End October, 1911	25½d.	41.2
End November, 1911	25½d.	42.0

Silver had a stronger market, and prices went up to 26½d. in the course of the month of November.

INDIAN POST AND TELEGRAPH OFFICES. Suggested Amalgamations.

THE following resolution has been issued by the Government of India in the Department of Commerce and Industry :—The Government of India have for some time past had under their consideration the question of the possibility of amalgamating the two great Departments of Posts and Telegraphs. In all the important countries in the world where the Telegraphs are administered by the State, these Departments form a single service, and experience elsewhere indicates that amalgamation in some form or other conduces both to efficiency and economy. The amalgamation of the services in India was suggested no less than forty years ago, and since then the question has on more than one occasion been discussed. It was considered in 1905 when the Department of Commerce and Industry was created, but it was then decided, without prejudice to the advantages which might ultimately be derived from such a measure, that no steps could be taken towards carrying it into effect until the organisation of the Telegraph Department had been revised. The question accordingly was not lost sight of when the Report of the Committee appointed in 1906 to enquire into the organisation of the Telegraph Department was received, and proposals for the reconstruction of the Department were under consideration. In communicating his sanction to those proposals, the Secretary of State placed on record that he only did so tentatively, and he expressed a desire that the Government of India should keep steadily in view the advantages to the country which would be likely to result from the amalgamation of the two Departments.

2. The reorganisation of the Telegraph Department which came into force on the 1st April, 1910, has effected the object which the Government of India had in view when their declaration of policy was made in 1906. The reorganisation has not only decentralised the administration of the Telegraph Department to a considerable degree, but by rendering the Telegraph and Postal Circles in India co-terminous, has brought amalgamation a further step within the sphere of practical politics. A dual system involves a certain amount of overlapping of duties particularly in connection with the administration of combined post and telegraph offices, and in several respects necessitates a duplication of expenditure. The Government of India are of opinion that an arrangement by which the administration of postal and telegraph traffic would be entrusted to one set of officials while the engineering and technical work of the Telegraph Department would be carried out by another and distinct set, the administration of the whole department being controlled by a common head, would, if feasible, lead to increased efficiency and ultimately to economy. At the same time it appears to the Government of India to be essential, in order to avoid any dislocation of business, that no decisive steps should be taken towards amalgamation until the way is absolutely cleared, and that

amalgamation, if it is proved to be practicable, should only be carried out gradually.

3. Keeping these principles in view, the Government of India have come to the conclusion that the wisest course to adopt is in the first place to bring the administration of the two Departments together under one head. This measure will have the obvious advantage of placing at the disposal of Government the considered advice of an officer who in a short time will have experience of the inner working of both Departments, advice which is essential before any definite step can be taken towards the fusion of the services. It is a necessary outcome of the objects in view that the combination of the two offices under one head should in the first instance be a purely tentative measure.

4. The post of the Director-General of Telegraphs is now vacant and Mr. Dempster, who has been officiating in that capacity, has signified his intention of applying for leave in April next. The Government of India have decided that from that date Sir Charles Stewart-Wilson, the Director-General of the Post Office of India, should also hold the office of Director-General of Telegraphs, and under the title of the Director-General of Posts and Telegraphs should carry on the administration of the Telegraph Department in addition to his own duties. This appointment, as has been said, is temporary, but it has not been thought necessary to fix a definite period. It is the intention of the Government of India that Sir Charles Stewart-Wilson should, after he has gained some experience of the Telegraph Department, report whether a complete fusion of the Postal and Telegraph Services is feasible and advisable; and if so, that he should prepare a scheme for their gradual amalgamation. The general interests involved are of such importance that it is desirable that the public should be given a full opportunity of expressing their views on the question and the adoption of such experiments as may be made will afford a convenient means of forming an opinion. It is not the intention of the Government of India that any decisive step should be taken without obtaining the considered views of commercial bodies and the public at large.

5. The Government of India earnestly desire that in such steps as may be taken towards the amalgamation of the two services, all possible protection should be afforded to the personal interests and prospects of the existing staff of both Departments in all grades. Sir Charles Stewart-Wilson will be instructed to bear these principles in mind in formulating a comprehensive scheme. He will also be directed to see that there shall be no loss of emoluments caused by any experiment in amalgamation which he may attempt, to any members of the staff either of the Post Office or of the Telegraph Department.

6. The Government of India have not underrated the importance of an objection previously raised when the question of amalgamation was considered in 1905, viz. that the head of both

Departments would be over-burdened with work. Since that date the position has considerably changed. The reorganisation of the Telegraph Department carried out two years ago was designed to effect a very considerable devolution of authority, and in the Post Office also recent years have witnessed the execution of numerous measures of decentralisation. The Government of India are of opinion that the control of both Departments can now with safety be placed in single hands. In view, however, of the fact that the duties which will devolve on Sir Charles Stewart-Wilson will be specially onerous and difficult at first, the Government of India have decided to give him the assistance temporarily of Mr. W. Maxwell, who as Postmaster General of the Punjab and as a Member of the Telegraph Committee of 1906-07 and of the Committee appointed to examine the working of the new system of duties in Telegraph Offices in 1908, has had intimate experience of the working of both Departments.

MAURITIUS SUGAR INDUSTRY.

WE take the following particulars from the Annual Report on Mauritius :—

The crop year for sugar in Mauritius begins on the 1st of August and ends on the 31st of July of the following year. The year closing on the 31st of July, 1911, has been one of great activity in the sugar industry. The crop of 1909, produced under most favourable conditions, had reached 246,560 tons (metric ton=1,000 kilogrammes), and had exceeded that of any previous year. The heavy yield of cane per acre in 1909 and the favourable prices obtained for the sugar have brought about a rapid extension of the area cultivated, particularly on the lands of peasant proprietors. The total crop of 1910 exclusive of local consumption was 214,372 tons.

The abnormally heavy rains of June and July 1909 were followed during the growing season of the crop of 1910 by long periods of drought which adversely affected the yield of cane. The harvesting of this relatively large crop in spite of generally unfavourable climatic conditions is due to (1) an extension of the area planted; (2) an exceptionally good "virgin" crop produced by the heavy rains which fell in June and July 1909 immediately after the canes had been planted; (3) an unusually rich and pure juice; and (4) improved methods of extraction and manufacture. There has resulted a crop slightly above normal which has in a measure counter-balanced the low price realised for the sugar.

The market opened with a general average price of about Rs. 9 per 50 kilos which fell rapidly in the closing months of 1910, the average for the whole crop, though not yet definitely determined by the Chamber of Agriculture, being approximately Rs. 7 per 50 kilos as compared with Rs. 8.50 in the

Previous year. The monetary value of the crop for the last five years is shown below:—

	Total Produce Tons (metric), unit	Money value Rs. 1,000,000.
1906-7	214,699	28.3
1907-8	163,911	24.9
1908-9	191,491	28.7
1909-10	240,560	41.9
1910-11	214,372	30.0

The agricultural returns which have been prepared in the Statistical Office of the Chamber of Agriculture show that on the 31st of December, 1910, 144,297 arpents (arpent=1.043 acre) out of a total area of 439,451 arpents in the Island of Mauritius were under cultivation in sugar-cane, giving an increase of 16,552 arpents since 1909 of which 4,864 arpents are on large estates and 11,688 on small holdings.

The Protector of Immigrants reports that there was a decrease of 6,447 in the estate population as compared with the previous year and a decrease of nearly 1,000 in the number of written contracts of service, excluding those of new immigrants, entered into during 1910. The introduction of indentured labour from India was restricted and later in the year discontinued. The extended cultivation of small holdings absorbed a large amount of regular labour and there was consequently a scarcity of labour causing some anxiety during the harvest and the busier seasons of field work. Agricultural work was plentiful throughout the year and wages ruled high.

Attempts have been made from time to time and recently renewed to introduce steam ploughs for field work, but much of the land under cane cultivation is very rocky and hand labour still prevails, except in a few isolated cases where the soil lends itself to mechanical appliances. The use of cane and mill residue as fertilizers continues to be generally adopted and the imports of manures and chemicals increase annually, the value for 1910 being approximately 2½ millions of rupees. The construction of light tramways has been further extended and their total length is estimated by the Statistical Office of the Chamber of Agriculture at little short of 900 miles. As supplementing the tramway system, a considerable number of oxen are used for transport. The wastage is made good by imports from Madagascar though the "Creole ox", of which about 450 are bred annually, is preferred as better resisting disease and being generally a more sturdy animal.

In 1908 there were 66 Sugar Factories working and this number had at 31st December 1910 decreased to sixty-two. Great improvement has been effected in the manufacture of sugar and large sums have been expended on the machinery of the factories. The total value of the machinery imported in 1910 exceeded one million of rupees and consisted principally of larger vacuum pans, improved turbines, "malaxeurs" and other machinery and labour saving appliances for the work of the sugar factories. In one or two instances improved and powerful crushing plants have been introduced the results from which, says the Report, will be followed with great interest.

ROUMANIAN HIDE AND SKIN TRADE.

Government Restrictions.

THE following regulations have been published by the Roumanian Government regarding the admission of hides and skins into Roumania from foreign countries:—

Art. 1.—Raw hides or skins, green, salted or not salted, undried, *viz.*, those hides which have been freshly skinned from animals and brought to the frontier, will not be allowed to be imported, whatsoever veterinary certificate of origin which may accompany them.

Art. 2.—Dried hides, salted, smoked, arsenicated, etc., will be allowed for importation and be sent direct to the tanners and deposits in the country, who bring them to be tanned on the following conditions:—

- (a) They must come in, on certain points on the frontier, which is in communication by rail or by a maritime or fluvial route, and at which points there exists a veterinary service.
- (b) They must be accompanied by a veterinary and sanitary certificate which will prove that the hides are from a locality where different animal diseases do not exist; that in a radius of 30 kilometers no diseases exist at the moment from where the hides or skins were to be transported, nor did it exist 15 days before they were sent off.
- (c) Certificates must emanate from the locality from where they were sent signed by the Veterinary Medical Officer who surveyed them, legalised by a competent authority and accompanied by a translation in the Roumanian language or in French, legalised before an authority.

Art. 3.—Dried hides or skins whose origin are from countries where there is the pest or cholera, must be so packed as they cannot be manipulated during the voyage.

Hides will be allowed to be imported if it is proved to our authorities at the frontier that they were forwarded at least 5 days before the beginning of any of the above grave diseases, they must be accompanied by sanitary certificate given according to the International Sanitary Convention of Paris of 1903.

Art. 4.—Dried hides which have been brought by ship or steamer and which is infected by the pest or cholera, will be put to the same treatment as the rest of the cargo according to the regulations of the above International Sanitary Convention.

Art. 5.—The Minister of Interior can prohibit the import of dried hides that came from a country having animal pest, pleuropneumonia or fever (fièvre aftuse) from whatsoever department, district or country where such diseases exist.

Art. 6.—Dried hides coming from other than European ports must be accompanied with—

A sanitary certificate delivered by a medical authority, showing that the hides come from a country which has neither the cholera nor the pest.

THE TEA INDUSTRY.

Messrs. Gow, Wilson and Stanton, Ltd., in their Tea Report for 1911 say:—The past year has been most prosperous for the majority of producers, the distinct rise in values made during the latter half of 1910 being further improved on.

The average price for Indian Teas for the period under review reached the high figure of 8.91d., an advance of 61d. on last year, whilst that of Ceylon was 8.88d. against 8.19d., showing an increase of 69d.

These figures had not been previously reached since 1897 and 1893, respectively, and when it is borne in mind that only as recently as 1905, the Indian average was 7.30d. and the Ceylon 6.99d., the present level is doubtless highly satisfactory to Planters.

Several factors contributed during the year to impart further strength to the already sound statistical position.

(1) A shortage in shipments during the opening months of the year from Northern India to United Kingdom, as compared with the corresponding period 1910.

(2) Drought during the middle of the year in several districts of Ceylon and Southern India, making supplies to this market on a smaller scale, thus causing further depletion of the already reduced stocks, till on August 31st, those of all Tea in bond were 13,000,000 lbs. less than at the corresponding period of last year (these latter being the smallest since 1903).

(3) The Dockers' strike in August resulting in importers only being able to bring forward small supplies at a time of year when demand always shows considerable activity, and the policy adopted afterwards, particularly by the leading Distributors and Shop Syndicates of accumulating large Duty Paid Stocks at their various branches throughout the country, in order to protect themselves against a possible recurrence of labour troubles before Christmas.

As a result competition has been well sustained throughout the year, a feature being the noticeable absence of wide fluctuation in price, so often seen in past years.

The highest point of the market was touched during October and November, when the price of common leaf Tea advanced to 8½d., a figure not previously recorded since 1891.

During the last few weeks a slight set back has taken place, probably due to the Trade holding a fair amount of stock after the exceptionally heavy Indian sales of the past few months, and also in view of the larger shipments advised to this country of both Indian and Ceylon Tea during the latter half of November and the early part of December, increasing visible supplies beyond expectations.

Whilst the high level of values recently ruling may not be quite maintained, still with the World's Consumption of British Grown Teas showing steady

A certificate of origin given by a Medical Veterinary officer by which he proves that—

The country has no animal diseases that they derive from animals which never had any animal disease.

That even in the locality from where they were sent and where they were deposited at least 15 days before being sent, and in a radius of 30 kilometers where, no disease exists especially from the animals from which these hides have been taken.

Certificates must be translated either in Roumanian or French and legalised by a competent authority.

Art. 7.—When the transport of hides from any other but European ports arrive in a port in Europe with only one certificate, and destined for Roumania, these hides will not be admitted into Roumania, only upon the following conditions:—

- (a) To be accompanied by a copy legalised from the original certificate of its place of origin.
- (b) To be accompanied by an official document proving that the hides were intended for Roumania and formed part of the consignment which had the original veterinary certificate and of which the above is a copy according to letter (a).
- (c) The above documents must have a translation in Roumanian or French language legalised before an authority.

Art. 8.—The transport of hides which arrive at the frontier will be examined by a Veterinary and if they are found in a good condition and fulfilling all the conditions as stipulated above, then the import will be permitted direct to the factories or deposits without being disinfected.

Dried hides, accompanied by the abovementioned documents, but of which the Veterinary Medical officer at the Frontier may have some suspicion will have to get ministerial instructions which will be asked for urgently.

Art. 9.—Raw hides, hides unaccompanied by certificates, or in a irregular form, or from infected localities, will be refused import.

—The Journal of the Russo-British Chamber of Commerce gives the following estimate of the timber area in the principal European countries:—

	Acres.
Austria-Hungary (including Croatia, Slavonia, Bosnia and Herzegovina)	52,837,000
Sweden	49,390,000
Germany	34,990,000
France	24,021,000
Norway	16,848,000
Spain and Portugal	16,065,000
Italy	10,115,000
Bulgaria	7,603,000
Roumania	6,367,000
British Isles	3,030,000
Other countries	11,736,000
TOTAL	233,002,000

progress and little likelihood of increased acreage coming under cultivation owing to scarcity of labour in many of the Tea districts, the outlook for Importers during the coming year seems very favourable.

Duty payments have been the largest yet recorded totalling about 296 million pounds, an increase of some 9 millions when compared with those of last

year. If we take these figures as representing consumption it will be found that a marked increase per head of population has taken place, viz., from 6.31 in 1910 to 6.53 for the current year.

Below we give a table for each of the past five years showing the amount of all kinds on which duty has been paid, with the relative percentage of each growth.

Duty Payments.										
	1911.	%	1910.	%	1909.	%	1908.	%	1907.	%
Indian .	169,250,000	57	162,434,304	57	160,147,351	57	157,443,498	57	162,496,007	59
Ceylon .	90,500,000	30	93,327,581	32	95,134,435	33	92,960,823	35	87,078,039	32
China .	14,500,000	05	10,283,477	04	8,190,614	03	8,920,943	03	9,729,357	04
Other countries	21,750,000	08	20,908,776	07	20,078,446	07	16,092,842	06	14,692,526	05
	296,000,000		286,954,138		283,550,846		275,418,106		273,995,929	
Per head of population.	6.53 lbs.		6.31 lbs.		6.29 lbs.		6.18 lbs.		6.21 lbs.	

Indian Tea.

It is generally anticipated that the crop will be slightly larger than the last, doubtless to some extent due to coarser plucking having been resorted to, owing to the high prices obtained for common Tea since the beginning of the Season.

Quality has been only average, neither Assam nor Darjeeling sending forward as many choice parcels, though amongst the former some very tippy Teas have been included.

Dooars were disappointing at the opening, but afterwards many invoices had useful cup qualities, without being in any way of a really "stand out" character.

Cachars and Sylhets have shown slight improvement, whilst from Travancore during recent months several invoices with attractive flavour and quality have been placed on the market.

Table showing the average price of Indian common leaf Tea for quarter during the last five years.

Indian Tea (Common Leaf).

	1911.	1910.	1909.	1908.	1907.
1st Quarter	7½	6½	5½	7	7
2nd "	7½	6½	6	6½	6½
3rd "	7½	6½	6½	5½	6½
4th "	8	7	6½	4½	6

Exports of Tea (in lbs.) from Java, from 1st January to 31st October.

	Holland.	United Kingdom.	Russia.	Australia.	North America.	Singapore.*	Other Ports.	Total.
1911	17,177,761	11,231,547	1,396,742	4,989,094	350,939	2,881,830	1,102,974	39,124,887
1910	15,532,118	10,958,338	60,321	1,276,341	161,911	3,046,991	2,562,316	33,618,336

*Singapore shipments are probably intended for Russia via North China Ports.

Figures for the month of December are estimated.

THE COTTON TRADE IN 1911.

THE following review of the cotton trade during the past year is written by Mr. William Tattersall, of Manchester:—

Compared with 1910, the past year in the staple industry of Lancashire shows some improvement and employers at the time of writing are more favourably situated as to order lists than for a long time back. It may be said that the weaving section has had a good year, whilst in spinning a rather marked improvement has occurred during the last few months, and trade at the present time is on a more profitable basis than for three or four years back. There has not been much short time worked, and employment at the moment is certainly very healthy, there being some scarcity of competent weavers in certain quarters.

Raw Cotton.

On January 3rd, Middling American cotton on the spot in Liverpool was quoted at 8½d. There was not much change during the first month, but prices rather favoured buyers, the quotation on the 31st being 8.00d. Fluctuations occurred during February, with a tendency towards easier rates, and on the 28th the quotation had fallen to 7.70d. Very few alterations occurred during March, and the figure at the end of the month was unchanged. Towards the end of April there was an upward movement, and on the 29th the figure was 8.31d. Prices continued to harden until May 12th when 8.42d. was registered, the highest quotation of the year. That month went out at 8.28d. By the end of June the quotation had dropped to 8.04d. There was a further decline during July of a marked character, the quotation on the 31st being 6.57d. There was some reaction in prices during August, the figure on the 26th being 6.99d. After a further rise of 7.18d. on September 16th an easier tendency set in, and by September 30th prices had fallen to 5.86d. October brought still lower quotations, that month going out at 5.12d. There was not much alteration in November, the quotation on the 30th being 5.13d. Since the beginning of December rather lower rates have prevailed, and on December 14th the quotation was 4.94d. The American crop for the season ending August 31st last amounted to 12,120,000 bales, as compared with 10,651,000 bales in the season before. The feature of the year with regard to raw cotton has been the marked fall in values from about 8½d. in May last to about 5d. at the time of writing. The prospects for supplies in the American staple are decidedly healthy, and most people are expecting an output from the United States of 15,500,000 bales. It may be said that the previous biggest crop was in 1908-09, which amounted to 13,828,000 bales. The decline in Egyptian cotton during the year has not been so important as in American descriptions. Fully good fair brown in Liverpool was quoted on January 3rd at 11½d. By March 31st the quotation had fallen to 9½d. There was then a slightly hardening tendency, and by June 30th the quotation had

advanced to 10½d. On September 30th the figure was 9½d. and on December 14th the quotation was 9d. The crop for the season ending August 31st last amounted to 7,573,000 cantars, compared with 5,000,000 cantars in the year before. The yield was the biggest on record, the plant doing remarkably well. With regard to the prospects, the official estimate of the Alexandria General Produce Association for the current season is 6,500,000 cantars, which means smaller supplies to the extent of about one million cantars compared with last year.

Yarn.

The year opened with spinners of yarn doing fairly well, but before very long ground was lost, and certain mills were forced to slightly curtail production. Although the requirements of users were very heavy the output of the mills was too large with the result that stocks began to back up in first hands. In June an attempt was made to organize short time on a definite scale by the Masters' Federation, but the movement failed, the necessary majority not being obtained. An improvement set in during August, which has since been well maintained, and spinners have steadily widened their margin, and increased their engagements. It may be said that spinners engaged on American cotton have done rather better than the mills using Egyptian qualities, producers of the latter descriptions being rather hampered by the high rates in the raw material. The demand throughout the year in export yarns has been of a healthy character, and for India and the Continent a large turnover has transpired, producers being well sold at the moment at an encouraging margin of profit. Our shipments for the eleven months ending November 30th amount to 205,226,300 lb., compared with 174,054,800 lb., for the same period of 1910. According to an analysis of the stock-taking results of seventy-six companies for the twelve months ending November 30th, the profit on share capital, after allowing interest on loans and depreciation, amounts to just over one per cent per annum, whilst the profit on share and loan capital combined is ¾ per cent per annum. It may be said that these results are better than the previous twelve months, when the loss on share capital was over 10 per cent per annum, and on share and loan capital combined over 7 per cent per annum.

Cloth.

It has been a busy and remunerative year for manufacturers of cloth, and although actual figures are not available, many employers have made large profits. This section of our industry is almost entirely carried on by private firms, and particulars relating to profits and losses are not published. Makers have experienced a large demand from abroad, and owing to engagements being extensive throughout the year full rates have had to be paid for anything wanted. The demand for India has been healthy and goods have been well cleared on the other side. A few months ago there was a revival in Trade for China, but the revolution has

rather upset matters, and for the time being business is being checked. Numerous minor outlets have provided an encouraging trade, especially the outlets of South America and although there is a little uncertainty at the time of writing with regard to matters in the near East, the general outlook is promising for a continuance of healthy conditions. Looms throughout the country have been worked at full stretch, there being much pressure for deliveries. Certain manufacturers have been hampered owing to the scarcity of operative weavers, and here and there machinery has had to stand idle owing to the shortage in workpeople. There has been a tendency to increase the powers of production, new weaving sheds being built and old ones extended. Our shipments of piece goods for the eleven months ending November 30th last, amount to 6,136,410,100 yards, as compared with 5,470,493,000 yards for the same period of 1910. It may be said our total export for 1911 will break all previous records, the figures of 1907 being exceeded. A healthy business has been done in home trade circles and the excellent summer resulted in a very active demand in light fancy materials. The labour unrest has caused some anxiety, but the autumn trade has been fairly satisfactory.

Labour Questions.

Numerous labour matters have received the attention of the masters and the representatives of the workpeople. It will no doubt be remembered that in July, 1910, the Employers' Association and the operative spinners signed a five years' agreement to the effect that no general advance or reduction in wages should take place for a period of five years. This agreement is still in force, and no alteration can transpire until 1915. With regard to the Brooklands Agreement, which governs matters between these two bodies, an important amendment has been added, providing for periodical joint meetings when disputes take place and negotiations reach a dead-lock. Throughout the year there has been much activity on the part of the trade union officials in the weaving section with regard to the employment of non-unionists, and strikes have occurred at certain places. At the time of writing we are on the eve of a big lock-out which will affect about 160,000 workpeople. At the beginning of November the operative Weavers Association applied for a five per cent advance in wages and certain alterations in the uniform list. A joint conference of the masters and men was held on the 28th of that month, and after a fairly long discussion the meeting was adjourned until January 5th, 1912, when the employers will give a definite reply to the application of the workpeople. It is not expected that any serious dispute will take place, and no doubt some compromise will be arranged.

Prospects.

The new year begins with spinners and manufacturers fairly deeply sold at profitable rates, and whatever may happen later on, the first six months

is bound to be a busy and profitable period. With matters more settled in China and the near East, there is no reason to doubt but that our shipments in piece goods will make a further leap forward, as there never was a time when the prospects were so healthy in India. Manufacturers are in a strong enough position to hold for remunerative prices, and in weaving the outlook is certainly healthy. There is a little uncertainty with regard to the future in spinning. Producers have had a good time during the last few months, and have plenty of work to go on with, but at the moment there seem to be some signs of production again overtaking the demand. A great deal depends upon the offtake in export descriptions, but the comparatively low prices in raw cotton should do much to help spinners to maintain their position, and there is every probability of the stocktaking results being better than during the past year. The most favourable feature at the moment is the fact that we are bound to have large supplies in American cotton throughout the year, at lower prices than for a long time past. The Egyptian crop may only be a moderate one, but should be about sufficient to meet the demands of users. On the whole, the year 1912 begins under favourable conditions, but the labour dispute in the weaving section causes some anxiety.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, Jan. 23rd.

During the week ending January 22nd there were very light showers in Nadia, Angul, Sambalpur, Manbhum and parts of Hooghly, the 24-Parganas, Jessore and the Sonthal Parganas. No rain fell in the rest of the Province.

Threshing of winter rice continues. Pressing of sugarcane is in progress.

The standing *rabi* crops are doing well.

The price of common rice has risen in Jessore, Gya, Saran, Angul and Singhbhum and has fallen in Bankura, Midnapore, Sadia, Bhagulpur, Darjeeling, Sambalpur, Ranchi and Manbhum.

Cattle-disease is reported from Midnapore, Angul, Puri, Sambalpur, Hazaribagh and Palamau.

The supply of fodder and water is sufficient all over the province except in parts of Midnapore.

EASTERN BENGAL AND ASSAM.

Dacca, Jan. 23rd.

During the week ending January 22nd there has practically been no rain.

Sugarcane, rape and turmeric are giving very fair harvest returns. Tobacco is in good condition. Tea nurseries promise well. There has been a gradual fall in prices of common rice, which still continues.

Rinderpest is prevalent in Nowgong.

THE BULLION MARKET IN 1911.

REVIEWING the principal features of the markets for silver and gold during the past year, Messrs. Mocatta and Goldsmid in their annual circular say:—The highest and lowest quotations for spot silver have been 26½d. and 23½d. respectively, as against 26½d. and 23½d. during 1910, thus showing a narrower range and, as anticipated in our last annual circular, a slightly higher level. The range of 2½d. compares with 3½d. in 1910, 1½d. in 1909, 5d. in 1908, and 8½d. in 1907, and, therefore, may be looked upon as unusually small.

At the commencement of the year the quotation was 25½d. (with forward at ½d. premium), but a serious outbreak of plague in Manchuria towards the end of January had a depressing effect on the market, and prices fell from 25½d. (quoted on January 11th) almost continuously till 23½d., the lowest price of the year, was reached on February 9th. Stringent measures were, however, taken to prevent the spread of this terrible outbreak, and with a more hopeful outlook the China exchanges hardened, and before the end of the month silver was again being purchased for that quarter, and a more normal condition returned, as high as 24½d. being quoted.

During March and April the fluctuations were very small, the price varying only between 24½d. and 24½d., with the forward quotation generally at ½d. premium, the chief buying being for China for forward delivery. A portion of these purchases were made on behalf of the Chinese Government, who, as a preliminary step towards providing an Imperial currency, had also secured nearly £1,000,000 sterling in dollars from Indo-China, in spite of the large stocks of Sycee and bar silver then lying in Shanghai.

Favourable reports from India with regard to the monsoon early in June, together with quiet but persistent buying for China, kept the quotations quite steady during that month, but early in July there was an alarming cessation of the rains in many parts of India, bad crops and famine were freely talked of, and silver fell towards the end of the month below 24d. for the second time this year. This, however, happily proved to be but a temporary fall, and renewed rains, although too late to assure crops as good as had at one time been hoped for, were sufficient to allay any fear of famine, and good orders were sent from India, the price not being below 24d. any day in August.

Business this month was, however, somewhat seriously hampered in London owing to strikes, the P. and O. steamer being unable one week to leave London at all. Fresh hindrances to any material advance in the price seemed to occur with curious persistency, for in September news came of terrible floods in the Yangtse Valley, almost entirely destroying the rice crops of that district, and on any advance in the price of silver China seemed much more disposed to sell than to buy, thus preventing the price rising above 24½d. throughout that month in spite of large and continuous buying orders

from India. Silver, however, was, as a matter of fact, remarkably steady throughout August and September, the only fluctuations being between 24d. and 24½d. during the whole of those two months.

Early in October a good deal of attention was drawn to the possibility of the Indian Government being forced to buy silver owing to the fall in the stock of rupees held in the currency reserve, the returns showing a decrease from 29½ crores, at which they stood in August, to 24½ crores. This diminution continued slowly during October and caused a good deal of speculative buying, the price of silver being gradually forced up to 25½d.

Manipulation of the Market.

November, however, proved to be the sensational month of the year, as owing to political unrest in China, which burst into a very serious rebellion against the Manchu Dynasty, there was a strong demand for British dollars, and large shipments of silver were made to the Indian Mints for coinage and subsequent shipment to China. The available stocks held by the China banks in London were consequently soon exhausted, and the Indian bulls seized the opportunity of engineering a "corner" in the metal, as they did in July, 1910.

This group of Indian speculators whom we mentioned in our annual circular last year as holding about four millions sterling, had during the earlier part of this year somewhat reduced this amount, but the recent currency returns, as mentioned above, gave them fresh hope, and their purchases have again been very heavy. The whole of the stock in London being practically in their hands, they became unwilling to part with any of it except at a very high premium, and some of the bears were very severely squeezed, the official quotation for spot being on two separate days as much as ½d. over that for forward delivery, which, in view of the stock in London at that time being £1,700,000, shows how the market was manipulated by the said speculators. This heavy premium only lasted a few days and has since entirely disappeared, shipments having been hurried forward from America and some silver has even been shipped from China against sales made from that quarter.

It was during this squeeze that 26½d. the highest price of the year, was realized on November 23rd. Since then the market has had rather a sagging tendency, and we close the year with the price in the neighbourhood of 25d. with "forward" at ½d. premium, though at the lower level China has again come in as a good buyer.

Increase in Production.

Having thus rather fully gone into the fluctuations of each month and their principal causes we are able to realize the number of currents and cross-currents with which the silver market during the past year has had to contend, and the great difficulty there has been to gauge the probable course, even of the near future.

Turning to the imports, we notice that the amounts received from the chief silver producing countries,

America, Mexico, and Canada, all show a small increase as compared with last year, and it may therefore be inferred that there has again been some increase in the production of the world. While the actual tonnage of ore shipped from the Cobalt mines shows some decrease as compared with last year, the silver production of the camp is larger, more and more being now turned out in the shape of bullion, thus effecting a considerable saving in freight and smelting charges. Looking to the future, the market does not offer an attractive field for prophecy, the prospects in China being such a very uncertain quantity. It seems to be generally admitted that the ultimate effect of the present political disturbances will be a more enlightened and progressive policy, which should lead to increased trade, and with the opening up of the country by the railways, a larger demand for silver. But before these conditions are attained temporary developments are quite as likely to prove unfavourable as favourable to the market.

Position of the Indian Government.

Another most important but very uncertain factor is the Indian Government. Their present holding of rupees is 23 crores and 3 in the Gold Standard Reserve; last year between the beginning of January and the middle of May the stock of rupees fell nearly four crores, and as the Burma rice crop is quite up to the average, and the price of rice abnormally high there is every reason to anticipate a large outflow this year. It has been assumed in several well-informed quarters that the Indian Government would not let their stock of rupees fall below 20 crores, but we are not at all convinced that at the end of the season the Government would not see their stock of rupees reduced considerably below that figure with perfect equanimity. It must be borne in mind that since their last purchases in 1907 India has suffered from a redundancy of rupees, and there are many in India who have been urging that every means should be adopted to accumulate gold and force it into circulation. Taking these facts into consideration, it seems quite probable that holders of silver will have to wait until another good monsoon assures good crops to the country before they see the Indian Government in the market as a buyer.

The Steady Price of Gold.

The chief feature of the Gold Market has been the extraordinary steadiness of the price, the minimum 77s. 9d. being quoted every day throughout the year, except from January 2nd till January 14th, when 77s. 9½d. was the rate, a condition of things which we believe to be absolutely unprecedented.

The production of the world appears still to be increasing, the arrivals from the Transvaal alone being £2,500,000 more than last year.

France and Germany have intermittently bought gold throughout the year, having each taken nearly four million, whilst Holland and Turkey have also taken nearly one million sterling each in bars, but

in no month have the Continental requirements been sufficiently large to absorb the whole of the arrivals, the Bank of England always securing a portion, and that without paying any premium over the minimum price except quite at the beginning of the year. During the 12 months the Bank has received over £22,000,000 in bars and nearly £4,000,000 in sovereigns, against which coin to the value of £18,000,000 has been withdrawn, the principal destinations being Egypt, South America, and Turkey. The shipments of the 10 oz. bars to India continue to be very important, amounting during the year to £7,500,000, which must be taken as an indication of the continued prosperity in India, these bars largely superseding the silver formerly hoarded by the natives.

OIL TRADE IN 1911.

The Hull correspondent of the *Oil and Colour Trades Journal* thus reviews the Hull oil trade during the past year:—

Seed crushing has not been a profitable business in 1911, supplies of raw material not having been so ample as in the two preceding years. The year opened with prices of seeds and oils at abnormally high levels. Since then crushers have had to contend with, on the whole, steadily declining markets, which combined with small normal margins throughout the year, has made it difficult to obtain reasonable profits in milling. The oil millers' strike in November added to these difficulties, and it is to be feared much business has left Hull, which cannot be recovered by the trade.

Linseed.

Shipments to the United Kingdom and to the Continent have been smaller than in 1910 by 43,555 tons, and smaller than 1909 by 311,435 tons, the figures for the three years being (to Dec. 19th):—1909, 1,239,100; 1910, 971,230; 1911, 926,675 tons. Of these quantities Hull received respectively 656,455, 513,703, and 540,089 qrs. The shortage for the last two years was mainly due to the comparative failure of the Argentine crop, combined with large requirements of the United States owing to two bad crops there. The U.S.A. took in 1909, 7,300; 1910, 144,580; 1911, 162,550 tons from our usual sources of supply, besides considerable shipments from London and Hull. The price of spot Calcutta linseed during January was 78s.; Plate, 72s.; St. Petersburg 69s. 3d. Since then we have been down to 58s., 54s. and 59s. respectively, and closing values are 71s., 65s., and 64s. 6d. Linseed oil in January was 48s. 3d. and steadily declined to 31s. 6d., closing 36s. naked.

Cottonseed.

The crop of 1909 in Egypt was deficient, in India good. These conditions were quite reversed in 1910, but on the whole there has been a shortage in the shipments this year of 53,460 tons of the two crops. The total shipments to the United Kingdom and Continent are:—1909, Egyptian 386,380, Indian 181,100 tons; 1910, Egyptian 262,910, Indian 387,400 tons; 1911, Egyptian 391,450, Indian

205,500 tons, of which Hull received from Egypt in 1909, 186,038, India 106,748 tons; 1910, Egypt 107,977, India 224,330 tons; 1911, Egypt 146,467, India 116,713 tons. The Continent continues to take an increasing proportion of the cottonseed crop (principally Egyptian), the quantity this year being 142,500 against 110,760 tons last year. This is not a good feature for the United Kingdom crushers, as it shortens their supplies and tends to diminish crushing profits. Egyptian cottonseed opened at £8 2s. 6d., which is also the closing price of the year. Bombay, in January, was £6 11s. 3d., now £6 16s. Cotton oil has been in steady demand, but owing to the large olive crop, and the enormous cotton crop in the States, it has been a declining market for some time past. Hull refined oil was 28s. 9d. naked in January, declined to 23s., and closes at 23s. 9d.

Soy Beans.

The shipments of this article were 66,000 tons short of last year, the figures being:—1910, 492,000; 1911, 326,000 tons, of which Hull took in 1910, 226,731 tons, and in 1911, 140,190 tons. There has been a much greater proportion of the shipments sent to other seed crushing centres than Hull in 1911, notably Germany, the results being relatively high prices for beans, and the consequence small crushing margins throughout the year. The trade for cakes from Hull for export shows a falling off, and they are not appreciated by the British farmer as they deserve to be. Soya oil maintains its position as a recognised article of commerce, which is likely to be enhanced as fresh uses are found for it. Soya beans opened in January at £7 18s. 9d. and closes in December at £8 17s. 6d. Cakes at £6, and £7 12s. 6d. after being down to £5 10s.; and oil 31s., now 25s. 9d. The crop now shipping is reported good, but owing to increased competition it is not likely that Soya crushing will ever again be as profitable as in 1909 and 1910.

The prospects of the trade for the New Year are somewhat doubtful, so much depends upon the quantity of raw material available for the crushing power; in fact, that is the key of the position. At present it certainly looks as if supplies will be on the short side, and that crushers cannot look forward with any confidence to 1912 for a profitable trade. The Argentine linseed crop now being harvested was reported a record. Recently much weather damage is reported, and estimates have been reduced by 300,000 tons. The Indian linseed crop seems to be going on satisfactorily, but owing to partial failure of the monsoons, cottonseed will be short, and the Egyptian crop now being shipped will probably be short of the bumper crop of 1910 by 50,000 tons. As regards dock and port facilities, the seed crushing community have little fault to find except shortage of trucks, but it is patent to everyone engaged in the commerce of Hull that there is little or no margin for expansion with present facilities. Having regard more especially to the great extension of the Doncaster coalfields

in the near future and the prospective increase of coal shipments from Hull, it behoves the interested railway companies to hasten as much as possible the construction of the new joint dock, in order to prevent the new trade finding its way to Immingham and remaining there.

BRITISH FREIGHT MARKET.

As we ventured to predict a year ago, freights have continued on a higher level throughout this year (1911), and have developed during the last few months into something approaching a boom such as the most sanguine could not have reasonably anticipated, and shipowners have enjoyed a year of prosperity unequalled since the time of the South African war. The improvement has been general, and all classes of tonnage have participated, from the small coaster to the largest steamers in long voyage trades. This general improvement can only be the result of a world-wide expansion in trade, assisted to some extent by the strikes in the summer holding up tonnage, and latterly by the war between Italy and Turkey causing an extra demand for coal carriers, resulting in an immediate and marked advance in freights to the Mediterranean ports. Most of the steamers running will have been earning very handsome profits, and it is to be remembered that the modern steamer, owing to increased size, has a much larger earning capacity than the average steamer of 10 or 12 years ago. There has, therefore, naturally been a great demand for both new and second-hand tonnage, and prices for same have probably risen about 25 per cent during the year.

Time Charter.

There has been an extraordinary demand for steamers on time charter, such as has never before been experienced, not only in this country, but for Continental account, as well as America, Australia, and other places. A great deal of this demand is for account of the large Liner firms, who appear to have insufficient tonnage to cover their requirements, and are therefore obliged to go into the open market for outside boats, and probably this is the most significant indication of the rapid revival in trade. We cannot more graphically show the unprecedented rise in freights than by pointing out that not so long ago 2s. 6d. to 3s. on the d.w. was being freely taken by boats that are now fixing at 4s. 6d. to 5s. on d.w. As we write, this demand shows no signs of abating, and we are safe in saying there is a larger percentage of boats running on time charter than ever before, the only difficulty being to supply this demand as many of the shipowners prefer to run on voyages and take the chances of the different markets.

Outward Freights.

This has been a very buoyant market during the past year, and the demand for tonnage to carry coals and general cargo to the Brazils and South

America generally has been phenomenal; whilst now and again there have been some signs of a setback this invariably proved to be only a temporary lull, and with the opening up of new places in the Amazon, South Brazil, and Argentine, there seems to be little likelihood of any serious fall in freights in this direction for some time to come. The Mediterranean has also been a very strong factor; a year ago 7s. 6d. Genoa, 6s. 6d. Port-Said, 8s. Las Palmas, to take typical examples of outward coal freights in the near trades, were considered good rates. These freights held steadily for the first half of the year, but for the latter part of the year on account of the steadily increasing demand and the outbreak of the Italian-Turkish war, and tonnage being well distributed in other directions, these freights have advanced sharply, and steamers have been freely fixed up to 11s. Genoa, 10s. 9d. Port-Said, and 11s. 3d. Las Palmas. At the time of writing these rates have eased to some small extent owing to the difficulty in securing stems and the congestion at loading ports, but the demand is still good for loading after the holidays, and it is confidently expected that there will be no serious break in these rates for some time to come. In the long voyage trades Aden and Colombo have risen from about 7s. 6d. to 12s. 6d. and in the general cargo trades to River Plate, South Africa, Australia, India, etc., charterers have been unable to secure tonnage at reasonable freight rates, and have been compelled to take tonnage on time charter to cover their requirements. Bay, Baltic and coasting have also touched very high figures, and it is gratifying to find that the improvement has also spread to the steamers in the short voyage trades.

Homeward Markets.

The Black Sea has done a steady trade throughout the year at round about 10s. to 11s.; and whilst there have been no great fluctuations, the steamers running regularly in this trade, taken into account with the enhanced outward freights already referred to, will have shown some very good results. Ore cargoes from Greece and Spain, which usually move in sympathy with Black Sea, have also been better than for some years past. India has consistently kept up a good level of rates, and recently Calcutta paid as high as 32s. 6d. for jute to Dundee, a rate that has not been touched for a long time, and the year closes with Karachi, Calcutta, and the rice ports all bidding tonnage. Java, owing to the high price of sugar, has had a record season, and has played no inconsiderable part in sustaining rates in the Far Eastern markets. Beans from Manchuria, which in the summer months were getting tonnage at round about 25s. and latterly secured tonnage at 28s. 6d. Dalry, 30s. to 31s. Vladivostok, have recently paid up to 33s. 6d. Vladivostok, and look like going higher. Australia has also been a steady market, with no super-abundance of tonnage at any time throughout the year, and after paying good rates in the off season now looks quite healthy for the new season at 30s. to 31s. 3d. From the nitrate ports rates look

like going up to the figures of a decade ago, 25s. to Europe being now obtainable. River Plate remained at nominal figures most of the past year, but contrary to all precedent this had no adverse effect on other homeward markets, as indicated above, and for the new season now at hand is already taking tonnage at rates which will show a good return on the round voyage. The American market, which has been disappointing for some years past, has this last autumn shown more demand—partly on account of the exceptional cotton crop and more particularly on account of the shortage of tonnage—and proved one of the most remunerative markets; and with rates such as 40s. to 47s. 6d. cotton from the Gulf and 8s. time charter, and 35s. to 37s. 6d. from Wilmington and Savannah, steamers will have made handsome profits for the short run to U. K.—Continent. There has also been more doing for full cargoes of grain for tramp steamers, and 3s. to 3s. 3d. per qr. is obtainable to picked ports from the Northern U. S. ports.

Taking a survey of the whole situation, it seems reasonable to conclude that shipping is in for another good year; as far as can be discerned there is every reason to suppose the present high level of freights will be maintained and it is noteworthy that any new tonnage is readily absorbed as it comes on to the market. The effect of strikes and labour troubles in so many of the home ports, and also abroad, is the only cloud overshadowing the bright outlook for those interested in shipping, but it is to be hoped that these troubles may be adjusted without any serious stoppage at the different ports. —*Glasgow Herald.*

NEW REFERENCE BOOKS.

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Griffin.

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By T. E. O'REILLY. 6½ x 4½, 797 + 314 pp. 4s. 6d.

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THE ADVERTISER'S A B C, 1912.

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T. E. Browne.

PROFITS AND WAGES IN THE BRITISH COAL TRADE, 1898 to 1910.

By THOMAS RICHARDSON, M.P., and J. A. WALKER. 7½ x 4½, 96 pp.

Newcastle-upon-Tyne: The N.A.C.C., 34, Grey Street.

THE BANKING ALMANAC, 1912.

Edited by Sir R. H. INGLIS PALGRAVE, F.R.S. 8½ x 5½, 1,405 pp. 15s. net.

Waterlow.

COLOUR IN WOVEN DESIGN.

Being a Treatise on the Science of Technology of Textile Colouring. By ROBERTS BEAUMONT, Professor of Textile Industries, the University of Leeds. Second Edition. Re-written and enlarged. 9½ x 6, 372 pp. 18s. net.

Whittaker.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the second half of December, 1911. (Prices are stated in annas and pies per ser of 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	2 1	...	...	...	...	...	...	1 2
Toungoo	1 7	...	...	...	...	...	...	1 2
EASTERN BENGAL AND ASSAM—								
Rangpur	1 5	1 8	...	...	...	...	...	1 1
Backarganj	1 4	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 0	1 7	...	...	...	...	...	0 11
Patna	1 2	1 0	0 9	...	...	...	...	0 10
UNITED PROVINCES—								
Cawnpore	...	1 4	1 0	0 10	1 0	...	0 10	0 9
Fyzabad	...	1 3	0 10	...	...	...	0 9	0 10
Meerut	...	1 3	1 0	1 0	1 0	...	0 11	0 9
PANJAB—								
Delhi	...	1 4	1 0	1 1	1 2	...	0 11	0 9
Amritsar	...	1 2	1 0	0 11	1 3	...	0 11	0 7
Rawalpindi	...	1 4	1 0	0 11	1 2	...	1 0	0 7
SIND—								
Karachi	...	1 7	...	1 4	1 7	...	1 2	0 7
BOMBAY—								
Belgaum	...	1 8	...	1 4	1 4	...	...	0 10
Ahmadnagar	...	1 7	...	1 2	1 5	...	...	1 0
Bombay	...	2 3	...	1 8	1 7	...	...	0 10
Ahmadabad	...	1 6	...	1 3	1 5	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	1 3	...	...	...	...	1 0	0 11
Nagpur	1 7	1 3	...	1 1	...	...	1 0	1 0
Raipur	1 5	1 3	...	...	...	...	0 11	1 0
MADRAS—								
Bellary	2 3	...	...	1 2	...	1 1	...	0 11
Madras	2 2	...	...	...	...	1 2	...	0 7
Salem	2 3	...	...	1 5	1 8	1 2	...	1 0

—Mr. Alakh Dhari, of Punjab, contributed a paper to the recent Indian Industrial Conference at Calcutta on the theory and practice of ice manufacture in this country. The author describes the chemical properties of the substances used as refrigerating agents in ice manufacture, the machines themselves, and the most convenient form of the tanks in which the water is congealed into blocks of ice. He considers that, except in such large towns as Calcutta, Bombay, etc., a 10-ton ice-plant is the most suitable machine to be employed, as ten tons is as large a size as most towns can keep going, while it is in machines of about this capacity that the limit of economy is probably at its highest. These machines, so far as they have come under his notice, he describes in detail, and he mentions the different good qualities of the productions of the various manufacturing firms. He next proceeds to describe the "can" and "cell" systems of holding the water which it is desired to congeal. From a commercial point of view it is essential that the ice produced should be clear and transparent, Ordi-

nary water contains air, and ice made from it is generally opaque, due to the inclusion of numerous small air bubbles, and this ice is not only unsightly but it is less able to withstand the action of a rising temperature. To produce clear ice the water must be agitated during the freezing process, and this is achieved in both systems by constant agitation either by a mechanical method of rocking or by a system of fans, so that the water is effectually de-aerated, and the block of ice comes out perfectly clear and transparent. With an ice plant of moderate size and a steam engine of good construction there are comparatively few difficulties in manufacturing artificial ice in India, so that the larger urban centres are in general fairly well supplied with ice-making machines. It is possible, however, that with a more general appreciation of the ease with which ice can be made there may occur some further extension in the use of small hand machines. For instance, small Fleuss vacuum machines, which can easily be worked by a boy, will produce from 20 to 30 lbs. of ice in one hour.

EXPORTS OF WHEAT AND FLOUR.

Statement showing the exports of wheat and wheat-flour from British India to foreign countries in each of the nine months, April to December, of the years 1906 to 1911:—

	1906		1907		1908		1909		1910		1911	
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
BENGAL—												
April	9,014		12,855		3,360		272,044		341,028		141,605	
May	16,398		40,881		6,506		1,026,554		538,670		758,447	
June	29,860		42,065		5,019		748,294		508,869		1,032,605	
July	72,099		39,656		5,924		324,373		95,554		447,784	
August	10,967		16,770		6,610		264,333		169,455		166,661	
September	13,722		10,020		4,719		13,956		238,729		46,280	
October	12,545		10,256		9,432		4,985		349,970		103,126	
November	9,843		8,998		4,591		6,077		234,343		230,360	
December	5,930		3,153		5,817		6,819		175,702		147,059	
TOTAL		180,378		184,654		51,978		2,667,435		2,652,320		3,073,927
BOMBAY—												
April	88,333		68,828		20,921		168,321		141,658		240,387	
May	167,451		166,153		42,477		716,519		361,016		456,004	
June	148,807		167,294		59,088		751,301		111,303		531,331	
July	180,630		276,581		45,589		465,304		161,979		716,950	
August	61,662		104,744		38,365		251,753		246,636		334,572	
September	72,300		107,104		68,259		64,433		206,185		205,581	
October	163,977		143,734		72,798		97,054		287,872		215,632	
November	110,542		111,818		70,816		100,746		335,002		172,035	
December	91,367		49,513		50,948		49,614		333,714		185,754	
TOTAL		1,085,070		1,195,769		469,291		2,665,045		2,185,365		3,058,246
SIND—												
April	439,238		1,395,557		20,968		17,306		813,900		1,084,996	
May	1,145,804		1,341,517		14,573		212,803		765,843		1,605,167	
June	2,724,525		1,851,899		117,681		3,268,113		2,253,885		2,352,300	
July	3,178,056		2,886,485		490,141		4,831,931		3,114,364		4,301,196	
August	1,764,921		2,879,693		247,313		3,044,522		2,783,902		2,166,638	
September	665,183		2,775,133		467,967		416,967		1,507,237		1,226,980	
October	1,372,291		2,429,341		686,313		757,944		1,303,785		1,110,405	
November	956,909		1,061,105		220,400		698,865		1,585,969		1,199,738	
December	800,202		343,783		15,321		630,334		972,193		1,727,217	
TOTAL		13,047,129		16,964,513		2,280,877		13,878,785		15,101,078		16,774,637
OTHER PROVINCES—												
April	136		212		90				135		3	
May	30		1				2,112				4	
June	37		225		3				31		45	
July	4				7		2,007		1			
August			6				2,004		30		76	
September			1		6		4		21			
October			5									
November	2,001											
December	1,190				2				3			
TOTAL		3,405		450		108		6,127		221		128
TOTAL—												
April	536,721		1,477,452		45,339		457,671		1,296,721		1,466,988	
May	1,329,683		1,548,552		63,556		1,957,988		1,405,529		2,819,621	
June	2,903,226		2,061,483		151,991		4,767,708		3,874,088		3,916,240	
July	3,430,789		3,201,722		541,661		5,623,615		3,371,898		5,465,975	
August	1,837,551		3,001,213		292,288		3,562,612		3,200,023		2,667,871	
September	751,205		2,892,258		540,951		495,360		1,952,172		1,478,917	
October	1,548,820		2,583,336		768,543		859,983		1,941,627		1,429,163	
November	1,079,295		1,181,921		295,837		805,688		2,155,314		1,602,133	
December	898,689		396,449		72,068		686,767		1,481,612		2,060,030	
GRAND TOTAL		14,315,932		18,345,386		2,802,254		19,217,392		19,938,984		22,906,938

N.B.—The figures of wheat-flour included in this statement are taken as representing 70 per cent of wheat used in its manufacture.

EXPORTS OF MANGANESE.

Statement of the Quantity and Value of Manganese Ore exported by sea from each province of British India to countries of Final Destination in December, 1911, and in the nine months ending December, 1911, compared with the corresponding periods of 1910:—

Countries of final destination.	MONTH OF DECEMBER				NINE MONTHS ENDING DECEMBER			
	1910.		1911.		1910.		1911.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.
BENGAL—								
United Kingdom	51,000	49,500	30,000	27,000	376,000	3,45,000	240,000	2,16,000
Germany	...	...	...	...	14	40	...	...
Holland	...	...	...	...	...	...	...	...
Belgium	50,000	49,000	10,000	10,000	533,000	5,21,000	220,000	2,20,000
France	147,000	1,44,600	75,000	75,000	446,799	4,44,399	332,280	3,32,280
United States of America	...	...	...	...	...	...	...	...
TOTAL	248,000	2,43,100	115,000	1,12,000	1,355,813	13,10,439	792,280	7,68,280
EASTERN BENGAL AND ASSAM—								
<i>Nil.</i>								
BOMBAY—								
United Kingdom	215,300	1,61,475	210,000	1,77,500	2,408,523	18,48,935	1,521,680	14,32,170
Germany	...	...	...	...	...	...	166,000	91,400
Holland	...	...	...	...	114,000	85,500	449,500	3,37,125
Belgium	50,000	46,875	194,000	1,64,752	1,345,005	11,97,904	1,753,520	14,92,427
France	100,000	91,000	75,000	64,387	921,000	8,30,412	1,222,640	10,61,354
United States of America	219,600	1,64,700	324,000	2,43,000	1,824,200	13,69,030	1,463,900	10,98,225
TOTAL	584,900	4,64,050	803,000	6,49,639	6,612,728	53,31,781	6,517,240	55,12,701
SIND—								
<i>Nil.</i>								
MADRAS—								
United Kingdom	...	...	30,000	9,000	180,000	54,000	180,000	54,000
Germany	...	...	...	...	...	...	...	...
Holland	...	...	...	...	50,000	22,500	140,000	42,000
Belgium	...	...	...	...	...	...	220,000	72,000
France	...	...	80,000	24,000	...	...	356,000	1,60,200
United States of America	...	...	...	...	394,000	1,77,300	...	...
TOTAL	...	...	110,000	33,000	624,000	2,53,800	896,000	3,28,200
BURMA—								
<i>Nil.</i>								
TOTAL BRITISH INDIA—								
United Kingdom	266,300	2,10,975	270,000	2,13,500	2,964,523	22,47,935	1,941,680	17,02,170
Germany	...	...	...	...	14	40	106,000	91,400
Holland	...	...	...	...	114,000	85,500	449,500	3,37,125
Belgium	100,000	95,875	204,000	1,74,752	1,928,005	17,41,404	2,113,520	17,54,427
France	247,000	2,35,600	230,000	1,63,387	1,367,799	12,74,811	1,774,920	14,65,634
United States of America	219,600	1,64,700	324,000	2,43,000	2,218,200	15,46,330	1,819,900	12,58,425
TOTAL	832,900	7,07,150	1,028,000	7,94,639	8,592,541	68,06,020	8,205,520	66,09,181

IMPORTS OF SUGAR.

IMPORTS of Foreign Sugar (excluding Confectionery and Molasses) into British India in the month of December, 1911, and in the nine months ending 31st December, 1911, 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 Dec., 1910.	Share of each country in the total imports in Dec., 1911.	Share in the nine months ending 31st Dec., 1910.	Share in the nine months ending 31st Dec., 1911.	Countries of production of total imports.	Share of each country in the total imports in Dec., 1910.	Share of each country in the total imports in Dec., 1911.	Share in the nine months ending 31st Dec., 1910.	Share in the nine months ending 31st Dec., 1911.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Denmark.	...	...	...	5	China	1,296	180	114,892	3,983
Germany.	356	396	4,741	8,653	Japan	...	...	...	12
Holland.	32	63	625	715	Egypt	...	...	...	918
Belgium.	48	55	542	1,393	Natal	...	...	...	7
France.	1	34	148	160	Mauritius	303,454	29,660	1,950,568	1,260,994
Austria-Hungary.	132,756	595	208,165	237,110	West Indies	29	3	393	21
Straits Settlements	135	32	666	485	Mexico	...	...	...	...
Java	642,927	584,648	7,303,222	6,879,591	South America	...	47	136	544
					Australia	...	2	2	6
					From non-producing countries—	...	...	...	...
					Origin unknown	58	35	409	344
					TOTAL	1,081,092	615,750	9,589,518	8,394,941

QUANTITY of Beet and Cane Sugar imported by sea from foreign countries into each province of British India during the month of December, 1911, compared with the corresponding period of the year 1910:—

PROVINCES.	Beet Sugar.		Cane Sugar.		TOTAL.	
	1910.	1911.	1910.	1911.	1910.	1911.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	6,118	297	445,453	132,023	451,571	132,320
Eastern Bengal and Assam	...	1	1,968	...	1,968	1
Bombay	27,370	133	341,154	210,037	368,524	210,170
Sind	98,380	582	120,740	215,959	219,120	216,541
Madras	1,260	28	4,972	32,017	6,232	32,045
Burma	93	118	33,584	24,555	33,677	24,673
TOTAL	133,221	1,159	947,871	614,591	1,081,092	615,750

IMPORTS OF COTTON YARN.

QUANTITY of Cotton Yarn No. 31 and higher counts, imported by sea from foreign countries into each province of British India in the month of December, 1911:—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	TOTAL.
	lb	lb	lb	lb	lb	lb	lb
Mule and water, Nos. 31 to 40	114,466	...	372,677	47,537	232,000	12,400	779,080
" " " 41 to 50	8,214	...	97,841	...	32,900	...	138,955
" " " above No. 50	58,016	...	76,605	...	66,750	...	201,371
Orange, red and other colours, Nos. 31 to 40.	487,653	...	144,868	139,001	411,100	3,400	1,186,022
Orange, red and other colours, Nos. 41 to 50.	...	...	2,400	...	500	15,815	18,715
Orange, red and other colours, above No. 50.	4,200	...	3,820	...	25,550	9,000	42,570
TOTAL	672,549	...	698,211	186,538	768,800	40,615	2,366,713

WEEKLY TRADE MOVEMENTS.

For the week ending 20th January, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta lbs.	125,855
Imports by sea into	Bombay "	571,302
	Madras "	73,454
Indian—	Calcutta "	101,500
Exports by sea from	Bombay "	2,988,100
	Madras "	...

Grey Piece Goods.

Imports by sea from	Calcutta yds.	24,311,125
Foreign ports into	Bombay "	7,752,598
	Karachi "	1,345,557
	Madras "	213,962
	Rangoon "	339,809

White Piece Goods.

Imports by sea from	Calcutta yds.	4,193,564
Foreign ports into	Bombay "	5,863,916
	Karachi "	3,987,298
	Madras "	84,756
	Rangoon "	892,930

Other Piece Goods.

Imports by sea from	Calcutta yds.	3,846,771
Foreign ports into	Bombay "	7,668,713
	Karachi "	1,848,391
	Madras "	259,007
	Rangoon "	1,567,759

Piece Goods.

(Indian and Foreign.)	Calcutta cwt.	25,806
Despatches by rail from	Bombay "	8,883
	Karachi "	14,800
	Madras "	3,609

Raw Cotton.

Imports into Bombay	By sea cwt.	24,005
	Coastwise "	17,335
	By rail "	326,387
Imports into Karachi by rail	" "	38,128
" " Calcutta by rail and river	" "	2,402

JUTE.

Arrivals by all routes in	Calcutta cwt.	*555,717
Exports by sea from	Gunny bags No.	11,267,399
	Calcutta " cloth yds.	24,018,092
	Jute " cwt.	712,705
	Chittagong—Jute "	750

COTTON SEEDS.

Exports by sea from Bombay	cwt.	40,300
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OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river cwt.	*11,715
	By sea "	98
	Coastwise "	92
	By rail "	6,844
Exports by sea from	Calcutta "	33,558
	Bombay "	33,994
	Karachi "	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river cwt.	*15,273
	By sea "	...
	Coastwise "	...
	By rail "	2,224
	Karachi by rail and river "	46,522
Exports by sea from	Calcutta "	44
	Bombay "	2,712
	Karachi "	18,048

RICE.

Arrivals by all routes in	Calcutta cwt.	*444,900
	Calcutta "	377,828
	Chittagong "	...
Exports by sea from	Bombay "	12,400
	Karachi "	10,951
	Madras "	58
	Rangoon "	363,463

TEA.

Arrivals by all routes in	Calcutta lbs.	*2,732,026
Exports by sea from	Calcutta "	4,407,393
	Chittagong "	...

WHEAT.

Imports into	Calcutta by rail and river cwt.	*61,423
	Karachi by rail "	221,160
	By sea "	3
	Bombay " Coastwise "	44,719
	By rail "	74,001
Exports by sea from	Calcutta "	67,835
	Bombay "	412,441
	Karachi "	...

* Incomplete.

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

	FROM APRIL		FROM JANUARY					
	1910	1911	1911	1912	1911	1912	1911	1912
	Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,101,844	3,790,761	11,007	95,512	418	116	Not reported.
Bombay	"	2,340,633	3,021,158	18,131	49,476	53,697	5,238	609,314
Karachi	"	17,672,250	19,710,873	...	...	139,375	48,308	Not reported.

KEROSENE OIL, WEEK ENDING 20th JANUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	127,897	...	127,897
Karachi	...	927,495	...	927,495
Madras	...	...	...	...
Exports by sea from Burma to				
		Bengal	...	...
		E. B. & Assam	...	...
		Bombay	...	948,000
		Sind	...	965,572
		Madras	...	...
		Indian Ports, Non-Br.	...	...
		Foreign Ports	...	...

IMPORTS OF SUGAR, WEEK ENDING 20th JANUARY, 1912.

	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.	TOTAL.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	51	...	28	3	9	72	163
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	107	...	...	107
Other European Countries	...	...	...	...	...	...	...
Java	2,161	...	51,672	62,062	...	18	115,913
Mauritius	...	...	7,392	1,958	...	...	9,350
Other Non-European Countries	...	...	4,902	...	...	85	4,987
Total refined							130,520
Total unrefined							...
Grand Total							130,520

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1911-12.				SEASON 1910-11.			
	Sold in sale of 19th January.		Sold to 19th January.		Sold in sale of 20th January.		Sold to 20th January.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
Assam	8,173	7 8.1	184,314	7 11.2	5,609	7 7.6	182,356	7 5
Cachar	4,892	6 10.8	186,903	6 11.7	6,932	6 9.5	133,946	6 3.7
Sylhet	3,135	6 8.5	111,693	6 11.8	4,087	6 10.5	96,440	6 4.8
Darjeeling	229	8 4.8	71,032	9 7.4	518	9 8.2	68,833	9 6.1
Dooars	7,749	7 0.9	198,361	7 4.3	7,298	7 10.4	195,943	6 10.8
Tera	1,146	6 8	23,294	7 1.3	891	6 9.7	23,083	6 7.1
Chittagong	158	6 9.7	7,945	6 11.5	394	6 11.5	8,380	6 3.6
Chota-Nagpore	...	...	1,570	7 6.4	24	3 3	1,545	7 4.9
Kumaon and Kangra	80	5 1	3,660	6 9.5	86	6 5.7	3,393	6 4.8
Madras	...	...	40	6 4	...	...	43	5 5.8
Dehra Dun	...	...	899	6 2.8	...	...	...	...
Nepal	...	...	605	6 10.8	...	...	583	6 5.3
All other places	...	...	...	...	...	...	76	5 11
TOTAL	25,562	7 2.1	739,816	7 7	25,839	7 4.1	714,621	7 1

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1911-12 Average price of 41,925 packages Dust* sold to 19th January 6a. 4.4p.

" 1910-11 " 46,357 " 20th " 6a. 3.5p.

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

EXPORTS OF PALMYRA FIBRE.

Statement showing the quantities and values of palmyra fibre exported from the Madras Presidency during the third quarter and nine months of 1911-12, compared with the corresponding periods of the years 1909-10 and 1910-11 :—

Countries to which exported.	FOR THE QUARTER OCTOBER TO DECEMBER						FOR THE THREE QUARTERS APRIL TO DECEMBER					
	1909.		1910.		1911.		1909.		1910.		1911.	
	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.
United Kingdom	5,618	94,946	3,857	68,704	7,391	1,18,816	21,244	3,42,734	12,725	2,20,029	14,807	2,38,161
Ceylon	597	8,213	66	934	9	135	1,372	17,275	1,800	25,802	134	1,952
Australia	...	...	...	...	20	300	...	...	75	1,055	107	1,585
Germany	7,682	1,22,685	11,461	1,76,498	9,933	1,61,106	22,401	3,45,080	31,066	4,76,661	26,023	4,17,740
Holland	1,790	27,957	1,270	20,248	1,647	25,122	4,173	65,850	4,263	70,557	4,893	77,874
Belgium	6,658	1,03,237	7,167	1,13,114	8,584	1,43,301	19,688	2,94,886	24,935	3,79,090	19,587	3,19,440
France	655	10,579	981	15,240	288	4,075	1,011	16,671	2,197	32,671	558	8,125
Italy	99	1,386	48	672	...	...	99	1,386	105	1,470	...	...
Austria-Hungary	...	...	...	...	...	...	3	45	...	...	...	...
Russia	...	...	...	...	...	...	...	...	27	432	...	...
Japan	...	...	334	5,144	...	...	134	2,680	667	10,338	590	6,900
United States of America	100	1,600	200	2,500	914	14,453	100	1,600	800	9,800	2,394	34,256
Denmark	200	2,800	...	...	...	...	200	2,800	...	...	...	...
TOTAL	23,399	3,73,403	25,384	4,03,054	28,786	4,67,308	70,425	10,91,007	78,660	12,27,905	69,003	11,06,033



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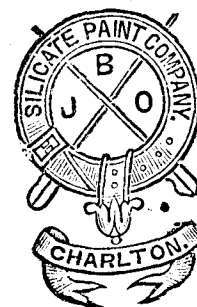
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[ANNAS 4.]

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NOTES.**MONEY MARKET.****Wednesday Evening.**

PRESIDENCY BANK RATES	Calcutta	8 per cent. (Jan. 26).
	Bombay	7 per cent. (Jan. 18).
	Madras	8 per cent. (Jan. 29).

EXCHANGE	On demand	1-4½
	Telegraphic	1-4½
	Transfers	
	3 months	1-4½
	6 months	1-4½

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The spot price of wheat at Karachi on the 27th January was Rs. 30-13-7 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 30th January was Re. 0-8-3 to Re. 0-9-0 per lb.

The following additional locomotives and goods vehicles were placed on the several Indian railways during the third quarter ending 30th September, 1911, viz.:—Broad gauge—18 locomotives, 157 coaching vehicles, and 507 goods vehicles. Metre gauge—14 locomotives, 71 coaching vehicles, and 485 goods vehicles. Narrow 2' 6" and 2' 0" gauge—9 coaching vehicles and 59 goods vehicles.

The total approximate gross earnings of State and Guaranteed Railways from 1st April, 1911, to 13th January, 1912, show a gain of Rs. 2,92,68,656, as compared with the corresponding figures for 1910-11.

With a view to give a direct connection between Naihati and the new store yard, sanction has been accorded to the construction of a third line between Naihati and Halishahr, Eastern Bengal State Railway.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week ended 4th January, 1912 :—

	WEEK ENDED 4TH JANUARY, 1912.	
	Imports.	Exports.
	Bales.	Bales.
American	96,323	11,649
Brazilian	—	25
East Indian	110	—
Egyptian	33,668	8,453
Miscellaneous	2,396*	118
TOTAL	132,497	20,245

* Including 1,292 bales British East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The Census Bureau of the United States Department of Commerce and Labour has issued its report as to the quantity of cotton of the growth of 1911 ginned to January 1st. The total ginned to that date was 14,333,000 bales, against 11,084,000 to the same date last year, 9,647,000 to January 1st, 1910, and 12,465,000 to January 1st, 1909. The amount ginned during the 18 days from December 14th to December 31st inclusive was 573,000 bales, against 389,000 during the same time last year, 289,000 two years ago, 561,000 to the end of 1908, 669,000 to the close of 1907, and 628,000 to the close of 1906. These ginning returns now exceed the estimate of the total crop, as published early in December by the Department of Agriculture, in the Carolinas, Georgia, Florida, and Alabama, while in the other States there is still a more or less important amount to be made good, particularly in Texas, where the amount ginned is 346,000 bales less than the Agricultural Department's total crop, and in Arkansas, where it is 130,000 bales less, while Oklahoma has only to make good 12,000 bales to reach the Agricultural Department's figures.

The statement below shows the quantity of cotton goods calendered and proportion thereof to the total production in Indian mills in the month of November, 1911, and in the eight months from April to November, 1911, compared with the corresponding periods of 1910 :—

	1910.		1911.	
	Nov.	Eight months, April to Nov.	Nov.	Eight months, April to Nov.
BRITISH INDIA— Quantity calendered lbs.	12,654,726	96,320,837	12,783,413	104,294,527
Ratio of calendered goods to production %	57.52	60.82	54.59	61.26
NATIVE STATES (excluding Hyderabad)— Quantity calendered lbs.	49,419	929,065	63,554	458,900
Ratio of calendered goods to production %	6.75	14.68	8.38	7.67
TOTAL INDIA (excluding Hyderabad)— Quantity calendered lbs.	12,704,145	97,249,902	12,846,967	104,753,427
Ratio of calendered goods to production %	56	59.06	53.14	59.44

A report of the Austrian Consul at Yokohama just published at Vienna gives some particulars regarding the cotton trade in Japan. It appears that foreign houses are rapidly losing their hold on the raw cotton import trade, almost the whole of the business being now conducted through native brokers. About 66 per cent of the raw material is imported from India, 20 per cent from China, 11 per cent from the United States, and 2½ per cent from Egypt. Imports of bleached shirtings and sheetings are declining, and it is now not possible to do any large volume of trade except in well-established marks. In prints some import business continues to be done, but there is little demand for imported goods printed with native patterns, these being now chiefly produced by the print works at Osaka. Japanese competition in the cheaper grades of sateens and cotton Italians is very keen, but Great Britain continues to do a certain amount of business in the better qualities. There is still a fair import trade in grey shirtings and sheetings; England has an almost entire monopoly of this business and is thought likely to keep it.

The prices of British corn per quarter of 8 bushels as received from the Inspectors of Corn Returns, in the week ended 6th January, 1912, were as follows :—Wheat, 33s. 2d.; barley, 33s. 3d.; and oats, 20s. 7d.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory :—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
	Acre		Cwts (dye)		
Indigo	271,100	— 1.9	48,700	+ 5.9	21st Dec., 1911.
Cotton	19,524,000	— 12.0	Bales* 3,102,000	— 18.6	Do.
Sesamum (oil or jinjili)	4,164,700	— 15.6	Tons. 311,300	— 30.4	18th Jan., 1912.
Sugar cane	2,209,500	+ 5.0	Information not yet available.	Information not yet available.	26th Oct., 1911.
Groundnut	860,000	+ 6.0	Do.	Do.	Do.
Rice	54,441,400	— 4.0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	— 1.0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	— 9.0	Do.	Do.	Do.
Linseed	3,371,000	+ 12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions with cargoes during December, 1911, amounted to 3,516,558 tons, and the tonnage cleared to 5,065,052 tons, as against 3,555,992 tons entered, and 4,760,900 tons cleared, during December, 1910. With regard to the coasting trade, the tonnage entered with cargoes during December, 1911, amounted to 2,629,149 tons, and the tonnage cleared to 2,565,939 tons, as against 2,651,924 tons entered, and 2,621,520 tons cleared in December, 1910. The tonnage of vessels entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes during the year 1911 amounted to 41,943,559 tons and the tonnage cleared to 59,257,421

tons, as against 41,618,665 tons entered and 57,326,948 tons cleared during the year 1910. With regard to the coasting trade, the tonnage entered with cargoes during the year 1911 amounted to 31,613,723 tons, and the tonnage cleared to 31,166,147 tons, as against 31,965,083 tons entered and 31,611,456 tons cleared during the year 1910.

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

For the week ending 27th January, 1912—

In the Calcutta market—

Behar opium—Rs. 4,550 ; 4,550 ; 4,550 ; 4,550 ; 4,500 ; 4,500 ; 4,475.

Benares opium—Rs. 4,500 ; 4,475 ; 4,475 ; 4,475 ; 4,425 ; 4,400 ; 4,375.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 2nd sale of 1912.

At Hongkong—(Exchange Rs. 143 per \$100).

Behar opium—\$3,300.

Benares opium—No quotations received.

At Shanghai—(Exchange : no quotations received).

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 20th January, 1912—

In the Bombay market—

From 14th to 15th instant (new, 1909-10)

Rs. 4,000 ; (new, 1908-09) Rs. 4,500 ; (old, 1907-08) Rs. 4,675 ; from 16th to 20th instant

(new, 1908-09) Rs. 3,745 ; (old, 1907-08) Rs. 3,752.

The latest prices at Hongkong and Shanghai were (new) Rs. 4,694 and 5,685 ; (old) Rs. 4,836 and 5,827, respectively.

In their review of the Mauritius sugar market, dated January 11th, Messrs. Blyth Brothers and Co. say :—Although a certain amount of rain has fallen, the good it has done has practically been minimised by exceptionally hot and dry weather, and we regret to say that there is now no doubt that next crop will suffer considerably. From the date of our last circular to the end of the year the market was lifeless, buyers showing no disposition to operate and sellers no disposition to sell, but after the New Year holidays there was a fair demand for sugar for shipment per bearer to Bombay, and we estimate that some 25—30,000 bags changed hands at prices ranging from 14s. 9d. to 15s. 3d. f. o. b. according to quality and it is probable that further sales would have been made had the steamer been able to take more cargo. Holders are very firm, most of them declining to entertain any offers for the present, for they are very strong in the belief that next month India will be open to buy freely, and with keen competition between European and Native buyers they hope to be able to force up prices, especially as it is estimated that not more than about 425,000 bags of crystals remain in first hands unsold. A great drawback to business is due to the fact that so much sugar remaining unsold

is packed in a gunny and a mat, whereas India will only buy sugar packed in a single gunny, consequently the sugar in the double packing has all to be repacked at a cost of 2½d. per cwt, which of course is deducted from the offers made for the sugar. A factor that will have to be seriously taken into account when new orders come in is that of **damp sugar**, for buyers had to meet heavy claims last year and will therefore act cautiously this season.

The *Commonwealth Gazette* announces the appointment of a **Royal Commission** to enquire into and report upon the **sugar industry in Australia**, and more particularly in relation to (a) growers of sugarcane and beet; (b) manufacturers of raw and refined sugar; (c) workers employed in the sugar industry; (d) purchasers and consumers of sugar; and (e) cost, profits, wages and prices.

The stock of sugar at the various Port Commissioners' Warehouses in **Calcutta** on the 26th ultimo was 154,882 bags, while the stock in the **Bombay** godowns and the estimated stock in Bombay city as well on the same date amounted to 214,600 bags.

In their report on **London tea sales**, dated January 12th, Messrs. Gow, Wilson and Stanton, Ltd., say:—Importers of **Indian tea** brought forward 47,619 packages as against 33,767 last sale. The market opened on Monday with a fairly active demand for most descriptions, and prices generally showed no material change when compared with the closing rates before the holidays. The best competition was forthcoming for leaf teas up to 8½d., which occasionally made an advance of ½d. to ¾d. per lb.; between this price and 10d. there was a comparatively large supply, for which enquiry was more restricted, and prices here sometimes favoured buyers. The balance of the week's supplies submitted on Wednesday ruled on much the same lines, though perhaps the tone of the room was somewhat quieter. With the exception of a few tippy Assams there was practically no really fine tea included in the auctions, the bulk of the offerings from Northern India consisting of very plain sorts, whilst quality of those from Southern India often showed deterioration when compared with recent shipments. Printings for next week are larger, some 50,472 packages being catalogued. Average for week 8·70d., against 8·82d. last sale. Week's average of tea sold on garden account, season 1911-12, 46,115 packages, average 8·70d. 1910-11, 49,387 packages, average 8·65d. Season 1911-12 to date 988,817 packages, average 9·26d. Season 1910-11 to date 949,907 packages, average 8·53d.

With reference to the restrictions on the importation of tea into the **United States**, particulars of which were given in the *Indian Trade Journal* of 11th May, 1911 (page 168), the following order has now

been issued by the United States Government:—Referring to the instructions of October 16th, 1911, directing the method to be used in ascertaining **artificial colouring and facing matter in tea** (T. D. 31920), in which it is stated that "from 50 to 100 grams of tea, preferably the latter amount" should be used in the analysis, the Treasury Department desires that 100 grams shall be used in all cases. The department further desires that the method outlined in the said decision shall continue to be strictly enforced and that special care shall be taken by the examining officers in the analyses for detecting not only artificial colouring matter but also for detecting artificial facing matter.

The notable feature in the **tea trade in 1911** was, according to Messrs. Harrison and Crosfield's annual review, the rise in the price of the common and medium qualities. Even at the beginning of the year, when prices were already high, the outlook was good. At the end of the previous Indian season the shortage of ten million pounds in all growths, together with an increasing consumption, justified the expectation of still higher prices, and in fact it was seen early in the new (1910-11) season that supplies could not be in excess of the demand. North India made heavy shipments, but the South India and Ceylon yields were reduced by drought in June and July. The transport strikes further reduced the quantity of tea brought to auction in London, and by October the price of common tea had reached 8½d. per lb. Only during the last six months has there been a falling off—and that only ¼d. per pound,—and the year closes with common tea more than ¾d. higher than at the close of 1910. The increased consumption is shown in the year's Customs returns. Duty was paid on 296 million pounds, against about 287 in 1910 and 238½ in 1909. This is equivalent to an increase per head of population of about 3½ per cent. It is impossible to foretell how far future supplies may be increased to meet the demand, but it must be a matter of time before any very large fresh areas can be brought into bearing. No great developments seem possible in Ceylon, and in India there is the difficulty of getting labour. The Java exports for the year cannot possibly exceed 40 million. The future therefore greatly depends on China, and in viewing the probable course of the China trade for the next six months the position of America should be borne in mind. Last spring America had more common Congou than she required, and some 15,000 half-chests of Moning were shipped to England. There is no such surplus at present, though deliveries of Congou during the year had been higher than before. Messrs. Harrison and Crosfield, Ltd., say that the effect of the civil war in China may shortly compel Russian dealers to buy in London, a state of affairs which, it may be recalled, occurred last year in consequence of the plague in China.

The following figures represent the quantity and value of **gold and silver** imported from and exported to foreign countries and from British India during the month of December, 1911:—The total imports of gold were 541,282 ozs. valued at Rs. 3,26,96,910; of these 114,460 ozs. priced at Rs. 72,92,693 represented bullion, 424,167 ozs. worth Rs. 2,52,51,441 represented sovereigns and other British gold coin, and 2,655 ozs. valued at Rs. 1,52,776 represented other coined gold. The exports of gold totalled 51,779 ozs. in quantity and Rs. 29,84,573 in value, and of these 50,157 ozs. valued at Rs. 28,89,428 represented bullion, ½ oz. worth Rs. 15 represented sovereigns and other British gold coin, and 1,622 ozs. valued at Rs. 95,130 represented other coined gold. The total imports of silver were 4,058,227 ozs. priced at Rs. 71,43,004; of these 3,789,736 ozs. valued at Rs. 64,61,398 represented bar, 26,736 ozs. valued at Rs. 35,500 represented other kinds of uncoined silver, 241,054 ozs. worth Rs. 6,44,848 represented Government of India rupees, and 701 ozs. valued at Rs. 1,258 represented other coin. The total exports of silver were 7,282,169 ozs. valued at Rs. 1,13,57,583; of these 3,550 ozs. worth Rs. 8,399 represented bullion, 2,625 ozs. priced at Rs. 7,000 represented Government of India rupees, 7,255,565 ozs. valued at Rs. 1,12,87,734 represented British dollars, and 20,429 ozs. worth Rs. 54,450 represented other coin.

Mr. G. Gröndal, of Djursholm, in Sweden, has discovered a **novel method of reducing metallic oxides**, especially **iron ore**, for the employment of which he has designed a new furnace. The latter is of the same type as the Gröndal briquetting furnaces with a gas-tight front chamber. The hearth consists of cars, on which are built vessels not unlike troughs, and made of fire-proof materials. In the bottom of the troughs is placed a layer of fuel, and upon that a mixture of iron ore or other metallic oxides, and coke distributed evenly, the whole being covered by a thin layer of sand or any other suitable material. The cars are pushed into and through the furnace at certain intervals. The contents of the troughs are heated from the top downwards, in consequence of which the mixture of ore and coke is heated before the layer of coal at the bottom. The gases rising from this bottom layer pass through the ore and exercise a reducing effect. The process is completed with the aid of the coke mixed with the ore. The cars then proceed to the cooling chamber, and the iron sponge is removed.

In our issue of the 7th December last we reprinted an article from a London contemporary on the **world's production of gold**. In that article certain figures were given by our contemporary as representing "the average annual production of gold during the last five decades by five-year periods." Occasion having arisen to refer to these figures it is found that they really represent, approximately, the aggregate production during each five-year period.

The statement below shows the **world's production of pig-iron** (in long tons) during the past three years:—

	1909.	1910.	1911.
United States	25,795,471	27,303,567	22,800,000
Germany	12,918,000	14,793,325	15,000,000
Great Britain	9,664,900	10,216,745	9,800,000
France	3,600,000	4,032,459	3,800,000
Russia	2,317,000	2,956,000	2,850,000
Belgium	1,630,000	1,803,500	1,700,000
Austria-Hungary	1,900,000	1,990,684	1,800,000
Sweden	445,000	604,300	600,000
Canada	677,090	740,210	730,000
Spain	420,000	425,000	400,000
Italy	147,000	343,600	340,000
Japan	150,000	162,000	160,000
Other countries	171,000	241,420	250,000
Total	60,323,561	65,711,355	60,250,000

In its issue of January 8th the *Manchester Guardian* says:—The development in the **copper market** does not appear to have been checked very much by the interruption of business connected with the end of the year. At the close of the week the price of standard copper again touched the highest point reached since the improvement began. The upward movement began in the second week of October, and is thus just three months old. It has been steady and continuous right through, but the larger part of the gain in values was made during December. The rise was only 15s. per ton in October, and in November £3 12s. 6d. per ton. The total advance is now £9 5s. per ton from the lowest point in October, and though the movement has perhaps gone far enough if the interests of the consuming trades are to be considered, the chances of the market appear still to be in favour of the bulls. Looking back over the year, it has to be admitted by the most pessimistic that the position of copper has greatly improved from the statistical point of view. At the same time the American producers are increasing their output, and we shall probably have a record supply during 1912. The likelihood is that the activity in the world's trade will be equal to dealing with it, especially if the revival in American business is not checked this year by the disturbance attending a Presidential election.

In his recent address to the American Mining Congress at Chicago Mr. H. J. Stevens traced the development of **copper production during the last hundred years**. In the year 1811 the world's production was less than 10,000 tons. For the decade ending 1820 it was only 96,000 tons; for that ending 1830 it was 135,000 tons; for that ending 1840 it was 218,000 tons; and so on with similar moderate increases until the decade ending with 1880, when electrical engineering reached the industrial stage and the production went up to

1,189,000 tons. The figure rose to 2,373,000 tons for the ten years ending 1890, and in the next decade to 3,708,000 tons. Doubling that almost gives us the figure for the decade ending 1910, namely, 7,390,000 tons. Figures of production for any commodity in general use may, says the *Manchester Guardian*, vary from year to year, according to whether a surplus is accumulated or a preceding surplus drawn upon, but taken over a decade the production must be very close to the consumption.

The exports of rice from Bangkok during the quarter ending September, 1911, totalled 150,252 tons valued at Rs. 1,36,00,826, against 285,101 tons valued at Rs. 2,12,09,773 in the corresponding period of the previous year.

The report of the **South Behar Railway Company** for the year ended December 31st, 1911, states that after paying the dividend at the rate of five per cent per annum for the half-year ended December 31st, 1910, a balance remained in hand of £6,006, which with the rental received for the half-year to June 30th, 1911, and other receipts, less interest on debenture stock and sundry outgoings, left a sum of £15,592 to the credit of revenue account at that date. An interim dividend of five per cent per annum was paid on July 15th last, leaving £6,103 to be carried forward. Adding to this £15,000 the half-yearly rental to December 31st last, and other receipts, less interest on debenture stock and sundry outgoings, there remains a balance of £15,710 to be dealt with. The directors recommend a dividend of five per cent per annum for the past half-year, leaving £6,220 to be carried forward.

Mr. D. Hooper, of the Indian Museum, has just completed *Agricultural Ledger* No. 4 of 1911, which deals with cinchona bark. Its main theme is **cinchona in Java from 1872 to 1907**, being extracts translated from the *Scheikundige Bijdragen Tot de Kennis der Java—Kina 1872 to 1907* by the late K. W. Van Gorkom, arranged with an introduction by Mr. Hooper. The new *Ledger* contains a deal of information that can scarcely fail to prove attractive, particularly to those interested in the cinchona industry.

A survey of facts, conditions and possibilities bearing on the **manufacturing industries of the Punjab** is presented in a volume by Mr. A. Latifi, I.C.S., which has just been published for the Punjab Government by Messrs. Longmans, Green and Co. (price Rs. 3) under the title of *The Industrial Punjab*. The industries dealt with in the volume cover a wide field, and include not merely those which are already in existence, or are capable of being started at once, but also several that are mere possibilities "destined to await a higher standard of general and technical education, and a greater familiarity

with methods of industrial combination than yet exist in the Punjab." There are five useful appendices dealing respectively with the Kashmir silk industry, the preparation of loofahs for the market, industrial alcohol, in the Punjab the Dandot Colliery, and petroleum in the Punjab. In the chapter devoted to **sugar** Mr. Latifi remarks that there is room for two large **central factories** in the province, handling say 50,000 tons of cane each per season. The book merits the careful study of those interested in the resources and possibilities of the Punjab.

Applications in respect of the following **new inventions** were filed in the Patent Office, Calcutta, during the week ending 20th January, 1912 :—
Automatic Welding Compay—Continuous tube mill. O. C. Shaw—Improvements in threshing machine cylinders. M. L. Sindeband and C. B. Woticky—Improvements in train and like signalling systems. B. P. Richardson—Improvements in or relating to pipe couplings. F. W. Lindquist—An improved igniting device for heating or illuminating apparatus, working with vaporized hydrocarbon. N. V. Hybinette—Electrolysis of metal salt solutions. R. P. Hill—Improved means for cleaning water pipes. T. Lee—Improvement in storm and dust proof tiles and ridging. Bagh Singh, Kishen Singh and Ladha Singh—Manufacture of chalk pencils.

Weather in India for the week ended Tuesday last was marked by fairly general rain in Baluchistan due to the depression over the north of the Arabian Sea, which has begun to affect the North-West Frontier Province, the Punjab and Kashmir. Light rain is reported from the Upper Assam Valley. In other parts of the country, dry weather prevails.

NOTICES.

INDIAN CROP FORECASTS. SEASON 1911-12.

Dates of Publication.

THE following are the dates on which the General Memoranda on crops of the season 1911-12 are expected to be (or were) published in the *Indian Trade Journal* :—

RICE—				
First memorandum	.	.	October 26,	1911
Second "	.	.	December 21,	"
Final "	.	.	February 22,	1912
WHEAT—				
First memorandum	.	.	December 28,	1911
Second "	.	.	March 14,	1912
Final "	.	.	May 30,	"
COTTON—				
First memorandum	.	.	August 17,	1911
Second "	.	.	October 19,	"
Third "	.	.	December 21,	"
Final "	.	.	February 15,	1912

LINSEED, RAPE AND MUSTARD (Spring oilseeds)—				
First memorandum	.	.	December 28,	1911
Second "	.	.	March 14,	1912
Final "	.	.	May 30,	"
SESAMUM—				
First memorandum	.	.	August 31,	1911
Second "	.	.	October 26,	"
Final "	.	.	January 18,	1912
Supplementary memorandum	.	.	April 25,	"
GROUNDNUT—				
First memorandum	.	.	October 26,	1911
Final "	.	.	February 15,	1912
INDIGO—				
First memorandum	.	.	October 19,	1911
Final "	.	.	December 21,	"
SUGARCANE—				
First memorandum	.	.	August 24,	1911
Second "	.	.	October 26,	"
Final "	.	.	February 22,	1912

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Caustic Soda.

(1317)—A firm in Rangoon desires to be placed in communication with buyers in India of caustic soda.

Cotton Yarns.

(1318)—A correspondent in Smyrna desires to be placed in touch with manufacturers of cotton yarn.

Toys, Hardware, Fancy Goods.

(1319)—A London firm of manufacturers of toys, domestic hardware, brass, copper and fancy goods desires to be placed in communication with importers of such goods.

Enamelled Ware.

(1320)—An expert in Italy desires to be placed in communication with a firm likely to be interested in the manufacture in India of enamelled ware for household use.

Wild Pig Skins and Tushes.

(1321)—A Government officer desires to be placed in communication with purchasers of wild pig skins and tushes.

Jute Sacks.

(1322)—A firm in Constantinople desires to be placed in communication with firms in a position to supply 950,000 jute sacks.

Wolfram.

(1323)—A correspondent desires the names of firms or individuals interested in wolfram mining.

Cheap Cooking Lamps.

(1324)—A firm in the United States desires to be placed in communication with firms in a position

to handle a cheap cooking lamp suitable for use by the native population.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 7th February, 1912 :—

Parliamentary Publications.

East India—Statistical Abstract relating to British India, from 1900-01 to 1909-10—No. 45. Statistical Abstract—British Self-Governing Dominions, etc.—48th Number. Accounts relating to Trade and Navigation of the United Kingdom—December, 1911. Colonial Reports—Annual—No. 702—British Guiana—Report for 1910-11, No. 703—Jamaica—Report for 1910-11. Report by the Board of Trade on the Life Saving Apparatus on the Coasts of the United Kingdom for the year ending 30th June, 1911. East India (Loans Raised in India)—Return of.

Foreign and Colonial Publications.

Austria-Hungary—Auswärtiger Handel des Vertragszollgebietes—XI—November, 1911. Belgium—Rapport sur le Vingtième Exercice—1 Avril, 1910—31 Mars, 1911. Bulgaria—Annuaire Statistique du Royaume de Bulgarie—1910. Canada—Laboratory of the Inland Revenue Department, Ottawa—Bulletin No. 227—Fertilizers, 1911; Monthly Report of the Department of Trade and Commerce of Canada—September 1911; Weekly Report—December 26th, and January 2nd, 1912. Denmark—Danmarks Vareindførsel og Udførsel—1 Aaret 1910—Importation et Exportation du Danemark en 1906; Resultates Statistiques du Recensement Général de la Population—Tome I—Quatrième Partie; Documents Statistiques sur le Commerce de la France—Novembre, 1911. Germany—Jahresbericht der Handelskammer zu Hamburg über das Jar 1911. Netherlands—Jaarcijfers Rijk in Europa 1910. Russia—Commerce Extérieur de la Russie par la frontière d'Europe—1 Janvier—Novembre, 1911. United States of America—Monthly Summary of Commerce and Finance of the United States—October, 1911; Crop Reporter—December, 1911.

Indian Publications.

Memoirs of the Department of Agriculture in India—Life Histories of Indian Insects—III—Entomological Series—Vol. II—No. 10—December, 1911; Vol. III—The Food of Birds in India—January, 1912. Report on the Administration of Coorg and of Burma for 1910-11. District Gazetteer of the United Provinces—Vol. XXXV—Almora; Vol. XLII—Bareilly; and Vol. XXXIII—Azamgarh. Gazetteer of the Rampur State.

BUSINESS NOTICE.

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

Correspondence regarding advertisements in the "INDIAN TRADE JOURNAL" should be addressed to Reuter's Telegram Co., Ltd., but all advertisements, blocks, etc., must be approved by the Director-General of Government 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, FEBRUARY 1, 1912.

TRADE OF LINGAH AND DEBAI.

It appears from the Consular Report on the Trade and Commerce of Lingah for the Persian official year ending 20th March, 1911, by Mr. Vice-Consul New, that the Port of Lingah is very conveniently situated for ships passing up or down the Persian Gulf. It is an open roadstead, but the anchorage is good in deep water within half a mile from the shore and is partially protected from the prevailing north-west wind. The facilities for landing and shipping cargo are good, and on either side of the Customs House, which is conveniently situated and commodious, there are two large basins wherein small craft and cargo-boats can shelter. The population of Lingah is estimated at 8,000 persons during the summer months and 12,000 in the winter, after the pearling fleet returns. The

population consists of Arabs, Persians and Swahili Negroes of the Sunni and Shiah sects, which are fairly evenly divided. Persian and Arabic are both generally known at Lingah and throughout the district. Either of these languages, or English, may be used in commercial correspondence. In former years Lingah was an important **distributing centre** of all kinds of merchandise and food-stuffs for ports on the Arab Coast. The total value of its import and export trade then amounted to more than one million sterling, but, with the advent of a prohibitive tariff in 1902, the total trade languished to one quarter of a million pounds, and Debai became the emporium for Arab Coast ports.

Lingah is chiefly noted for its **pearl trade**. Some 40 large pearling boats go to the banks on the Arab Coast every season between the months of May and September. The trade at Lingah is in the hands of wealthy Arabs who invest large amounts every season. They generally prefer to take their parcels to Bombay. The small colony of British Indian traders at Gaiz Island do quite a brisk trade in pearls during the summer months. Mother-of-pearl shells are collected and exported chiefly to Hamburg. The shells require much cleaning and sorting before shipment. Lingah has the reputation of being the best place in the Gulf for **boat-building**, which is an important industry. The wood comes from Malabar, while other accessories, such as anchors, iron fittings and nails, are made locally. During the year 46 large pearling "Sambuks" were constructed, besides other smaller craft. A considerable quantity of coarse **cotton sail cloth** is made on hand looms in the district, much of which is shipped to Bahrain and the Arab Coast. In the interior carpet-making is practically the only industry. Carpets come from the Jahrum district, about 2,000 per annum, of a medium quality but of inferior dyes. They are shipped to Aden and Jeddah.

The **principal trade route** is to Bastak, Lar, and the Jahrum district. For the past three years trade by this route to the interior has been practically at a standstill, on account of the unsettled state of the country, particularly in the Lar district which is infested with robbers. The last representative at Lar of the Government of Shiraz was driven out more than a year ago by robbers, since when the district has been in a state of utter chaos.

Camels and donkeys constitute the only **means of transport** to the interior. During the year the **Customs Administration** made an effort to elaborate a scheme to relieve the burden on transhipped goods with the object of reviving trade, but the inducements held out were not accepted by the merchants. The greater part of the lost trade of Lingah has gone to Debai on the Arab Coast, where Lingah merchants have established agencies.

The total value of **imports and exports** for the past five years has been—

	£
1906-07	258,533
1907-08	259,421
1908-09	219,434
1909-10	233,263
1910-11	326,235

The apparently large advance in the year 1910-11 is entirely due to specie and pearls. Eliminating these abnormal increases, the **total trade** for the year stands at £235,020. Exports exclusive of specie and pearls show an increase of £15,445 on the previous year, due mainly to the brisk export of assafœtida to England, Germany and India, and also to the revival of goods imported for re-exportation to the Arab Coast, such as wheat, ghee, cotton-goods and metals. Imports show a decrease of £13,688 on the previous year, principally due to the falling-off of barley from India, amounting to £12,287.

As regards **imports**, all **cotton goods, yarn, twist and raw cotton** come from **India**, valued in the year under report at £26,067. The Indian market supplies specially cheap qualities, while Manchester goods also come from India on account of the hitherto limited direct steamship communication with the United Kingdom. There is a ready market for English crystal **sugar**, provided the price compares favourably with the best Austrian.

The import of **rice from India** shows a falling-off of 18,341 cwts. on the previous year, while the import at Debai increases year by year. The local price per bag averaged about Rs. 15, which was considerably lower than the previous year. **Tea and coffee** continue to be smuggled with impunity on account of the high duty placed on them. Coffee particularly is used by the entire population, but according to the Customs statistics only 18 cwts. is

shown as imported during the whole year. Imports at Debai during the year were coffee 7,900 cwts. and tea 1,118 cwts. and it is estimated that one-third of this quantity of coffee and tea was smuggled into the Lingah district.

Coming now to exports the Report shows that the total **export of pearls to India** during the year was valued at £83,904, or an increase on the previous year of £48,736, which was due to Debai merchants sending their parcels to Lingah on account of mail steamers missing out Debai, where no cargo offers, except pearls, on downward voyages. The above value is taken from the Customs House returns. It is the declared value and may be regarded as a very low estimate. There is no import duty on pearls, and the recently reduced export duty of 1% is sufficiently low to attract Debai and Bahrain merchants to Lingah, particularly in the present year with the advantage of its newly established fast mail weekly service to India. And with the establishment of telegraphic communication there is no reason why Lingah should not become the centre of this trade.

Both the **export and import of specie** show big increases in the year under review, due to the revival of the pearl trade. About 2,000 **Persian rugs** of an average size of 8' x 5' are exported annually to Aden and Jeddah. These mostly come from the Jahrum district; they are of medium quality but of inferior dyes. Prices average between £3 and £4 each rug. Particular note should be taken of the prohibition of the export of carpets dyed by means of aniline dyes to be enforced from the 21st June, 1912. The **pearl shell trade** shows a decline year by year. Prices during the year ran very high. At the close of the year, however, the market in Europe, principally Hamburg, was said to be overstocked.

The following is a list of **principal articles imported into Debai** during the year March, 1910, to March, 1911:—

Cotton and woollen piece-goods	2,201 packages.
Cotton yarn and twist	1,735 "
Dyeing and colouring material	87 "
Spices	1,075 bags.
Turmeric	378 "
Coffee	7,900 cwts.
Tea	1,118 "
Rice	267,582 "

The value of specie and pearls exported from Debai is estimated at £81,487.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 11th ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about:—

ARGENTINE REPUBLIC.—Proposed Modification of the Duties on Sugar.

COMMONWEALTH OF AUSTRALIA.—Commerce Act: Exportation of Fats, Lard and Suet.

BRITISH SOUTH AFRICA.—Customs Decisions.

FEDERATED MALAY STATES.—Quarantine Restrictions relating to Animals. Importation, etc., of Deleterious Drugs.

FILIPPI.—Licensing of Customs House Agents.

GAMBIA.—Operation of Ordinance respecting Articles Imported for the Use of the Officer Administering the Government.

FRANCE (ALGERIA).—Special Tax on Playing Cards. Municipal Octroi de Mer Tariff for 1912.

BELGIUM.—Conversion of certain *Ad Valorem* into Specific Duties.

SWITZERLAND.—Forthcoming Reduction of Customs Duties on Meat.

VENEZUELA.—Customs Classification of Elastic Cords and Braids.

WEATHER AND CROP REPORTS. BENGAL.

Calcutta, Jan. 30th.

During the week ending January 29th there was no rain except very light showers in Darjeeling.

Threshing of winter rice continues. Pressing of sugarcane is in progress.

Standing *rabi* crops are doing well. More rain is required for them in parts of Murshidabad and Purnea.

The price of common rice has risen in Burdwan, Bankura, Midnapore, Jessore, Saran, the Sonthal Parganas, Ranchi, Manbhum, and Cooch Behar and has fallen in Murshidabad, Gya, Champaran, Darjeeling, Balasore and Palamau.

Cattle-disease is reported from Midnapore, Nadia, Darbhanga, Angul, Puri, Sambalpur, Hazaribagh and Palamau.

The supply of fodder and water is sufficient throughout the province except in parts of Midnapore.

EASTERN BENGAL AND ASSAM.

Dacca, Jan. 30th.

During the week ending January 29th there has been no rain except a light shower in the hill districts and the Assam Valley.

The cotton crop in the Lushai Hills has been destroyed by rats.

Harvesting of winter rice is finished and the total outturn estimated to exceed that of last year.

The average price of common rice is the same as last week.

There is no epidemic of contagious cattle-disease.

OIL EXTRACTION AT HULL.

THE Hull correspondent of the *Oil and Colour Trades Journal*, writing on the 4th ultimo regarding the Hull oil markets, says:—

Great interest is centred in Hull commercial circles in a discovery which has just been made of the possibilities of the sunflower seed in the manufacture of feeding cakes, and an article from which valuable oil can be extracted. Hull is the most extensive seed crushing centre in the country, and now another seed has been added to those with which its mills deal. The sunflower seed is cultivated in large quantities in South Russia, and heavy consignments have recently arrived at Hull from Odessa. The valuable property of the new flower seed is contained in the fact that when crushed it yields on the average 30 per cent of oil, whilst the yield of soy bean oil is 18 per cent. The oil is limpid and pale yellow in colour, and it is a valuable asset used in soap-making, the manufacture of carbitishes, and for culinary purposes. The residue from the crushed sunflower seeds has been manufactured into cakes at Hull mills, and experiments are being made to find out whether the cake thus made is suitable for feeding purposes. There is already not the slightest doubt that the meal derived from pressing of these seeds would be a very valuable ingredient in the manufacture of compound feed cakes. As a matter of fact, Hull crushers have already manufactured a small quantity of cakes from sunflower seeds, and shipped them abroad to the Continent. There is every reason to believe up to the present that this new cake will prove a distinct agricultural asset.

Castor Oil.

The year opened with a good demand and high prices. The volume of Trade in English castor oil has been steadily increasing for the last few years—probably at the expense of the native oil from Calcutta and Continental brands. Merchants in this country have come to appreciate the fact that English oil is second to none and can be obtained at a less price than Continental brands. The naked price throughout the year has been about £25 10s., with the exception of the early months, when spot oil demanded higher figures. Latest quotation sare: Calcutta, on spot, 3½d. to 4d. per lb., ex-store, and 3½d. per lb., quay terms.

Rape Oils.

A fair amount of business has been done in these oils during the year, with considerable fluctuations in price owing to abnormal conditions of the seed market. Jamba seed, upon which the crushers have relied for some years past, has this season been a very short crop, and prices of oil opening at 25s. 6d. rose during the summer months to about 31s. This tendency, however, was checked by the renewed importation of Ravison, which has hardly figured in our shipping lists since the Russian trouble several years ago. As a result, Jamba oil ceased to advance,

but has nominally maintained its position at 31s. Ravison oil, in sympathy with Jamba, and affected by the strikes of 1911, rose from 26s. to about 30s. This, however, could only be temporary in view of the available supply of seed attracted to our market by the oil prices. It again declined, and at the end of the year is quoted at about 26s. 6d.

Soya Oil.

The year has been a disappointing one for manufacturers, the price of oil having been consistently below the cost of production. Beans have been relatively much too dear. The decline in linseed oil interfered considerably with the export of soya oil, which has been much less than last year. From 33s. 6d. in February, the market has been much less than last year. From 33s. 6d. in February the market fell to 24s. 6d. in December, but closes with a better demand at 26s. 9d. Latest quotations are:—Soya bean oil quiet; 26s. spot to April, and 25s. 9d. May-August.

Oilcakes.

Latest quotations: Linseed cakes, firm and scarce; 95 per cent. pure, £10 5s. to £10 10s.; Russians, none; Americans, none. Oilcakes, £8. Cotton cakes, firm; best, £6 2s. 6d. to £6 5s. Bombay, £5 7s. 6d. Soya cakes £8.

Linseed Oil.

Under active bull manipulation, the prospect of a small crop of La Plata linseed and light supplies of oil, the market opened firm and prices were rapidly forced up until 48s. 9d. was paid in February. Prices continued firm for some time, but owing to the free use of substitutes and the restricted demand for oil at the artificial values created by bulls the market soon broke, falling to 37s. 9d. in August. However, with the liquidation of a large bull account of the summer months, prices again advanced on covering by shorts of Sept.-Dec., 42s. being paid in September. It now appeared, however, that large quantities of Plate seed had been held in reserve up-country, and these being freely shipped during the autumn, together with fair supplies from Russia, the market broke again badly, bulls being no longer able to withstand the heavy supplies and prices sagged down to 31s. in the early part of December. Up to now the Argentine estimates were for a brilliant crop of not less than 1,000,000 tons, but heavy rains coming about harvest-time caused this estimate to be materially reduced with a corresponding rise in forward positions, under which influence Spot and December oil advanced to 36s. 10½d., the year closing with a steady tone at 36s. 9d.

	Highest.	Lowest.		Highest.	Lowest.
January	48 6	39 9	July	40 6	38 6
February	48 9	45 6	August	39 6	37 9
March	46 9	44 3	September	42 0	40 3
April	45 9	41 0	October	41 0	38 3
May	44 0	40 9	November	40 0	31 6
June	40 9	39 4½	December	36 10½	31 0

Latest quotations for linseed oil: Dearer; 38s. spot and January, April; and 34s. paid and buyers, May-August.

Cotton Oil.

The market has been a steadily falling one in the early part of the year, the American crop promising to be the largest on record. In the autumn prices were forced up by speculation only, to decline rapidly under the influence of large exports from America, the market closing easy at 23s. 1½d. on Dec. 30.

	Highest.	Lowest.		Highest.	Lowest.
January	29 4½	28 6	July	26 1½	25 4½
February	31 0	28 7½	August	27 0	24 10½
March	29 9	27 0	September	28 3	26 10½
April	27 0	26 3	October	29 0	26 0
May	27 0	26 0	November	29 0	25 0
June	26 0	25 6	December	24 6	23 1½

Latest quotations.—Cotton oil: Refined steady; 23s. spot; 23s. 6d., Jan.-April, and 24s., May-Aug. Crude, 21s. 4½d. spot.

WHEAT ELEVATORS FOR ARGENTINA.

THE *Buenos Ayres Herald* of 23rd November says:—Now that it is possible to form some estimate of our grain production for the year 1912, the question of storage and distribution assumes proportions which are hardly realised by those outside the trade itself.

Given fine weather for the collection of the harvest, we are face to face with a production of 5 million tons of wheat, 1 million tons of linseed and 1 million of oats, and when we add the probability of a maize crop which may easily reach 5 million tons, it becomes obvious that the existing deposits must prove inadequate to such a strain.

We learn from Europe that the comparatively low prices ruling for wheat is simply due to the belief abroad that our crop will be hurried forward without a moment's unnecessary delay. This calculation is primarily based on the fact that the money is needed here; and in the second place it is well known in Europe and North America that we have no facilities for retaining a large amount of grain in the country.

The international position of all cereals is a strong one, and if the Argentine grower could put his production into elevators, receive a warrant of commercial value and use it as a negotiable instrument, there would be no need to flood consuming markets with grain in quantities which militate against its sale at the intrinsic value.

There is no object in labouring the point. Everyone knows the evils of realising on a glutted market; to say nothing of the difficulties incidental to handling huge masses of grain in a limited space of time, and the certainty of higher freights when the movement is forced into a couple of months in place of being spread over half a year.

The agriculturist is helpless. He has no barns in which to store his grain, and he cannot dispense with the cash which that grain represents. The railways do little or nothing to aid him. They increase their deposits at the stations, it is true, but these are most inadequate to the space required;

they are by no means ideal as places in which perishable goods can be protected from damage, and last but not least the railways, for reasons best known to themselves, refuse to grant receipts for grain in their custody, and thereby render it impossible for the farmer to obtain advances against his own property.

It is natural to ask why no elevator system exists in this country which would vouchsafe to the Argentine farmer the benefits which have done so much for the cereal industry in other lands? Again the answer must be that for some occult reason the railways are opposed to it.

The grain production of Argentina to-day is shipped to Europe under the auspices of about half a dozen firms, and they enjoy a virtual monopoly, which results in millions of pounds being diverted from the growers' pockets into those of the favoured few who exploit the industry, and take tithe of all and sundry who are not sufficiently wealthy to market their grain in Buenos Aires or Rosario without financial assistance.

The advantages of elevators at country stations, linked up with terminals of large capacity, have been pointed out time after time. There is no lack of money for the establishment of such systems, one firm alone, of irreproachable credit, having recently offered to expend 2 millions sterling on the most modern elevators if one of our leading railways would grant the facilities, which facilities would not cost the railway a single centave directly or indirectly.

Elevators would ensure quick despatch, both at the camp stations and at the terminal. Surely this is worth something to a railway which is in a chronic state of congestion during the early months of the year and loses both money and friends owing to its inability to cope with the rush of traffic. Elevators would save the country millions of dollars in bags alone. It would create a new outlet for European capital in the financing of grain warrants. It would enable Argentina to control consuming markets under certain conditions, in place of being bled at every turn as at present; and it would at one stroke remove the technical disabilities as regards quality, which render grain exporting on a small scale the road to ruin. Congress recently passed a measure which legitimizes the elevator system with its concomitant of the grain warrant.

In spite of this, the principal railways receive the project with ill-concealed hostility, and one of them is endeavouring to perpetuate the present unscientific system of railway storage by means of a company formed within its own borders to monopolize the sheds on its own system.

—On page 114 of our issue of the 25th ultimo it was stated that the imports of jute into Calcutta and the mill stations this season up to the end of 1911 had aggregated 305 lakhs of maunds or 6,275,990 bales, an increase of 31 lakhs of maunds or 981,969 bales. The last figure should have been 639,113.

FOREIGN SEA-BORNE TRADE OF BRITISH INDIA IN DECEMBER, 1911.

THE trade returns for December, 1911, when compared with those for the corresponding month of 1910, show considerable increases in the values of both imports of private merchandise and exports of merchandise, foreign and Indian.

The value of merchandise imported in December was Rs. 11 crores (£7·3 millions)—an increase of Rs. 1,15,08,600 (£767,240) and Rs. 44,84,900 (£299,000) over the corresponding figures for 1909 and 1910 respectively; whilst the total exports amounted to Rs. 16·46 crores (£10·97 millions), showing an increase of Rs. 1,41,15,900 (£941,000) and Rs. 1,26,04,400 (£840,300) as compared with the same month of 1909 and 1910, respectively.

The following table shows the values of private merchandise imported and exported in December, 1911, and in the nine months ending December, 1911, together with the increases (+) and percentages thereof as compared with the corresponding periods of 1910 :—

	December, 1911.				
	Rs.		Rs.	Per cent.	
Imports	11,00,31,063	+	44,84,872	+	4·2
Exports	15,89,95,307	+	1,01,26,151	+	6·8
Re-exports	56,07,505	+	24,78,251	+	79·2
Total	27,46,33,875	+	1,70,89,274	+	6·6

Nine months ending December, 1911.

Imports	102,45,34,785	+	7,99,15,868	+	8·5
Exports	157,68,06,856	+	12,40,89,487	+	8·5
Re-exports	4,32,18,530	+	1,22,46,614	+	39·6
Total	264,45,60,171	+	21,62,51,969	+	8·9

The grand total of imports and exports, including re-exports of private merchandise, came to Rs. 27·46 crores (£18·3 millions) in December, 1911, and Rs. 264·46 crores (£176·3 millions) in the nine months ending December 1911, as against Rs. 25·75 crores (£17·16 millions) and Rs. 242·83 crores (£161·9 millions), respectively, in the corresponding periods of 1910, the increases being Rs. 1·71 crores (£114,000) or 6·6 per cent and Rs. 21·63 crores (£14·42 millions) or 8·9 per cent.

In the following remarks the returns for December 1911, are compared with those for the same month of 1910 :—

IMPORTS.

Animals, living.

The value of animals, living, showed a marked decrease of Rs. 3·74 lakhs, due to the arrival of only 780 horses from Australia as against 2,175 in December 1910.

Articles of Food and Drink.

The total value of this class declined by Rs. 22·81 lakhs or 12·5 per cent to Rs. 158·99 lakhs, which represents 14·4 per cent of the total imports. Sugar alone showed a decline of Rs. 23·28 lakhs or 21·9 per cent. The imports from Austria-Hungary fell from Rs. 12·93 lakhs to Rs. 8,645 only, the decrease

was made up by larger imports from Java, but Mauritius sugar declined by Rs. 26·21 lakhs to Rs. 3·65 lakhs only. Molasses showed an improvement of Rs. 2·46 lakhs, Salt showed a decline of Rs. 2·85 lakhs, mostly under imports from the United Kingdom, Germany, and Spain. There was an import of 5,737 tons of salt worth Rs. 78,084 from Asiatic Turkey as against nil in December, 1910, whilst Egypt is credited with no imports against 8,444 tons valued at Rs. 98,530 in the corresponding month of 1910. Spices declined in value by Rs. 1·16 lakhs to Rs. 11·89 lakhs. Cloves improved by Rs. 2 lakhs and other sorts by Rs. 50,000, but betelnuts and pepper showed declines of Rs. 1·54 lakhs and Rs. 81,000 respectively. Liquors, however, increased by Rs. 1·34 lakhs—all under spirit and wines. Provisions also improved by Rs. 3·6 lakhs to Rs. 39·39 lakhs. Increases are noticed under biscuits (Rs. 69,442), almonds (Rs. 1·47 lakhs), dates (Rs. 82,720), and condensed milk (Rs. 70,000). Under grain and pulse, husked rice declined by Rs. 79,000 to Rs. 2,000, but wheat flour rose by Rs. 49,000 to Rs. 54,462. Hops also improved by Rs. 63,000. Tea declined by Rs. 1·07 lakhs to Rs. 1·26 lakhs mostly under imports from China, green tea alone accounting for a decline of Rs. 77,200.

Metals and Manufactures of Metals.

The value of this class represents Rs. 19·2 per cent of the total imports and declined by 12·9 lakhs or 5·8 per cent to Rs. 211·03 lakhs. Copper accounts for a decline of Rs. 13·6 lakhs, chiefly under imports from the United Kingdom and Germany; whilst Iron and steel improved by Rs. 4·13 lakhs to Rs. 84·52 lakhs, the fluctuations under principal items being bars (—Rs. 3·67 lakhs); beams, pillars, etc. (+Rs. 1·92 lakhs), hoops (—Rs. 1·4 lakhs), pipes and tubes (—Rs. 1·18 lakhs), and sheets and plates (+Rs. 4·95 lakhs). Both Tin and Zinc declined by Rs. 54,400 and Rs. 74,700, respectively. The net decrease under metals amounted to Rs. 10·22 lakhs. Hardware and cutlery rose in value by Rs. 3·76 lakhs to Rs. 29·77 lakhs, the increase being made up of agricultural implements (Rs. 42,200), enamelled ware (Rs. 51,100), and other sorts (Rs. 3·17 lakhs) and shared by the United Kingdom and the United States of America. The increase under machinery and millwork is noticed under the heads of electrical (Rs. 2·15 lakhs), mining (Rs. 41,100) and textile (Rs. 2·13 lakhs), but the values of steam engines and parts and other sorts of machinery fell by nearly 2 lakhs under each of them. Railway plant and rolling stock showed a marked decrease of Rs. 7·22 lakhs, mostly under locomotive engines and sleepers.

Chemicals, drugs, medicines, etc.

This composite class showed a net increase of Rs. 3·2 lakhs arrived at as follows :—

	Lakhs.
Chemicals	+2·52
Drugs and medicines	—1·29
Narcotics	+1·93
Mineral dyes	—1·55
Other dyeing and tanning materials	+1·61

Under chemicals, soda compounds improved by Rs. 67,900 and sulphur and sulphuric acid by Rs. 69,000. Proprietary and patent medicines showed a decline of Rs. 63,160, besides small decreases under cassia lignea and quinine under drugs and medicines. The trade in cigarettes has revived and its value has closely reached the limit of 1909. The decline under aniline dyes was made up by a rise under gambier, saffron and other sorts of dyeing and tanning materials.

Oils.

The value of oils rose by Rs. 5·72 lakhs to Rs. 34·25 lakhs, the increase being under kerosene. There was no import from Russia, and the United States of America have recovered the ground lost in 1910 by an import of 6,443,890 gallons, valued at Rs. 24·32 lakhs, as against 3,237,153 gallons and Rs. 10·43 lakhs in December, 1910. Borneo accounts for a decline of Rs. 2·36 lakhs. Under vegetable oils, linseed improved by Rs. 28,105.

Raw Materials and Unmanufactured Articles.

The total value of this class rose by Rs. 34·3 lakhs or 83·4 per cent to Rs. 73·01 lakhs, cotton alone accounting for an increase of Rs. 31·43 lakhs. Other increases are under coal and coke (Rs. 25,585), silk, raw (Rs. 1·81 lakhs) and gums and resins (Rs. 1·28 lakhs), and tallow (Rs. 43,200), with a set-back in imports of precious stones and pearls unset (Rs. 91,505) and timber (Rs. 96,500).

Articles Manufactured and Partly Manufactured.

This class represents 53·1 per cent of the total imports. The value rose by Rs. 41·09 lakhs or 7·6 per cent to Rs. 584·45 lakhs. This increase is made up as follows :—

	Lakhs.
Cotton yarn	+3·25
" piece-goods	+32·09
" other sorts	—2·68
Silk manufactures	—2·93
Woollen "	—1·23
Carriages and carts	+1·85
Earthen ware and porcelain	+·66
Clocks and watches	—·77
Glass and glassware	—1·16
Instruments, etc.	—1·18
Jewellery and plate	+4·99
Paints and colours	+2·53
Tea chests	—1·79
Unenumerated	—1·01
Imported by post	+5·57

White and coloured piece-goods each showed an increase of more than Rs. 11 lakhs, while grey goods Rs. 8·8 lakhs and cotton yarn Rs. 3·25 lakhs. These increases are most encouraging. Hosiery alone showed a decline of Rs. 3·07 lakhs under cotton manufactures. Mixed goods of silk declined by

Rs. 1.72 lakhs and silk yarn by Rs. 63,000. The decreases under woollen manufactures are in piece-goods (about Rs. 2.35 lakhs) and in yarn and knitting wool (Rs. 74,000) and are partly made good by increases under shawl (about a lakh) and hosiery (Rs. 54,300). Motor cars and cycles rose by Rs. 85,000 and other sorts of carriages and carts by nearly a lakh, the United Kingdom alone sent in a consignment of Rs. 13.29 lakhs as against Rs. 10.95 lakhs in December, 1910. The decrease under glass and glassware was chiefly under beads and false pearls. There was a marked decrease of Rs. 82,600 under scientific and other kinds of instruments. The value of jewellery doubled itself in the month of report as compared with the corresponding month of 1910. Painter's materials rose by Rs. 1.9 lakhs and paints and colours by Rs. 62,000. Soap was imported to the extent of Rs. 5.07 lakhs, showing an increase of Rs. 48,000.

Treasure.

The imports of treasure rose by Rs. 85.24 lakhs to Rs. 394.35 lakhs, gold showing an improvement of Rs. 74.06 lakhs and silver Rs. 11.17 lakhs. Of the total value of gold (Rs. 326.97 lakhs), sovereigns and other British coins amounted to Rs. 252.51 lakhs and bullion (bar ingots, etc.) Rs. 72.93 lakhs. There was an import of Rs. 4.04 lakhs of Government of India rupees from Persia and Aden on account of Government.

Government Stores.

The total value of Government stores imported amounted to Rs. 54.9 lakhs, showing an increase of Rs. 9.75 lakhs as compared with December, 1910. The principal fluctuations are under railway plant and rolling stock (+Rs. 18.02 lakhs), arms, ammunition, etc. (-Rs. 5.85 lakhs), metals (-Rs. 2.17 lakhs) telegraph materials (+Rs. 1.4 lakhs), chemicals (-Rs. 1.24 lakhs), paper and pasteboard, (-Rs. 1.21 lakhs) and stationery (-Rs. 1.12 lakhs).

EXPORTS OF INDIAN MERCHANDISE.

Articles of Food and Drink.

This class showed an increase of Rs. 1.26 crores, this being the largest under any one class of exports. This increase is mostly contributed by grain and pulse and tea. Rice husked showed an increase of Rs. 11.34 lakhs, of which Ceylon is responsible for Rs. 6.07 lakhs and the Straits for Rs. 8.25 lakhs. Asiatic Turkey took Rs. 30,825 in place of Rs. 2.38 lakhs. East Africa took as much less, as Mauritius took more, than the figure for December, 1910. Wheat and wheat flour improved by Rs. 27.7 lakhs to Rs. 102.38 lakhs. The distribution of the exports of wheat according to the country of final destination has not yet been made up for the month under report and Egypt is now credited with 1.58 million cwt. instead of 213 cwt. in December 1910. Sind alone has exported to the extent of Rs. 85.48 lakhs as compared with Rs. 48.62 lakhs in the corresponding

month of 1910. There have been enormous increases under other grains.

	Lakhs.
Barley	+23.99
Gram	+25.94
Jawar and bajra	+1.69
Pulse	+14.63
Other sorts	+5.35
Total	+71.8

The increase of Rs. 2.1 lakhs under cocoanuts, kernel or copra has been compensated for by a decrease of Rs. 2.33 lakhs under Provisions, mostly under fish dry and fish maws and sharkfins. Tea improved by Rs. 12.32 lakhs to Rs. 147.97 lakhs. The United Kingdom took Rs. 19 lakhs, Canada Rs. 4.81 lakhs and the United States Rs. 1.65 lakhs more, than in December, 1910, while China took Rs. 9.57 lakhs, Ceylon Rs. 2.06 lakhs, and Russia Rs. 1.93 lakhs less than in the corresponding month of 1910. Coffee declined by Rs. 78,145 to Rs. 96,025.

Metals and Manufactures of metals.

There is a slight improvement of Rs. 76,000 under this class—manganese ore rose by Rs. 87,500 to Rs. 7,94,639, Belgium and the United States each taking about Rs. 78,500 more than in December 1910.

Chemicals, Drugs, etc.

This class showed an increase of Rs. 62.48 lakhs, the whole of it being contributed by Opium, the value of which rose by Rs. 63.7 lakhs to Rs. 188.15 lakhs, due to higher prices. China and Hongkong took 3,513 chests, valued at Rs. 158.87 lakhs, as against 2,878 chests and Rs. 88.32 lakhs in December, 1910. The exports from Bengal fell by 956 chests and Rs. 24.6 lakhs, while Bombay sent out 1,510 chests and Rs. 88.31 lakhs more than in December, 1910. Saltpetre rose by Rs. 53,436 to Rs. 3,30,578, the United States of America taking Rs. 85,272 in place of Rs. 16,925 in December, 1910. Tobacco improved by Rs. 1.37 lakhs to Rs. 2.62 lakhs. Declines are noticed under Indigo (Rs. 2.51 lakhs) and myrobalans (Rs. 88,500). Exports of Indigo to the United Kingdom, Austria-Hungary, Egypt and the United States of America fell by Rs. 80,000, Rs. 62,000, Rs. 47,000 and Rs. 40,000, respectively. As regards myrobalans the United Kingdom, Belgium and the United States of America accounted for a decrease of Rs. 38,000, Rs. 41,846 and Rs. 36,888, respectively.

Oils.

The value rose by Rs. 2.87 lakhs to Rs. 13.77 lakhs. This increase was made up as follows:—

	Lakhs.
Essential	+1.13
Mineral	+1.18
Paraffin wax	- .65
Cocoanuts	+ .67
Linseed	+ .6

1,386,845 gallons of bulk petrol with a value of Rs. 1.31 lakhs were shipped from Burma to the Straits Settlements. The United States of America took cocoanut oil worth Rs. 1.27 lakhs and the United Kingdom Rs. 62,250 as against Rs. 65,640 and Rs. 17,944 respectively in December, 1910.

Raw Materials and Unmanufactured Articles.

The value of this biggest class amounted to Rs. 6.73 crores or 42.4 per cent of the total exports, showing a decrease of Rs. 36.32 lakhs or 5.1 per cent. The trade in cotton contrasted greatly, the value falling by Rs. 1.52 crore or 53.8 per cent. to Rs. 1.3 crores, owing to a big output of American cotton and the comparatively low prices ruling in the market. Japan alone tolerably maintained her position by taking Rs. 92.93 lakhs in place of Rs. 103.11 lakhs, but the United Kingdom, all the continental countries and even China reduced their demands as follows:—

	Lakhs.
United Kingdom	-17.99
Germany	-20.73
Belgium	-26.44
France	-10.45
Spain	-12.67
Italy	-32.13
Austria-Hungary	-17.79
China	-2.69

The decline was shared by all the provinces—Bengal (9.5 lakhs), Bombay (82.22 lakhs), Sind (46.48 lakhs) and Madras (12.5 lakhs). Jute, on the other hand, was improved by Rs. 108.89 lakhs or 57.5 per cent to Rs. 298.19 lakhs. This increase was shared by all the countries excepting France and Italy, the principal being

	Lakhs.
United Kingdom	+53.17
Russia	+1.36
Germany	+22.51
Belgium	+3.3
Spain	+3.43
Austria-Hungary	+13.19
United States of America	+12.51

The average value per cwt. was about Rs. 13.6 as against Rs. 13.1 in 1910 and Rs. 10.1 in 1909. Hemp improved by Rs. 62,836 to Rs. 5.44 lakhs. The value of hides rose by Rs. 10.6 lakhs to Rs. 34.38 lakhs and of skins by Rs. 4.9 lakhs to Rs. 25.5 lakhs. Exports to the United Kingdom and continental countries, excepting Italy and the United States of America, were much better than in the past year. This increase was used up by a

fall of Rs. 13.2 lakhs under seeds which is arrived at as under:—

	Lakhs.
Castor	+2.75
Cotton	+1.21
Groundnut	+5.64
Linseed	+4.62
Mow	+2.66
Poppy	-5.75
Rape	-18.92
Sesamum	-5.94
Tea	+2.55
Essential	-1.71

Larger exports of castor to France and Italy, of cotton seed to the United Kingdom, of groundnuts to France, of linseed to the United Kingdom and France, account for increases under these heads. France took poppy seed worth Rs. 2.7 lakhs in place of Rs. 6.58 lakhs, and Germany and Italy sesamum worth Rs. 7.2 lakhs and Rs. 1.66 lakhs instead of Rs. 3 lakhs and Rs. 12.56 lakhs respectively in December, 1910. The trade in rape seed fell disastrously owing to a bad crop and was greatly contracted in the following cases:—

	Lakhs.
Germany	-8.97
Belgium	-3.6
France	-2.53
Italy	-1.82
Austria-Hungary	- .61

Manures showed a net increase of Rs. 1.39 lakhs, animal bones rising by Rs. 2.42 lakhs and oil cake falling by Rs. 51,987 and other kinds by Rs. 50,612. Fodder, bran and cattle food slightly improved by Rs. 64,554. The rise under oilcake was counterbalanced by a fall under rice bran. Raw silk fell by Rs. 2.59 lakhs to Rs. 2.2 lakhs, France taking Rs. 93,356 in place of Rs. 4 lakhs in December, 1910, and chasum (waste) and cocoons rising by Rs. 48,949 to Rs. 1.04 lakhs. But wool, raw, advanced by Rs. 2.96 lakhs to Rs. 17.65 lakhs, the United Kingdom sharing almost the whole increase. Teak timber declined by Rs. 80,000 and sandal wood by Rs. 46,000.

Articles Manufactured and Partly Manufactured.

This class is third in importance under exports. Its total value fell by Rs. 54.29 lakhs or 17.9 per cent to Rs. 248.65 lakhs. The most highly affected article is cotton yarn and woven goods, showing a decline of Rs. 56.22 lakhs and Rs. 5.48 lakhs respectively. China alone is responsible for the decline in cotton yarn, taking only Rs. 23.34 lakhs instead of Rs. 75.83 lakhs in December, 1910. Asiatic Turkey and Egypt also took much less than in the corresponding month of 1910. Bombay's share in the exports of cotton yarn and woven goods was reduced from Rs. 93.27 lakhs to Rs. 33.1 lakhs and Madras' share from Rs. 9.63 to Rs. 5.87 lakhs. Bengal's share rose from Rs. 1.66 lakhs to Rs. 3.93

lakhs. The value of *jute manufactures* rose by Rs. 13.56 lakhs to Rs. 133.16 lakhs, *gunny bags* accounting for Rs. 4.28 lakhs and *gunny cloth* for Rs. 9.3 lakhs. China, Japan, the Cape, and West Indies are responsible for the former increase and the Argentine Republic for the latter. The smaller shipments of *gunny cloth* to the United States of America was partially compensated for by larger demands from Canada, Uruguay and Australia. *Woollen carpets and rugs* fell by Rs. 77,325 to Rs. 1.81 lakhs. *Apparel* also declined by Rs. 41,801 to Rs. 1.48 lakhs, mostly under *boots, and shoes*. *Coir* (excluding rope) fell by Rs. 71,500 to Rs. 5.58 lakhs, Germany being responsible for the decline which should have been much larger if the United Kingdom had not taken Rs. 1.85 lakhs in place of Rs. 90,850. The total of *Hides and skins* has, in sympathy with raw materials risen by Rs. 5.36 lakhs or 21 per cent to Rs. 30.92 lakhs. All *dressed hides* went to the United Kingdom. The value of dressed or tanned goat and sheep skins was about the same and the principal market was the United Kingdom taking Rs. 18.12 lakhs and the United States took Rs. 3.07 lakhs out of a total of Rs. 22.24 lakhs. Under *lac* a rise of Rs. 1.07 lakhs is noticed, mostly under *button lac*. Germany took *shell lac* with Rs. 4.5 lakhs instead of Rs. 1.8 lakhs in December, 1910, while the demands from the United Kingdom, France and the United States of America were much reduced.

RE-EXPORTS OF FOREIGN MERCHANDISE.

The rise noticed last month have been uniformly maintained. The total value rose by Rs. 24.78 lakhs to Rs. 56.07 lakhs. *Sugar* accounted for a rise of Rs. 23.67 lakhs out of a total of Rs. 25.61 lakhs, mostly sent to the United Kingdom, which appears to be a new market for Java sugar. *Provisions* showed an increase of Rs. 1.84 lakhs and *wool raw* Rs. 78,892. *Cotton manufactures* declined by Rs. 1.6 lakhs to Rs. 11.79 lakhs, Aden, Bahrain Islands and East Africa having reduced their demands. *Metals and hardware* fell by Rs. 81,587 to Rs. 2,56,689, *iron tin and copper* accounting for the decrease.

Treasure.

Exports of treasure on private account rose by Rs. 93.24 lakhs to Rs. 143.42 lakhs, *gold* showing an increase of Rs. 2.28 lakhs and *silver* Rs. 90.95 lakhs. Silver exported is mostly British dollars coined for circulation in Hong Kong. *Gold bullion* exported to the United Kingdom was valued at Rs. 28.89 lakhs.

Duty.

The gross amount of import duty collected during the month was Rs. 75.61 lakhs including salt and Rs. 59.83 lakhs excluding salt, showing a decline in the latter case of Rs. 4.01 lakhs, chiefly under liquor (— Rs. 1,26,852), Metals (—Rs. 1,33,439) and Sugar (— Rs. 2,24,483).

THE JUTE INDUSTRY.

REPLYING to an address by the Narayanganj Chamber of Commerce on January 28th, H. E. the Viceroy said:—Some years ago in the interest of the jute industry we appointed a fibre expert at the agricultural farm at Dacca. It was anticipated that the work of this specialist would lead to improvements in the quality of the raw product and the methods of cultivation. I am not sure that those interested in the industry have made as much use of our expert as we hoped at the time of creating the appointment. I trust that in their reasonable efforts to increase the quantity of jute produced, the necessity of aiming at superior quality has not been overlooked. The Government of India have recently received a memorial in which certain important firms dealing in jute manufactures have asked for the creation of a Government jute department. The memorial will be sympathetically considered with the assistance of the advice of the local Government. Without desiring in any way to prejudge the question involved I would like you to consider whether the creation of such a department which we are asked to place in charge of a business man really falls within the legitimate sphere of Government, and whether the objects aimed at cannot be more satisfactorily attained by the concerted efforts of merchants interested in the trade. We have had in the past some experience of the special regulation of a trade in raw produce in the cotton department in Bombay. Such experience is not entirely favourable to the prospects of a jute department such as we have been asked to contemplate. It might be wise to consider whether the true function of Government in connection with your industry is not more properly the employment of the existing machinery of Government, so far as is consistent with its other duties, to assist your industry in all its stages. Thus we endeavour to supply annually statistical forecasts of jute production. I am aware that these forecasts fall far short of the accuracy that is desirable, but the available materials for estimating areas and outturn in the case of the localities in which jute is grown are undoubtedly defective. The causes of these defects are not such as to require the creation of a special department in order to provide a remedy. The manufacturing industry in Calcutta is at present considering the desirability of more united action in the interests of the jute trade. I commend to your consideration the subject of greater co-operation in the growth and preparation of the fibre if you earnestly desire improvement. The Government of India will always be ready to consider sympathetically a demand for any assistance that they are asked to lend in order to further such measures as you may devise in the course of joint action directed towards the improvement of your great and flourishing industry. The direction and control of these measures should, however, preferably remain with the capable men of business who are engaged in this industry.

TRADE IN 1911.

THE *Glasgow Herald* thus sums up the trade of the year 1911:—

The retrospect of trade during 1911 reveals a period of prosperity tempered by circumstances which minimised seriously the possible results. In the various reports which we place before our readers to-day the outstanding feature of many is the adverse influences of labour disturbances. Throughout the year almost all branches of industry have been affected, either directly or indirectly, by the dislocation of work consequent upon disputes between employers and men, and though the year taken as a whole may be regarded as satisfactory it is unquestionably true that the measure of prosperity would have been greater if the two forces which built up our trade—capital and labour—had worked to this end in more complete harmony. It would be somewhat difficult to assign reasons for the great wave of unrest that is passing over the whole labour world. It may be true that the workmen in the various trades who expressed dissatisfaction with their conditions and discontinued work because their demands were not conceded had good grounds on which to base their claims. It may be equally true that the employers had every justification for refusing them. But it is altogether outside the comprehension of ordinary intelligence that they should have adopted means to settle their differences which incurred the severe penalties of loss of wages and curtailment of trade. Happily the year is closing almost free from open warfare between employers and employed than was the case some months ago, but tempers are still ruffled, and it would be a wise prophet who could foretell the labour conditions during the coming year. Labour troubles have not been alone in disturbing the course of trade throughout the year. The political situation at home has been of such a complicated and uncertain character that certain branches of commerce have deemed it the better course to wait more tranquil and less legislative times before committing themselves to extensive engagements. Our relation with European Powers have also not been altogether conducive to the extension of our foreign trade. Notwithstanding these adverse factors, however, our commercial intercourse with foreign countries has grown considerably, which is shown by the large increases in exports that have been recorded each month in the Board of Trade returns. Board of Trade figures, however, are apt to be regarded with suspicion, and are not always looked upon as a true barometer of the state of trade. If doubt should exist as to the full extent of the improvement in our export trade it is expelled when consideration is given to the marked improvement that has taken place in the shipping trade. This branch of commerce, probably more than any other, gives a reliable indication of the progress made, and it would be necessary to go back fully a decade to find a time when shipowners were more happily situated than they are at present. All branches of the trade have enjoyed the utmost

prosperity. Every class of shipping has shared in the general improvement, from the small coasters to the long voyage services. This can be explained only by the world-wide expansion in trade.

Shipbuilding Progress.

With regard to the staple industries of this and other countries, all our reports show that there has been a period of unexampled prosperity in shipbuilding and marine engineering. The statistics given on the following pages are sufficient proof that in all the countries in which these are important industries—America excepted—far more work has been done than in any previous year. In mere volume of new shipping produced 1911 is likely to remain a notable year. But there is much more in the record of the twelve months than the huge output of tonnage. There is the fact that there has been no hint of overbuilding even from the most pessimistic of trade prophets. In many previous spells of good trade there has been the fear—sometimes the certainty—that the aftermath would more than make up for the gains of the passing "boom," but so persistent have been the calls of shipping for new tonnage, and so well have the freight markets kept up under the steadily increasing carrying capacity placed at their service, that there is at the end of a year in which new ships have been turned out wholesale, as it were, as remarkably small proportion of idle tonnage. It does not follow of course, although the industry has been exceptionally prosperous from the point of view of the amount of work done, that large profits have been made. Shipbuilding and engineering firms seem to have more of the element of risk in their business transactions than the majority of other industrial concerns, as even in a year of general prosperity their dividends vary greatly. Conditions which apply to one may not apply to another, and in addition a considerable period of work at enhanced prices is necessary in order to clear off the arrears of bad times such as those which ruled a couple of years ago.

Labour Negotiations.

It must also be remembered that while there is a very satisfactory amount of new work in progress and on the books of shipbuilders in all the principal centres of the industry there are several small clouds on the horizon. Builders have held out for and have received better prices, but at the same time the costs of all classes of material have advanced, and so has the price of coal. Wages have been increased all round, and the burdens represented by recent legal enactments add considerably to the cost of administration. So much have the costs of production increased indeed that shipbuilders have been heard to express the opinion that it would pay them better to invest their money in safe securities than in the industry to which their lives are devoted. Then, again, the labour question they have always with them. There have been many irritating delays in Clyde yards within recent months because of broken

time and demarcation disputes. In one small area, where the yards referred to are all within sight of each other, four additional steamers would have been launched within 1911 but for delays of this kind. There have been, in fact, far more cases of broken time than there are usually even in seasons of bad trade. Notwithstanding these handicaps, however, there has been an immense amount of work done, there has been employment everywhere for more men than could be obtained, and, generally speaking, there have been no serious disputes to cause or even to threaten either strike or lock-out. At the same time it must be added that the labour outlook in shipbuilding is not one that can be treated lightly. The serious possibilities of the situation may be best understood after a perusal of the special articles which we publish on another page by Mr. Fred. N. Henderson, who as president of the Federation of Shipbuilding Employers led that organisation with remarkable tact and ability through some of the most critical and difficult negotiations ever carried through with trade unions; and Mr. John Hill, general secretary of the Boilermakers' Society, who took a leading part in these same negotiations and is recognised as one of the ablest men on the side of labour. The writers naturally do not see eye to eye on all points, but it is significant that each realises that we are by no means at a definite stage in the relations of capital and labour, but that in the near future there must be even more important developments than in the past. Whatever these may be from the national point of view, the matter which will require immediate attention soon after the New Year is the renewal of the working agreement between the Federation of Shipbuilding Employers and the associated shipyard trade unions. In the working of this agreement there was considerable friction before the supplementary agreement of March, 1911, as drawn up and accepted by both sides, and even yet it is some times difficult to preserve the peace at all times. It is not likely that the retrograde step of throwing over methods which have been proved practicable and valuable in this and other trades will be taken by any of the unions, but the negotiations connected with the renewal of the understanding for another term of years will be watched with anxiety by all concerned.

Shipping Developments.

In shipping as distinguished from shipbuilding the year was of peculiar interest. The tendency is all towards amalgamations and federations, and several agreements of exceptional interest were made, all intended to allow the firms interested to extend their trading connections and carry on their operations more economically and more efficiently. The Cunard Company obtained an entrance into the Canadian trade by absorbing the Thomson Line and an interest in the Eastern trade by an exchange of stock and directorate with the Anchor Line. In several of the services from Liverpool working understandings

were arrived at, and the adjustment of the extensive Elder-Dempster business, which followed the death of Sir Alfred Jones, meant the utilisation of much new capital and the consequent rearrangement of a number of services. The most important "deal" of the year, however, was the absorption of the Union-Castle Line by the Royal Mail Steam Packet Company. What the ultimate effects of this may be is not yet apparent—because so much is involved in it. It raises anew many questions connected with South African shipping, particularly that of the carrying of mails, and it is in its possible relations to the general trade of the world the most important bargain of the kind which has been made for many years.

Coal and Iron Trades.

So far as the coal trade is concerned the conditions prevailing have been satisfactory. In the beginning of the year it was anticipated that the improving nature of trade generally would be reflected immediately in the coal industry, but notwithstanding the many favourable factors that warranted this it was not until the second half of the year that the actual improvement took shape. Since then an active trade has passed and a sharp advance in prices taken place. In the case of Lancashire coal prices to-day are standing from 2s. to 3s. 6d. per ton higher than they were six months ago, while Fifeshire and Lothians are 1s. to 2s. higher, and over the year they are all over 1s. to 2s. higher. In the matter of exports the quantity shipped is greater by 400,000 tons than it was last year, which compares with an increase in 1910 over 1909 of 8,000,000 tons. A feature of the trade in Fifeshire has been the large business in exports to South America, and when the new Methil dock is completed next year it is anticipated that a considerable extension of this trade will take place. A somewhat unpleasant factor that has now to be reckoned with in the coal trade is German competition. At one time Germany constituted one of our largest markets, but now she not only supplies the greater part of her own wants but is entering into active competition with us in other markets. The Ayrshire coal-fields continue to show marked developments, the quantity shipped from Troon and Ayr this year being 150,000 tons greater than was the case last year.

The Rebate System.

Steelmakers also report a satisfactory year's trading. In the early months of the year trade was somewhat quiet and specifications slow of coming in, due mainly to accumulation of finished materials in the shipyards in consequence of the enforced idleness caused by the strike, but by April the effects of this were removed, and since then plate mills have been all comfortably employed. The outstanding feature in this trade has been the system of rebates intro-

duced by Scotch makers in conjunction with English makers with a view to limiting outside competition. The system has occasioned much controversy, being naturally resented by the merchants whose freedom of action is curtailed, but until the scheme has been longer in operation it is impossible to say how it will ultimately affect consumers. The tonnage of steel shipped abroad shows a satisfactory increase, though the quantity taken by Canada is considerably less on account of American manufacturers' prices being lower than those of British makers. The outlook of steelmakers is regarded as quite satisfactory; the shipyards are well employed, and in view of the high level of freights orders for new tonnage are expected which, it is confidently believed, will be sufficient to keep the plant of the steelworks running full for the next nine months. While steelmakers have enjoyed a prosperous period, makers of Scotch pig iron have had a somewhat different experience. Throughout the greater part of the year prices continually eased off in favour of buyers, and though the rally that has taken place within the past month has brought values practically up to where they were at the beginning of the year, the higher costs of production and the increase rates of freight leave makers still in a far from satisfied state. Another industry that has achieved little in the way of improvement is locomotive building. The home market orders have been of a most meagre description, while the foreign markets, on which the industry depends so much, have been disappointing, the only improvement recorded being in the demand from the Colonies. The Scotch mineral oil trade has not shared in the prosperity that has been general to most branches of industry. The competition of foreign interests has been the principal source of trouble. The Scottish companies, however, have met the encroachment with methods somewhat similar to those of their competitors, and the results have been not altogether unsatisfactory, so that, taken all over, the position of the trade is no worse than it was a year ago. A phenomenal year has been experienced by those engaged in the sugar trade. The long-continued drought in the summer played havoc with the crop and so raised prices that in September values stood fully 100 per cent above the opening prices of the year. Since then a considerable reaction has taken place, but the level of prices ruling at present is still very high.

Prospects.

It is impossible to forecast the future, but judging from the course trade has taken during the last quarter of the year indications are all in favour of a period of further prosperity. As we show in our reports, the three main industries on which local trade depends—shipbuilding, coal, and steel—are all in an extremely satisfactory state, and with these trades flourishing there is every reason for other branches of industry to believe that they will experience favourable conditions in the new year.

COAL MINING IN INDIA.

In connection with the annual meeting of the Indian Guild of Science and Technology, held in Birmingham a few weeks ago, Mr. J. J. R. Wilson, formerly Chief Inspector of Mines in India and now His Majesty's Inspector of Mines in Yorkshire, delivered a lecture on the above subject. The history of coal mining in India seemed, said the lecturer, to date from the year 1774, when coal was first won in Bengal. Even as late as 1860, only some 300,000 tons were produced, and in 1868, the output had only risen to 500,000 tons. Now the output had reached 12 million tons. Ninety-six per cent of the coal supplies of India were obtained from the Gondwara system, and the section of the system which was important from the coal producing point of view was that distinguished as Damuda series for its development in the valley of the Damuda River. The Raniganj coal-field had 500 square miles and 15 seams; the Giridih 7 square miles and three good seams, and the Jharia 180 square miles and 18 seams. In many instances the methods of mining in India were exceedingly primitive, but in others quite up to date, efficient. In many places the coal was in very thick seams, surface coal that could be quarried. The great cavities which had been formed by heading into the quarry face in a number of instances would ultimately become a great menace to the mining industries, because they filled with water. There was not much long-wall coal cutting, and in many cases there was a great waste of coal by the neglect to take out pillars. "Holding under" in Indian mines was practically unknown. At one small mine in the Raniganj field, however, the whole of the output was obtained by percussive machines worked by compressed air. It was all gallery work. It was often urged as a reason for not using machines that the roofs were unsuitable. Most of the roofs in the Raniganj field had a shaley sandstone covering which broke off fairly short after the coal was got, and would be very suitable for long-wall working. In the Barakar series the roofs were generally composed of cross-grained massive sandstone, free from joints and smooth partings. They broke off at long intervals after the extraction of the coal, and gave timely warning of approaching collapse. Ordinary long-wall with such a roof would undoubtedly be unsuitable. Everyone acquainted with India knew that the agriculturist used dry dung for fuel instead of putting it into the land, the land, therefore, becoming impoverished. The chief remedy he thought was to educate the grower to burn coal. He would burn it in the form of soft coke. The Indian miner invariably burned his coal to cinders for his own domestic use. Soft coke would be made in India for a very long time by simply piling coal into a heap and setting fire to it, more or less covering the heap with dirt. Owing to the scarcity of wood, and the smoke in the large towns becoming a nuisance, the use of coke when he left India was rapidly extending, and the Mines

Department did what they could to encourage its use. The collieries in Assam were situated in the first spur of the Naga hills, in the Lakhimpur district, and were working one Makum coal-field. The seams were highly inclined. The only coal worked at present was the thick coal, made up of three or four seams aggregating 50 feet thick.

COTTON TRADE IN 1911.

REVIEWING the cotton trade during the past year, the *Manchester Guardian* writes:—Lancashire has done much better during 1911, especially during the latter part of it, than the other great industries, if success is to be measured by continuity of work. The increase of spindles and looms in the United States has been comparatively small, and there has been a great deal of short time both in the North and South. An event in American industrial history was the passing of the Massachusetts Fifty-four Hours Factory Bill, which makes obsolete the boast that Lancashire textile workers enjoy shorter hours than those in any other country.

The Continental industries have generally given a poor account of themselves. Italy, of course, has had the serious handicap of the war. In Germany there has been a slow recovery from the acute depression of 1910, and the first half of 1911 was very bad, especially with the manufacturers. Later there has been some improvement, but Germany, Austria, and France have had a bad year, though Russia, Holland, Belgium, and Spain seem to have done well, or pretty well. Japan, of course, is becoming a formidable competitor in the Far East, and has made some advance in a year of abnormal disturbances; and the cotton mills of China bid fair to become an important factor in the industry. The Indian mills began the year badly, and many were closed or worked short time. They have had to face severe competition from Japan in the China market, and during the latter part of the year the revolutionary movement in China has been against them.

It has been a very good year for manufacturers, and all sections have been prosperous, at least in some degree. The foreign markets have furnished a strong and continuous demand, and the good weather has done much for the home trade. In the latter part of the year the disturbances in China, Persia, and the Near East and the financial difficulties in Egypt have checked our exuberance, but so far these have not greatly affected the stability of the market. It has been suggested that the practical exclusion of Italian goods from Turkey may give advantage to Lancashire manufacturers and spinners, and there has certainly been some transference of business both to Lancashire and Continental centres of the trade. The exports altogether have been enormous, and continue to be so, and those who cater for the staple Eastern trade have done extremely well. In some localities there is a scarcity of weavers, and manufacturers who have tried to economise by using inferior yarn have done so at their

peril. During the last few months, while spinners have been earning good profits, manufacturers who spin have done very well, though at the beginning of the year they were relatively at some disadvantage. The decline in values at midsummer caused some apprehension, but probably there has never been an occasion on which comparatively dear goods have been taken with a better grace. With manufacturers well engaged it was difficult or impossible to get cheap goods for immediate delivery, and neither spinners nor manufacturers declined coincidentally with cotton; indeed, it is reckoned roughly that they retained between them the equivalent of a penny in a decline of three-pence or more. The biggest buying of the year was done in September, by which time there was no longer the discouragement of a great discount on distant cotton futures. At the end of the year it appears that, unless there is a prolonged dislocation in the relations of employers and operatives, there should be a very good start for 1912. Engagements are very good, and the evidence of the packing houses, the records of exports, and the generally favourable reports from our markets all point to a large trade.

The mainstay of the year's trade has been India, and our exports to every one of the great markets there have exceeded those of either of the two previous years. Great anxiety was expressed during the early stages of the monsoon, which was, on the whole, somewhat fitful and irregular, but after the last two good monsoons it has sufficed to avert anything worse than occasional or local distress. A mere review of the Board of Trade returns of exports to that market does not suggest the need of improvement, for the figures for the eleven months show that the exports are about 184,000,000 yards above those for the eleven months last year, but it may be remembered that at the beginning of this year the stocks at Shanghai were exceptionally low. There has been very little cancellation of goods, and though deliveries have been kept back to some extent, there is still a considerable shipment. Turning to Turkey, too, we find that the exports are greatly above those of the two preceding years; Egypt, about which we hear so much that is dismal, has also taken huge quantities; Persia and Morocco, in spite of international strain, are also well above the other years. The Dutch East Indies have done very well, South American markets are generally healthy, and all round the evidences of the soundness of our export trade are convincing.

The relative quantities of grey and of finished piece-goods exported during the eleven months ended November, and the comparison with the corresponding periods, are shown in the following table:—

	Gray or unbleached Yards.	Bleached Yards.	Printed Yards.	Dyed and coloured Yards.
1909 .	1,925,671,630	1,447,676,000	923,216,500	942,856,200
1910 .	1,741,974,900	1,459,019,900	1,133,177,600	1,133,320,600
1911 .	1,963,101,100	1,715,091,800	1,190,543,100	1,264,663,100

SUGAR TRADE IN 1911.

REVIEWING the sugar trade during the past year the *Glasgow Herald* writes:—The trade of the year has been chiefly remarkable for the very exceptional nature of the uncertainties which surrounded it throughout its entire course. The figures representing visible stocks and production with which it opened were of such ample proportions as to fully justify the impression they then created. But undreamt of events in the form of a diminishing surplus supply and a rainless summer which was playing havoc with the beet root crop of 1911-12, changed the whole aspect of affairs and the early position of assurance was replaced by one as unreliable as could well be imagined. The nearest approach to anything of the kind occurred as far back as 1893, and then the drought did not, as was the case this year, continue too long to make a change to rain practically valueless. In that instance, it must be said, a rather unfortunate experience for future guidance was recorded, as with the showers of rain which fell towards the middle of June of that year the crop recovered, and finally gave a result which showed 350,000 tons of a gain over the originally estimated production. It was the recollection of this and of some earlier cases of a similar nature, that lulled the trade into the belief that all would still come right, and only when damage of no ordinary kind had become apparent did the new situation receive anything like universal recognition. It is doubtful, however, if the existing condition of affairs can yet be said to possess the elements of permanency. The estimated damage to the European crop was all along stated in figures large enough to admit of modification and changes in this direction have already been made, but even if the original estimate of 2,000,000 tons be eventually realised the abundant supplies of cane sugar already on sale and in prospect and the final disposal of the excess in Russia, may go far to adjust the position. The abnormally high current values are of themselves sufficient to attract supplies which have got out of or perhaps never have been within, statistical observation, and the resale and reshipment this season of many cargoes of Java sugar from India to the European markets is just an instance of what is liable to occur under such conditions.

Surplus Supplies.

The rapid disappearance during the earlier part of the season of the 2,000,000 tons surplus supply arising out of the record crop of 1910-11 was perhaps the most extraordinary feature of the year's trade. The total supply of all descriptions of sugar considered as available to meet the consumption of Europe and America for the current year had at no previous time reached such large proportions and how it was to be disposed of was long the point of difficulty. But the possibilities which go to the solution of such problems were equal to the occasion, and this point having like the hidden sources of supply always been undervalued, the present case

Though the largest increase is in plain and especially in bleached goods, there is a gratifying increase in dyed and printed goods. It is natural that any great increase in buying should be mainly in staples and that an increasing business in specialities and fancies should develop with comparative steadiness.

Fortunately, the export trade in yarn has been good this year, though not much better than in 1909 and 1908, and this has helped a good deal towards the improvement in the position of spinners. The large exports to European countries are noticeable, and both the Near East and India have done fairly well. The latter part of the year has, of course, been far better than the early months. A sound business was done in January, and it seemed that there was some recovery from the deep depression of 1910, but the immense production began to tell, and inferior twists in particular were soon doing badly. In February and March both Oldham and Bolton spinners were losing ground, and though there was no positive slump there was considerable weakness and a fair amount of short time. Good marks of yarn held their own the best, and there was no suggestion at any time that the Egyptian spinners should run short time. During July, American yarns improved considerably, and though balance-sheets showed how bad trade had been, it continued to improve. The carters, and the railway strikes threw delivery considerably out of gear and contributed to a scarcity which helped to advance prices, which, as conditions became normal, were maintained. It was constantly expected that the market would be overwhelmed with yarn, but instead of that there was for a time almost a famine in medium counts. The finer American yarns and Egyptian generally have only done moderately during the last few months, but spinners of medium and coarse counts have had an excellent time. Reelers and doublers have been busy and there has been a good demand for bundles from various markets. Engagements generally are good, and we should at least start the year well.

—A novel use for electricity on a comparatively large scale has been devised in New Orleans in connection with a 6,000-egg incubator, built for a professional poultry breeder. The plant is 40 ft. in length and 5 ft. in width and consists of 40 compartments, each capable of holding 150 eggs, the temperature of each being controlled separately by means of thermostats which introduce into and throw out of the heater circuits resistances formed of electric lamps. The average current necessary for each heater amounts to 20 to 25 watts, and the total consumption for the hatch is about 10 to 12 units per compartment. The owner of the apparatus states that six months' trials have demonstrated that it possesses many advantages over the ordinary gas or oil-heated incubators.

makes it pretty clear there need be no concern as to what may happen in the event of the natural, or non-subsided, production receiving vastly greater extension. Those possibilities having been specially dealt with in this review of the trade of 1910, the inferences to be drawn from them are important enough to warrant a reproduction of the paragraph relating to the subject. After giving the balance of the 1909-10 crop, and details of the crops of 1910-11 showing an aggregate supply of 15,304,000 tons as available for 1911, that report goes on to say:—

This, then, is supposed to be a near approach to the quantity of sugar available for the consumption of Europe and America; in other words, it represents what can be relied on to meet the demands liable to be made upon it by white populations aggregating about 600,000,000 of actual and probable consumers. To use up such a quantity would mean consumption at the rate of 54 lb. per head. As this, however, is clearly beyond the mark, 13,000,000 tons or 48 lb. per head has been generally accepted as the probable consumption, but even this is a doubtful calculation erring on the side of excess. If, however, the latter figures be nearly correct, there ought to remain something in the neighbourhood of 2,000,000 tons of distribution elsewhere and to form a balance to meet the demand between the closing of the old and the opening of the new campaign. The liability to mistakes in relation to the question of supply and demand, but especially with regard to the latter branch of it, does not seem likely to diminish, far less to disappear, as time goes on, and from what has already occurred and is occurring throughout the Eastern world the drafts on the existing sources of production may yet still more easily upset all ordinary calculations on the subject. Populations aggregating 1,100,000,000, some of them already adopting Western usages, provide all the elements calculated to produce mighty economic changes, and it is precisely through overproductions, as in the present case of sugar, that fresh channels of consumption are discovered and such changes effected. The very marked and definite case of Japan is an example which may soon be followed throughout other and more populous Asiatic States, so that a surplus of 2,000,000 tons of sugar, already shown in an account which deals only with Europe and America, may well enough do little more than hasten the process of dispersion.

While this view of the matters as affecting the position of affairs at the beginning of the year was apparently not very long in being realised, it may have been that what is known as "invisible supply" absorbed a certain proportion, and that should some pinch occur the reappearance of some of it at least may be within the bounds of probability.

From the refiners' standpoint values during the year, as these were directed by what was occurring at the chief centres of speculation, could hardly have followed a more desirable course. Before the advance had reached its more important stage the controllers of unshipped cane sugars, especially Javas, had realised their holdings, and these, acquired

by refiners at prices which were far outdistanced by those current on their arrival, furnished them for the greater part of the year with the material for the refined product, which was readily disposed of from day to day at rates giving aggregate results of the highest importance.

The Brussels Convention.

The request recently made by the Russian Government to have their export allowance under the Brussels Convention increased, and the favourable reception given to this proposal by the British authorities, would seem to threaten the situation with a fresh element of distraction. In the case of a commodity like sugar, which concerns every European country as regards its production, its sale and purchase, and its importance as a subject in financial affairs, it is absolutely necessary that its value throughout all of them be arrived at by purely natural means. The Brussels Convention was entered upon for the sole purpose of securing, as it did secure, this object and of making an end of systems opposed to everything legitimate and fair in connection with its commerce. It is therefore peculiarly unfortunate that the representatives of a country which chiefly suffered from those pre-Convention methods should be first to approve that very thing most likely to call all such abuses again into existence.

The sugar refining industry within the United Kingdom has had in every respect a most prosperous year, and the outturn down to the 16th of the current month has been further expanded to the extent of 154,462 tons, the total quantity refined to that date having been 970,766 tons. The total imports of raw sugar for the 11 months ending November 30th have been 837,531 tons, 393,279 tons being cane and 493,252 tons beetroot. The imports for foreign refined for the same period have been 845,567 tons as against 970,766 tons produced in the United Kingdom.

The latest estimates of supplies for Europe and America for the current campaign—that, from September 1st, 1911, to August 31st, 1912—as given by Mr. F. O. Licht, stand as follows:—

Tons.	
Balance of supply on August 31st, 1911	1,443,000
Cane Sugar Crop.	
Tons.	
Estimate, 1911-12.	
Cuba	1,700,000
Java	1,400,000
United States	830,000
Hawaii	500,000
Porto Rico	330,000
Philippines	225,000
Brazil	180,000
Mauritius	170,000
Peru	140,000
Lesser Antilles	125,000
Demarara	95,000
Egypt	40,000
Barbados	40,000
Guadeloupe	40,000
Reunion	40,000
Trinidad	35,000
Martinique	35,000
Jamaica	25,000
Total cane sugar	5,950,000

Beetroot Sugar Crop.

Russia	2,050,000
Germany	1,480,000
Austria-Hungary	1,150,000
France	550,000
Belgium	235,000
Holland	255,000
Other countries	530,000
Total beetroot	6,250,000
Grand total of crops, 1911-12	12,200,000
Total supply for 1911-12	13,643,000

JUTE TRADE IN 1911.

THE *Glasgow Herald* writes:—The jute trade has just passed through one of the worst years in its history. Production has been reduced beyond all previous records of curtailment, and as a result two mills have been unable to survive the period of severe depression. The year will probably be remembered as the climax of the financial upheaval which began in 1906. During the intervening period spinners, manufacturers, and others engaged in the trade have struggled along as best they could in the hope that an improvement would take place in the condition of affairs, but the recent depression has exceeded the most pessimistic expectations. The cause of the trouble was mainly overproduction in Calcutta, and the difficulty was intensified by a short crop of jute consequent on the greatly increased cost of production. Calcutta commenced on September 1st, 1910, to reduce the output by one day per week, but it was not sufficient to create any impression, and last September 80 per cent of the looms were shut down two days per week.

The only opportunity of the season was unfortunately allowed to slip in the Dundee market. By misbelieving the Government's jute forecast of the 1910 crop disaster was incurred. The trade had been so accustomed to the supply in recent years greatly exceeding the Government's estimate that Dundee buyers did not see any reason to hasten their purchases under such unfavourable trade conditions. Productions were never saleable at the raw material equivalent at the same time, hence the reluctance to operate when jute touched the lowest point.

Rise in Prices.

Prices of raw jute, which had advanced considerably when the year opened, were expected to remain firm, and none were prepared for the rise that followed and found spinners very badly provided. From January till May the situation was one steady rise, the market being topped towards the end of the latter month at £27 10s. for the first marks. During the period looms and spindles were stopped, and the jute trade was more or less in a state of chaos.

The second mistake was even more serious than the first. Previous to the market being topped

symptoms of trade improvement induced the purchase of raw material also under the belief, that prices could not possibly depreciate for some considerable time to come, as the scarcity had become so apparent. An unexpected development resulted in prices commencing to go back. This was the publication of the official quotation of the new crop in Calcutta in May, whereas by a former arrangement it had not been given till July. Yarns and cloth, which had never been able to approach the equivalent of jute, receded in sympathy, and spinners who had purchased largely of the fibre were confronted with a very serious problem.

South American Orders.

Between seasons cloth values were based on the speculative lower prices of new crop jute, while spinners were destitute of material, which was practically unobtainable, and all the remaining lots, mostly of poor quality, were cleared at high prices. Production had also to be reduced due to the shortage, and the spot surplus stocks were depleted in a manner seldom or ever accomplished. The fall was checked in the beginning of July, when the first Government forecast came out, giving an acreage only 6 per cent greater than the previous year. Again prices were expected to continue steady in view of this, but there was a succession of rapid falls, and in August first marks were down to £18, the lowest figure of the whole year.

By the end of September jute was again steadily climbing upwards, and had reached £21 5s. for first marks, when South America could no longer restrain wants in Hessian bags, so long deferred that the orders were sent to this market instead of to Calcutta, as quick delivery was imperative. This was the turning-point, and the orders were repeated through October and November and into December. In October and November the prices of first marks fluctuated between £20 and £20 15s. since when they have fallen to £19, and Daisee middles to £17 2s. 6d., the lowest price of which in the year was £16 15s. in August.

Following the Buenos Ayres bag demand trade has lately improved immensely compared with former conditions. The looms and spindles that were stopped are again running, and the supply of jute is such that no scarcity need be feared. The purchases made are greatly in excess of the visible supply at the corresponding period last year. The requirements of normal consumption are pretty well in view to the end of the season, but surplus stocks require to be replenished. Altogether 900,000 bales can already be accounted for to Dundee, and six months of the season only gone.

Jute Market Fluctuations.

	First marks.	Crops.	Warps.	10½oz. Hessians
Highest	£27 10s.	2s. 4d.	2s. 5d.	2 32-48d.
Lowest	£18 0s.	1s. 8½d.	1s. 9½d.	2 6-48d.

IRON AND STEEL TRADES.

In their annual trade review, Messrs. Bolling and Lowe, writing under date December 20th, 1911, state that, with every desire to take a cheerful view of the reported improvement in the iron, steel and kindred trades, it is impossible to blind themselves to the fact that from the undeniable evidence of statistics the actual results of the past year's trading are not by any means satisfactory from the point of view of the exporter. An increase in the prices of many commodities, plenty of work in hand at most of the mills, and in some cases a difficulty in obtaining quick delivery, would point to a highly satisfactory condition of things, but the consumption for shipbuilding and other requirements at home would appear to be mainly responsible for this. There has at no time been anything approaching a boom, but frequent reports of a prosperous state of trade have reached them which they think are misleading.

The Rebate Scheme.

A scheme of deferred rebates has been brought forward as a probable means of preserving a large amount of the home trade from the encroachments of foreign sellers, and with prices that are fairly equal, it will no doubt effect its object, but should there be any appreciable increase in the margin between home and foreign manufacturers, the success of the move is doubtful. The great objection of merchants to the rebate scheme is obvious, but this of course does not enter into the question of the volume of trade.

Pig-Iron.

A heavy reduction in the quantity of ore imported from Spain compared with 1910 has been a significant factor as regards pig-iron production. Prices were fairly level during the first nine months of the year, but during the last few weeks a sharp advance has taken place, and it seems probable that ultimately a higher range of values will be established and maintained.

Rails.

This has been one of the worst sections of the trade, and there is little difficulty in explaining what the technical papers have several times and in various ways endeavoured to disclose. The International Rail Association has to distribute its favours over a certain area, and it is quite clear that with only a limited demand each country enrolled under the Syndicate must suffer according to its allotment originally agreed upon. However much railway extensions may increase, we must bear in mind that the number of rail-producing mills in various parts of the world is also increasing, and this lessens the chances for the older countries and Syndicated works. At the moment, however, there seems to be more inquiry for rails, and the home and Continental mills seem to be full of orders for early

deliveries, and we anticipate improved prices in the near future.

Galvanised Sheets.

The record of another increase in exports over a previous year is welcome, and prices have been fairly steady. The freedom from the ties of an Association have not brought down quotations to any appreciable extent, neither have they, on the other hand, advanced materially, owing to the enormous increase in productive capacity. Many of the works are at present fully employed, and cannot offer early delivery for some time to come, and the market altogether appears to have a healthy appearance.

Tinplates.

In spite of the fact that exports to the United States have been reduced by 75 per cent (in consequence of domestic production there satisfying consumption), the year's exports established another record; but the fact cannot be ignored that the healthy condition of the trade is partly due to the facilities available for purchasing cheap semiproducts from abroad, a fact which deserves more than passing attention, applying also as it does to galvanised sheets.

In China, Japan, New South Wales, and on the Pacific Coast of North America there is springing up a determination to reduce the dependency upon Europe and other sources of supply, which have hitherto looked to those markets for considerable custom, and as they expand there is not the slightest doubt that others will follow. The increase in population in those quarters will not, however, we imagine, keep pace with their productive capacity, and the result will be an addition to the ranks of exporting countries, thus further adding to the fight for existence. So keen must the struggle for business become that it is a powerful reason for entirely displacing, if possible, all those factors that stand or appear to stand between the consumer and the manufacturer, but whether the disappearance of the merchant or broker would be much advantage to the buyer is, of course, the question. Philanthropy is not the characteristic of Trusts and Syndicates, and the combination of a number of manufacturers working upon a fixed agreement, even if removing one commercial impediment, very often creates another: in keeping up prices it absorbs from the buyer what is often more than the middleman's profit. The merchant will have to live, and will make a fight to do so, and commercial struggles based on antagonism and jealousy are likely to result in the buyer having to pay the piper.

Although some of the foregoing may seem rather pessimistic, Messrs. Bolling & Lowe are glad to be able to close with a more hopeful feeling as to the future. The political horizon is clearer, and they find that there is a feeling of confidence and cheerfulness as to the trade outlook for the coming year. Certainly the close of the present one has been marked by a general advance in prices.

RUSSIAN FLAX INDUSTRY.

THE following article is abridged from the *Journal of the Russo-British Chamber of Commerce* :—

The more important flax growing centres of Russia are the Governments of Vitebsk, Vladimir, Vologda, Perm, Viatka, Kovno, Kostroma, Livonia, Moghilev, Yaroslav, Pskov, Smolensk, and Tver, the last three being the principal. Out of the 1,785,640 acres under flax in the 13 Governments in 1908, 662,967 acres were in the Governments of Pskov, Smolensk and Tver.

The total area under flax at the present time is about 2,250,000 acres, and the flax crop amounts to about 11,440,000 cwts.

The two methods of preparing flax—dewretting and waterretting—are both carried out in Russia. The latter method of preparation prevails in the western districts (the Governments of Pskov, Livonia, Petersburg, Kovno, Vilna, Vitebsk, etc.), Russian waterretted flax is on the whole stronger and of more even quality than dewretted flax, but coarser, and contains less oil.

Of dewretted flax the best qualities as regards strength, fineness of fibre, and dressing, come from the Government of Vologda, chiefly from localities situated along the rivers Lala, Soukhon, and Vileda. This is considered the best Russian flax, as being far superior to the waterretted flax from Pskov, not only as regards strength and length of fibre, but also for the amount of oily substance contained in it. The long fibre flax from Pskov is considered the best quality waterretted flax. The best sorts of Pskov flax will yield on the average 40 per cent of combed flax suitable for manufacturing yarns Nos. 30 to 50, and 53 per cent hacklings for Nos. 14 to 22. The best Vologda flax yields 45 per cent combed flax suitable for Nos. 40 to 80, and 50 per cent hacklings for Nos. 18 to 28. Vologda flax, and the best kinds from other districts (principally dewretted) are hardly exported at all, but are bought up by the Russian spinners. Waterretted flax is also used by them for admixture with dewretted flax but for the most part is exported abroad.

The cultivation of flax is chiefly in the hands of the peasants who own nearly three-fourths of the total area under flax besides sometimes renting land from private owners. The growers of dewretted flax generally prepare their flax carefully, grade it, and tie it up in small handfuls, without the addition of a poorer quality, and almost without any falsification whatever. Waterretted flax is done up in large parcels which facilitates falsification as does the manner of preparation.

The sale of flax by the peasants depends for the most part on the usage in the various districts. In the waterretted districts the peasants do not as a rule take their flax to markets for sale, but cart it direct to the buyers within their districts. The trade in dewretted flax is more regulated, both as regards the sale and preparation, but in nearly all cases the peasants have to sell their flax far below its real value, the buyers choosing the moment,

generally in Autumn, for their purchases when the peasants are greatly in need of money. It happens sometimes that the peasants sell their crops "on foot" either before or after the state of the harvest is known. Steps, however, are now being taken with a view to protecting the peasants and to enable them to secure better prices by regulating the sale of flax at markets or fairs on certain fixed dates. Another proposed method of assisting the peasants financially is by the construction of elevator warehouses in connection with the Zemstva and Agricultural Societies, whereby the peasants might store their flax and receive a proportion, say 50 per cent, of the market value of the flax in the form of an advance. In this way the peasants would not only be put in funds when they most needed it, but they would secure the true market value of their goods, a price which they rarely if ever realise under the existing system.

Another great disadvantage of the present conditions is the constant misunderstandings which arise between manufacturers and sellers on account of the flax being badly graded. Formerly flax was sold abroad by a comparatively small number of dealers who being possessed of large capital, were able to collect large quantities and grade them into more or less large parcels so that the manufacturers abroad received a flax of uniform quality and in accordance with technical requirements. But later, owing to the extension of banking operations and increased credit facilities, there came a large influx of middlemen not possessed of large capital and unable to collect large quantities but who nevertheless attempted to grade their goods. As a consequence the flax trade suffered considerably.

Flax, especially for export, is divided into many grades, reckoned at about a hundred in number, but they are subject to such frequent changes through being handled by a number of middlemen, forwarding houses, and agents, that no standard exists by which it is possible to buy. For this reason, Russian spinners who only require the higher grades have found it necessary to send their own people to superintend their purchases.

Coming now to the flax spinning industry we find that of the total quantity of 15,000,000 cwts. of fibre prepared in Russia in 1907 (in all districts exclusive of those where the linsced trade is carried on), 1½ to 1¾ million cwts. were used in the Russian spinning mills. Very small quantities of Russian yarn are exported.

The export of yarn during the last few years has, in spite of considerable fluctuations, a tendency to increase. During 1898—1902 there was an average annual export of 3,000 cwts.; between 1903 and 1907 there was an average export of 16,000 cwts. This latter average includes the 42,000 cwts. exported in 1907 which large amount was due to the shortage of raw cotton. But it is hardly to be supposed that the export of Russian yarn will attain anything like the proportions of the first half of the nineteenth century. The reason why Russian yarn does not occupy that position on the European markets

which from its quality one might expect, is due its high price. Taking for instance the average price of yarn No. 30 of equal value: the price in Germany (Bilefeldt) is 18 roubles 50 cop.; in Belgium, 14 roubles 50 cop., and in Russia, 19 roubles 50 cop. The addition of freight to a Baltic port 45-48 copecks and transport to the abovementioned places would bring the price up to at least 20 roubles a pood. Thus only factories situated near the Sea coast (Riga, Mitau) are with difficulty able to export small quantities of yarn abroad.

The Russian spinners make in preference the coarse and middle qualities of yarn as there is a greater demand for them and they are easier to spin from the home grown flax. Yarn Nos. 3-24 are spun from combings with an admixture of tow and codilla, and only in the event of a special quality being required is combed flax used for these numbers. Nos. 26 to 80 are spun from pure flax, and for the higher numbers 100 to 130 Belgian and French flax are used. Numbers up to 170 can be had if specially ordered. Twist is made in large quantities for sewing sacks, netting or lace according to quality.

The flax spinning industry, spread over the Governments of Kostroma, Vladimir and Yaroslavl (250,000 spindles), Samara, Kazan, Nijny-Novgorod, Perm and several Mills in the Government of St. Petersburg, developing but slowly owing in a great measure to the coarser kinds of yarns and tissues being superseded by jute. In 1889 there were 31 spinning mills and 74 linen factories with 245,500 spindles, 7,300 mechanical looms and 44,000 work-people. At the present time there are about 372,000 spindles for yarn, 40,150 for twist, 11,700 mechanical looms, and 75,000 work-people. Besides the construction of factories and mills, a number of old ones have increased and improved their manufactures.

In the central Moscow districts (the principal centre of the flax spinning industry), in the Governments of Yaroslavl, Kostroma, Vladimir and Riazan, workmen receive from 267 to 282 roubles, a year. The number of working days are from 285 to 288, and the hours 11½ to 12 per day.

In the western Governments—Vitebsk, Courland as well as Warsaw—wages are from 8 to 10 per cent higher, and the working day from 10½ to 11½ hours.

THE SILK MARKET IN 1911.

REVIEWING the silk trade during the past year, Messrs. Chabrières, Morel & Co., Lyons, write as follows:—

The deceptions which have attended the year 1911 are accounted for by the increase in the production of silk and by a reduction of consumption.

Early in the year, the former estimates of the crop of 1910-11 proved inaccurate in consequence of the unexpected development taken by the exports from the Far East. Finally the crop turned out equal to that of 1909-10. For 1911-12, prospects are in favour of a further increase, and the supply may reach, or even exceed, kilos 25,000,000, owing

to the larger output expected from Shanghai and Yokohama and in spite of a probable reduction from Canton.

The quantities of raw material available appeared all the more important as unfavourable circumstances stood in the path of the trade.

At first it was the absence of any marked tendency as to fashion, coupled with an unprecedented reduction in the yardage of ladies' skirts and the suppression of silk underwear; moreover the crisis on ribbons was still prevailing. As regards politics, the market suffered from the lengthy negotiations about Morocco; then came the war between Italy and Turkey, and finally the disturbances in China. In Europe, a serious drought increased the cost of living and, as a consequence, checked the expenses of luxury. Both in Europe and in the United States, the practice of short sales acted as a disturbing element, although such operations were far from being always profitable to those who carried them through.

In the face of these adverse circumstances, and in spite of their strong organization, European manufacturers were unable to keep up the rate of their consumption; the figures of the European conditioning houses, which are a basis for its estimate, show for 1911 a decrease of about kilos 2,000,000. We must, however, take into account that this reduction is partly due to the fact that the shipments of European silks to the United States have been much smaller than usual. The United States have indeed partly replaced them by Shanghai and Canton sorts which are not weighed or conditioned in Europe.

Thus, in 1911, there has been a rupture of equilibrium between production and consumption; but, as regards prices, the market has faced the trial better than could be expected, thanks to the low level already reached.

European sorts stood comparatively firm until October; their value had been upheld at the time of the crop by the high cost of cocoons. In Autumn, prices receded, and holders were able to dispose of part of their stocks.

Syrian raws, in steady demand, have held their own better than Brutian sorts. Import duties now levied by the Italian government on Turkish silks will certainly check the import thereof in Italy.

Canton sorts receded by 8 per cent between March and June, but remained rather firm afterwards. Silk velvet, which has been in great favour for two years past, and which makes use of important quantities of Canton, is now rather less favoured by fashion.

Best chops of Shanghai Steam Filatures were constantly scarce and wanted, whilst common grades have been more affected by the declining tendency of the market.

The consequences of the Chinese revolution are yet uncertain as far as silk goes; apparently it has only hampered conveyances in the interior of the country and caused a rise of 5 per cent in exchange. Should, however, the existing fiscal impediments be removed, the production in China might eventually be stimulated in the future.

The export from Japan has been estimated at 165,000 bales for 1911-12 against 148,000 bales in 1910-11, and 138,000 bales in 1909-10. This large output has constantly weighed upon prices of other sorts. However it seems now possible that, at present low prices, the export be only 160,000 bales and even less.

The price of silk has reached a level which ought to impart more confidence. Consumption extends now over a considerable variety of articles, applying to the larger public, either in pure or mixed descriptions. Thus may be explained the fact that prices have receded by only 7 to 10 per cent in the average, in spite of the increase in the production and of the importance taken by schappe and artificial silk. Moreover, any modification of the present feminine fashions must result in an increase in the yardage. Should this change take place, there is every probability that consumption will resume its progress.

IRON ORE, PIG IRON, STEEL, AND MANGANESE ORE. Output in Principal Countries.

THE following particulars of the output of iron ore, pig iron, steel and manganese ore in the principal producing countries of the world are extracted from a Return ("Iron and Steel, 1910") recently issued by the Board of Trade:—

Iron Ore.

The world's output in 1909 was about 130 million tons, or 2½ per cent below that of the year 1907; but the figures so far available indicate that the output in 1910 was well above that of 1907. The principal producers were the United States, Germany, the United Kingdom, France and Spain, in the order given, these five countries producing about six-sevenths of the total output of the world.

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 each of the years 1908-1910, the figures for the last year being provisional:—

Production of Iron Ore.			
Country.	1908.	1909.	1910.
	Tons.	Tons.	Tons.
United States*	35,925,000	51,155,000	56,890,000
Germany (including Luxembourg).	23,888,000	25,095,000	28,248,000
United Kingdom	15,031,000	14,804,000	15,226,000
France	9,895,000	11,699,000	14,250,000†
Spain	9,123,000	8,645,000	†
Russia (excluding Finland).	5,392,000	5,090,000§	†
Sweden	4,637,000	3,824,000	5,463,000
Austria-Hungary	4,495,000	4,384,000	4,548,000
Canada	212,000	239,000	228,000||
Belgium	186,000	196,000	121,000

* Excluding ore for fluxing. † Provisional figures, in some cases partly estimated. ‡ The figures of production are not available. § Excluding Caucasus. || Excluding Quebec.

The iron ore produced in countries other than those given in the preceding table lies between 4½ and 6 million tons yearly, the greater part of which is destined for exportation. The following statement shows the quantity produced in the more important of these countries in each of the years 1908-1910:—

Producing Country.	1908.	1909.	1910.
	Tons.	Tons.	Tons.
Australia†	150,000	74,000	†
British India	72,000	83,000	55,000
Newfoundland	935,000	1,004,000	1,125,000
Finland	9,000	10,000	†
Norway	118,000	40,000	†
Bosnia and Herzegovina	147,000	118,000	131,000
Italy	548,000	522,000	567,000
Greece	570,000	488,000	633,000
Algeria	928,000	877,000	1,048,000†
Cuba	819,000	930,000	1,418,000
China	131,000†	306,000	713,000

† Exports.

‡ The figures of production are not available.

¶ The iron ore of Australia is mainly used for fluxing purposes.

Pig Iron.

The total quantity of pig iron produced in the world in 1910 may be estimated at about 65 million tons. The principal countries of production are the United States, Germany, and the United Kingdom in the order named, these three countries together accounting for about four-fifths of the total output of the world.

The following statement shows the total output of pig iron in the principal producing countries in each of the years 1908 to 1910:—

Production of Pig Iron.			
Country.	1908.	1909.	1910.
	Tons.	Tons.	Tons.
United States	15,936,000	25,795,000	27,304,000
Germany (including Luxembourg).	11,616,000	12,442,000	14,556,000
United Kingdom	9,057,000	9,532,000	10,012,000
France	3,346,000	3,516,000	3,968,000
Russia (excluding Finland)	2,754,000	2,822,000	2,983,000
Austria-Hungary	1,958,000	1,964,000	2,011,000
Belgium	1,250,000	1,590,000	1,822,000
Canada†	563,000	676,000	715,000
Sweden	550,000	438,000	594,000
Spain	397,000	422,000	*

* Figures not available.

† Exclusive of output of electric furnaces making ferro products.

The total output of the ten countries enumerated in the above table during the three years, 1908, 1909 and 1910, has been, approximately, 47·4 million tons, 59·2 million tons, and 64·4 million tons, respectively.

Steel.

The combined output of steel in the United Kingdom, Germany, and the United States in 1910 exceeded 46 million tons, and the world's output may be estimated at between 59 and 60 million tons.

The following statement shows the quantity of steel produced in the years 1908-1910, in the countries for which similar information has already been given with regard to the production of pig-iron:—

Production of Steel.

Country.	1908.	1909.	1910.
	Tons.	Tons.	Tons.
United States	14,023,000	23,955,000	26,095,000
Germany (including Luxembourg)	11,006,000	11,856,000	13,479,000
United Kingdom	5,438,000	6,018,000	6,515,000
France	2,679,000	2,930,000	3,450,000
Russia (excluding Finland)	2,628,000	3,071,000	3,479,000
Austria-Hungary	1,958,000	1,909,000	2,120,000
Belgium	1,230,000	1,606,000	1,914,000
Canada	526,000	674,000	734,000
Sweden	431,000	308,000	464,000
Spain	*	159,000	*
Italy	528,000	651,000	720,000
Bosnia and Herzegovina	34,000	29,000	33,000

* Figures not available.

Manganese Ore.

It may be of interest to refer to the available sources of manganese ore, a substance which (though in small quantities) is a necessary element in the production of steel. Of the principal steel-producing countries, only Russia and Germany produce manganese ore in important quantities, and even in Germany the home supply has to be supplemented by large imports from other countries. The other principal sources of supply are British India and Brazil.

The following statement shows the production (or exports) of these countries in 1908, 1909, and 1910:—

Production of Manganese Ore.

Country.	1908.	1909.	1910.
	Tons.	Tons.	Tons.
Russia (excluding Finland)	295,000	652,000	*
British India	674,000	643,000	801,000
Brazil (exports)	163,000	237,000	*
Germany (including Luxembourg)	67,000	76,000	79,000
Spain	17,000	8,000	*

* Figures not available.

THE COTTON TRADE IN GERMANY.

A correspondent writes to a Home paper:—Reports from the German cotton centres show a very hopeful feeling amongst spinners and manufacturers, and though the position of the manufacturers does not appear so strong as that of spinners, there is great confidence in the future, and some are even looking forward to an early boom, with an actual scarcity of cloth and exceptionally high profits. Opinion on this point is, however, divided, the more conservative inclining to the view that although manufacturers may confidently expect profitable times they are not likely to be abnormally so. Spinners and manufacturers were working short time right through the summer and well into the autumn, for the weakness of the cotton market at that time led consumers to hold back orders which are usually placed during August and September. But the sales of cotton goods last summer were pretty good, so that stocks were fairly low when confidence in cotton prices revived. The general feeling in the trade at the beginning of the year is decidedly cheerful, and the heavy losses experienced as a result of the collapse in cotton prices during the second half of last year would seem to have passed almost entirely out of mind. Spinners of American yarns are enjoying a good time, and though the demand last month was not on the extraordinarily large scale witnessed during October and November, it was satisfactory, and most spinners are now booked up until well into the second quarter of the year at profitable prices. Delivery against old contracts is proceeding smoothly.

Those engaged in the waste and Indian cotton branches are not so well placed, for prices of the raw material are comparatively high, and though there would seem to be but little probability of any fall for some time, buyers of yarns are cautious and are content to keep their actual requirements supplied. A few really large orders have been booked by waste spinners recently, but these are so exceptional as to excite comment. The international complication during the past six months have led to a brisk demand for cotton waste on the part of the gun-cotton industry, and prices are thus higher than they would have been under more normal conditions. Waste spinners were similarly handicapped during the Russo-Japanese war. As regards spinners of American cotton, it is thought that their position will remain sound so long as there is no marked difference between spot and future prices, but if the difference should widen materially it is feared that there will be price-cutting in the yarn market by those who have most successfully covered themselves with raw cotton. Amongst manufacturers the producers of printing cloths are the best placed, the demand from calico printers being exceptionally large. Printers have had a very busy time, which seems likely to continue, and with the advent during the past year or so of the new fast printing colours much of the trade which has hitherto belonged to the coloured weaving industry has fallen into their hands. They are assisted also by the ease with

which they can adapt themselves to the vagaries of fashion. Manufacturers of linings and umbrella cloths are complaining of lack of orders, the former being seriously affected by the prevailing fashion, whilst the latter have suffered severely owing to the dry summer. Makers of cotton blankets are busy at present, and repeat orders for immediate delivery are coming in freely, but consumers are not placing many orders for future delivery and it is probable that makers will have to go on short time before long unless matters improve considerably. The Chinese disturbances have seriously affected the export trade in this class of goods.

THE THREATENED COAL SHORTAGE.

THE following is an abstract of a lecture delivered by Mr. Sydney F. Walker, M.I.E.E., before a meeting held under the auspices of the Association of Mining Electrical Engineers (South Wales Branch) on December 16th:—

Warnings have been uttered from time to time by eminent scientists, on the probable cessation of our coal supply. They predict that the shortage will be heralded a long time before it actually takes place by increased prices. The alarmists are correct to this extent; the increase in price commenced some years ago from natural causes. The seams lying near the surface have long ago been worked out, as well as a great many of the thick seams; consequently, the thinner seams, and those lying at considerable depths, have now to be worked. Notwithstanding that, the consumption of coal for any given work, owing to the improvements which engineers have introduced, has so steadily decreased that the cost of performing it is actually less to-day than it was in the early days of coal-getting. In addition owing to the development of electricity, engineers who have to provide energy in any form need not fear the total exhaustion of the coal beds.

House Coal.

The three main uses of coal are, for domestic purposes, warming, cooking, etc.; for smelting iron in the blast furnace; and for providing power to drive machinery of all kinds. Taking first the coal used for domestic purposes, which was estimated seven years ago to total 36 million tons per annum, many improvements have been made in domestic appliances, all in the direction of economy of coal. Firegrates, and kitchen ranges for cooking have been improved, both with the design of lessening the amount of coal consumed; and both are being largely superseded by the use of gas and steam. In regard to the former the coal actually consumed in the gasworks to provide a certain amount of heating, either for cooking or for warming, is in the great majority of cases considerably less than would be required with the old pattern coal fires and coal ranges. For large buildings, and in America and elsewhere for groups of buildings,

exhaust steam, which has done its work in driving machinery of various kinds, is being utilised for warming, and for heating purposes of other kinds.

The Blast Furnace.

It is estimated that the iron and steel trades consume something like 30 millions of tons of coal per annum. The improvements in the blast furnace illustrate very clearly the economies that are taking place. The blast furnace of 40 or 50 years ago was a very wasteful apparatus, but in the modern furnace the hot gases, instead of being allowed to escape into the atmosphere as they did formerly, are made to heat hot-blast stoves. This has produced a very striking economy. In addition to that, in some cases only about half the heat present in the waste gases is used to heat the air blast, the remainder being used for driving gas engines. The form of the furnace also has been altered, and numerous other improvements have been introduced, the net result of which is that the quantity of coke required to produce a ton of pig-iron has been reduced approximately by about two-thirds; so that in the case of pig-iron, though the cost of the small coal from which the coke is made has increased, the fuel cost for producing the pig-iron has decreased, and, as we are aware, the cost of pig-iron is less to-day than it was 50 years ago. Considerable economies have also been made in iron and steel works, and electricity has taken a very large share in those economies.

Economies in Coal used for Producing Power.

The use of machinery for all industrial purposes is steadily increasing. In mines the coal-cutting machine and the power drill are steadily displacing hand holing and hand drilling. Power-driven haulage has long displaced horse haulage for the main roads, and has now largely displaced it for branch roads. In every industry the same process is going on. The increase in the number of machines in use accounts naturally for the increased consumption of coal for power purposes; but if the matter be carefully gone into, the actual cost of the power expended in doing any particular work to-day is less than it was even 20 years ago, notwithstanding that the price of coal has increased considerably. Steam, of course, was the first agent employed for driving machinery, but at least 30 years ago the gas supplied in towns for illuminating purposes became a formidable competitor with small steam plants. The gas engine is now a very formidable competitor indeed, and in addition the private producer plant has been developed. The competition of gas has put the steam engineers on their mettle, and has enabled them to devise great economies. Thirty years ago we used to take as a standard a consumption of 5 lbs. of good steam coal per i.h.p. per hour for steam plant. To-day we calculate 3 lbs. of coal per b.h.p. per hour, and in making the calculation we consider that we have made a very liberal allowance indeed. Under

a great many conditions we are not satisfied unless we reduce the consumption to $2\frac{1}{2}$ lbs. at least, and as much less as we can manage, while consumptions of $1\frac{1}{2}$ lbs. and $1\frac{1}{4}$ lbs. are obtained under special conditions. The b. h. p. in these days, too, is a very different thing from the i.h.p. of 30 years ago; 3 lbs. per b.h.p. in these days is equivalent at least to 6 lbs. per b.h.p. of 30 years ago. Gas produced either in a saction or pressure producer will furnish a b.h.p. for 1 lb. of coal per hour. These figures show roughly the enormous advance that has been made. If we ask how the economies have been accomplished, there are two principal answers. In the case of steam, the range of temperature that is utilised has been largely increased, and both in gas and steam, sources of waste of heat have been largely eliminated. Thirty years ago, a boiler pressure of 30 lbs. per sq. in. was very common, and condensing, on shore at any rate, was not often employed. To-day, condensing, except in special cases, is the rule, and the vacuum obtained is a high one. In pre-turbine days the limit to which condensing could be economically carried was believed to be 25 in. of vacuum, corresponding approximately to an absolute pressure of $2\frac{1}{2}$ lbs. per sq. in. The advent of the steam turbine, by the demand for higher vacua which it made, has put the condenser makers on their mettle, and it is quite common to have vacua of $28\frac{1}{2}$ in. and 29 in., not only with turbine plant, but with reciprocating engines. Here in Pontypridd, at the electricity generating station, a vacuum of $28\frac{1}{2}$ in. is quite a common thing. At the other end of the scale steam pressures of 120 lbs. per sq. in. are quite common; 200 lbs. per sq. in. is frequently met with, and a report was to hand from the United States a short while ago of a torpedo-boat destroyer whose boilers were to be oil-fired, and the pressure of steam to be 275 lbs. per sq. in. A consideration of the efficiencies represented by some of these figures will show why the economies have been obtained in steam.

Stated shortly, the efficiency of any heat engine depends directly upon the difference of temperature it can utilise. With steam at 30 lbs. per sq. in., exhausting to the atmosphere, the range of temperature employed is only 46 degrees Fah., showing an efficiency of only 6 per cent. With a pressure of 200 lbs. per sq. in., and with a vacuum of 29 in., the exhaust steam being condensed, the range of temperature employed is 312 degrees Fah., giving an efficiency of 37 per cent nearly. The increased consumption of coal to furnish the heat to perform the work when ranging over 312 degrees Fah. is very little more than that for furnishing the work ranging over 46 degrees; hence the greater amount of work performed for a given quantity of coal, and the reduction in the coal consumed. Running shortly over the different parts of a steam plant, commencing at the boiler, the same increase of efficiency may be noted. With hand-fired boilers, and with chimney draft, as arranged even 20 years ago, the range of temperature usefully employed in the boiler could be taken at from 2,400

degrees Fah. to 600 degrees Fah. At the present time, owing to the introduction of the mechanical stoker, forced and induced draft, and the economiser, the range of temperature usefully employed may be taken to be from 3,000 degrees Fah. to 300 degrees Fah., or 2,700 degrees against 1,800 degrees Fah. Economies have also been introduced into the use of steam by the compound and the triple-expansion engine, and more than all by the steam turbine.

What Electricity is Doing.

Electricity is not a producer of power in the sense that coal, oil, and water are. It is a distributor of power; but its development has had, and will have, a most important bearing upon the question of the shortage of coal, because it enables power to be obtained at any place where it is convenient, and to be transmitted to where it may be most conveniently used. Water power is nearly always most conveniently taken at out-of-the-way places, at a distance from towns where factories are usually situated. Before the advent of electricity, if the water power was to be used to drive a factory, the factory must be placed close to the water. There are instances in South Wales where the air cylinders of blast furnaces were worked by water power in days gone by, and where large iron works were also driven by water power, but the blast furnace and the ironworks had to be fixed where the water could be conveniently delivered to the wheel which furnished the power. The advent of electricity has altered all that. The water may be arranged to deliver its power where it is most economical. This is being done all over the world. Niagara is delivering a portion of its power right alongside the Fall, and the power is being consumed in the city of Buffalo, 22 miles away. Similarly, wind power, when wind engines, or windmills as we now call them, have been developed, will be taken off whenever and wherever the wind blows most, and the power utilised wherever it is required.

Further, the development of electricity as a distributor enables the power stations to be laid down at any convenient place where fuel and water are in abundance, and where, therefore, steam can be most economically raised, and the power can be distributed over any radius that may be required. There is absolutely no limit now so far as this plant is concerned, to the distance over which electrical power can be distributed, if it be economical in a commercial sense.

Engineers need have no fear as to the future of any industry in which power is employed, or in which heat is required. There is nothing which can be done with coal that cannot be done by electricity, and as the supplies of coal become exhausted, the other supplies of energy which Nature furnishes in such great abundance in various forms, will be brought into service, and the work of heating, of smelting, and of driving machinery will go on by their means.

FOREIGN TRADE OF THE UNITED KINGDOM IN DECEMBER AND IN THE YEAR 1911.

I.—GENERAL.

The trade returns for December, 1911, when compared with those for December, 1910, show an increase in the value of the Exports of the Produce and Manufactures of the United Kingdom, but decreases in the values of the Imports into the United Kingdom, and of the Exports both of Foreign and Colonial Merchandise.

The value of the Imports in December was £65,002,014, a decrease of £4,107,447 or 5.9 per cent, as compared with December, 1910; whilst the total Exports amounted to £47,251,728, a decrease of £49,001. The Exports of Produce and Manufactures of the United Kingdom show an increase of £1,147,769, or 3.07 per cent, as compared with December, 1910; whilst there is a decrease of £1,196,770, or 12.1 per cent, in the Exports of Foreign and Colonial Merchandise.

II.—IMPORTS.

The following table shows the value of the Imports for December, 1911, as compared with the corresponding month of 1910 and 1909, according to the different categories of merchandise:—

Imports (Value C.I.F.*)—December.

	MONTH OF DECEMBER.			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	6,931,283	6,650,442	6,993,382	+ 342,940	+ 62,099
B. Meat, including animals for food	4,184,495	4,215,813	3,811,093	— 404,715	— 373,397
C. Other food and drink—					
1. Non-dutiable	6,355,654	6,588,390	6,999,186	+ 410,796	+ 643,532
2. Dutiable	5,518,212	5,268,054	6,818,586	+ 1,550,532	+ 1,300,374
D. Tobacco	417,633	601,414	538,443	— 62,971	+ 120,810
Total, Class I	23,407,277	23,324,113	25,160,695	+ 1,836,582	+ 1,753,418
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	1,845	3,196	5,613	+ 2,417	+ 3,768
B. Iron ore, scrap iron and steel	510,860	550,631	463,731	— 86,900	— 47,129
C. Other metallic ores	753,364	842,116	726,925	— 115,191	— 26,439
D. Wood and timber	1,569,778	1,507,452	1,608,675	+ 101,223	+ 38,897
E. Cotton	8,638,442	15,902,479	9,403,429	— 6,499,050	+ 764,987
F. Wool	3,764,656	3,145,838	3,329,065	+ 183,227	— 435,591
G. Other textile materials	1,643,784	1,936,420	2,035,339	+ 98,919	+ 391,555
H. Oil-seeds, nuts, oils, fats and gums	2,856,613	2,933,387	3,035,608	+ 102,221	+ 178,995
I. Hides and undressed skins	1,101,531	1,003,625	976,043	— 27,582	— 125,488
J. Paper-making materials	532,995	711,512	577,594	— 133,918	+ 44,539
K. Miscellaneous	2,871,383	3,346,392	3,319,357	— 27,035	+ 447,974
Total, Class II	24,245,251	31,883,048	25,481,379	— 6,401,669	+ 1,236,128
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	721,455	969,192	1,009,401	+ 40,209	+ 287,946
B. Other metals and manufactures thereof	2,252,412	2,561,409	2,528,138	— 33,271	+ 275,726
C. Cutlery, hardware, implements (except machine tools) and instruments	373,772	452,544	506,773	+ 54,229	+ 133,001
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	147,569	199,387	138,581	— 60,806	— 8,988
E. Machinery	339,275	396,356	453,718	+ 57,362	+ 114,443
F. Ships (new)	121	2,907	1,991	— 916	+ 1,870
G. Manufactures of wood and timber (including furniture)	192,383	230,153	239,872	+ 9,714	+ 47,489
H. Yarns and textile fabrics—					
1. Cotton	888,797	897,506	882,929	— 14,577	— 5,868
2. Wool	767,827	721,788	735,156	+ 13,368	— 32,171
3. Silk	900,509	926,920	1,000,797	+ 73,877	+ 100,288
4. Other materials	611,365	634,310	637,851	+ 3,541	+ 26,486
I. Apparel	364,362	362,607	337,479	— 25,128	— 26,883
J. Chemicals, drugs, dyes and colours	928,601	993,874	1,035,477	+ 41,603	+ 106,876
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	1,054,365	957,180	1,057,289	+ 100,109	+ 2,924
L. Earthenware and glass	341,093	367,159	376,577	+ 9,418	+ 35,484
M. Paper	515,823	600,658	601,040	+ 382	+ 85,215
N. Railway carriages and trucks (not of iron) motor cars, cycles, carts, etc.	344,925	430,778	528,847	+ 98,069	+ 183,922
O. Miscellaneous	2,127,137	1,946,369	2,052,200	+ 105,831	— 74,937
Total, Class III	12,871,293	13,651,102	14,124,116	+ 473,014	+ 1,252,823
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 257,347	£ 251,198	£ 235,824	— 15,374	— 21,523
Total value	£ 60,781,168	£ 69,109,461	£ 65,002,014	— 4,107,447	+ 4,220,846

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

III.—EXPORTS.

The following table shows the value of the Exports of produce and manufactures of the United Kingdom for the month of December, 1911, as compared with the corresponding month of 1910 and 1909 and the increase or decrease in each principal category :—

Exports of Produce and Manufactures of the United Kingdom.
(Value F.O.B.*)—December.

	MONTH OF DECEMBER			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	234,458	348,549	281,590	— 66,959	— 2,868
B. Meat, including animals for food	75,490	88,869	91,319	+ 2,450	+ 15,829
C. Other food and drink	1,532,371	1,620,975	2,049,895	+ 428,920	+ 517,524
D. Tobacco	163,209	147,573	191,541	+ 43,968	+ 28,332
Total, Class I	2,055,528	2,205,966	2,614,345	+ 408,379	+ 558,817
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	3,157,780	3,099,991	3,528,970	+ 428,979	+ 371,190
B. Iron ore, scrap iron and steel	52,417	30,296	38,112	+ 7,816	+ 14,305
C. Other metallic ores	6,217	15,934	14,733	— 1,201	+ 8,516
D. Wood and timber	6,241	16,907	25,353	+ 8,446	+ 19,112
E. Cotton	447,171	349,823	340,720	— 9,103	— 106,451
F. Wool	23,846	30,468	50,419	+ 19,951	+ 26,573
G. Other textile materials	352,057	461,917	359,934	— 101,983	+ 7,877
H. Oil-seeds, nuts, oils, fats and gums	214,744	160,763	159,304	— 1,459	— 55,440
I. Hides and undressed skins	70,896	67,981	63,731	— 4,250	— 7,165
J. Paper-making materials	257,220	284,549	336,066	+ 51,517	+ 78,846
K. Miscellaneous					
Total, Class II	4,588,589	4,518,629	4,917,342	+ 398,713	+ 328,753
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	3,487,322	3,609,202	3,721,153	+ 111,951	+ 233,831
B. Other metals and manufactures thereof	815,181	842,309	921,060	+ 78,751	+ 105,879
C. Cutlery, hardware, implements (except machine tools) and instruments	522,757	577,571	660,128	+ 82,557	+ 137,371
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	289,430	605,278	217,219	— 388,059	— 72,211
E. Machinery	2,163,893	2,553,053	2,650,903	+ 87,850	+ 487,010
F. Ships (new)	254,175	128,475	774,013	+ 645,538	+ 519,838
G. Manufactures of wood and timber (including furniture)	146,381	157,379	184,969	+ 27,590	+ 38,588
H. Yarns and textile fabrics—					
1. Cotton	8,214,954	9,891,686	9,385,623	— 506,063	— 1,170,669
2. Wool	2,939,415	3,240,717	2,867,230	— 373,487	— 72,185
3. Silk	175,115	197,938	179,167	— 18,771	+ 4,052
4. Other materials	1,145,327	1,245,639	1,178,597	— 67,042	+ 33,270
I. Apparel	917,766	1,109,161	1,151,981	+ 42,820	+ 234,215
J. Chemicals, drugs, dyes and colours	1,507,394	1,600,983	1,684,031	+ 83,048	+ 176,637
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	417,198	383,115	402,624	+ 19,509	— 14,574
L. Earthenware and glass	321,577	365,402	396,751	+ 30,349	+ 75,174
M. Paper	239,683	272,748	279,789	+ 7,041	+ 40,106
N. Railway carriages and trucks (not of iron) motor cars, cycles, carts, etc.	554,741	661,657	748,219	+ 86,562	+ 193,478
O. Miscellaneous	2,281,684	2,358,452	2,483,268	+ 124,816	+ 201,584
Total, Class III	26,293,993	29,811,765	29,886,725	+ 74,960	+ 3,492,732
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£	£	£	£	£
	751,787	887,750	1,153,467	+ 265,717	+ 401,680
Total	33,789,897	37,124,110	38,571,879	+ 1,147,769	+ 4,781,982

Exports of Foreign and Colonial Merchandise.*—December.

Total value	£	£	£	£	£
	9,634,921	9,876,619	8,679,849	— 1,196,770	— 955,072

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

IV.—TRADE DURING THE YEAR 1911.

The following table shows the value (provisional) of the Imports of foreign and colonial merchandise during the complete year 1911, as compared with the years 1910 and 1909 :—

Imports (Value C.I.F.*)—Year ended 31st December.

	YEAR ENDED 31ST DECEMBER			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	83,107,421	77,298,363	75,762,855	— 1,535,528	— 7,344,566
B. Meat, including animals for food	47,623,428	48,878,947	49,737,077	+ 858,130	+ 2,113,649
C. Other food and drink—					
1. Non-dutiable	67,848,986	72,229,940	73,642,939	+ 1,412,999	+ 5,793,953
2. Dutiable	50,752,885	54,649,536	59,905,473	+ 5,255,937	+ 9,152,588
D. Tobacco	4,986,663	4,624,782	5,285,832	+ 661,050	+ 299,169
Total, Class I	254,319,383	257,681,588	264,334,176	+ 6,652,588	+ 10,014,793
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	8,297	34,119	28,821	— 5,298	+ 20,524
B. Iron ore, scrap iron and steel	5,076,131	6,261,471	5,799,052	— 462,419	+ 722,921
C. Other metallic ores	8,327,193	8,970,272	8,859,633	— 110,639	+ 532,440
D. Wood and timber	23,591,579	26,207,329	25,847,077	— 360,252	+ 2,255,498
E. Cotton	60,295,049	71,711,908	71,155,514	— 556,394	+ 10,860,465
F. Wool	35,041,766	37,332,470	36,061,301	— 1,271,169	+ 1,019,535
G. Other textile materials	12,127,707	12,833,327	14,611,926	+ 1,808,599	+ 2,484,219
H. Oil-seeds, nuts, oils, fats, and gums	31,033,883	37,548,960	35,055,509	— 2,493,451	+ 4,015,626
I. Hides and undressed skins	11,617,756	12,882,326	11,104,326	— 1,778,000	— 513,430
J. Paper-making materials	4,499,281	4,972,487	4,741,229	— 231,258	+ 241,948
K. Miscellaneous	28,520,854	42,450,959	34,898,329	— 7,552,630	+ 6,377,475
Total, Class II	220,145,496	261,175,628	248,163,717	— 13,012,911	+ 28,017,221
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	7,971,594	9,086,214	11,144,211	+ 2,057,997	+ 3,172,617
B. Other metals and manufactures thereof	24,346,328	24,699,194	27,592,152	+ 2,892,958	+ 3,245,824
C. Cutlery, hardware, implements (except machine tools) and instruments	3,719,049	4,673,473	5,273,208	+ 593,735	+ 1,554,159
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	1,322,599	1,686,540	1,435,429	— 251,111	+ 112,920
E. Machinery	4,438,336	4,470,898	5,769,274	+ 1,298,376	+ 1,339,938
F. Ships (new)	23,926	27,104	64,484	+ 37,380	+ 40,558
G. Manufactures of wood and timber (including furniture)	2,054,258	2,338,472	2,551,893	+ 213,421	+ 497,635
H. Yarns and textile fabrics—					
1. Cotton	9,839,091	10,874,628	11,279,780	+ 405,152	+ 1,440,689
2. Wool	9,727,760	9,599,286	9,586,822	— 12,464	— 140,938
3. Silk	12,759,331	13,521,021	13,441,569	— 79,452	+ 681,638
4. Other materials	7,324,876	8,054,667	7,894,755	— 159,912	+ 569,879
I. Apparel	5,072,261	5,107,315	5,199,849	+ 92,534	+ 127,588
J. Chemicals, drugs, dyes, and colours	10,596,593	11,259,685	11,411,832	+ 152,147	+ 815,239
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	11,617,130	11,824,741	12,227,606	+ 402,865	+ 610,476
L. Earthenware and glass	3,757,389	3,816,971	4,016,663	+ 229,692	+ 289,274
M. Paper	5,617,437	6,413,718	6,574,494	+ 160,776	+ 927,057
N. Railway carriages and trucks (not of iron), motor cars, cycles, carts, etc.	4,690,781	5,603,149	6,506,018	+ 902,869	+ 1,815,237
O. Miscellaneous	22,761,845	23,788,385	23,578,750	— 209,635	+ 816,905
Total, Class III	147,671,094	156,845,461	165,578,789	+ 8,733,328	+ 17,907,695
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£	£	£	£	£
	2,568,984	2,554,317	2,483,493	— 70,854	— 85,491
Total value	624,704,957	678,257,024	680,559,175	+ 2,302,151	+ 55,854,218

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

V.—EXPORTS.

The value (provisional) of the Exports of produce and manufactures of the United Kingdom, and of foreign and colonial merchandise, during the complete year 1911, as compared with the years 1910 and 1909, is as shown in the following table :—

Exports of Produce and Manufactures of the United Kingdom.
(Value F.O.B.*)—Year ended 31st December.

	YEAR ENDED 31ST DECEMBER			Increase (+) or Decrease (—) in 1911 as compared with 1910.	Increase (+) or Decrease (—) in 1911 as compared with 1909.
	1909.	1910.	1911.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	3,399,004	3,416,637	3,575,908	+ 159,271	+ 176,904
B. Meat, including animals for food	797,203	935,958	1,017,972	+ 82,014	+ 220,769
C. Other food and drink	17,461,416	19,675,550	22,266,203	+ 2,590,653	+ 4,804,787
D. Tobacco	1,678,268	2,012,593	2,171,645	+ 129,052	+ 493,377
Total, Class I	£ 23,335,891	£ 26,070,738	£ 29,031,728	+ 2,960,990	+ 5,695,837
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	37,129,978	37,813,360	38,447,355	+ 633,995	+ 1,317,377
B. Iron ore, scrap iron and steel	509,758	476,863	453,389	— 23,474	— 56,369
C. Other metallic ores	95,553	71,191	111,166	+ 39,375	+ 15,613
D. Wood and timber	108,673	129,290	199,010	+ 69,720	+ 90,337
E. Cotton	—	—	—	—	—
F. Wool	4,648,565	4,220,443	3,901,676	— 318,767	— 746,889
G. Other textile materials	214,251	223,536	435,699	+ 112,163	+ 221,448
H. Oil-seeds, nuts, oils, fats and gums	3,400,766	5,023,499	4,792,568	— 230,931	+ 1,391,802
I. Hides and undressed skins	1,916,634	1,757,762	1,685,583	— 72,179	— 231,051
J. Paper-making materials	678,049	744,278	820,732	+ 76,454	+ 142,683
K. Miscellaneous	2,453,780	2,767,460	2,882,389	+ 114,929	+ 428,609
Total, Class II	£ 51,156,007	£ 53,328,282	£ 53,729,567	+ 401,285	+ 2,573,560
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	38,192,142	42,976,671	43,751,618	+ 774,947	+ 5,559,476
B. Other metals and manufactures thereof	8,708,915	10,352,354	11,027,269	+ 674,915	+ 2,318,324
C. Cutlery, hardware, implements (except machine tools) and instruments	5,412,652	6,423,695	7,397,409	+ 973,714	+ 1,984,757
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	2,230,799	4,102,602	2,824,271	— 1,278,331	+ 593,472
E. Machinery	28,057,643	29,271,380	30,977,403	+ 1,706,023	+ 2,919,760
F. Ships (new)	5,927,114	8,770,204	5,662,045	— 3,108,159	— 265,069
G. Manufactures of wood and timber (including furniture)	1,451,073	1,835,762	2,036,917	+ 201,155	+ 585,844
H. Yarns and textile fabrics—					
1. Cotton	93,444,799	105,871,208	120,068,730	+ 14,197,522	+ 26,623,931
2. Wool	30,671,804	37,516,397	37,254,693	— 261,704	+ 6,582,889
3. Silk	1,839,979	2,278,913	2,388,137	+ 109,124	+ 528,158
4. Other materials	12,441,525	13,481,198	13,200,165	— 281,033	+ 758,640
I. Apparel	9,824,125	12,717,587	13,820,814	+ 1,103,227	+ 3,996,689
J. Chemicals, drugs, dyes and colours	16,783,019	18,568,136	20,093,134	+ 1,524,998	+ 3,310,115
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	4,242,356	4,686,485	4,880,932	+ 194,447	+ 638,576
L. Earthenware and glass	3,687,249	4,352,059	4,713,948	+ 361,889	+ 1,026,699
M. Paper	2,559,371	3,122,699	3,311,867	+ 189,168	+ 752,496
N. Railway carriages and trucks (not of iron), motor cars, cycles, carts, etc.	6,163,770	7,449,977	8,144,827	+ 694,850	+ 1,981,057
O. Miscellaneous	25,100,103	29,091,810	30,833,325	+ 1,741,485	+ 5,733,222
Total, Class III	£ 296,758,468	£ 342,869,197	£ 362,387,504	+ 19,518,307	+ 65,629,036
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 6,929,981	£ 8,116,555	£ 9,133,661	+ 1,017,105	+ 2,203,680
Total value	£ 378,180,347	£ 430,384,772	£ 454,282,460	+ 23,897,688	+ 76,102,113

Exports of Foreign and Colonial Merchandise.*—Year ended 31st December.

	£	£	£	£	£
Total value	91,344,819	103,761,015	102,720,799	— 1,040,216	+ 11,375,960

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

SEA-BORNE TRADE OF INDIA.

The following is a summary of accounts relating to the Sea-borne Trade and Navigation of British India for the month of December, 1911, and for the nine months, 1st April to 31st December, 1911, compared with the corresponding period of the years 1909 and 1910 :—

	MONTH OF DECEMBER			NINE MONTHS, 1ST APRIL TO 31ST DECEMBER		
	1909	1910	1911	1909	1910	1911
IMPORTS—						
MERCHANDISE, PRIVATE—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Bengal	4,08,93,599	3,76,18,802	3,78,77,033	34,42,29,099	35,99,96,106	33,04,66,352
Eastern Bengal and Assam	2,84,524	4,45,900	82,893	44,11,619	35,74,728	43,87,439
Bombay	3,27,61,318	4,13,12,885	4,18,21,204	29,28,69,048	34,41,32,139	36,18,60,390
Sind	73,11,498	87,70,875	1,16,49,803	7,62,96,551	8,57,54,637	9,70,78,242
Madras	84,46,933	96,29,069	95,92,266	7,10,96,195	7,45,55,919	8,51,59,751
Burma	88,19,603	77,68,660	90,07,864	8,01,74,288	7,66,05,388	8,55,82,611
TOTAL	9,85,22,475	10,55,46,191	11,00,31,063	86,96,97,800	94,46,18,917	1,02,45,34,785
DITTO, GOVERNMENT STORES	37,20,409	45,14,765	54,89,855	4,56,62,786	3,20,82,257	3,88,38,108
TOTAL MERCHANDISE	10,22,42,884	11,00,60,956	11,55,20,918	91,53,60,586	97,67,01,174	1,06,33,72,893
TREASURE, PRIVATE—						
Bengal	72,04,755	40,39,162	1,53,84,997	3,94,14,608	3,48,89,228	6,42,08,371
Eastern Bengal and Assam	15,368	—	15,348	1,45,936	1,07,199	1,68,957
Bombay	6,33,93,597	2,59,82,495	2,11,54,040	17,49,86,695	18,79,90,322	23,79,39,449
Sind	7,66,475	7,37,407	5,77,217	55,56,189	80,28,945	82,11,474
Madras	7,45,599	39,397	105	96,76,732	50,94,753	27,45,566
Burma	4,51,723	1,12,150	23,03,355	9,69,451	7,87,429	41,51,071
TOTAL	7,25,77,547	3,09,11,481	3,94,35,062	23,07,69,611	23,68,97,876	31,74,24,888
DITTO, GOVERNMENT	—	3,275	4,04,852	9,73,999	6,87,487	4,12,700
TOTAL TREASURE	7,25,77,547	3,09,14,756	3,98,39,914	23,17,43,610	23,75,85,363	31,78,37,588
GRAND TOTAL OF IMPORTS	17,48,20,431	14,09,75,712	15,53,60,832	1,14,71,04,196	1,21,42,86,537	1,38,12,10,481
EXPORTS—						
MERCHANDISE, PRIVATE—						
(Foreign Merchandise)—						
Bengal	1,04,430	1,70,779	15,39,732	12,58,494	19,25,290	74,71,576
Eastern Bengal and Assam	95	—	3,000	725	2,062	9,557
Bombay	24,46,066	25,39,735	32,62,266	1,84,90,701	2,41,21,188	2,61,36,428
Sind	2,42,020	2,22,133	5,52,093	28,73,837	30,57,652	73,95,107
Madras	66,649	1,12,346	2,15,546	9,52,091	13,91,596	17,65,958
Burma	51,023	84,261	34,868	3,46,299	4,74,119	4,39,894
TOTAL	29,10,283	31,29,254	56,07,505	2,39,22,147	3,09,71,916	4,32,18,530
(Indian Merchandise)—						
Bengal	7,03,65,660	6,45,26,765	7,92,40,089	53,56,22,800	59,37,31,477	64,36,41,345
Eastern Bengal and Assam	35,65,255	49,36,069	59,18,994	3,41,99,784	4,05,50,599	4,44,96,030
Bombay	4,52,39,713	4,88,20,573	3,98,54,312	29,61,83,128	40,90,35,155	42,34,14,639
Sind	1,20,36,156	1,31,12,317	1,59,79,730	14,81,02,251	14,28,36,219	15,29,32,336
Madras	1,07,12,731	1,26,36,633	1,28,93,125	13,54,68,381	14,96,58,112	16,20,61,792
Burma	56,57,955	48,36,799	51,09,057	8,78,01,853	11,69,05,807	15,02,69,694
TOTAL	14,75,77,470	14,88,69,156	15,89,95,307	1,23,73,78,197	1,45,27,17,369	1,57,68,06,856
Total Foreign and Indian Merchandise exported—						
Bengal	7,04,70,090	6,46,97,544	8,07,79,821	53,68,81,294	59,56,56,776	65,11,12,921
Eastern Bengal and Assam	35,65,350	49,36,069	59,21,994	3,42,01,509	4,05,52,661	4,45,05,607
Bombay	4,76,85,779	5,13,60,308	4,31,16,578	21,46,73,829	43,31,56,343	44,95,51,077
Sind	1,22,73,176	1,33,34,450	1,65,31,823	15,09,76,088	14,58,93,871	16,03,27,443
Madras	1,07,79,380	1,27,43,979	1,31,08,071	13,64,20,472	15,10,49,708	16,38,27,750
Burma	57,08,978	49,21,060	51,43,925	8,81,48,152	11,73,79,926	15,07,00,588
TOTAL	15,04,87,753	15,19,38,410	16,46,02,812	1,26,13,00,344	1,48,36,89,285	1,62,00,25,386
DITTO, GOVERNMENT STORES	1,14,203	1,64,238	94,452	6,36,759	6,90,498	10,61,341
TOTAL MERCHANDISE	15,06,01,956	15,21,02,648	16,46,97,264	1,26,19,37,103	1,49,27,39,783	1,62,10,86,727
TREASURE, PRIVATE—						
Bengal	6,31,760	25,235	18,636	15,30,499	42,04,312	6,43,139
Eastern Bengal and Assam	—	—	—	—	15,367	—
Bombay	70,75,952	48,72,703	1,43,22,875	3,85,11,373	4,26,87,807	7,38,26,508
Sind	32,703	61,235	—	36,44,170	31,91,025	—
Madras	10,13,439	1,748	645	65,21,471	63,58,573	42,32,157
Burma	38,250	57,500	—	73,250	231,730	—
TOTAL	87,92,103	50,18,421	1,43,42,156	4,91,14,444	5,76,28,229	8,31,24,559
DITTO, GOVERNMENT	—	12,000	—	15,100	49,345	17,450
TOTAL TREASURE	87,92,103	50,30,421	1,43,42,156	4,91,29,544	5,76,77,574	8,21,42,009
GRAND TOTAL OF EXPORTS	15,93,94,059	15,71,98,069	17,90,39,420	1,31,10,66,647	1,54,20,57,357	1,70,32,28,736
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	64,90,279	71,81,919	75,61,317	5,42,99,197	6,93,77,232	6,90,83,064
DITTO, EXPORT DUTY COLLECTED	3,60,344	4,45,617	5,09,266	52,08,349	69,22,183	74,90,207

WEEKLY TRADE MOVEMENTS.

For the week ending 27th January, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta lbs.	316,805
Imports by sea into	Bombay*	...
	Madras	387,150
Indian—	Calcutta	123,400
Exports by sea from	Bombay*	...
	Madras	...

Grey Piece Goods.

Imports by sea from	Calcutta yds.	12,350,908
Foreign ports into	Bombay*	...
	Karachi	1,450,614
	Madras	2,925,746
	Rangoon	300,374

White Piece Goods.

Imports by sea from	Calcutta yds.	3,075,250
Foreign ports into	Bombay*	...
	Karachi	5,246,023
	Madras	992,893
	Rangoon	636,016

Other Piece Goods.

Imports by sea from	Calcutta yds.	2,773,390
Foreign ports into	Bombay*	...
	Karachi	3,490,219
	Madras	1,657,215
	Rangoon	1,140,974

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	32,489
	Bombay*	...
	Karachi	13,377
	Madras	5,560

Raw Cotton.

Imports into Bombay*	By sea cwt.	...
	Coastwise	...
	By rail	...
Imports into Karachi by rail	"	30,708
" " Calcutta by rail and river	"	12,233

The correct figure of wheat from Karachi for the week ending 20th January, 1912, is 412,431 cwt

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

	FROM APRIL		FROM JANUARY					
	1910	1911	1911	1912	1911	1912	1911	1912
	Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,218,527	3,819,777	12,512	112,711	539	161	Not reported.
Bombay	"	2,433,806	*	22,143	*	80,926	*	657,713
Karachi	"	18,023,675	20,101,895	...	...	206,513	61,865	Not reported.

The correct figure of wheat from Karachi up to the week ending 20th January, 1912, is 19,710,863 cwt.

* Figures not received.

JUTE.

Arrivals by all routes in	Calcutta	cwt.	590,822
Exports by sea from	Calcutta	No.	8,875,509
	"	cloth yds.	30,698,974
	Chittagong—Jute	cwt.	546,935
	"	"	17,107

COTTON SEEDS.

Exports by sea from	Bombay*	cwt.	...
---------------------	---------	------	-----

OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river	cwt.	13,845
	By sea	"	...
	Coastwise	"	...
	By rail	"	...
	Karachi by rail and river	"	...
Exports by sea from	Calcutta	"	17,199
	Bombay*	"	...
	Karachi	"	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river	cwt.	22,942
	By sea	"	...
	Coastwise	"	...
	By rail	"	...
	Karachi by rail and river	"	49,040
Exports by sea from	Calcutta	"	45
	Bombay*	"	...
	Karachi	"	13,557

RICE.

Arrivals by all routes in	Calcutta	cwt.	487,053
	Calcutta	"	291,218
	Chittagong	"	...
Exports by sea from	Bombay*	"	...
	Karachi	"	8,918
	Madras	"	32
	Rangoon	"	421,265

TEA.

Arrivals by all routes in	Calcutta	lbs.	982,296
Exports by sea from	Calcutta	"	2,228,612
	Chittagong	"	920,466

WHEAT.

Imports into	Calcutta by rail and river	cwt.	60,944
	Karachi by rail	"	375,060
	By sea	"	...
	Coastwise	"	...
	By rail	"	...
Exports by sea from	Calcutta	"	29,016
	Bombay*	"	...
	Karachi	"	391,032

KEROSENE OIL, WEEK ENDING 27th JANUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
	...	...	375,300	375,300
Calcutta	...	...	...	...
Bombay*	...	390,793	...	390,793
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
			Bengal	715,521
			E. B. & Assam	609,389
			Bombay	556,522
			Sind	467,425
			Madras	424,500
			Indian Ports, Non-Br.	...
			Foreign Ports	...

IMPORTS OF SUGAR, WEEK ENDING 27th JANUARY, 1912.

	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay*	Karachi.	Madras.	Rangoon.	TOTAL.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	43	...	...	51	7	...	101
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	221	...	...	53,229
Java	53,608	...	...	714	...	...	714
Mauritius	...	...	...	...	...	3,449	3,449
Other Non-European Countries	...	...	...	...	...	...	...
Total refined							57,493
Total unrefined							1
Grand Total							57,494

* Figures not received.

—The statement below shows (in fine ounces) the amount of gold produced in the principal gold-fields of the world for the past 3 years:—

	1909.	1910.	1911.
	Ozs.	Ozs.	Ozs.
Witwatersrand output (Transvaal)	7,039,136	7,228,588	7,216,020
Rhodesian gold output	623,389	609,956	526,154
West African gold output	235,972	186,693	194,623
Westralian gold output (Western Australia)	1,595,341	1,478,817	1,136,102
Indian gold output	555,646	534,272	472,283

The Transvaal has been producing more and more gold yearly for some time past, and last year was exceptionally good. The table given above contains the output for only the first eleven months of 1911. Of the African field, next to the Transvaal in importance comes Rhodesia, as regards volume of output at any rate. The table contains the output for only the

first ten months of 1911. The remaining important gold field in Africa is in West Africa. As will be seen from the table, there has been a very healthy improvement. A serious decline in the output took place in 1909, and a still more serious one in 1910. These were attributed partly to the closing down of mines for development purposes and partly to the damage done by abnormal floods and rains. Although the 1911 figures (only for 9 months) show a satisfactory recovery the levels of 1908 have not been reached again except in September, when 27,245 ounces were produced. Western Australia, although not nearly so important as the Rand, ranks as second of the world's gold fields. There has been a gradual decrease in the output of the gold yield for some years past. In 1911 (ten months) it was much more marked. India is the remaining important source of the world's gold supply and the output has been constant. The production for 1911 (10 months) is much higher than that of 1910 and is above the average of the last few years.

CENTRIFUGAL AND TURBINE PUMPS



Write for List No. 468.

Pulsometer Engineering Co. Ltd

LONDON

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BOMBAY.

PUBLISHED WEEKLY.



REGISTERED.



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CALCUTTA, THURSDAY, FEBRUARY 8, 1912.

[ANNAS 4.

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NOTES.

MONEY MARKET.

	Wednesday Evening.
PRESIDENCY BANK RATES	
Calcutta	8 per cent. (Jan. 26).
Bombay	8 per cent. (Feb. 1).
Madras	8 per cent. (Jan. 29).
On demand	1-4 $\frac{1}{2}$
Telegraphic	1-4 $\frac{3}{4}$
EXCHANGE	
Transfers	
3 months	1-4 $\frac{5}{16}$
6 months	1-4 $\frac{7}{16}$
GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.)	Rs. 95-13.

The spot price of wheat at Karachi on the 3rd February was Rs. 31-8-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 6th February was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 254 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 7th instant were as under :—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 59 0 0
M. per 400 lbs.	52 0 0
Rice—Ballam No. 1 per B. md.	4 2 6 to 4 5 6
Moonghy	3 7 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold,	
Cawnpore, 4% per B. md.	Nil.

The following **General Memoranda** on crops of the season 1911-12 will appear in the *Indian Trade Journal* of the 15th instant:—

Cotton—Final General Memorandum.
Groundnut „ „ „

The gist of these in tabular form will be exhibited in the portico of the New Imperial Secretariat Buildings, No. 1, Council House Street, Calcutta, on the 14th instant at 4 P.M.

The various **crop forecasts** relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	- 1.9	Cwts (dye) 48,700	+ 5.9	21st Dec., 1911.
Cotton	19,524,000	-12.0	Bales* 3,102,000	-18.6	Do.
Sesamum (til or jinjili)	4,164,700	-15.6	Tons. 311,300	-30.4	18th Jan., 1912.
Sugar-cane	2,209,500	+ 5.0	Information not yet available.	Information not yet available.	26th Oct., 1911.
Groundnut	860,000	+ 6.0	Do.	Do.	Do.
Rice	54,441,400	- 4.0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	- 1.0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	- 9.0	Do.	Do.	Do.
Linseed	3,371,600	+12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

The **Final Forecast of the Winter Rice Crop** of 1911-12 in **Eastern Bengal and Assam** has been issued and is as under:—On the average of the five years ending 1909-10, the area under winter rice in Eastern Bengal and Assam represents some 16.48 per cent of the total area under rice in British India. Since the second forecast was published the weather has been dry and practically no further damage was done by insect pests. The season as a whole has been exceptionally favourable. In

five districts the estimates of **area cropped** have been revised. The total estimate for the province is now 12,310,800 acres, or 109,400 acres more than last year. Favourable rainfall continued till the end of the season and facilitated the transplanting of exceptionally large areas. The district estimates indicate an average for the province of 108 per cent of the normal **outturn per acre**. Taking this to be 9½ cwt of clean rice the total yield of the province is estimated at about 126,308,800 cwt., which is 4 per cent above the final estimate of last year.

Sanction has been accorded to the **doubling of the Lahore-Raewind section of the North Western State Railway.**

The total approximate gross **earnings of State and Guaranteed Railways** from 1st April, 1911, to 20th January, 1912, show a gain of Rs. 2,97,66,366 as compared with the corresponding figures for 1910-1911.

Owing to the erosion of the despatch ghats at Goalundo during the rains of 1910, sanction has been accorded to the **construction of new despatch ghats at Faridpur station on the Eastern Bengal State Railway.**

Sanction has been accorded to a survey being carried out by the agency of the East Indian Railway Company for a light line of railway on the 5 ft. 6 in. gauge from Gya station on the East Indian Railway to Shergatty, a distance of about 29 miles. This survey will be known as the **Gya-Shergatty Railway Survey.**

In their weekly report on the **Shanghai piece-goods market**, dated January 11th, Messrs. Noël, Murray & Co., Ltd., say:—We hear of a solitary transaction in **Indian yarn** from first hands of 35 bales No. 12's for this province but the Chinese have resold a little for Tientsin and Szechuen, as follows:—No. 10's Finlay Mills 100 bales at Tael 109.50, No. 10's Tricumdas (Ring) 100 bales at Tael 105.50, No. 10's Svadeshi (Ring) Kose 50 bales at Tael 114.00, No. 10's Greaves Connaught 100 bales at Tael 104.50, No. 12's Finlay Mill 50 bales at Tael 114.50. In Bombay, cotton has continued to advance. Nagpur being now quoted Rs. 45½, Yeotmal Rs. 44½, Bengal Rs. 41 and Khangaon Rs. 44½ all c. i. f. Shanghai January-February shipment. The Broach Crop which in November was estimated to produce 200,000 bales is now expected to be 100,000 bales only. We hear only of second hand deals in **Japanese yarn** aggregating 500 bales, No. 16's fetching Tael 114.00—122.50 and No. 20's Tael 114.50—115.50. The market for these spinnings is very firm and prices have advanced.

At head-quarters, a slight fall has taken place on the Bourse and January delivery is now quoted at Yen 135.80, February at Yen 134.40 and March at Yen 133.40. No sales of **local yarn** are reported from first hands, but judged by the parcels that have been sold by the dealers, prices are very cheap, viz., Gold and Blue Fish No. 10's 100 bales Tael 110.00 for Tientsin. Red Round Dragon No. 16's 100 bales at Tael 114.00. Red Dragon 16's 50 bales at Tael 199.00. Anchor No. 16's 30 bales at Tael 110.50. Red Phoenix No. 14's 300 bales at Tael 106.00 for Szechuen and Chefoo. The prices for bundles in the retail shops are No. 10's Tael 98.75—100.75, 12's Tael 100.25, 14's Tael 99.75—110.75, 16's 105.25—111.25. **Cotton** has not been dealt in very largely and the quality now coming to hand is poor; the market is a weak one, Japan being the only buyer to speak of and that a very small one, 18,000 piculs being the extent of her purchases since the beginning of the year and a total of 120,000 piculs out of an aggregate of 170,000 piculs. This is against 885,000 piculs for the corresponding period last year. Roughly quotations are Tael 23.40 for Tungchow and Taichong, Tael 23.00 for Four Chop, Tael 22.80 for Best Steam Milled and Shanghai \$11.00 for Seed and \$11.80 for Taichong Seed.

The following **return** shows the **number of bales of cotton imported and exported at the various ports of the United Kingdom** during the week and 2 weeks ended 11th January, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 11th Jan., 1912.	2 weeks ended 11th Jan., 1912.	Week ended 11th Jan., 1912.	2 weeks ended 11th Jan., 1912.
American	Bales. 114,935	Bales. 211,258	Bales. 14,844	Bales. 26,493
Brazilian	612	612	155	180
East Indian	310	420	1	1
Egyptian	18,138	51,806	1,356	9,809
Miscellaneous	1,332*	3,728†	123	241
TOTAL	135,327	267,824	16,479	36,724

* Including 132 bales British West Indian and 43 bales British West African.

† Including 132 bales British West Indian, 43 bales British West African, and 1,293 bales British East African.

NOTE.—Cotton "in transit" or "for transhipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The *Corn Trade News* give the following summary of the **world's crops** as on the 16th ultimo:—*United States of America.*—Winter wheat has generally good snow cover, but *Modern Miller* says Oklahoma and Texas experienced severe frost before snow fell. Receipts last week larger, but

well below last year's; visible supply decreased 2½ million bushels. *Canada.*—Weather been very severe and receipts decidedly smaller, although still liberal; grading about as recently. Reported that Government finally estimated wheat crop of Dominion 216,000,000 bushels and flaxseed 1,100,000 bushels, but latter probably wrongly cabled. The wheat estimate is moderately bigger than unofficial indications, but probably one-third must be deducted for low grades. Last year's crop was finally estimated at 150,000,000 bushels by the officials; last year's Western crop as indicated by the subsequent movement was only 113,000,000. *Argentina.*—Weather been mostly favourable for harvest during the past week, but at finish partial showers and storms reported. Our own agent now estimates wheat surplus 12,000,000 quarters against 11,000,000 last year. Oats surplus estimate reduced to 5,500,000 qrs. against 3,700,000 last year; other estimates wheat surplus generally 10—12,000,000 qrs., but we have heard one recently as high as 14,000,000. Latest outturn reports from north better, from south bad. *Australia.*—Mail advices continue to mention some bleaching in New South Wales, but otherwise favourable. Shipments increased and good quantities indicated in near future. *Russia.*—Much snow fallen, hindering traffic and receipts become still smaller. Position crops favourable. *Roumania.*—Severe frost but crops have good snow cover. *Sulina* stocks probably fair to liberal, but not heavy. *Hungary.*—Weather turned wintry with much snow; position crops favourable. *Asia Minor.*—Smyrna reports low-land crops favourable, but outlook on interior highlands unfavourable. *France.*—Weather reports somewhat better and no serious complaints about crops. Officials give winter wheat acreage 15,600,000 against 13,900,000 last year and 15,570,000 in 1909-10; winter oats acreage small increase. Officials give condition of crop good. *Germany.*—Weather frosty, but crops have good snow cover. Offerings native grain quite moderate. *Italy.*—Crop reports generally favourable, holders native wheat firm. *Spain.*—Weather unseasonable in north and east, but position of crops still favourable. *United Kingdom.*—Weather still open; condition crops generally good.

The *Bulletin of Agricultural Statistics* for December 1911, published by the International Institute of Agriculture, Rome, contains tables showing the production of the more important **cereal crops in the Northern Hemisphere**, after making such alterations and additions as have been rendered necessary by the new official data received at the Institute up to December 19th, 1911. The most important additions consist in the returns of area and production of the cereal crops in Germany, Austria and Bulgaria, while the principal alterations refer to the figures for Russia and the United States. The production of wheat in 1911 amounts to 852,663,737 quintals, or 98.6 per cent of last

year's production in the following group of 22 adhering countries: Germany, Austria, Bulgaria, Denmark, Spain, France, Great Britain and Ireland, Hungary, including Croatia and Slavonia, Italy, Luxemburg, Netherlands, Roumania, Russian Empire, Switzerland, Canada, United States, India, Japan, Algeria, Egypt, Tunis. The production of **maize** amounts to 807,636,768 quintals or 89.9 per cent of last year's production in the following group of 14 adhering countries: Austria, Bulgaria, Spain, Hungary (including Croatia and Slavonia), Italy, Roumania, Russian Empire, Switzerland, Canada, United States, Japan, Algeria, Egypt, Tunis. The production of **rice** amounts to 89,413,180 quintals or 108.0 per cent of last year's production in the following group of 5 adhering countries: Spain, Italy, United States, Japan and Egypt. The second part of the *Bulletin* contains information regarding the sowing of winter cereals in the Northern Hemisphere. Winter sowing is now almost finished, the seeds are, in general, germinating well, and development is uniform. Further information is given as to the **cereal crops in the Southern Hemisphere** for the crop year 1911-12. In Argentina it is expected that the whole of the area sown to wheat and oats in that country will be harvested, which means a considerable increase over the area harvested in the previous year. The coming wheat crop in Australia is estimated at only 79.2 per cent of last year's crop. In Chile, on the contrary, an outturn of wheat 7 per cent above last year's production is predicted, and a crop of barley remarkably above last year's output is expected. The harvest estimates in New Zealand are also generally good. The most interesting figures of **cotton** production are those of the United States where the crop is 33,758,585 quintals or 130.3 per cent of last year's production. The production of **sugar** is 283,755,581 quintals or 75.7 per cent of last year's production in the following group of 11 countries: Prussia, Belgium, Bulgaria, Denmark, France, Hungary (not including Croatia and Slavonia), Italy, Roumania, Russian Empire, Serbia and Canada. (Quintal=220.46 lb).

The prices of **British corn** per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 13th January, 1912, were as follows:—Wheat, 33s. 1d.; barley, 33s. 0d.; and oats, 20s. 8d.

The total quantity and value of **gold** extracted from the **Indian mines** during the month of December, 1911, were 51,383 ozs. and Rs. 29,27,467. The output for the same month as compared with the corresponding months of 1910 and 1909 was as follows:—

Month of December.		1911.	1910.	1909.
Mysore . . .	Ozs.	50,144	46,837	53,276
	Rs.	28,55,467	26,94,425	30,69,153
Nizam's Territory . . .	Ozs.	1,239	1,365	1,232
	Rs.	72,000	79,420	71,930

In the *Indian Trade Journal* of 25th May, 1911 (page 225), was published a note giving the **production of iron ore** in non-Act mines in **Burma** and the **Shan States** in the year 1910 as 7,480 tons. Revised figures have since been received and the total production now amounts to 18,782 tons, valued at Rs. 6,456.

Messrs. H. A. Watson & Co., Metal and Mineral Brokers in their **Metal Report**, Liverpool, January 16th, say:—The market for **Standard Copper** had a steady rise during the first week of the year, and under the influence of good buying the Cash price advanced to £64 5s. on the 8th, but on the 10th, after the American figures were published, a considerable amount of profit-taking took place, with the result that the market became irregular, rising and falling daily until £61 18s. 9d. Cash was done yesterday, while to-day there is a firmer tendency, closing quotations being £62 13s. 9d. Cash and £63 8s. 9d. Three Months. The position of Copper remains sound and the demand from consumers is as good as ever. American prices are firm, but consumption there has not yet come up to expectation. The statistics for the past fortnight show decreases of 1,700 tons in the Visible Supply, and 284 tons in the Liverpool and Swansea Stocks. The arrivals from America at Liverpool and Swansea during the past fortnight amount to 1,960 tons, making 1,960 tons 1st January to date, against 3,148 tons same time last year. The present prices for Manufactured Copper are as follow:—Strong Sheets £80, B. S. £66 10s. to £67, Tough £66 10s. to £67, Electrolytic February £65 10s., March £66, India sheets £77 to £78, and Yellow Metal 6½d. per lb. **Tin**.—**Straits**: Since our last, the market has been irregular. Cash Tin has fluctuated between £184 and £194, the backwardation falling from £5 5s. on the 4th to £2 5s. to-day, closing quotations being £189 Cash, and £186 15s. Three Months. The Syndicate have been free sellers during the past week, and this has had the effect of depressing prices. This action has given rise to the opinion that they are gradually liquidating their holdings, but a rumour was current yesterday that another strong Syndicate is being formed on the Continent for the purpose of controlling the market, and if this proves to be a fact, we shall have a recurrence of the recent unsettled position. **Bolivian**.—Demand good, and values nominally £160 to £174 per ton, according to quality. **English**.—Ingots: £192 to £193 per ton. **Antimony**.—English Regulus, £26 10s. to £27 net per ton; Antimony Ore, we quote nominally £6 5s. to £6 10s., basis 50 per cent. **Bismuth**.—7s. 6d. per lb. **Iron**.—The market for Cleveland Warrants has been quiet at rather lower prices, closing at 49s. 7½d. Cash, 49s. 11d. One Month, and 50s. 6½d. Three Months. **Lead**.—Dull; English Pig, £15 17s. 6d.; Soft Spanish, Sellers, £15 10s.; Buyers, £15 8s. 9d.; April Sellers, £15 13s. 9d. **Nickel**.—£167 to £171 per ton. **Quicksilver**.—First £8: Seconds £7 17s. 6d. per

bottle. **Spelter**.—Steady; Silesian Ordinary Brands £26 15s. prompt; May Sellers, £26 12s. 6d.; Specials, £27. **Sulphate of Copper**.—Prompt £22 2s. 6d., February-April £22 10s. to £22 12s. 6d. **Wolfram**.—Steady; 30s. per unit. **Bar Silver**.—Spot, 25½d.; Two months, 25¾d.

In its issue of January 15th the *Manchester Guardian* says:—The market for **standard copper** has shown some signs of over buying during the last week; or at any rate a considerable number of people have been inclined to take profits. The price as between the two Fridays is 30s. per ton lower both for prompt cash and for three months' copper. A reaction to this extent is salutary, for there was a distinct tendency to rush the market up too fast and too far, and if this tendency had further developed a more serious set-back would have been inevitable. Although it is true that the consuming trades are much better, the labour unrest alone is sufficient to induce caution in all business affairs. There was a little too much optimism in the expectations as to the American copper figures for December. The figures on the whole are good enough, and all reasonable people in the trade may be satisfied with them; but they do not come up to the hopes of a certain section of the market. The position will soon be all the better for this check. It is true that the American copper out-put is growing again but the consumption of copper is also slowly increasing.

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

For the week ending 3rd February, 1912—
In the Calcutta market—

Behar opium—Rs. 4,400; 4,400; 4,400; 4,400; 4,400; 4,400; 4,400.

Benares opium—Rs. 4,300; 4,300; 4,300; 4,300; 4,300; 4,300; 4,300.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 2nd sale of 1912.

At Hongkong—(Exchange Rs. 144½ to 145 per \$100.)

Behar opium—\$3,200; 3,200; 3,200; 3,200; 3,200; 3,200; 3,200.

Benares opium—No quotations received.

At Shanghai—(Exchange Rs. 194½ per 100 Taels.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 27th January, 1912—

In the Bombay market—

(New, 1908-09) Rs. 3,745; (old, 1907-08) Rs. 3,752. The latest prices at Hongkong and Shanghai were (new) Rs. 4,694 and 5,760; (old) Rs. 4,836 and 5,904, respectively.

The Hull correspondent of the *Oil and Colour Trades Journal*, writing on the 11th ultimo regarding the **Hull oil market** says:—**Linseed oil**: The market is steady, with spot at 39s., January-April, 38s. 3d.; May-August, 34s. The exports for the week amounted to 338 tons, of which Africa took 1, America 20, Australia 295, India 15, Norway 6, and Turkey 1 ton each. **Cotton oil**: This market is steady, with refined cotton oil at 23s. 3d. spot; 23s. 6d. February-April; 24s. 6d. May-August. Crude oil, 21s. 7½d. spot. The exports for the week amounted to 67 tons, of which Belgium took 8, Germany 5, Holland 23, Italy 26, Sweden 5 tons each. **Soy bean oil**, 26s. 3d. to 26s. 9d. The exports for the week amounted to 255 tons, of which Austria took 22, Denmark 5, France 46, Germany 84, Holland 45, Italy 43, and Sweden 10 tons each. **Rape oil**: Ravison, 27s. 9d.; Jamba not offering; brown East Indian, 31s. **Cocoonut oil** slow; English, casks, £39 to £40 per ton. **Castor oil** quiet. Calcutta, on spot, 3½d. to 4d. per lb. Forward, 3½d. per lb., quay terms. **Colza oil** steady at 35s. 6d. per cwt. for East Indian refined, ex-store, in barrels. **Lard oil** steady; best English refined, 49s. 6d. per cwt. **Olive oil** quiet, steady. Spot, Spanish, £44 per tun, ex-store. **Palm oil** in moderate request, but at prices below sellers' ideas, and the market remains very quiet. Lagos £30, transit. Refined sorts dull. Clarified, in casks, £29 10s., and bleached, £32 15s. to £33 per ton. **Petroleum** firm. American 6½d. to 7½d., and Russian 6½d. per gal. **Turpentine** easier at 37s. 3d. per cwt. for prompt, and 37s. 9d. for February-April.

In their weekly report on **Australian wool sales** dated Melbourne, 11th January, Messrs. Goldsbrough, Mort & Co., Ltd., say:—We held our first sale of the current year yesterday, when a good catalogue was brought forward. The offerings were largely composed of Eastern Riverina marks, which made a good display and sold correspondingly well. The holidays had been used to re-class a large quantity of farmer's lots and others, which by interlotting were made into good straight lines. These came in for special attention, selling exceptionally well, particularly the coarser grades. As compared with the close of the series in December last, merinoes, comebacks and fine cross-breeds are unchanged, while medium and coarse descriptions are a half-penny dearer. Merino sold to 13½d. and cross-bred to 11½d.

In their report on **London tea sales**, dated January 19th, Messrs. Gow, Wilson and Stanton, Ltd., say:—Catalogues of **Indian Tea** totalled 50,441 packages, an increase of 2,822 packages compared with last week. Demand continued on a fairly active scale, and though irregularity was here and there noticeable amongst medium kinds, yet rates generally at both auctions showed no material change. Common leaf Teas were in good enquiry

on Monday and sold at firm rates, but at Wednesday's auction a rather easier tendency was noticeable. Dusts and Fannings, which have lately been in much larger supply, were a weak spot and often showed a fractional decline. Quality of offerings generally showed no improvement, but there were included several parcels of fine Darjeelings, and from the Dooars district a few autumnal invoices, one or two of the latter having fairly good characteristic flavour. The quantity in print for next week is slightly smaller at 48,797 packages. Average for week 8.75d. against 8.70d. last sale. Week's average of Tea sold on Garden Account, Season 1911-12, 48,201 packages, average 8.75d. 1910-11, 45,985, average 8.61d. Season 1911-12 to date 1,037,018 packages, average 9.24d. Season 1910-11 to date 995,892 packages, average 8.54d.

The Government of Bengal has just issued in book form a collection of papers dealing with the **Fishery Survey of the Bay of Bengal**. The book contains, among other interesting matter, the preliminary and final reports of Sir K. G. Gupta on the Fisheries of Bengal and extracts from the report of Mr. A. Ahmed, I.C.S., on marine fisheries. It is priced at four annas and can be had of the Bengal Secretariat Book Depot, Calcutta.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 6th instant was 125,538 bags, while the stock in Bombay on the 2nd idem amounted to 184,300 bags.

His Majesty's Consul at San Salvador (Mr. W. E. Coldwell) reports, under date 30th November, that the new crop of San Salvador coffee is estimated to be at least 650,000 quintals (as compared with 618,979 quintals last season), and if present prices are maintained, the chief industry of the country, agriculture, will have a very successful season (Quintal=101.4 lbs.). Indigo is not by any means cultivated to the same extent as formerly. Sugar is being grown in larger quantities than ever, although only the surplus is exported, mostly to other Central American Republics.

In their rubber market report, dated London, January 18th, Messrs. Gow, Wilson and Stanton, Ltd., write:—During the interval since the last sale a very considerable volume of business has been taking place, particularly in Plantation grades, for delivery all through the year, a considerable quantity of first latex Rubber having been sold on Estate account in the neighbourhood of £5 per lb. The quantity brought forward for the auctions this week was only small, owing to steamers with large cargoes arriving too late. At the beginning of the sale there was a strong demand for all descriptions, and prices on the first day showed an advance of from 4d. to 6d. on previous rates. Towards the

end of the sale, however, the tone was much easier, and prices declined from 2d. to 3d. from the best. The highest price was 5s. 6½d. for some Highlands Smoked Sheet, 5s. 5½d. being paid for light Crepe on the first day, whilst the quotations for the latter grade on the second day were 5s. 3d.—5s. 4½d.

An Australian inventor claims to have perfected a process for compressing and preserving the by-products of wheat, etc., which ensures the reduction of the materials employed into a comparatively small space and maintains the full properties of the product for any period of time. Bran, pollard, etc., is, after treatment, placed in a hydraulic press and is reduced to small proportions. Forage composed of oats, chaff and bran, etc., can also be equally well dealt with. Another feature claimed is that flour can be treated so as to prevent fermentation and reduced in measurement, which is important in making shipment overseas.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 27th January, 1912:—M. M. Wolff—Folding box upholsteries. A. Shepherd—Improvements in or connected with the bobbins for spinning. W. W. Pilkington, J. Wiltaker, R. Bradshaw and J. Briggs—Improvements in and connected with devices for positioning shuttles in looms. Citoplate Gesellschaft mit beschränkter Haftung—Improvements in apparatus for machining curved stereotype plates. R. Thomson—Improvements in column and floor or beam connections; and improvements in piles, piers, wharves, and like structures. A. N. Marr—Improvements in or relating to machines or apparatus for drying sized yarns and warps. Read and Morrill—Improvements in molds. Haradhan Mondol—Improvement in baling press of toggle lever type. L. W. and W. Gill—Improvements in and relating to a gripping device for use in the adjustment of railway rails.

Weather in India for the week ended Tuesday last was marked by unsettled conditions over the greater part of northern India and shallow depressions over Rajputana and the south of the United Provinces. Snowfall has been very heavy in parts of Kashmir, and local rainfall is reported from the east of the Punjab, and the north-west of the United Provinces and Upper Assam. The depression over south Bengal has given a few falls of rain in Behar, Orissa and Eastern Bengal.

A Notification giving particulars of the **Universal Exhibition** to be held at Ghent in April next year is published in the *Gazette of India* or the 3rd instant (p. 194). The exhibits will cover the various arts and sciences, commerce, agriculture, forests, mining, textiles, food products, chemistry, public health, education, etc.

It will be remembered that the Royal Colonial Institute appointed a representative committee of commercial men to encourage and facilitate **Empire trade and industry**. The *Times* now learns that the work of the committee has received the support and co-operation of the Governments of the various overseas possessions. Since its formation the committee has devoted attention to such subjects as the uniformity of company law, the work of the British Consular Service, through bookings of goods, and the development of British trade with India and the Crown Colonies by means of trade commissioners, as has already been done in the case of the self-governing Dominions. The representations which the committee have made in some of the foregoing matters have already met with a measure of success.

NOTICES.

CALLS FOR TENDERS.

Metals.

Scaled tenders will be received by the Assistant Director of Ordnance Stores, Rawal Pindi, up to the 26th instant for the sale of the following, deliverable at the Rawal Pindi Arsenal:—2 cwts. aluminium pig, 4,700 cwts. brass pig 303 inch, 3,615 cwts. brass pig, 37 cwts. copper pig, 213 cwts. gunmetal pig, 1 cwt. metal bell pig, and 14 cwts. zinc pig.

Warning to Merchants Trading with Smyrna.

Information has been received by the Director-General of Commercial Intelligence regarding the conduct of certain persons trading in Smyrna. This will be communicated in confidence to such accredited representatives of known British or British-Indian firms as may apply in person at 1, Council House Street, Calcutta.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Petrol Engines and Carburettors.

(1325)—A Coventry firm of motor engineers desires to appoint agents in Calcutta, Bombay, Madras and Rangoon to introduce petrol engines and carburettors on a commission basis.

Cotton Waste.

(1326)—A Manchester firm desires to be placed in communication with shippers of cotton waste, particularly oily sweepings.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 14th February, 1912:—

Parliamentary Publications.

Agricultural Statistics, 1911—Vol. XLVI—Part I, Board of Agriculture and Fisheries—Report on Distribution of Grants, 1910-11. Accounts relating to the Trade and Commerce of Certain Foreign Countries and British Possessions—Including figures received up to 31st December 1911. Colonial Reports—Miscellaneous—No. 82—Imperial Institute—IV—Rubber and Gutta Percha. Industrial Property and Merchandise Marks—Papers and Correspondence Miscellaneous—No. (1912)—Correspondence respecting Destruction of the British Steamship "Oldhamia." Foreign Import Duties, 1911. Local Taxation Returns (England and Wales), 1909-10—Part VI (1911).

Foreign and Colonial Publications.

Australia—Commonwealth Bureau of Census and Statistics.—Trade, Shipping, Migration and Finance of the Commonwealth—Bulletin No. 58; Census Bulletin No. 1—Population of States and Territories, and Bulletin No. 2—Persons of Non-European Race. Belgium—Bulletin Mensuel du Commerce Spécial de la Belgique avec les pays Etrangers, en ce qui concerne les Principales Marchandises—Decembre 1911. Bulgaria—Statistique du Commerce du Royaume de Bulgarie avec les pays étrangers, mouvement de la Navigation—pendant l'année 1910. Canada—Laboratory of the Inland Revenue Department—Bulletin No. 229—Olive Oil; Weekly Report—January 8th, 1912. Cuba—Estadística General—Comercio Exterior—Segundo Semestre del Año de 1909—Datos Generales del Año 1909; Primer Semestre del año de 1910 y año fiscal de 1909 a 1910 and Segundo Semestre del Año de 1910, etc. Egypt.—Bulletin Mensuel du Commerce Extérieur de l'Égypte—No. 12—Decembre 1911. France—Statistique Annuelle des Institutions d'Assistance—Année 1909; Statistiques des Chemins de fer—Année 1910. Italy—Statistica del Commercio Speciale—Novembre 1911. Mexico—Resumen de la Importación y de la Exportación—Septiembre de 1911 y tres Primeros Meses del año fiscal de 1911-12. New South Wales—Report on the Trade of Japan, 1910—Bulletin No. 47. Spain—Resúmenes Mensuales de la Estadística del Comercio Exterior de España—Noviembre de los años 1909, 1910 y 1911; Estadística del Impuesto de Transportes por Mar y A la Entrada y Salida por las Fronteras—Tercer Trimestre de 1911; Estadística General del Comercio Exterior de España en 1910—Parte Segunda.

Indian Publications.

Collection of Papers dealing with the Fishery Survey of the Bay of Bengal. Memoirs of the Department of Agriculture in India (Chemical Series), Vol. II, No. 2—January, 1912—Records of Drainage in India.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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

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

The Indian Trade Journal.

THURSDAY, FEBRUARY 8, 1912.

INDIAN COTTONS.

THE subject of the economic significance of natural cross-fertilisation in India was dealt with by Mr. Howard, the Imperial Economic Botanist, in a recent number of the Botanical Series of the *Memoirs of the Department of Agriculture in India*. A Memoir (Vol. IV, No. 3), just issued by the same Department, deals with the incidence and effect of sterility and of cross-fertilisation in Indian Cottons. The authors, Messrs. Martin Leake, Economic Botanist to the Government of the United Provinces, and Ram Prasad, Assistant to the Economic Botanist, present some useful data bearing on the production of an improved cotton suited to the conditions of the United Provinces. The conclusions arrived at by the authors are, firstly, that a considerable degree of sterility results from self-fertilisation repeated through a number of successive generations; and, secondly, that cross-fertilisa-

tion takes place to a considerable extent, though the greater portion of this is limited to neighbouring plants. The authors point out that in exceptional cases only is the cotton crop in any part of India pure and the same may be said to be the case in other countries also. A series of cottons grown from seed from China and Persia have been found to consist of a number of forms. Balls has drawn attention to the mixed nature of the cotton crop in Egypt, while the history of the origin of the named varieties of American cottons as far as this is known, sufficiently indicates that in America, too, a similar condition is to be found. Such a mixed crop no doubt adjusts itself to its surroundings and, under certain constant conditions, will maintain a definite proportion between the various constituents and, even in certain cases, appear to be pure. When such a crop is grown under different conditions it is highly improbable that the proportion between the various constituents will remain unaltered. The new conditions will favour one or other of the component types which will, in a short time, become the dominant element of the crop. The authors next refer to the example afforded by wheat. There have, they say, from time to time been recorded frequent instances of the conversion of red to white wheat and of bearded to beardless as the result of "degeneration" consequent on change of environment. Such cases, when put to the test, are invariably found to be referable to the occurrence of an, at first, inappreciable admixture of the "degenerate" form which, when grown under favourable conditions, increases rapidly and may even ultimately swamp the original kind. If such cases are possible with wheats, in which, in Europe, where such instances of "degeneration" have been recorded, cross-fertilisation is of the rarest occurrence, the danger of this "degeneration" occurring in a crop like cotton in which cross-fertilisation has also to be taken into consideration must be far from inappreciable. Instances have been actually recorded in the case of maize and the true explanation of such phenomena with especial reference to these two instances is given by De Vries with much directness. Under these circumstances, we are told, it appears possible to carry out experiments on the effect of change of environment with pure cultures only, and preferably with single plant cultures, if such be obtainable. Unless this precaution is taken the diversity found may in reality only be a manifestation dependent on the occurrence of a small percentage of impurities.

From very early times repeated efforts have been made to acclimatise various exotic cottons in India. In 1829 a farm was started at Akra for the purpose for which seed was obtained from America, though even before this date importations of seed had been made. The only trace now to be found of the labour of generations in Northern India is in stray plants and, here and there, a stray field of the American type, the latter either the result of the most recent effort of the Agricultural Department or of the enterprise of individual land-holders. In the rest of India the result is hardly different, and though in certain areas, as Dharwar, the type has become permanently established, it may be said in general terms that the record of acclimatization is one of failure. That such failure is due to imperfect cultivation may, in part, be true, but it is improbable that this is more than an indirect cause. It is only necessary to consider the early history of such importations to see that, for a short period, the crop is grown successfully and yields freely, and that sanguine hopes are built on the early years of experiment. It is impossible to read accounts of the earlier importations such as are contained in Royle's *Cotton Culture*, in the Reports of the Cotton Commissioner and in the Journal of the Agri-Horticultural Society of India without being struck by this fact. The crop at first maintains its standard and subsequently undergoes a more or less rapid degeneration. The similarity between this and the cases of "degeneration" in wheat is striking, and suggests the possibility of a like cause here.

The American forms of cotton in commerce have been raised to a large extent by selection. By such process the general standard in productivity, in length of lint, or in other desirable characters is raised to a high level, but the less desirable types are not completely eliminated. The improved plant is adapted to the conditions of the American cotton field with its highly developed system of cultivation, and may perhaps of itself be able to maintain its dominant position in the mixture of which the crop in reality consists. Frequently, however, this is not the case, and even in its country of origin the dominant position is only maintained by a continuous system of roguing. Such a commercial variety is in the optimum condition to exhibit this phenomenon of "degeneration" when grown under changed conditions, and when these conditions include, in addition to climatic differences, a less careful cultivation and cessation of the process of roguing, it is hardly a matter for surprise that some

of the hardier forms contained in the mixture should assert themselves to the partial or complete exclusion of the finer ones.

Finally, the authors tell us that the process of acclimatization has consequently been marked in most, if not in all, cases by a deterioration of the produce which has been in many cases attributed to a degeneration of the race, but it is more probably simply the self-assertion of those impurities which are best suited to the new environment. The problem of the introduction of exotic races consequently assumes a new aspect. Viewed in this light, the larger the original importation of seed, the less would appear to be the chance of successful introduction owing to the greater difficulty in the control of this process of displacement of one form by another. If acclimatization on a practical basis be possible, it requires, for the development of the conditions most favourable to success, to be carried out in a manner which admits of the detailed work involved in the extraction, testing and multiplication, of the better components as single plant, or at least, pure cultures. For this purpose a comparatively small importation and a comparatively small area is all that is at first necessary. Whether, under such conditions, it is possible to raise a race of exotic cotton suited to the conditions of Northern India can only be tested by experiment, for on this matter the evidence afforded by the past lack of success is irrelevant. It is not desired by the authors to re-awaken hopes which have so frequently been raised in the past only to lead to disappointment, but they consider that there is sufficient scope for the improvement of the races of the truly Indian cottons to render this the most promising line of work as far as Northern India is concerned. If, however, the causes for lack of success in the past are those here indicated, it follows that the possibility, or the reverse, of acclimatizing such forms as the higher grades of American or Egyptian cottons remains yet to be proved.

The Memoir is priced at one rupee and may be had of Messrs. Thacker, Spink and Co., Calcutta.

—A notable feature of the present **high price of coal** (says the *Daily Chronicle*) is that the poor who buy their coals by the penny-worth are now paying 1½d. for 7 lbs. (at the rate of 33s. 4d. a ton), whilst in the case of coal blocks or briquettes a much higher price rules. Before Saturday (January 13th) these were sold at ½d. each, but they are now retailed at from three for 2d. to ¾d. each, the last named working out at the rate of over £3 a ton.

CHAMBERS OF COMMERCE.

BENGAL.

FROM the abstract of the proceedings of the Bengal Chamber of Commerce for the month of December, 1911, we take the following particulars:—

Indian Post Office Act Amendment Bill.

This was forwarded to the Chamber, for consideration, by the Government of Bengal. The existing Act, which was passed in 1898, fails, it is understood, in certain respects to give adequate powers to the postal authorities to deal with articles posted in contravention of the Act. The Bill is designed to give such further powers as are required, and at the same time to remove certain obscurities, and to remedy certain minor defects that have been found to exist.

The Committee consulted the Calcutta Trades Association with reference to the measure, and they replied to Government recently. The amendments that the Bill will make in the Act do not appear to be of particular or special interest to the members of the Chamber, and the Committee did not, therefore, take exception to them. But they agreed with the Trades' Association that the localities to which clause 2 will apply should be notified, and that the increased rates should be as low as possible. The object of clause 2 is to enable the Post Office to increase rates on parcels in particular localities where it is found the maxima rates levied under the existing Act are unremunerative. It has to be noted in this connection that the English Post Office Act fixes no maxima rates for the parcel post. Fears have been entertained by the Trades' Association that the new powers, which are to be conferred upon the Postmaster-General by clause 8 of the Bill, may press hardly upon the *bona fide* trader who uses the value-payable system. There appears to be a possibility of this danger arising, and the Committee have accordingly recommended that the rules to be framed under the clause should be most carefully considered before their introduction. With reference to clause 8, it may be observed that as the law stands, it is illegal to withhold from the sender of a value-payable article payment of the money received from the addressee even if the article may have obviously been sent to defraud the addressee. The amendments introduced by clause 8 will enable the Governor-General in Council to make rules authorising the Postmaster-General to take action in such cases.

Life Assurance Legislation.

The views of the Committee upon the Bill to provide for the regulation of Life Assurance Companies, and also upon the Bill to provide for the control of Provident Insurance Societies have been already published to members, and need not, therefore, be repeated here.

The Government of India recently intimated that the Chamber would be permitted to have an additional representative on the Imperial Legislative Council during the discussion of these measures. The Committee had much pleasure in recommending that Mr. C. L. Fyfe, of the Commercial Union Assurance Company, Ltd., should be nominated for this appointment, and their recommendation was accepted by Government.

The Indian Merchandise Marks Act, 1889: Watermarked Paper.

It was stated in the last abstract that the Chamber had approached the Government of India with reference to Customs Circular No. VI of 1911, on the subject of the treatment under this Act of watermarked paper bearing a trade description technically false as regards the country of origin. The Circular notified that the Government had decided to relax the regulations by which a counter-indication of origin is required on each sheet of watermarked paper. Consignments of paper in which the watermark is a false description merely because the necessary counter-indication of origin is absent were, under the relaxed regulations, to be admitted into India, provided that the indication of origin was correctly given on every wrapper in which any packet of the paper is made up.

It was feared by the importers and manufacturers of British paper that the circular would adversely affect their industry; and at their instance the Indian Chamber took exception to the decision to relax the regulations. The Government of India have since notified that they have withdrawn the concession as they found that it failed to provide adequate safeguards for the trade having regard to the local custom of selling paper in quantities smaller than a ream. The procedure formerly in force, before the issue of the orders contained in Customs Circular No. VI of 1911, has accordingly now been reverted to.

List of Cotton Piece-goods.

The customary annual revision of the list of cotton piece-goods prescribed for fiscal purposes has been recently undertaken by the Government of India. The list was prescribed by Government in a resolution of the Department of Commerce and Industry, No. 9321-9327-139, dated 22nd December, 1910. The Director-General of Commercial Intelligence informed the Chamber that no amendments or additions had been put forward this year by the Collectors of Customs; but he added that if the Chamber wished to make any proposals he would be glad to consider them.

After consultation with the Piece-goods Sub-Committee and with the Calcutta Import Trade Association, the Committee decided again to recommend that cotton undershirts should be included in the list. This recommendation they made last year but it was not then accepted. Shortly afterwards a question arose as to whether lace undershirts should pay duty at the rate of 3½ per cent.

as cotton hosiery, or 5 per cent. as apparel—a point that could not have arisen had undershirts been included in the list. It seemed to the Committee that if undershirts could not be included in the list they should be definitely classified as cotton hosiery.

Delays to Foreign Telegrams.

The attention of the Committee has been recently drawn on more than one occasion to the delays that occur in the transmission and delivery of home-ward and outward cables. Merchants and bankers are complaining of these delays, which appear to be of almost daily occurrence, and to be more or less general. The Committee have approached the Director-General of Telegraphs on the subject, and asked that every effort should be made both by the Administration, and by the Cable Companies, to effect an improvement.

Insurance against War Risk.

A question was raised in November by the Piece-goods Sub-Committee as to the liability for payment of extra premium to cover war risks on goods purchased on c. i. f. terms. The Committee took legal advice from which they gathered that the shipper is responsible for the additional premium. This opinion is based on the assumption that the question arose with regard only to the increased premium that would become payable by reason of political circumstances, and not by reason of an additional risk outside the contract—being forced on one of the parties.

The question is still under the consideration of the Committee, to whom a further reference has been made by members of the Chamber from the point of view of the exporter.

MADRAS.

The following extracts are from the minutes of a meeting of the Madras Chamber of Commerce held on the 9th January, 1912:—

Madras-Rangoon Mail Service.

Read a letter, dated the 26th December, from the Postmaster-General, Madras, enclosing copy of a telegram from the Postmaster-General, Burma, requesting to be informed whether the Chamber has any objection to the departure from Madras of the direct steamer to Rangoon on Wednesday morning instead of on Thursday evening.

Resolved to inform the Postmaster-General that the Chamber is strongly opposed to the proposed alteration.

One-Anna Hundi Stamps.

Read a letter, dated the 5th January, from the Superintendent of Stamps, Madras, asking whether there is any demand for one-anna Hundi Stamps.

Resolved to inform the Superintendent of Stamps that in the Chamber's opinion there is no necessity for the introduction of such stamps.

KARACHI.

The particulars below are taken from the proceedings of a meeting of the Managing Committee of the Karachi Chamber of Commerce held on January 9th, 1912:—

Eighth Congress of Chambers of Commerce of the Empire.

Read circular letter, dated 8th December, 1911, from the Secretary, British Imperial Council of Commerce, London, stating that, as already advised, the Eighth Congress of Chambers of Commerce of the Empire will take place in London in 1912, and it has now been decided to hold it during the week commencing June 10th, and requesting this Chamber to take into early consideration the question of submitting resolutions to be included in the Preliminary Draft Programme and to communicate to him, in due course, the names of appointed delegates.

Resolution.—To be circulated to members with an invitation to submit names of representatives who are willing to serve as Delegates, also any subjects considered appropriate for discussion.

Stoppage of Trade via Bunder Abbas.

Read letter, dated 4th January, 1912, from a member, stating that two letters have recently been received, signed by a number of Shikarpur merchants interested in the trade of Bunder Abbas, pointing out the serious state of affairs in that port and praying that some influence may be brought to bear on the authorities to protect trade in that quarter: that the caravan routes to up-country places are in such a disturbed state that it is absolutely unsafe to despatch any goods from Bunder Abbas, and the result is utter congestion at that port: that some twelve lakhs worth of goods are already stored there, and as the godown accommodation is limited it is feared that the fresh supplies coming into the port in the near future will have to be left in the open, uncared for, leading to serious losses to the merchants concerned: that it is believed that the British Consul at Bunder Abbas has already issued an order preventing goods being despatched to Kerman and other places; and suggesting that as a number of firms in Karachi (members of the Chambers) are closely connected with the trade in Persia, the Chamber might make a representation to the Government of India and endeavour to get India's trade interests protected in some manner.

Read also copy of telegram, dated 5th January, 1912, despatched to the Government of India, asking that prompt measures might be taken to restore order and adequately protect British interests in Persia. A copy of this telegram has also been wired to the Chamber of Commerce, Bombay, with

a request that that Chamber would accord their support to the representation made therein.

Resolution.—To be circulated and recorded.

Port Trust demurrage charges on cut, torn, burst and damaged bags of Sugar.

Read opinions expressed by sugar importers on the Port Trust Notification, doubling, with effect from 1st April, 1912, the demurrage charges on cut, torn, burst and damaged bags of sugar. Circulated under the Committee's Resolution No. 200 of 19th December, 1911.

Resolution.—A draft letter of protest to the Commissioner in Sind to be submitted for the approval of the Committee.

Discount for settling differences in Freight.

Read letter, dated 27th December, 1911, from the Secretary, Bombay Chamber of Commerce, stating in reply to this Chamber's enquiry of 20th December, that the other Maritime Chambers having been consulted and no adverse opinion having been received, the question of the revision of the existing percentage of discount for settling freight differences will be brought up for confirmation at the next General Meeting of the members of the Bombay Chamber.

Resolution.—By-law No. 6 to be cancelled and the following substituted:—

"That freight outwards from Karachi, stated in sterling, payable in Karachi (in the absence of any stipulation in the shipping Order or Charter Party to the contrary) shall be converted into Indian currency at the rate for Bank Bills on London payable on demand; and that the rate ruling at the close of a mail shall be the rate applicable for Bills of Lading presented during the subsequent week; on difference of freight $4\frac{1}{2}$ per cent as customery in the case of sailing ships and $1\frac{1}{2}$ for steamers being allowed as discount to cover cost of insurance and interest until the due date of the freight."

At a meeting of the same Chamber on January 23rd, 1912, the following among other items were considered:—

Minimum weight for charge for Carriage of dangerous goods and Explosives.

Read letter, dated 4th December, 1911, from the District Traffic Superintendent, North Western Railway, Karachi District, intimating that with effect from 1st January, 1912, the minimum weight for charge for consignment of explosives and dangerous goods has been increased from 20 to 80 maunds for broad gauge and 54 maunds for metro gauge except when consigned at stations on the days served by a regular service of powder vans; that the revised minima will apply to consignments of explosives and dangerous goods when booked as urgent from Karachi to North Western Railway stations and also to dynamite which cannot be booked as deferred explosives; and that the ruling to levy charge on actual weight for consignments booked from Karachi or Keamari as deferred once a week

only (twice a week in case of Lucifer Matches only) will however remain unchanged and that the minimum weight for charge of 27 maunds for dynamite and blasting gelatine will also be raised to the above minima from the same date.

Circulated to members for expressions of opinions under the Committee's Resolution of 19th December, 1911.

Resolution.—To be acknowledged and recorded.

One-Anna Hundi Stamp.

Read opinions expressed by Members of the Chamber on the enquiry of the Assistant Superintendent of Stamps, Karachi, as to whether there was any actual demand in Karachi for a one-anna hundi stamp which would make it desirable to introduce such a stamp—circulated to Members under the Committee's Resolution No. 5 of 9th January, 1912. Members are of opinion that there is no demand for one-anna hundi stamp.

Resolution.—The Assistant Superintendent of Stamps, Karachi, to be informed that in the opinion of the Chamber there is no demand for a one-anna hundi stamp.

White Phosphorus Matches Prohibition Bill.

Read letter, dated 8th January, 1912, from the Vice-Consul for Norway explaining that the enactment of the White Phosphorus Matches Prohibition Bill would be most detrimental not only to the people of Norway but also to the trade of India; adding that the Governments of Norway and Sweden have not found it necessary to prohibit the manufacture of sulphur matches or deemed it advisable to accede to the Berne Convention; and forwarding for the information of the Chamber, a copy of an Official Report issued by the Royal Inspector of Factories regarding "Necrosis" in Norway during the past seven years, from which it was apparent that the risk of this disease is reduced to a minimum and that phosphorus match making is nowadays a healthy trade; and remarking that this report might strengthen the hands of the Committee of the Chamber in the protest they are making against the White Phosphorus Matches Prohibition Bill.

Read letter dated 8th January, 1912, from a Member forwarding a copy of the Official Report referred to above.

Resolution.—The Vice-Consul for Norway and the Member of the Chamber to be thanked for the information placed before the Committee and to be informed that the Chamber have already lodged a strong protest against the White Phosphorus Matches Prohibition Bill.

The papers to be circulated.

Trade of the Port.

Read memo. by the Secretary pointing out that the Karachi Customs House have omitted to include 16 Steamers that sailed hence in December last in the December statistics of the trade of the Port, owing to the manifests being incomplete on 31st December,

1911, and asking whether the cargoes carried by those vessels should be included in the Chamber statistics for 1911, which are published in the Annual Report.

Resolution.—The cargoes carried by the 16 steamers referred to should be included in the Chamber's statistics for 1911.

The Trans-Persian Railway.

Resolution.—The Government of India to be informed that in the opinion of the Chamber the break of gauge in the proposed Trans-Persian Railway should not, in the interests of British commerce, occur at any point south of the Russian sphere of influence.

Administration of Bankrupt Estates.

Read letter, dated 22nd January 1912, from a Member, inviting attention to the present unsatisfactory position which prevails in connection with the administration of bankrupt estates; pointing out that at the present time several bankrupt estates are in the hands of the Official Receiver, that these estates are valued at several lakhs of rupees and in many cases large sums of money are lying with the Official Receiver undistributed to the creditors and further large sums have still to be collected from debtors to the estates; that this condition of affairs is most unsatisfactory inasmuch as it entails further losses to the creditors in the way of accumulated interest charges and it also militates against the proper administration of the Bankruptcy Act as the creditors would rather compromise their debts than await the issues of a case wherein the Official Receiver takes charge; and explaining that this position is brought about by the fact that there is no Official attached to the Court to carry on and administer bankrupt estates and that the Sheristadar of the Judicial Commissioner's Court carries on the duties of Official Receiver and it is therefore probable that with his other duties he is unable to cope efficiently with the extra work entailed by the failures that occurred in 1911.

Resolution.—The Committee concur that better arrangements for dealing with bankrupt estates in Sind are imperative. The Judicial Commissioner to be addressed accordingly. A draft letter to be submitted for the approval of the Committee.

PUNJAB.

At a Committee Meeting of the Punjab Chamber of Commerce held on November 7th, 1911, the following among other items came up for consideration:—

Weekly Price Current.

Read letter No. 3474, dated Ambala, 16th October 1911, from the Uper India Glass Works regarding the issue of a weekly Price Current for the Punjab.

Resolution.—The letter to be circulated and Members be invited to express an opinion thereon and to say whether or not they will subscribe towards the

publication, the probable cost which may be Rs. 35 per annum if not less than 30 subscribers are forthcoming.

Phosphorus Matches.

Read letter No. 669 C. and L., dated Lahore, 19th October 1911, from the Under-Secretary to Government, Punjab, requesting the expression of the Chamber's opinion on the Bill to prohibit the importation, manufacture, and sale in India of phosphorus matches.

Resolution.—The Under-Secretary to Government, Punjab, to be informed that the Committee of this Chamber understand that the machinery which is now in use and the process now adopted in the manufacture of white phosphorus matches removes the dangers which existed and they venture to suggest that Government should take steps to thoroughly investigate the matter and publish the result of such investigation to enable all concerned to form a correct opinion and to determine whether or not legislation is necessary. In the meantime the passing of the Bill to be postponed.

BURMA.

The particulars below are taken from the proceedings at a meeting of the Committee of the Burma Chamber of Commerce held on November 23rd, 1911.

Collection of bills in connection with rice contracts.

Read letter, dated 31st October, 1911, from Messrs. Bulloch Brothers and Co., Ltd., saying that in view of the judgment in a recent case (Moolla Dawood Sons and Co., v. Wor Moh Lone) they thought it would be advisable for the Chamber to intimate to the Rice Brokers' Association that all the rice millers, who were Members of the Chamber, looked to the buyers named in their contracts for payment of their bills, and if bill collectors were utilized to collect sums of money from other persons the rice millers declined all responsibility for such sums; also Rice Sub-Committee's report thereon, with copy of the judgment referred to, recommending that the Rice Brokers' Association should be communicated with as suggested by Messrs. Bulloch Brothers and Co., Ltd., and that the decision together with copy of the judgment should be recorded in the minutes of the monthly meeting of the General Committee and printed in the local papers.

The Sub-Committee's report was adopted.

Government Rice Crop Estimates.

Read and recorded letter, dated 25th October 1911, from the Officiating Commissioner of Settlements and Land Records pointing out that the figures contained in Statement V of the Season and Crop Report for the year ending 30th June, 1911, were calculated on the total areas under crop, including

areas on which the crop failed to mature, that is, the areas given in Statement III of the same report. The normal outturns were also calculated on information from different sources from those used for the calculation of the rice forecast. Statement V, therefore, was hardly a revision of the rice forecast, but rather an estimate of the total production of each crop throughout the province. The year 1910-11 was the first year in which this statement was compiled in its present form, and in some respects the figures relating to the normal outturn and acreage might require revision. If, after consideration of the above, the Committee were still of opinion that it would be advantageous to members to receive certain of the figures in the statement prior to the publication of the whole report he would endeavour to meet their wishes if they would kindly indicate which figures were required; also read report of the Rice Sub-Committee thereon suggesting that the Committee should ask to be supplied with the figures shown in columns 1 to 7 in Statement V as soon as compiled; also letter addressed to the Officiating Commissioner of Settlements and Land Records as suggested by the Rice Sub-Committee.

Inferiority of Burma Rice.

Read and recorded letter, dated 3rd November, 1911, from the Officiating Director of Agriculture, Burma, asking the Chamber to obtain for him typical samples of rice from London, Liverpool, and Hamburg to assist the Department in their endeavours to discover the reasons for the inferiority of Burma rice as compared with that from other countries. The chemical analysis of these samples and their comparison with the various types of paddy grown in the Province would, it was hoped, add considerably to the knowledge of the Department as regards trade requirements and greatly facilitate the efforts being made to improve the varieties produced in Burma; also report of the Rice Sub-Committee thereon saying that Mr. E. O. Anderson had undertaken to procure the samples required, and letter addressed to the Officiating Director of Agriculture saying the samples were being procured and would be forwarded to him on arrival.

Indian Stamp Amendment Act, 1911.

Read and recorded letters, dated the 28th and the 24th October, 1911, from the Financial Commissioner and the Revenue Secretary asking for an expression of opinion on a bill further to amend the Indian Stamp Act, 1899. By the Indian Stamp (Amendment) Act, 1910, the rates of stamp duty on bills of exchange were raised in the case of bills exceeding Rs. 1,000, while the old rates of duty were retained on bills not exceeding Rs. 600 in order to exempt petty transactions from the enhancement of duty. Advantage had, however, been taken of the concession in the case of big transactions, to escape the higher rates of duty by drawing a number of small bills instead of a single instrument.

By this means considerable revenue had been lost to Government and inconvenience and unnecessary work caused to banks, etc. The bill accordingly proposed to raise the duty on bills of exchange for amounts not exceeding Rs. 1,000 by the amending Act of 1910. The Presidency Banks and Chambers of Commerce were in favour of the Bill; also read letters addressed to the Financial Commissioner and the Revenue Secretary approving of the bill.

Malagon-Dawbong Railway.

Read letter, dated 18th November, 1911, from the Arracan Company, Limited, saying they understood that the work on the above railway had been postponed indefinitely, although the Chamber were informed at the beginning of the year that the earth work was then in hand and that it was hoped to begin the railway itself in the cold weather (1911-12). The Arracan Company, Limited, suggested that the Chamber should urge upon the Burma Railways the necessity for the early completion of the work.

Resolved—To enquire what the present position is.

Adulteration of Cutch.

Read letter, dated 28th October, 1911, from the Revenue Secretary saying that the Lieutenant-Governor fully sympathised with the Chamber in its desire to check the adulteration of Cutch, and was ready to adopt any measures to check adulteration while the Cutch was in process of manufacture in the forests which might appear to be advisable and practicable. There was no provision of law by which adulterated Cutch could be confiscated, and even if legislation were introduced it was difficult to see, apart altogether from the general objections which might be taken to such legislation, how it could be effectively enforced in view of the admitted difficulty of detecting the adulteration and of the further difficulty that would arise in most cases of proving satisfactorily that the person, in whose possession adulterated Cutch was found, was responsible for the adulteration. His Honour therefore feared that it must be left to the exporters concerned to take such measures as might be practicable to check the adulteration of manufactured Cutch which had reached the market. A letter had, however, been addressed to Commissioners and Conservators asking them to go very closely into the matter, and to express an opinion on various suggestions that had been made to enable the Local Government to consider the feasibility of taking further action. A further communication was promised after the reports of these officers had been received and considered.

The letter was referred to the Sub-Committee on Timber, Cutch, etc., who suggested that a reply should be sent to the Revenue Secretary thanking him for his assistance and expressing the hope that his efforts to restrict the manufacture of extracts from barks of other trees for the purpose of mixing with Cutch might prove successful.

Resolved—To reply in terms of the Sub-Committee's report.

UPPER INDIA.

From the proceedings of the Upper India Chamber of Commerce during December, 1911, the particulars below are taken:—

Eighth Congress of Chambers of Commerce of the Empire at London.

The Committee have decided to present a resolution at the Congress to be held in London in June, 1912, dealing with the competition of jail-made goods, and to base this on that passed at the Congress at Sydney with such modifications as recent incidents have rendered desirable. The resolution adopted by the Congress at Sydney reads as follows:—“Whereas private enterprise has the right to be protected against the competition of articles of trade manufactured by convict labour at an artificially lowered cost of production; and whereas there are indications of a tendency in certain parts of the Empire to develop the commercial element of jail labour to the injury of private manufacturers, this Congress approves the principle that State prisoners should be employed only upon tasks which possess a distinctly penal character, and in no case should power machinery be employed in jails for the production of articles of trade.”

Publication of Accounts where Government carries on an Industry.

It has been decided to approach Government regarding the desirability of the accounts relating to State industrial undertakings being published where such industries compete with private enterprise. This would exclude such concerns as the Small Arms and Shell factories, in respect of which it was felt that Government would certainly reject such a proposal.

Daltonganj Coalfield Railway Extension.

The Railway Board have been addressed urging the earliest possible completion of the lines between Daltonganj and Bhojudih, and in the region of the Bokharo and Ramgarh coalfields, both of which have a place in the list of projected railways.

Cawnpore Technological Institute.

A recommendation was put forward at the Naini Tal Industrial Conference in 1907, to the effect that the above institution should be placed in a position to provide instruction in chemistry applied to the following industries, viz.:—(1) Sugar, (2) Leather, (3) Alkalies, (4) Bleaching, dyeing, printing and (5) Paper making. In this connection the Local Government, in November last, invited the opinion of the Chamber as to the class of manufactures in which it is essential that the chemist appointed for the above purpose should have had practical experience. The Committee thought it would be quite

impossible to find a chemist who was an expert in the technology of such widely different subjects as those mentioned above. They considered that the man at the head of an institution of this kind should have a good knowledge of chemistry as applied to manufacturing processes generally, also of machinery and mechanical contrivances, and that he should possess sufficient commercial knowledge to enable him to work out the cost of processes and to determine their commercial possibilities. The assistant chemists, it was suggested, should each have a thoroughly practical knowledge of one of the different industries in which the Institute is to give instruction.

With regard to the salaries which it was proposed should be attached to those appointments, the Committee deprecated the sweeping reductions made on the original scheme, and considered the reduced salaries to be quite inadequate to tempt men having the required qualifications.

Cotton Cultivation.

In reply to the Chamber's letter of 23rd November, challenging the correctness of a statement to the effect that there was no market for long stapled cotton, either present or prospective, in India, the Inspector General of Agriculture has replied to the effect that he had only said there was no “free” market, and, further, that since the statement in question had been made, he had found full prices were being paid for long staple in Madras and Nagpur, and he further qualified what he had previously said by adding that the trade is now in many instances doing its best to meet the efforts of the Agricultural Department in this matter. It was also pointed out that the Committee appointed to report to the Board of Agriculture, which had been sitting at Pusa, had made the statement that unless greater distinction in price were made between high and low grades of cotton, it would naturally follow that the hardy short staples would continue to increase, as it has done in the past, at the expense of cottons of better quality. The inference was that such distinction in price is not made, and this appeared to be the crux of the question.

The Committee were still unable to accept the foregoing view, and the Inspector General has again been informed that they maintained that the market in India for raw cotton was absolutely free, direct evidence having been placed before them that the price paid corresponded very closely to quality.

Railway Holidays.

The Department of Commerce and Industry, replying on 6th December to the Chamber's representation of 6th September, have informed the Committee that the Government of India were unable to accept the suggestion that, if the four additional holidays proposed by the Chamber could not be declared as general holidays, they should be declared as *dies non* as far as operations connected with assisted or private sidings were concerned.

With regard to the Committee's suggestions that to meet the Railway Administrations' objections to any increase in the number of holidays, some of the Christian holidays might be sacrificed to make up for the additions to the Native holidays, it was pointed out that the number of the Christian holidays were hardly susceptible of reduction.

The Committee have stated that if holidays could be granted as suggested on the occasion of the Holi, Id-dul-Fitr, Daschra, and Dewali, they would favour the Sundays next before these festivals being regarded as working days.

Tenders for the Supply of Country Stores.

The Agent of the Bengal and North Western Railway Company was addressed on the 30th December with reference to certain one-sided conditions to which contractors have to subscribe when tendering for the supply of country stores.

The Railway Company frees itself from any obligation to order any of the stores advertised whatever, whereas, on the other hand, the contractor is bound down in the case of ordinary requisitions to give delivery within one week and, in the case of urgent requisitions, within 36 hours from date of receipt of order, failing which considerable penalties are leviable. The Railway Company can also terminate the agreement at one month's notice or, at its option, extend it for three months beyond the term stipulated.

The effect of such conditions is that, in the event of a falling market, the Railway can withhold requisitions or give notice of termination and so render the contract void, while the contractor, if a manufacturer of the goods contracted for, may, by way of covering himself, have purchased sufficient raw materials to enable him to complete the contract.

The Committee stigmatised such contracts as one-sided and as defeating the whole purpose for which term contracts are entered into, and they have expressed the hope that the conditions will be reformed.

International Federation of Master Cotton Spinners' and Manufacturers' Associations at Berlin.

The views of those of the members of the Chamber who were consulted in this connection have been communicated to the International Federation at Manchester. These views were mainly called for in respect of the Arbitration Rules, and no objection has been taken to these.

As to the matter of scientific tests for moisture in raw cotton in regard to which the Association urged the desirability of members having further tests made, members have expressed no opinion.

Terminal Tax on Sago.

At the instance of one of the Members of the Chamber it has been represented to the Chairman of the Cawnpore Municipal Board that whereas at present the same terminal tax is levied on common

sago as on pearl sago, the former article should be assessed at the same value as "common seeds," a similar distinction being made in the Railway classification. The Committee have requested that the Terminal Tax Schedule should be amended accordingly.

Classification of Cotton Piece-goods.

Replying to an enquiry addressed by the Chamber as to why "Wadding" is classified in the Tariff along with textile fabrics, the Director-General of Commercial Intelligence has stated that the article in question was recognised by the Government of India from the outset as admissible as cotton piece-goods for Customs purposes.

Proposed Amendment of Section 33 of the Provincial Insolvency Act of 1907.

The Government of the United Provinces, Judicial (Civil) Department, was addressed on the 14th December with reference to the following anomalous discrepancy between the law of insolvency in England and in India.

In the former case, employes who can claim preferential treatment as creditors are divided into two classes, i.e., those entitled to be paid salary or wages not exceeding £50 in respect of services rendered during four months prior to the date of the receiving order; and those entitled to receive as salary or wages £25 in respect of services rendered during two months.

The Indian law recognises only one class of employes, those whose wages or salary does not exceed Rs. 20 in all in respect of services rendered during four months before the date of the presentation of the petition.

The Committee have suggested that, when the Indian Act again comes up for examination, it should be amended so as to follow the lines of the English Statute, with, however, the modification that, in the case of higher grade servants, the limit of priority should be Rs. 1,200, and, in the lower grade, Rs. 200 in respect of services rendered during four months before the date of the application for insolvency, to which should be added, in the case of servants of the higher grade covenanted in the United Kingdom or other foreign country, the cost of a second class passage by steamer back to the said country.

Proposed Rules for the Carriage of Offensive and Dangerous Goods.

The Railway Board has been informed, with reference to Government of India, Railway Department, Notification No. 305, dated 17th November, 1911, relating to the above, that the Committee have no remarks to make thereon.

Telegram Receipt Forms.

The Committee suggested that it might be found practicable to issue receipts written in ink, and with the amount of charge entered in words, as well as figures. The Director General of Telegraphs has

stated that the present procedure was adopted in order to save time, and that no change was considered necessary.

It was accordingly decided to allow the matter to drop.

The committee have also represented the desirability of telegraph forms being printed with tear-off receipts attached, so as to enable a sender to fill in such particulars as he may require for private record, this receipt being stamped, torn off, and returned to the sender.

Bill to Provide for the Regulation of Provident Insurance Societies.

The object of this measure is to provide for the better control of Provident Insurance Societies not being Life Assurance Companies proper, and thus to lessen the risk of investment in such societies, many of which are understood to be carried on under anything but sound business methods.

The main provisions of the Bill are designed to secure (1) that all societies of the kind shall be registered; (2) full publication of proceedings; (3) that Local Governments and administrations shall deal effectively with such societies of the kind as are demonstrably fraudulent or unsound.

The Committee have notified their approval of the Bill.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

"THE Board of Trade Journal, published on the 18th ultimo, relating to Tariff Changes and Customs Regulations, give particulars about:—

DOMINION OF CANADA.—Changes in Customs Out-ports.

COMMONWEALTH OF AUSTRALIA.—Customs Decisions.

EAST AFRICA PROTECTORATE.—Customs Warning respecting Declared Value of Goods Imported by Parcels Post. Export Tariff Valuations.

ST. VINCENT.—Revised Export Duties.

EGYPT.—Revised Valuation Tariff for Raw Silks.

RUSSIA.—Duty-free Admission of Sea-going Iron Vessels. Bill dealing with Customs Privileges passed.

SWEDEN.—Control of Testing and Use of Imported Fuel Oil.

GERMANY.—Continuation of Most-Favoured-Nation Treatment to the United Kingdom, etc.

GERMANY-CAMEROONS.—Prohibition of Importation of European Cattle.

FRANCE.—Customs Decisions.

FRANCE-JAPAN.—Commercial Convention-Period of Provisional Application Prolonged.

UNITED STATES OF AMERICA.—Tariff Treatment of Samples.

CUBA.—Prohibition of Importation, etc., of Silencers for Fire-arms.

JAPAN.—Classification of Textiles (Thread-Counting, etc.)

ARGENTINE GAMBLING IN GRAIN AND LINSEED OPTIONS.

ACCORDING to *Dornbusch's Floating Cargoes Evening List*, dated January 15th, linseed markets in Europe and North America have, for the past few months, been of a highly speculative character with wide fluctuations in prices and new high levels reached, but even the most excited times in these markets have been eclipsed by the speculative excitement in the markets of Argentina. Owing to crop conditions in other countries unusual importance has been attached to the outcome of the Argentine crop for the present season. Early reports indicated an abundant yield, but later the weather conditions changed so materially that estimates were severely cut, and instead of abundance a heavy shortage was predicted. The reports changed again stating the damage inflicted upon the crop had been much exaggerated, and sentiment in Argentina, swinging from optimism to extreme pessimism, selling at the prevailing high prices was an allurements too strong to be resisted, the infection spreading from regular traders to outsiders, one account of the prevailing condition stating that the market in November and the first half of December was daily frequented by doctors, lawyers, clerks, tradesmen, artisans and the public generally, all engaged in a wild gamble under the easy methods provided by the rules of the Bolsa options markets at Buenos Ayres and Rosario and all, or nearly all, engaged in "bearing" prices. As usual under such circumstances the market became heavily oversold, particularly with renewed reports of crop damage, and an acute condition was created in which a number of regular traders were also involved. On Wednesday, December 13th, in Buenos Ayres margins to the extent of \$500,000 were met, evidently with more or less difficulty, as on Thursday, December 14th, it was agreed in Buenos Ayres not to quote any new prices, while in Rosario a holiday was declared, both with the object of affording time to the "shorts" to pull themselves together, and arrange for their settlements. A crash was thus averted, but the developments have called acute attention to the extent to which gambling in seeds and cereals has grown since the "options" markets in Argentina were started and to the extent to which the original purposes have been prostituted. The Press there has taken up the matter and is calling for Government intervention to check the evil of wild gambling, not only in linseed futures but in grain futures also. *La Razon* (Rosario), of December 19th, puts the matter succinctly when it says "what is taking place is shamefully against the statutes and the character of the institution (the Bolsa) and calls for an energetic and efficient remedy which will put a stop to a state of affairs which is harmful to everyone." The losses on the unfortunate bear campaign are estimated at several millions of dollars, outside speculators losing \$50,000 and in some instances as much as \$100,000 on individual accounts.

EAST INDIAN TANNED HIDES.

THE following letter from Messrs. W. Barker and Sons, Ltd., appears in the *Leather Trades Review* of January 17th:—We considered some years ago that for our purposes the best tannage of leather exported from India was the "Bangalore" which, being only slightly tallowed, was fairly clean both on the flesh and grain, but the Eastern tanner has gradually increased this tallowing on the "best" and "good" tannages that it is now rightly known as plaster.

Instead of oiling over with the usual quantity of grease, just sufficient to give the mellow feel so desirable, he now melts up about double the usual amount, and mixes with it as much whitening and mud as the greases will take up, this being applied to the flesh side of the leather. The result is that he gets twice as much grease into the hide, in addition to the coat of plaster which, owing to the adhesive property of the grease he has used, remains attached to the hide until it is shaved off in some British factory after having been purchased at the same price as the leather.

The analyses given below will give some idea of the extent to which these Bangalores are liable to be weighted. Sample No. 1 was taken from a parcel of five bales purchased on the 20th May, 1911, and were of a well known mark. When these kips came to hand it was noticed they were excessively plastered, and upon making a complaint to the shippers we were met with this reply, "that they were fair average quality of mark;" so, not being a large parcel, we decided to put them into work with the determination to arrive at the full extent of the weighting matter. They were washed in a tumbler with clean cold water, dried out and re-weighed. We were not surprised to find a loss of 12 per cent in weight, which increased the cost of the rough butts from 20½d. to 23d., an increase of 2¼d. per lb., which would be a total loss in this case, seeing they were intended for waxed kip butts. But had they been intended for semi-chrome there would have been an even greater loss, for the excess of grease must be removed before we can be certain the leather will not spue during the finishing process, as we know from experience this grease is most difficultly saponifiable.

While fully prepared to admit the above parcel was exceptional, regular users of Bangalores will readily acknowledge that the tendency during recent years has been towards a decided increase in the use of plaster to the great detriment of the leather, and this practice is now reaping its reward in the greater interest shown by buyers in the various lighter-weighting tannages sold under the name of "pure coast."

	Analysis No. 1 (May 24th, 1911). Sample of Bangalore Tanned Kip (heavily plastered).	Analysis No. 2 (Feb. 10th, 1911). Sample of Bangalore Tanned Kip (medium plastered).
Moisture	10.3 per cent.	Not estimated.
Ash	7.9 "	4.9 "
Fat	15.7 "	13.0 "
Total solubles	10.0 "	Net estimated.
Non-tans	5.5 "	" "

Commenting on this letter the *Leather Trades Review* says:—

"The communication appearing in our correspondence columns from a firm who use large quantities of East Indian leather is of the utmost significance, not only for those who depend for the greater part of their trade on the supply of Indian hides, but also for the exporters and the Indian tanners themselves. It is obvious that if the practice of artificial weighting continues to increase at its present rate, there will be a rapidly declining demand for leathers from this source, as the difficulty of dressing East Indian hides and kips at remunerative prices affords ample confirmation of this important factor in the economics of the leather trade. Of course, some tannages are infinitely better than others in this respect, but it is the general opinion that after allowing for the increase in leather values that has taken effect during the last decade, East Indian leathers do not 'stock out' so favourably as formerly, the result, it may be assumed, of sophistication.

"Now we understand the Indian Government is particularly anxious to cultivate and promote native industries, in which leather production, both from hides and skins, forms a not inconsiderable proportion, but the rate of progress in this particular branch of industry is very slow, and with the prospect of a retrograde movement, as regards the present demand, setting in, it will not be sufficient to merely appoint commissions to enquire into the causes of decline in the quality of the leather produced, but every effort must be made, by introducing practical measures of reform, to place the industry of tanning in India on a higher plane than it is to-day, or even than it was a decade ago. Only in this way will substantial progress be made, for the continued production of inferior qualities of leather will have a serious effect on the industry, and inevitably restrain further advancement. To resort to the sophistication of leather may bring ext profit for a time, but the practice is very much on a par with buying goods from a shop window sample, and finding, on inspection, that a much inferior article taken from below the counter has been palmed off. The buyer may, or may not, take the article, but he vows inwardly not to enter the shop again. The same sentiment probably operates in the case of a currier who has been badly bitten by the purchase of a heavily weighted leather, and we are not surprised that the firm who has disclosed the unsatisfactory state of the tannage of Bangalore hides should have attempted to find tannages more suitable for their purpose.

"As we pointed out a few years ago, the progress of India is of economic importance to Great Britain, and there is no doubt that a splendid opportunity exists of making rapid progress in the native industry of tanning in India if the tanners there will only direct their attention to the production of the best possible quality of leather free from any adulteration except the light coating of tallow, or

sesame (jinjili) oil, the application of which cannot perhaps be regarded as otherwise than an improvement, since it preserves the fibres from decaying to a certain extent.

"By the assurance of a pure tannage, and with the support of the Indian Government in initiating an active campaign to introduce improved methods for the preservation and sterilisation of raw hides and skins, both Indian tanners, and British curriers and dressers who purchase Indian leather would be greatly benefited."

LOCAL MANUFACTURES.

Charges for Inspections and Tests.

THE following Resolution has been issued by the Government of India in the Railway Department regarding charges for inspection and tests by the Superintendents of Local Manufactures under the Railway Board for other departments:—

In Railway Board's Resolution No. 2596-R. S., dated 21st December, 1910, a simple scale of charges was fixed, as a tentative arrangement, to cover the cost of inspection and tests to be carried out for other Departments by the Railway Board's Superintendents of Local Manufactures.

The experience gained since the issue of that Resolution has now provided sufficient data to enable a more complete schedule of charges to be framed, and an amplified scale of charges is accordingly detailed in the accompanying schedule.

It has further been decided, with reference to the procedure to be adopted for the accounting and recovery of these charges, that the Superintendents of Local Manufactures shall send monthly statements for acceptance by the Department concerned showing the value of the materials inspected and the charges for the tests made on behalf of that Department; and the accepted statements will be sent by the Superintendents of Local Manufactures at Calcutta and Bombay to the Examiner of Accounts, Eastern Bengal State Railway, and the Government Examiner of Accounts, Great Indian Peninsula Railway, respectively. From these statements the respective Examiners of Accounts will prepare bills, and adjust the charges against the Departments and State Railways concerned by credit to the head 41—Miscellaneous Railway Expenditure in reduction of the charges debitable to that head on account of the establishment and other charges of the two Superintendents. In the case of the Superintendent of Local Manufactures at Calcutta the allocation to "41—Miscellaneous Railway Expenditure" of these charges, which have hitherto been adjusted under "38—Working Expenses" will have effect from 1st April, 1912, to obviate alterations in past accounts.

Charges.

Schedule of charges for testing and inspection of the local manufacture of articles of iron and steel for

other Departments and State Railways by the Inspection staff under the Railway Board.

Note.—These charges are for work done in Calcutta or Bombay—additional charges to cover travelling expenses are leviable for tests and inspections made outside of these towns.

Duty.	Charges.
1. For testing (on private appliances only) when material contracted for by owners of the machine is to be tested.	A clause to be inserted in all agreements made between contracting departments and firms to the effect that the actual cost of all tests to be borne by the contractor. (a) Charges to be paid by contractors to owners of machine Nil. (b) Charges to be paid by contracting departments and State Railways to the Superintendents of local manufactures:— (i) for tensile tests . 5 0 0 per test. (ii) for c. i. deflection tests . 5 0 0 " " (iii) for bending tests 2 8 0 " " (iv) for forging tests . 1 0 0 " "
II. For testing (on private appliances only) when material not contracted for by the owners of the machine is to be tested.	(a) Charges to be paid by contractors to owners of machines— (i) For tensile tests if material is not cut to shape . 15 0 0 " " (ii) for tensile tests if cut to shape . 7 8 0 " " (iii) for c. i. deflection, bending, etc., tests 6 0 0 " "
III. For testing on Government appliances.	Note—These are charges levied ordinarily in Calcutta, but actual owners' rates must, of course, be paid. (b) Charges to be paid by contracting departments and State Railways to Superintendents of local manufactures, a fixed rate of . 5 0 0 per test (a) & (b) same as in II above— (i) When the value does not exceed Rs. 500 . 5% (ii) When the value exceeds Rs. 500 but does not exceed Rs. 2,000 . 2½% (iii) When the value exceeds Rs. 2,000 but does not exceed Rs. 10,000 . 1% (iv) When the value exceeds Rs. 10,000 Subject to a minimum charge of Rs. 100 . 4% Of the total value of the contract.
IV. For inspection to be paid by the contracting departments and State Railways to the Superintendents of local manufactures.	

THE HIGH COST OF LIVING.

A WASHINGTON correspondent writing under date January 1st states that the suggestion of Professor Irving Fisher of Yale that an international commission to study the cost of living be organised is receiving very favourable attention in Washington. Perhaps the strongest argument in favour of internationalizing this investigation is, he writes, found in the fact that the comparative method is absolutely necessary in studying prices. Prices in any given country are affected by given considerations, of course. When it is sought to compare them with prices in other countries not only these local inferences tend to distort the conclusions, but the fact that it is very hard to get uniform statistics on prices representing the same articles sold under the same conditions in all countries is found to be a serious difficulty. That means that comparisons are even more faulty than they need to be, so that the local influences such as tariffs, selling systems, etc., cannot be allowed for even to the extent that would be possible if data were gathered on a uniform basis. Moreover, no figures are now available for the silver standard countries and none for those using the paper standard. If some basis of common quotation could be arrived at, and an index number established, country by country, a great deal better results could be secured than are at all possible to-day.

One thing that it would be sought to deal with by the establishment of an international commission would be the testing of the question of gold prices and the general relation between the purchasing power of gold at different dates. Some economists are in the habit of attributing the whole change in prices to an increase in gold, while others regard that as only one of a great number of factors, many of which are more important than the change in the supply of gold. It is believed that whatever influence is to be assigned to the supply of gold can best be ascertained when an effort is made to isolate that factor. This of course can be done only by the international comparative method. It is probable that, should this method be carefully worked out, so that the disturbing effects of other price changes could be studied, a basis would have been laid for a much clearer understanding of the probable drift of prices in the future, consequent upon the further increase of the gold supply. At present, there seems to be every reason to suppose that the supply of gold will go on increasing, while it is recognised that the past ten or fifteen years of gold production has been a remarkable period, fully equal in importance to those which elapsed just prior to the time when Jevons published his book on "A Serious Fall in the Value of Gold."

The commission idea would not have obtained its present success if it were not that the promoters of the movement have no intention of making it an opportunity for graft. They say frankly that they do not want to have salaries paid to the members, and that they only want to get such an allowance for expenses as is absolutely necessary. It is

estimated that 25,000 dollars from Congress for the expenses of the American end of the investigation would be ample and that results would be obtained by having the investigations made in existing bureaus of the Government with the staff already employed by those bureaus. This is a point of view which is very unusual among those who are promoting commissions, but there is reason to think that in this case it is sincere. It undoubtedly constitutes the main strength of the movement for the commission form of investigation of the cost of living.

JUTE TRADE IN 1911.

THE Dundee jute trade has experienced another bad year. In the early months the situation was so critical that the production was reduced by about half, a state of affairs which had not existed for years past. During 1911 the failure of two firms occurred, while several establishments closed their doors rather than continue working at a loss. The closing months, however, saw brighter prospects, and it is hoped that in the cycle of trade bad times have again departed.

So far as the raw material was concerned prices rose steadily during the first few months. In January first marks were named at from £20 10s. to £20 15s., but while raw jute increased the prices for yarns and cloth did not follow in the same ratio. By March first marks had reached £22, with common 8 lb. cops at 1s. 10d. and 10½ oz. 40 in. hessians at 2½d. On the last occasion on which this figure for jute was touched—in 1907—the value of cops was 2s. 6d., with hessians at over 3d. a yard. Then however, the high prices were the direct result of legitimate demand, whereas this year they were occasioned by the scarcity of jute in an almost entire absence of business. April ushered in another rapid rise in the cost of jute, which was not expended until almost the end of May. During that period raw material bounded up from £22 to £27 10s., with cops at 2s. 5d. and 10½ oz. 40 in. hessians at 2¾d. It is interesting to recall that the highest limit of jute in the previous season was £15 15s., and that raw material had not reached such a height since 1906, when first marks held for £28, with cops at 2s. 9½d. and 10½ oz. 40 in. hessians at 3½d.

An innovation in the shape of officially quoting new crop material about the middle of May instead of the recognised date, the 1st July, had a detrimental effect upon the market. Speculative manipulation of raw jute caused great uneasiness, and for a time business was practically at a standstill. Both spinners and manufacturers were willing to shade their rates, but instead of this stimulating trade it had the effect of driving it away. The trade was again face to face with a serious situation. New jute was the predominating factor, and notwithstanding the fact that guaranteed first marks for August had dropped within a month from £26 10s. to £23, it was still at a high level. Old crop in the same period had depreciated something like £2 10s. There was a slight recovery with the

advent of July, but raw jute began to fluctuate, and everyone looked forward to the July forecast stimulating the market. For once in a while this it failed to do, and jute values went on rapidly depreciating. Cloth and yarn followed in the wake of jute until it was difficult to tell where these commodities actually stood, and the trade was thankful when the summer holidays came along.

On the resumption of business jute itself was easier at something like £20 7s. 6d., although yarns and cloth were now in a somewhat better position, even though the rates were 1s. 11d. for common 8 lb. cops and 2½d. for 40 in. 10½ oz. hessians. The situation, however, once again underwent a change for the worse, and first marks went tumbling down to £18 with cops at 1s. 9½d. and 10½ oz. hessians at 2½d. There was a desire again to reduce production, which had been fluctuating more or less all season. While jute recovered slightly, yarns remained stationary, and cloth went lower, touching 2½d. for 10½ oz. 40 in. hessians. A steadier tendency once more crept in, and although the prices going for manufactured goods would not bear contrast with the shipment value of new jute crop, many orders were accepted on the assumption that the cost of production might warrant the acceptance of such orders by the time stipulated for delivery.

In the beginning of September a considerable business was carried through in raw material. It was perhaps not quite up to the standard of purchasing at this time of the year, but it was the first real bit of business since the season began. Jute yarns were as a consequence in much better demand, and there were hopes that cloth would also participate in the improvement. The final jute forecast, bringing out a crop of 8,234,700 bales, had an unsettling effect upon the market. The crop was barely sufficient for all requirements, especially in view of the fact that stocks in Dundee were at a low level. A comparison of the price at the date of the final forecasts for the past few years provides interesting comparison:—

	First marks.	Cops.	Hessians.
	£ s. d.	s. d.	d.
1908	18 0	1 6	2 3/4s
1909	15 5	1 6	2
1910	17 0	1 8	2 6/4s
1911	20 5	1 10	2 12/4s

Despite the fluctuating tendency of jute, buying proceeded, and by the end of September the market became very active. The Argentine came forward with an extensive demand for jute bags, and standing machinery was soon at work. First marks rose to £21 15s. with cops at 2s. and hessians at 2½d. The majority of the orders were for early delivery, and in the generality of cases most of the firms had obtained work sufficient to keep them going until after the New Year. A fairly steady trade was maintained throughout the closing months, and the year finished with first marks of jute in the vicinity of £19 10s. and cops at 1s. 10d., and hessians at 2½d.—*Manchester Guardian*.

THE COTTON TRADE INDUSTRY.

Capital Costs.

In the course of a lengthy article on this subject the *Economist* writes:—Some illuminating estimates of the present replacement cost of New England cotton mills were given by Mr. Franklin W. Hobbs in his recent presidential address to the National Association of Cotton Manufacturers at Manchester, New Hampshire. Reducing his figures to their sterling equivalents we have the following estimates:—

	Cost per Spindle.
	s. d.
<i>Spinning only.</i>	
(a) Carded yarns, averaging No. 20, single	93 9
(b) Carded yarns, averaging No. 20, twofold	100 0
(c) Combed yarns, averaging No. 80, single	87 6
(d) Combed yarns, averaging No. 80, twofold	98 0
<i>Spinning and Weaving Combined.</i>	
(a) Coarse cloth, all carded work, averaging No. 20, with common looms	102 0
(b) Coarse cloth, all carded work, averaging No. 20, with automatic looms	110 5
(c) Fine cloth mill all combed work, No. 80 warp and No. 100 weft, common looms	98 0
(d) Fine cloth mill all combed work, No. 80 warp, and No. 100 weft, with automatic looms	106 5

We have here a cost per spindle for spinning mills alone ranging from 87s. 6d. to 100s. per spindle, and for spinning and weaving mills combined from 98s. to 110s. 5d. Ignoring the higher costs due to doubling and to automatic looms, we may put the average costs for mills producing single yarns and plain cloth of medium counts at 90s. 7½d. per spindle for spinning mills and 100s. per spindle for combined spinning and weaving mills. How do these capital costs compare with the costs of similar plants in Lancashire?

According to the best authorities the present cost of an Oldham spinning mill for average counts is from 24s. to 25s. per spindle for a mule mill, and 34s. to 35s. per spindle for a ring mill. In America most of the spinning (except the finest) is done on ring frames, in Lancashire most of it is done on mules, which require a higher standard of skill in the operatives; but comparing English ring mills with American mills we find the comparative costs to be:—Lancashire (say) 34s. 6d. per spindle; New England, 90s. 7½d., or for a mill of 80,000 spindles a total capital cost of £138,000 in Lancashire against £362,500 in New England.

The American figures appear to be almost incredibly large, and it is fair to say that somewhat lower figures were given in 1910 by Mr. J. R. MacColl, a former president of the National Association of Cotton Manufacturers of America. He

estimated the cost of an ordinary print cloth mill, with ordinary looms, at about 75s. per spindle, and with automatic looms at 83s. 4d. per spindle, and added that he knew of some fine combed yarn mills which had cost 100s. per spindle. Even these figures, it will be seen, leave an enormous margin of capital advantage in favour of the English mill.

The average cost of a weaving mill in Lancashire may be put at £35 per loom for ordinary work and there are between 70 and 80 spindles to every loom. The cost of a ring spinning mill with looms in proportion would therefore be not more than 45s. per spindle, which compares with the average figure of 100s. per spindle for America (Hobbs), or 75s. per spindle (MacColl). The total costs of an 80,000 spindle mill with looms to match would thus compare as follows:—

England.	America.	
	Hobbs.	MacColl.
£	£	£
180,000	400,000	300,000

If we reckon interest and depreciation at 10 per cent, it will be seen that the initial disadvantage under which the American mill labours in competition with an English mill manufacturing for the export trade is anything from £12,000 to £22,000 per annum.

With regard to the advantages enjoyed by the Lancashire industry over Continental rivals, careful comparisons instituted by Mr. E. E. Todd ("The Cotton Trade and the Tariff Controversy") give the following results. Although put forward in a controversial connection, Mr. Todd's figures (for which the original authorities are in most cases given) have not been seriously challenged:—

Switzerland.—Total cost of spinning mill and equipment, £3 to £4 per spindle. Conditions such as cost of land, building wages, and style and class of machinery vary considerably, but a wide estimate of the cost of weaving mills, for typical conditions, is £48 to £80 per loom for grey goods, and £60 to £120 per loom (drop box motion or dobby type) for coloured goods. ("The Cotton Trade in Switzerland and Italy," S. I. Besso, 1910.)

Italy.—Spinning mills cost from £2 to £3 per spindle. "The cost of a small shed of 150 looms for weaving fancy coloured goods was £18,000, inclusive of a dyehouse for dyeing the yarn and a department for finishing the cloth. A shed of 1,000 looms, part jacquard and part dobby, for weaving coloured goods cost £260,000 inclusive of yarn dyeing and doubling departments, cloth finishing department and cloth warehouses. The cost per loom inclusive of all equipment, but exclusive of the building, was £140. The total cost of a shed of about 300 fancy looms is usually from £80 to £100 per loom, including both building and machinery." (Besso. *Op. cit.*)

France.—Whereas a spindle ready for working costs in Oldham mills 32f. to 60f. (26s. 8d. to 48s. 4d.), in France, according to the evidence of Yver, the minimum cost is 72f. (58s. 4d.), and according to the assertion made by Legrand in the report of the

Custom House Commission of the French Chamber the cost is 75f. (£3). Much of their machinery is of English origin, but owing to economic conditions the difference in the cost of construction and maintenance, as between the English and the French mills, is enormous.

Germany.—The highest Continental authority on the Cotton trade, Schulze-Gavernitz, gives the cost of a spindle in Oldham as 24s. and in Alsace and Germany as 60s. Schulze-Gavernitz writes:—"The expenses of a spinning and weaving mill are less in England than in any other part of the world. These advantages become still more evident when from the valuation of the natural element as it were—land, bricks, iron, etc.—we pass on to consider the material, in the construction of which capital and labour have a predominating influence. In this respect the advantages of England are enormous." ("La Grande Industrie," pp. 212—3.)

Mr. Todd tabulates the cost of mill building and equipment in various countries as follows:—

I.—Spinning.

In Lancashire, 24s. to 25s. per spindle for a mule mill, and 34s. per spindle for a ring mill.

In Switzerland, from £3 to £4 per spindle.

In Italy, from £2 to £3 per spindle.

In France, from 58s. 4d. to £3 per spindle.

In Germany, 60s. per spindle.

II.—Weaving.

In Lancashire, £34 per loom.

In Switzerland, for grey goods loom, £48 to £80 per loom; for coloured goods £60 to £120 per loom.

In Italy, £80 to £100 per loom.

III.—Spinning and Weaving.

In the United States, £3 15s. to £5 4s. per spindle including weaving plant.

In Lancashire, about £1 15s. per mule spindle including weaving plant; about £2 4s. per ring spindle including weaving plant.

As to the cost of running the mills, in the report by Pierre Legrand referred to by Lecomte, regarding the English spinning mills of Star, Westwood, United, Honeywell, Duke, Fern, Henshaw, and Royton, comprising a total of 605,926 spindles, it is shown that the yearly expenses per spindle, for labour alone, amount to 3.74f. (3s. 1d.). In France between the extremities of 4.92f. and 6.61f given by Lecomte, Mr. Todd takes as an example that of two mills in the vicinity of Remiremont, where the cost is 5.54f. (4s. 7d.) per spindle. The experience of English companies which own cotton mills in Lancashire and in foreign countries substantially confirms the foregoing evidence.

To sum up, the advantages which enable Lancashire to maintain her lead in the export cotton goods trade appear to be:—

- (1) Suitability of climate.
- (2) Hereditary specialised skill of operatives.
- (3) Concentration and technical specialisation of the industry and allied trades.
- (4) Highly developed commercial organisation.
- (5) Low capital costs and high economy of wages due to absence of import duties.

YEAR'S BRITISH FOREIGN TRADE.

All Previous Records Broken.

BOARD of Trade returns for December and for the year 1911 have now been issued. For the month imports, at £65,002,014, show a decrease of £4,107,447, and exports, at £38,571,879, an increase of £1,147,769. The figures look disappointing, but it has to be borne in mind that they are compared with a month which showed an increase on 1909 of £8,328,000 in imports and £3,635,000 in exports. The present values, therefore, exceed those of 1909 by £4,220,846 in imports and £4,781,982 in exports. The position can be best gauged, however, by taking the figures for the year rather than the month, and from these we see at once that, despite the transport troubles of the summer, a new record has been set up. In 1910 the total trade, as shown in imports and exports combined, exceeded that of the boom year, 1907, by £37,186,000, but imports accounted for £32,632,000 of this and exports for only £4,554,000. Now, as might be expected, the movement is in the opposite direction, for while the exports show an increase of £23,897,688 the imports are only £2,302,151 up, and the balance may be said to be adjusted. The following table shows at a glance how the figures for the last five years compare with each other:—

	Imports.	Exports.
	£	£
1907	645,807,942	426,035,083
1908	592,953,487	377,103,824
1909	624,704,957	378,180,347
1910	678,257,024	430,381,772
1911	680,552,175	454,282,460

The year's imports show increases of £6,652,588 in food, drink, and tobacco, and £8,733,328 in articles wholly or mainly manufactured, but a decrease of £13,012,911 in raw materials and articles mainly unmanufactured. The figures, however, need some explanation. Grain and flour, for instance, have fallen as much as £1,535,528 but this is due to the fortunate circumstance that prices have been lower, the weights of the import being actually more than 1,000,000 cwts. larger. The same remark applies to raw cotton. In value there is a decrease of £556,394 but the weight has increased from 19,727,413 to 22,070,881 centals of 100 lb. Wool has gone down £1,271,000 in value, from a total of £37,332,470 in 1910, but the bulk has only fallen from 797,418,403 lb. to 795,091,310 lb. The most notable of the other items in the table of the year's imports are increases of £2,057,997 in iron and steel and manufactures thereof, £2,892,958 in other metals, and £1,298,376 in machinery. Of the increase in the imports only £50,341 has been contributed during the last quarter.

On the export side of the returns the cotton trade makes by far the best showing. The raw material has been cheaper in the last few months, but notwithstanding that the total value of the goods sent

out has been £120,068,730, which is an increase of £14,197,522 on 1910 and £26,623,931 on 1909. The following table shows how the year's exports compare as regards bulk with those of 1907 and the intervening years:—

	Cotton yarn.	Cloth.
	lb.	Yards.
1907	19,038,800	6,297,707,900
1908	15,150,800	5,530,808,500
1909	15,337,800	5,722,158,100
1910	17,643,700	6,017,625,200
1911	18,631,300	6,653,613,900

The woollen trades have failed by £261,704 to the value of their 1910 exports, but 1910 marked a great advance from £30,971,804 to £37,516,397. The coal trade shows an increase of £633,995 in value, and the weight has gone up from 64,520,320 tons to 67,276,846. Machinery has increased £1,706,023 to £30,977,403; iron and steel are £744,947 better, at £43,751,618; and "other metals" have gone up £674,915, to £11,027,269. Electrical goods values have fallen £1,278,831, but cutlery is £973,714 up. New ships, strangely enough, show a decrease of £3,108,159, to £5,662,045. The ship-building returns show that as a matter of fact there was great activity in this trade in 1911, and that on some of the rivers new records were established. It must be taken, therefore, that a larger proportion of the work done has been for British shipowners, and in these circumstances a decrease in the exports can perhaps be viewed with equanimity. Chemicals show an increase of £1,524,998; clothing apparel, which totals £13,820,814, is £1,103,227 up, and railway carriages, motors, etc., at £8,144,827, have improved to the extent of £694,850. The exports as a whole have improved very much during the last quarter, the increase at the end of the third quarter being only £12,600,843, as against £23,897,688 at the end of the year.

The imports for the month show a decrease of £6,401,669 in raw materials, which is more than accounted for by a fall of £6,499,050 in cotton. The weight of raw cotton has not fallen to the same extent, but it does show a decline from 4,309,617 to 3,408,326 centals. Even the latter total, however, is nearly 1,000,000 centals larger than that for December, 1909. Food, drink, and tobacco show an increase of £1,836,532, and articles wholly or mainly manufactured £473,014. There are rather more decreases in the exports than have been usual of late, but there are also some substantial increases, among which may be noted £428,920 in food and drink other than meat, £428,979 in coal, coke, and manufactured fuel, £111,951 in iron and steel, and £645,538 in new ships. The exports of foreign and colonial merchandise (not included in any of the totals given above) amount to £3,679,849, which represents a decrease of £1,196,770. The total for the year is £102,720,799—that is, £1,040,246 less than in 1910, but £11,375,980 more than in 1909.—*Manchester Guardian*.

THE COCOANUT PALM IN CEYLON.

IN respect of this, our principal palm, the past year, says the *Ceylon Observer*, has been a very remarkable one in more ways than one. For instance, prices have been excellent throughout; but the quality of the kernel, as a rule, has been described as exceedingly poor, owing, no doubt, to the very dry cycle (1903 to 1911 inclusive), the drought last year being so severe that a very large number of coconut trees (particularly those grown on cabooky soil and in cinnamon) died outright. Some people actually hold that the opening-up of the extensive Sabaragamuwa forests is one of the causes of our several consecutive dry years with practically half our usual rainfall in Colombo, and, in fact, all over our low-country planting districts; but this idea is too far-fetched, in view of previous dry cycles. And whether there is anything in that forest theory or not, we can at least safely look forward to the virgin forest being replaced by a "forest of rubber" or even fields of tea shrubs; and so, apart from our wet cycle now due, there is every chance of getting back to normal rainfalls and to due conservation of "pluvial deposits" in place of raining suddenly and causing floods. This conservation would be due to the favourite new cultivation of rubber as well as tea.

Cocoanut Oil.

Taking our chief palm product (cocoanut oil) first we find we have exported for last year 512,269 cwt. against that of our very best year (1908) which had 670,121 cwt. with 616,377 cwt. in 1910. The demand was steady throughout the year, and prices f.o.b. Colombo ranged from Rs. 525 to Rs. 535 in December and the price of spot oil in London seemed to be fixed at £43 10s. for the same month, while it is now £44. The United Kingdom took, as usual, most of the Ceylon oil. Some two years ago it looked as if the Soy bean oil would become a regular menace to the cocoanut product; but this scare seems to have vanished, and the great "soap" industry of the world continues to be our best customer, and, indeed, owing to the increased demand for soap, the manufacturers have even some difficulty in securing sufficient raw product (nuts or copra) for their requirements. The steady demand for copra also points to there being room for the expansion of cocoanut growing in the Federated Malay States and other parts of the tropical East as soap is not likely ever to go out of use, but will increase in consumption.

With the opening of the railway to Chilaw the probability will be that new Oil Mills will be opened in that district, and thus a good deal of the copra will be purchased from the boats from the North and be crushed and the result sent in to Colombo—by the railway. A correspondent, however, thinks that the C. G. Railway will have to reduce the present rates or the bulk of this produce may continue to go by the cheaper old padda boats to Grandpass, as senders will not care to have their copra dumped down at the present over-congested ter-

minus; and he adds that the railway continues to lose a large volume of this important traffic passing its very door daily at Negombo. If rates were reduced, this would all be carried by rail, particularly if a market for its sale was made at or near the new Fort Station. It seems, continues our correspondent, that the General Manager is afraid to come down to "boat charges" for fear they (the boatmen) go "one better" and reduce their charges! [But of this, there is little chance, we are assured.]

Copra.

This has been very even in quantity over the last four years, last year being, strange to say (severe drought and all) the best with no less than 788,695 cwt! This is clearly a record for the decade, if not for the history of the product. The copra-man proper, that is the man who goes round and buys up all the best nut crops, has a pull over the desiccating miller (as well as on those who buy nuts for shipment) in that he can pay a higher price. But with all the huge shipment, their profit, owing to inferior kernels, has not been so good in 1911, as in former years, as it took in many cases, over 1,500 nuts to produce a "candy of copra." As regards distribution, the figures for the exports for copra are very remarkable; for, while Russia and Germany took this year no less than 723,058 cwt., all other countries together took the paltry quantity of only 65,637 cwt! Prices fell to Rs. 67-25, to which it dropped during the first quarter. In August it started on a steady up-grade until it reached Rs. 92-50 to Rs. 93-25, or, within 25 cents per candy of its greatest price which was touched during the previous year—a price never reached in its former history.

Desiccated Cocoanut.

The greatest increase of our exports is in this article with no less than 22,604,546 lb. for the year! The demand seemed to be greater than ever, owing probably to the very heavy manufacture of confectionery in the first half of the "Coronation" year. The United Kingdom took 15,905,804 lb., or little less than our total export in the year 1902. The six years of short rainfall (averaging about 59 inches only, against 41 years' average of 82.91 inches) began to tell very much on the size and quality of cocoanuts, with the result that it required considerably over 3½ nuts to the pound of "desiccated." Prices ranged from 19¼ cents to 26½ cents, the year ending with 22½ cents per pound for ordinary assortment, but the heavy consignments to Europe, towards the third quarter, caused a fall in prices, while people looked for the usual "cold weather" rise. Mills indeed were compelled to go slow; while some had even to "shut down" for a time. The exports for the three years preceding that now under review, were remarkably even, the greatest being that of 1908, with 27,410,230 lb. The question is—Will the trade demand for this article continue to increase in the present day and with the past ratio? This is very doubtful, for a luxury such as desiccated cocoanut undoubtedly is. It is clear, however, that there are new uses,

and now it is being used so freely for "curries" that we need fear no great falling-off in the future. Exports of this important product were unknown prior to 1884 or 1885, and even now the industry is practically confined to our own little colony. Cocoanuts were being sold to the Mills, and to Copra-men at rates reaching Rs. 64-50 per 1,000 in the first and second quarters and falling to Rs. 52 in the last quarter, when prices of desiccated nut and copra also fell so considerably, that there was a very small margin of profit and when both these—desiccating and copra drying—fell off very much. Some special lots of nuts fetched nearly Rs. 70, but the above prices are a fair average.

Cocoanut Poonac.

It would appear that there is but little chance of the export of this article ever increasing in the future, and it is clear that other cattle foods must be taking its place in Europe, or most probably, the higher cost of "poonac" may be the cause of a falling-off. We exported only 213,982 cwt. last year against 309,549 in 1910, while it reached 304,642 cwt. in 1908.

Nuts in Shell.

There is a considerable falling-off in the export of these, the figures for the year being 15,589,189 nuts against no less than 21,188,692 nuts in 1908. As stated already, the size of the nut and quality were never so poor as in 1911 and at present, owing no doubt to the consecutive years of decreased rainfall over our chief nut zone, north of Colombo; while south of Colombo as far as Matara, with a heavier rainfall, the yield, nevertheless, has also been poor but quality better. It is, we believe, a well-known fact that a wet climate is not at all conducive to a heavy cocoanut crop, and that a rainfall of 50 to 60 inches, if well distributed, suits this palm best, with an average soil.

Coir Yarn and Fibre.

Yarn export last year was a little over 1910 and will probably continue to be very steady in export and in price: but there has been a very remarkable rise in fibre. While "Bristle" No. 1 and No. 2 are very steady at former prices, "Mattress" fibre has risen from Rs. 1-25 to Rs. 5 per cwt. in Colombo! Mills have accordingly been working during the year "full blast," while several new ones (run up in 1909 and 1910 and never worked in that period) are now all working at high pressure—so much so that the demand for machine hands for the mills is very great. Thanks to the increased uses of the last-named fibre (including the making of "fenders" for the great defenders of the Empire, the "Dreadnoughts") these high prices seem to have come to stay. Let us hope the pendulum may not start swinging the other way, lest it may be case of too many new Mills being rushed up! This "fibre boom" has resulted so far, in nut growers making an extra rupee or two on every 1,000 nuts they sell, by the increased demand for the cocoanut husks.

In conclusion, we cannot help thinking that our cocoanut palm enterprise is in a very sound condition; but there are some amongst us who think that the local manufacturers of the products should get greater encouragement than at present and that a levy should be raised on the steady stream of our raw materials, nuts and copra, sent away from the Colony to foreign lands to feed their great factories. The wish is to impose an export tax, and that we should send the Continent of Europe our manufactured goods only, and so find further employment for more of the Ceylonese people, who are never likely to find their way from the towns to work on the estates—Cocoanut, Tea or Rubber. There is good motive involved in the wish. But the policy thus indicated—apart from the general objection to export levies in the Colonies—touches a question which has two sides in reference to the Continent of Europe and opens a great vista of controversy. For instance, what would Ceylon say if, for instance, Russia by way of reprisal (for our interference with Free Trade in Copra) raised its Import Duty on our Ceylon Tea? And this is only one of the complications that would ensue if provocation was given in the way indicated. For it must be remembered that our Continental customers have Consuls all over the world whose bounden duty is to inform of any impending fiscal or customs duty which affects their trade. In the end, Ceylon and its people would be sure to suffer.

—In their annual review of the wool trade, Messrs. Ronald and Rodger state that as regards East India Wool the statistics for the past twelve months are satisfactory, as, with minor fluctuations, quotations reveal only slight falling off in the better bred Whites, and a hardening in medium grades, while the cleaner Yellows have gained distinctly, and useful Greys on the average have maintained their value. To what extent, if any, strict limits and free withdrawals have assisted in helping the market is a matter of opinion; but there is no doubt that buyers have legitimate cause for complaint about the excessive adoption of this policy. As a matter of fact, while of course in some cases it was possible to effect sales between the series at a slight enhancement on bids at the auctions, a very large proportion of the transactions were completed at the actual bids made and not seldom indeed owners invited and accepted offers below those they had previously refused. If shippers would pay more attention to sorting and cleaning the wool before packing, so that buyers could more easily estimate its true value when examining it for the auctions the natural competition to get possession of honest stuff would be the best protection of their own interests. The conditions of some of the parcels sent this year, reckoned to be made up of more dirt than wool, was simply scandalous, and honourable dealers in India should undertake the repression of such frauds, seeing that the malpractices of some engender doubts as to the genuineness of the properly got up shipments of others.

COMMERCIAL BOMBAY.

We take the particulars below from the Report on the Administration of the Bombay Presidency for the year 1910-11:—

Agricultural Experiments.

The experimental work of the Agricultural Department was continued on the same lines as in previous years. The positive results of this work are becoming increasingly evident. In several directions the field of theoretical experiment has now been systematically surveyed and the immediate problem is to bring into practical application on a large scale the results attained by experiment on Government farms and in selected localities. In particular the question of cotton improvement has reached a stage when it is possible to formulate certain definite conclusions. The areas indicated for exotic cottons have been narrowed down to Sind, which is eminently suitable for American and Egyptian cottons, and to the south-east of the Dharwar district where Cambodia cotton is shown to yield excellent results. Investigations conducted on the farm at Surat have led to the selection of two or three species as the best adapted to this locality. The value of this discovery has been practically demonstrated by the offer of a Bombay syndicate to buy up 2,000 bales of selected cotton at a figure 5 per cent in excess of the current local rates. The suitability of the short-stapled Roseum cotton for Khandesh and of Broach seed cotton for the Southern Maratha country has also been established. The important problem of the quantity of irrigation most favourable for sugarcane growing has been under investigation for some years at various centres. The results attained have been uniform and may now be considered conclusive. Experiment has also proved the value of sulphate of potash for this crop. Systematic work is being carried on in seed selection for jowar and is likely in the long run to produce marked results. The distribution of foreign groundnut seed still continues, but in many tracts the crop is now so thoroughly established that special efforts in the future will scarcely be needed. During the ten years that the Agricultural Department has taken active measures in this connection, the advance in groundnut cultivation throughout the Deccan has been very remarkable, while the area under cultivation with this crop has more increased eightfold. Manurial experiments have again demonstrated the value of nightsoil and poudrette. Mhowra refuse is shown to be a useful manure, but it is probable that a quickened demand would bring about a considerable increase in cost. Artificial manures can be made to pay with cotton in a good year and at the present high prices, but for dry crops under normal conditions farmyard manure still remains the cheapest fertilizer. The problem of removing deep rooted weeds from the black soil of the Presidency is one of the important with which the Department has to deal. Tillage experiments and the trial of improved implements

are being continued, and experience in these matters is accumulating.

Manufactures and Industries.

With the continuance of high prices for raw cotton the position of the spinning and weaving industry showed little improvement during the year. Several mills went into liquidation, others remained wholly or partially closed and few were able to yield more than nominal returns. Ginning and pressing factories worked under more favourable conditions, because the area sown with cotton had increased through the anticipation of a good market and in spite of the damage occasioned by unseasonable rain and frost the total output was only 12 per cent below that of the previous year: while the prevalence of high prices made cotton-growers anxious to sell their stocks and to realize immediate profits. There are signs, however, of a growing tendency on the part of producers to rebel against the gin owners' trusts which have hitherto enjoyed a practical monopoly in some districts. The hand-loom industry chiefly supplies a local demand which fluctuates more or less with the character of the season. The conditions in the past year were favourable, but the industry in general shows few signs of real progress. Attempts to introduce improved methods have been handicapped by the want of skilled manipulators or, when these are specially trained, by the absence of capital. Sugarcane-growers experienced a satisfactory season, although the area under cane in the Poona district was slightly below that of the preceding year. The problem of financing cultivators on the Nira Canal has advanced an important step with the decision to establish village co-operative credit societies supported from a Central Bank in Bombay. There are four match factories in the Presidency and several iron and brass foundries. A hardware factory situated near the black cotton area of the Satara district makes a speciality of agricultural implements, especially iron ploughs and labour-saving machines, and is reported to be doing a good business. For the most part however, industrial enterprises of this character remain in the stage of experiment and are still faced with the difficulties incidental to new undertakings. The mining industry of the Presidency is comparatively small, and it has experienced a serious set-back by the practical closing down of the Gadag gold field in the Dharwar district. The manganese mines of Belgaum also yielded no output during the year. There was some prospecting activity in Ratnagiri and the opening of the Champaner-Shivrajpur Light Railway gave a stimulus to manganese mining in the Panch Mahals.

Trade.

It is satisfactory to record that the current of trade revival which set in during the year 1909-10 continued with undiminished force throughout the

year under review. The favourable conditions noted in 1909-10 were again present. The season was generally good, prices of agricultural produce and specially of cotton remained at a high level, and the natural re-action towards increased expenditure after the Sinhasht period had not fully spent itself in the previous year. Under these influences the total value of the sea-borne trade of the Presidency proper increased by 13 per cent and reached the unprecedented figure of Rs. 190 crores. A noteworthy feature of the year is the increase amounting to nearly double in the net consumption of gold bullion. The expansion in imports is, however, nearly general, the only considerable exceptions appearing in imports of textile machinery (which were affected by the continued depression in the cotton industry) and of cotton twist and yarn. Foreign exports increased by Rs. 7.89 crores, but nearly half of the increase is due to the rise in price of raw cotton, shipments of which were actually less in quantity than in the preceding year. An advance of 24 per cent in re-exports of foreign merchandise is a satisfactory sign of renewed trade activity between Bombay and ports on the Persian Gulf and the East African littoral. The land trade of the Presidency proper rose in value by 5.8 per cent to a total of 121 crores. The aggregate sea-borne trade of Sind shows a net increase in value of 2½ per cent. In point of distribution of trade the United Kingdom and British possessions remain in practically the same position as in the year 1909-10. Their combined share in the trade of Bombay was 43.15 per cent while that of the United Kingdom alone was 31.69 per cent or 5 per cent more than in the previous year. In comparison, the trade of Bombay with the countries of Continental Europe shows a larger proportionate increase effected chiefly at the expense of China and Japan. Exports to Continental countries expanded by no less than 37 per cent and the aggregate share of these countries rose from 27 to nearly 32 per cent of the total trade of the port.

The private foreign trade of Bombay increased in aggregate value from 130 to 148½ crores of rupees. The value of imports was 80 crores. Out of these 32½ crores represent imports of gold and silver, showing an advance compared with the previous year of nearly 10 per cent due to increased receipts of gold bullion, which expanded by no less than 50 per cent. Imports of foreign merchandise increased by 19 per cent, and the total reached of 47 crores was the highest figure yet recorded. More than half of these imports consists of manufactured and partly manufactured articles. Imports of cotton manufactures and of twist and yarn were valued at 12 crores and one crore, respectively. Trade in imported yarn shows a marked decrease of 38 per cent, but the importations in 1909-10 were exceptionally heavy and there is reason to believe that these stocks had mostly passed into consumption by the close of the year under review. On the other hand, imports of cotton piece-goods show an increase 22 per cent in quantity and 32 per cent in value.

WHY THE TURKISH MARKET IS DISTASTEFUL TO MERCHANTS.

A London correspondent writes to the *Journal* of the British Chamber of Commerce of Turkey:—

There can be little doubt to anyone who is at all familiar with matters commercial in general and trade conditions in the Orient in particular, that there is considerable reluctance on the part of the British trader to open up business connections with Turkey. Many causes have, to a greater or lesser degree, tended and still do tend to produce this feeling, such as the past unstable Government, the disastrous experiences of many merchants who have attempted to do business there, the high freight and insurance charges, and countless other reasons which have all contributed in some measure to establish the bad reputation, which certainly does exist at the present day.

Now, a careful examination of this subject would prove that the British merchant is, to a great extent, himself to blame for this state of affairs, and to illustrate my point, I will state a case which, unfortunately, has been the experience of too many merchants in this country who have attempted to do business in the Near East.

We will suppose that a London merchant receives an order from a firm in Constantinople. They probably send a deposit with order, and may also give a trade reference, with whom they have had a previous small transaction, which has been carried through successfully. Without further question the order is despatched, the seller draws a bill at three days' sight for the balance due, attaches to it the documents and passes it on to his bankers for collection, consoling himself that the documents cannot get into the hands of the drawee until he has paid the draft. In about ten days' time, he may receive information from his bankers, that the bill has been protested for non-acceptance, owing to the non-arrival of the goods, incurring expenses to the extent of about £1-8-0. This does not perturb him much as he expects this expense will be borne by the drawee. A few days later, he may receive further notice from his bankers, that the bill has been protested for non-payment, at a further charge of £1-8-0, and that the goods are lying in the Custom House incurring heavy expenses. The drawer now proceeds to write to the drawee for an explanation, regardless of the fact that the goods are lying in the Customs, and receives a reply to the effect that he is prepared to pay the face amount of the draft, but refuses to pay the protest charges; after some hesitation, the drawer agrees to this reduction and gives instructions to his bankers to accept payment less the cost of protest. The next information he receives from his bankers will be, that considerable charges have been incurred by the goods lying in the Custom House, the eight days free storage having expired, and that the drawee refuses to pay these charges. By this time the drawer is so disgusted with the whole business, that he will

give instructions to his bankers, to have the goods sold at the best possible price. The buyer in such a case is almost invariably the drawee of the bill in question, who obtains the goods sometimes at a reduction of about 50 per cent. of what he would have had to pay originally. The drawer thus obtains his first experience of trading with Turkey, which he vows will be the last, whereas the drawee is left to practice his chicanery with his next order.

I will now explain how, with a little care, the above experience might have been avoided.

The first step should have been to obtain an independent report from a firm with whom they may have done business, a bank, or a commercial enquiry bureau, preferably all three. Should the report appear satisfactory the seller should have next made himself acquainted with the banking customs prevailing at the town where the goods were to be despatched, he should also have ascertained what the Customs regulations were, what the notarial expenses amount to. He should also have found out the most direct route by which to forward the goods. By a knowledge of these facts the experience I have related might have turned out very differently. We will presume the report he received from his bankers to be as follows: "Established some time, means uncertain, great care required in dealing with him." Now the chief point in this report to guard against, is the latter part, which means that the seller must on no account give buyer any possible chance of having legitimate reason for refusing his bargain. Having ascertained that it was usual at the port to which he was despatching the goods, to await the arrival of the vessel before accepting or paying drafts, he would not have drawn his Bill at three days' sight or otherwise, he should have instructed his bankers to await the arrival of vessel before incurring notarial expenses. Had he enquired what the Custom House regulations were, he would have learned that only 8 days' free storage is allowed, after which the charges are high and progressive. With this knowledge he would surely have made some provision for the goods being warehoused in the event of their refusal and thus have avoided the heavy charges that were incurred. Having found out that the notarial expenses for protesting a Bill for non-acceptance were £1-8-0, and that the same amount would be charged again for protesting the Bill for non-payment, it would have been obvious to him that it was unwise to draw his Bill at three days' sight.

With the knowledge of these facts and having given the necessary instructions to his bankers, it would have been quite possible for the drawer, in the above case, to have had the goods returned to him with a minimum of loss, viz., freight. The great probability is, however, that the drawee seeing that there was no opportunity to *chicanery* would have paid the Bill.

It must not be supposed that all Turkish traders are given to chicanery; far from it—they are the exception and not the rule. But unfortunately these few have been the means of spreading distrust among a large circle of exporters in this country, who are themselves as much to blame for not taking the ordinary business precautions necessary when trading with a foreign country.

RUBBER TRADE IN 1911.

ALTHOUGH the fluctuations in the price of rubber have not been so wide during the past year as in 1909-10, they have shown variations quite wide enough to prove more or less embarrassing to manufacturers of rubber goods, particularly during the first six months, and to suggest that the element of speculation, if subdued, had not been eliminated. The highest prices of the year were seen in the first quarter and the lowest in the second quarter with the range during the remaining six months confined within narrow limits. The year opened with a firm tone, and fine Para was quoted at 5s. 6½d. per lb. on the spot. During January the price went no higher than 5s. 8d., but in February the market rose gradually until the high point of the year, 7s. 1d. for fine Para and 8s. for best plantation smoke, was touched. During March there was a drop of 1s. 6d. per lb. to 5s. 7d. for fine Para, a further fall in April to 4s. 11d., with best plantation down to 5s. 5d. The end of May saw the low point of the year, 3s. 11d. for fine Para touched again in June, but that month closed at 4s. 3½d. In July the market receded to 4s. 1d., and between that price and 4s. 11d. subsequent fluctuations have been confined, the closing price on December 20th being 4s. 6d. for fine Para and 4s. 11d. for plantation smoked.

The demand from consumers has been fitful, and at times has been governed by influences other than their trade requirements. The chief of these has been the endeavour in Brazil to put through a valorisation plan for rubber, as has been done for coffee, and the knowledge that financial assistance had been given meanwhile to enable holders of rubber there to refrain from pushing their supplies upon the market. It was known that with aid rubber was being held back and that stocks were accumulating in Brazil. With this knowledge came a fear that such accumulation might suddenly be released, and conservative buying was a natural consequence. So far there has been no indication of any unusual movement, but meanwhile the supplies coming forward from South America, with increased shipments of plantation rubber from the East, and other contributions have been nearly sufficient to meet requirements, stocks in London and Liverpool at the end of November compared with November 30th, 1910, showing a very moderate reduction (about 4,100 tons against 4,900 tons, while on November 30th, 1909, they were but

2,170 tons). In this connection it may be stated that this year's stocks are in part estimated, owing to the policy lately adopted by some importers of refusing to divulge the stocks held in warehouse by them.

The Brazilian valorisation scheme has not been accomplished so far, but it has not been abandoned, and a Bill drawn up by a Special Committee is to be submitted to the Brazilian Congress with that end in view. Its provisions are too numerous to detail here, but they are all in the direction of artificial aid to the rubber industry in Brazil. In addition to this, the latest mail advices state that the two great rubber States of Para and Amazonas have contracted with a firm of Parisian bankers to start a mortgage and agricultural bank with a capital of £6,000,000. It is thus evident that in the coming year interesting developments in Brazil may be looked for.

If all returns are correctly made and nothing is suppressed, there has been a decrease this year in the Brazilian rubber output. For the five crop months July to November the receipts at Para were 12,180 tons, against 13,235 tons in the corresponding period last year and 13,200 tons in 1909. It is true that prices this year have been less attractive than in the two years preceding, but they have at all times been above what is generally calculated in the trade as the cost of gathering and marketing. The contention that Brazilian supplies have practically reached their limit unless there is undertaken some well-organised scheme for further opening up the interior would thus appear to have some foundation. It may be noted that the Bill already referred to in one of its clauses proposes the building of a network of roads into the far interior.

If Brazil has produced less the output of plantation rubber in Ceylon, Malay, etc., has increased largely, the shipments thence for the eleven months ending November 30th being 12,656 tons, against 7,368 tons for the corresponding eleven months of 1910. This increase has hardly come up to estimates prevalent at the beginning of the year, but with normal weather conditions the figures would probably have been larger, a long spell of drought having cut down the flow of latex as well as interfering with work on young plantations.

Although the United Kingdom stocks compared with last year show a moderate decrease, they are still more than double the quantity carried at the end of November 1909 and 1908 (2,014 tons and 1,644 tons respectively). They are not regarded as overburdensome in view of the constant expansion of manufacturing outlets. It is more to the point that the production of plantation rubber promises to expand quite as rapidly provided that the expectations held out by the reports of existing rubber companies and the prospectuses of new companies floated from time to time are realised.—*Manchester Guardian*

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, February 6th.

DURING the week ending February 5th light rain fell in Birbhum, Nadia, Murshidabad and in all districts of Bihar, Orissa and Chota Nagpur except Purnea and Manbhum.

Threshing of winter rice continues. Pressing of sugarcane is in progress.

Standing *rabi* crops are doing well. More rain is required for them in parts of Murshidabad, Jessore and Purnea.

The price of common rice has risen in Hooghly, Shahabad, Champaran, Monghyr, Purnea, Cuttack, Sambalpur, Palamanu and Manbhum and has fallen in Burdwan, Bankura, the 24-Parganas, Nadia, Jessore, Gaya, Saran and Bhagalpur.

Cattle-disease is reported from Bankura, Midnapore, Nadia, Saran, Bhagalpur, Angul, Puri, Sambalpur, Hazaribagh and Palamanu.

Fodder is insufficient in parts of Midnapore and Murshidabad.

Water is reported to be scarce in parts of the former district.

EASTERN BENGAL AND ASSAM.

Dacca, February 6th.

DURING the week ending February 5th light rain fell in most parts, except the Chittagong division.

The final estimated outturn of winter rice is four per cent in excess of last year.

The harvesting of ratoon sugarcane is completed and that of plant cane has commenced.

The condition of cane and all standing *rabi* (Spring) crops is satisfactory.

The rain has been very beneficent to tea gardens in Assam.

Prices of common rice have fallen slightly since last week.

So far as reported, there is no epidemic of cattle-disease.

NEW REFERENCE BOOKS.

THE STOCK EXCHANGE YEAR-BOOK FOR 1912
By T. SKINNER. 9½ × 6½, lii + 2,098 pp. . . . 35s. net.
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TRADE OF PRINCIPAL COUNTRIES.

THE following summary table has been prepared at the Board of Trade showing the total imports and exports of merchandise of the principal countries for which the particulars can be given up to October, 1911, inclusive, and referring in all cases to the same period, viz., the ten months ended October. The corresponding figures for 1910 and 1909 are added for comparison:—

	Imports (see NOTE). Ten Months ended October.			Exports (Domestic) (see NOTE). Ten Months ended October.		
	1909.	1910.	1911.	1909.	1910.	1911.
	£	£	£	£	£	£
Russia *	68,452,000	83,706,000	90,375,000	118,109,000	119,621,000	130,625,000
Germany	343,015,000	358,748,000	383,110,000	260,652,000	300,351,000	324,975,000
Belgium †	144,082,000 ‡	128,806,000	137,525,000	85,206,000 ‡	103,403,000	110,083,000
France	202,426,000	226,963,000	268,300,000	184,930,000	203,879,000	201,570,000
Spain	30,962,000	32,050,000	35,220,000	29,218,000	31,109,000	30,836,000
Italy	100,576,000	104,003,000	110,877,000	60,730,000	67,827,000	70,932,000
Austria-Hungary	91,549,000	96,470,000	109,405,000	79,132,000	82,338,000	80,993,000
Egypt	18,466,000	19,213,000	22,984,000	17,676,000	18,474,000	19,966,000
United States	249,222,000	270,085,000	263,417,000	279,026,000	291,306,000	340,934,000
Japan §	31,018,000	38,776,000	45,496,000	33,385,000	37,817,000	37,445,000
British India	66,061,000	70,322,000	77,750,000	93,269,000	116,348,000	123,313,000
Canada	58,021,000	73,778,000	84,720,000	40,239,000	44,444,000	43,462,000
British South Africa ¶	22,697,000	30,955,000	31,789,000	40,680,000	44,821,000	47,116,000
United Kingdom	427,426,000	458,805,000	464,042,000	311,268,000	356,268,000	374,724,000

* European, Russo-Finnish and Black Sea Frontiers. † Value of principal articles only. ¶ Including bullion.

§ Exclusive of trade with Taiwan (Formosa) and, since September, 1910, of trade with Chosen (Coroa).
‡ The figures for 1909 are not comparable with those for 1910 and 1911. Considerable quantities of wool declared for home consumption and afterwards re-exported, for which deductions used to be made, are now included in the figures for "special trade," as the bulk of the wool undergoes some process prior to re-exportation.

A comparison of the total figures for the eleven months ended 30th November is possible for five countries as follows, viz.:—

	Imports (see NOTE). Eleven Months ended November.			Exports (Domestic) (see NOTE). Eleven Months ended November.		
	1909.	1910.	1911.	1909.	1910.	1911.
	£	£	£	£	£	£
Germany	380,066,000	396,382,000	425,823,000	291,136,000	332,383,000	360,089,000
Belgium *	126,022,000 ‡	141,023,000	159,209,000	94,115,000 ‡	114,217,000	121,225,000
France	224,806,000	253,468,000	293,828,000	204,908,000	225,183,000	223,696,000
United States	278,495,000	297,124,000	290,115,000	318,964,000	333,837,000	382,444,000
United Kingdom	482,260,000	515,421,000	521,634,000	344,590,000	393,166,000	415,711,000

* Value of principal articles only. ‡ See note ‡ above.

The latest figures available as regards other countries from which returns are received by the Board of Trade are as follow:—

	Imports (see NOTE). Eleven Months ended November.			Exports (Domestic) (see NOTE). Eleven Months ended November.		
	1909.	1910.	1911.	1909.	1910.	1911.
	£	£	£	£	£	£
Switzerland * (9 months)	46,205,000	50,951,000	52,649,000	31,763,000	34,712,000	36,599,000
Mexico † (8 months)	11,215,000	14,690,000	13,032,000	16,917,000	19,129,000	20,102,000
Australia ‡ (9 months)	36,755,000	43,480,000	49,657,000	39,150,000	45,121,000	47,141,000

* Including bullion.

† Including bullion and specie.

NOTE.—The values stated for the latest year shown in the foregoing statements are provisional and subject to rectification in some cases all the values are those declared by importers or exporters, as in the United Kingdom; in others they are based on an official schedule of values which is subjected to revision after the close of each year, the values used in the current returns being those fixed in the latest completed revision. In general, the values so fixed represent the level of prices in the preceding year. The countries adopting the system of official values annually revised are:—Austria-Hungary, Belgium, France, Italy, Spain, and (for imports) Germany and Switzerland. Exports from Switzerland and Germany are returned at "declared" values. Prior to April, 1909, however, all the exports from Germany, and from April, 1909, to the end of March, 1911, about one-third of the exports from that country were returned at official values. The figures in italics are based, wholly or mainly, on the prices of some earlier year than that under which they are shown.

In the case of Russia, Germany, Belgium, France, Switzerland, Italy, Austria-Hungary, Egypt, Japan, Canada, and the 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.

INDIAN CUSTOMS REVENUE.

Total Gross Indian Sea and Land Customs Revenue (excluding Salt Revenue) in thousands of rupees:—

	IN THE TEN MONTHS, APRIL TO JANUARY, OF									
	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12
SEA CUSTOMS.										
IMPORTS.										
Special Import Duties.										
Arms, ammunition, and military stores	2.92	2.79	3.53	3.41	3.71	4.63	4.38	4.19	4.11	4.23
Liquors—										
Ale, beer, porter, cider and other fermented liquors	2.04	2.12	2.35	2.46	2.60	2.87	4.33	4.25	6.66	6.59
Spirits and liqueurs	50.04	61.99	63.02	66.49	63.70	76.56	78.31	77.78	88.47	90.31
Wines	3.31	3.09	3.05	3.29	3.17	3.32	3.28	3.20	4.64	4.77
Opium and its alkaloids	3	3	3	3	3	4	3	3	6	6
Petroleum	44.07	34.52	37.81	31.80	30.25	36.81	42.95	38.34	47.99	63.62
Silver, bullion and coin	31.92	32.64	33.59	22.05	33.76	40.41	57.42	47.98	1,35.25	86.43
Sugar (countervailing duties, 1899)	16.80	2.10	11	1	1	...	...	1	1	...
Sugar (countervailing duties, 1902)	3.26	18	9	1	...	...	...	...	1	...
Tobacco	1.61	1.82	2.08	2.53	2.50	3.13	2.82	3.67	24.56	21.49
General Import Duties.										
Articles of food and drink (excluding sugar)	12.20	12.89	15.04	16.16	16.59	20.86	22.49	20.38	21.58	23.14
Sugar (ordinary duties)	21.60	24.06	27.47	30.15	39.79	38.07	44.85	48.48	52.89	47.17
Chemicals, drugs, medicines and narcotics (excluding opium and its alkaloids and tobacco), and dyeing and tanning materials	8.27	9.57	9.15	9.38	10.06	12.23	11.03	11.94	13.76	13.75
Cotton manufactures—										
Piece-goods, grey	43.83	36.98	46.77	53.53	54.16	56.44	43.70	51.61	48.57	56.81
" white	13.86	16.20	22.73	24.15	20.55	32.41	23.49	20.47	26.17	31.26
" coloured	18.87	22.86	26.40	27.72	28.01	31.57	29.45	24.54	33.35	36.91
Other goods	2.05	3.19	4.46	4.97	5.30	5.56	5.19	5.39	6.93	7.23
Metals (excluding silver, bullion and coin) and manufactures thereof	25.10	27.24	30.01	25.79	23.74	35.69	40.01	37.13	43.37	42.83
Oils (excluding petroleum)	1.22	77	80	1.08	1.67	2.33	1.17	1.04	1.18	94
Manufactured articles	51.10	58.96	69.32	69.52	70.66	82.90	81.61	77.50	94.77	1,05.02
Raw materials and unmanufactured articles	7.52	7.55	8.40	9.99	9.57	12.15	13.93	12.49	12.04	12.58
TOTAL IMPORTS	3,69.62	3,61.55	4,06.21	4,04.52	4,24.83	4,97.98	5,10.44	4,90.42	6,66.37	6,55.14
EXPORT DUTIES—										
Rice, husked or unhusked, including rice-flour	14.11	16.21	18.24	21.45	21.23	25.64	26.64	27.98	30.39	35.50
LAND CUSTOMS AND MISCELLANEOUS.	82.85	78.45	89.23	78.55	66.13	64.61	47.97	61.16	79.72	85.47
	6.93	7.65	8.20	7.38	7.89	8.33	7.32	8.37	8.41	9.74
GRAND TOTAL	4,73.51	4,63.86	5,21.83	5,11.90	5,20.08	5,96.56	5,92.37	5,87.93	7,84.89	7,85.85

—In its annual report on German industry for 1911, the Hamburg Chamber of Commerce states that there was a steady improvement in German trade during the year. This was especially the case during the first half of the year. Strikes, particularly those in the United Kingdom and France, had a detrimental effect on German trade. At one period the German money market was seriously affected, particularly owing to the sudden withdrawal of a large quantity of French investments from the German market, an action which was followed to some extent by other countries. However, German finances withstood the test very well, a circumstance which is of greater significance when the prevailing high

prices of many classes of raw material are taken into account. On the whole trade was good, but in spite of an increase in production profits were not so high as in 1910. The export trade of Hamburg was very satisfactory, and shipowners of all grades did an excellent business. Not a great many new industrial companies were formed during the year, but a large number of new issues were launched in connection with the extension and amalgamation of existing works. This is due to the growing appreciation of the importance of forming powerful combinations on modern lines for the purpose of cheapening production so as effectually to compete in foreign markets.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the first half of January, 1912. (Prices are stated in annas and pies per ser of 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 .	2 1	...	...	...	...	...	...	1 2
Toungoo .	1 7	...	...	...	...	...	...	1 2
EASTERN BENGAL AND ASSAM—								
Rangpur .	(a)	...	...	...	...	...	...	(a)
Backarganj .	1 4	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta .	2 0	1	...	...	...	...	...	0 11
Patna .	1 2	1 0	0 9	...	...	...	...	0 10
UNITED PROVINCES—								
Cawnpore .	...	1 4	1 0	0 10	1 1	...	0 11	0 9
Fyzabad .	...	1 3	0 11	...	...	...	0 9	0 10
Meerut .	...	1 3	1 0	1 0	1 0	...	1 0	0 9
PANJAB—								
Delhi .	...	1 4	1 1	1 1	1 2	...	0 11	0 9
Amritsar .	...	1 2	1 0	1 1	1 2	...	0 11	0 7
Rawalpindi .	...	1 4	1 0	1 1	1 2	...	0 11	0 7
SIND—								
Karachi .	...	1 7	...	1 5	1 9	...	1 2	0 7
BOMBAY—								
Belgaum .	...	1 8	...	1 4	1 5	...	...	0 10
Ahmadnagar .	...	1 7	...	1 2	1 5	...	...	1 0
Bombay .	...	2 3	...	1 8	1 7	...	...	0 10
Ahmadabad .	...	1 6	...	1 3	1 5	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore .	...	1 3	...	...	...	...	1 0	1 0
Nagpur .	1 7	1 3	...	1 1	...	...	1 0	1 0
Raipur .	1 5	1 3	...	...	...	...	0 11	1 0
MADRAS—								
Bellary .	2 3	...	...	1 2	...	1 1	...	0 11
Madras .	2 2	...	...	...	...	1 3	...	0 7
Salem .	2 7	...	...	1 4	1 8	1 2	...	1 1

(a) Not reported yet.

—The Journal of the Society of Dyers and Colourists contains some particulars regarding the new artificial tulle, to which reference has already been made. The process is being worked in France by the Campagne Française des Applications de la Cellulose, at their works in Fresnoy-le-Grand, Aisne, whilst its development abroad is in the hands of a separate concern, the International Company of Foreign Patents, which has taken over all the foreign rights. The present monthly output of the French works is about 250,000 metres, though its producing capacity is about four times this amount. The product is marketed under the name of "Ondine" tulle. At present the chief materials made are voilette and lace for millinery, though some success has been obtained in the production of a special kind of plait for the manufacture of ladies' hats. Mention is also made of the adaptability of the process to the production of incandescent mantles. It is said that very exhaustive trials have been made in this direction, and that superior mantles directly moulded from cellulose solutions will soon be on the market.

—His Majesty's Consul-General at Mexico City (Mr. C. E. W. Stringer) has furnished the following estimate of the coffee crop in Mexico in 1911, as compared with 1910:—

	Result in 1910.	Estimate for 1911.
	Tons.	Tons.
States of Vera Cruz and Tabasco.	22,150	26,500
States of Colima and Sinaloa and Territory of Tepic.	230	230
States of Oaxaca, Guerro and Chiapas.	9,794	11,096

It should be noted that the figures do not include the production in the Acapulco and Tuxtla Gutierrez districts, for which particulars are not available. The production in the State of Puebla in 1910 is estimated at from 650 to 680 tons, and a larger crop is expected for 1911.

JOINT STOCK COMPANIES.

Number and particulars of Joint Stock Companies registered in each province in British India in the month of December, 1911.

No.	Class and Name.	Situation of Registered Office.	Objects.	Nominal Capital.
				Rs.
I.—BANKING, LOAN AND INSURANCE.				
(a) Banking and Loan.				
1	Muslim Bank of India	Lahore, Punjab	Banking, etc.	2,50,000
2	Central Bank of India	Bombay	" "	50,00,000
	Total, Banking and Loan . . . . .	.....	.....	52,50,000
(b) Insurance.				
3	Coronation Insurance and Trading Company	Silchar, Eastern Bengal and Assam	General insurance	20,000
4	George Coronation Assurance and Mutual Benefit Society	Muttra, United Provinces	" "	1,00,000
5	Mutual Provident Society of India	Allahabad " "	" "	20,000
6	Bharat Yatra Trading and Banking Company	Multan, Punjab	Making provision for marriages, etc.	10,000
7	Sindh Punjab Benefit Society	Lahore	" "	20,000
	Total, Insurance . . . . .	.....	.....	1,70,000
	Total, Banking, Loan and Insurance . . . . .	.....	.....	54,20,000
II.—TRADING.				
8	General Stores	Calcutta, Bengal	General trade	1,00,000
9	Calcutta Paint, Colour and Varnish works	" "	Manufacturing paint, colour, etc.	3,00,000
10	Dental Supply Company	" "	Manufacturing and dealing in surgical and dental appliances	1,00,000
11	Alpadhanasamuchchaya Paraspara Sahay-yakari Mandoli	Dharwar, Bombay	Commission Agents	20,000
12	Shri Gumbhir Singhji Steam Sanitary Laundry	Ahmedabad, Bombay	Starting steam laundry	1,00,000
	Total, Trading . . . . .	.....	.....	6,20,000
III.—MILLS AND PRESSES.				
13	Sayatram Ramprasad Mills Company	Akola, Central Provinces and Berar	Spinning, weaving cotton flax, hemp, jute, etc.	7,00,000
	GRAND TOTAL . . . . .	.....	.....	67,40,000

ABSTRACT TABLE OF COMPANIES REGISTERED IN THE MONTH OF DECEMBER, 1911.

	Rs.
2 Banking and Loan Companies	52,50,000
5 Insurance Companies	1,70,000
5 Trading Companies	6,20,000
1 Spinning and Weaving Mills Company	7,00,000
13	GRAND TOTAL
	67,40,000

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and Exports to, each country in the seven Months, April to October of each year.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1909	1910	1911	1909	1910	1911	1909	1910	1911
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
LUS BELA— Sind and British Baluchistan	3,62,012	4,15,410	4,09,400	1,55,347	1,62,576	87,460	5,17,359	5,77,986	4,96,860
KHELAT— Sind and British Baluchistan	2,36,988	4,78,022	2,59,837	2,82,109	4,27,707	4,12,781	5,19,097	9,05,729	6,72,618
PERSIA— Sind and British Baluchistan	2,13,638	1,57,304	2,38,830	3,64,972	3,08,021	6,22,660	5,78,610	4,66,225	8,61,490
AFGHANISTAN— Northern and Eastern (including Kabul and Ghazni)— North-West Frontier Province	13,57,336	12,26,081	11,84,927	52,07,605	55,11,904	46,19,093	65,64,941	67,37,985	58,04,020
Southern and Western (including Kandahar and Herat)— Sind and British Baluchistan	36,10,219	32,44,795	36,04,942	32,95,117	34,96,371	36,62,720	69,05,336	67,41,166	72,67,662
North-West Frontier Province	53,177	38,703	39,049	3,30,306	2,78,369	65,928	3,83,483	3,17,072	1,04,977
Panjab	2,023	9,250	5,760	10,166	21,775	4,192	12,189	31,025	9,952
TOTAL	50,22,755	45,18,829	48,34,678	88,43,194	93,08,419	83,51,933	1,38,65,949	1,38,27,248	1,31,86,611
TIRAH— North-West Frontier Province	2,59,824	3,13,359	3,33,256	2,82,122	5,92,353	3,57,930	5,41,946	9,05,712	6,91,186
DIR, SWAT, AND BAJAUR— North-West Frontier Province	27,22,737	21,91,227	35,12,000	38,17,769	25,82,180	36,54,504	65,40,506	47,73,407	71,66,504
BUNER— North-West Frontier Province	1,21,259	1,42,283	1,91,884	1,65,431	2,48,235	4,49,646	2,86,690	3,90,518	6,41,530
WAZIRISTAN— North-West Frontier Province	1,54,811	2,06,527	3,20,600	1,80,574	60,023	2,17,517	3,35,385	2,66,550	5,38,117
KURRAM VALLEY— North-West Frontier Province	1,47,348	1,21,553	1,27,612	5,26,764	7,93,201	9,44,240	6,74,112	9,04,754	10,71,852
LADAKH— Panjab	1,20,855	1,17,035	1,57,507	81,382	1,35,889	1,32,384	2,02,237	2,52,924	2,89,891
TIBET— Panjab	38,435	44,612	45,218	60,232	1,07,378	71,676	98,667	1,52,490	1,16,894
United Provinces of Agra and Oudh	5,24,566	6,10,248	6,66,633	3,37,658	2,90,561	3,44,541	8,62,224	9,00,809	10,11,174
Bengal	4,19,027	4,34,402	5,50,761	4,30,622	3,34,144	4,93,431	8,49,649	7,68,546	10,44,192
TOTAL	9,82,028	10,89,262	12,62,612	8,28,512	7,32,583	9,09,648	18,10,540	18,21,845	21,72,260
NEPAL— United Provinces of Agra and Oudh	50,05,063	37,83,516	53,02,562	12,85,217	14,18,931	13,52,904	62,90,280	52,02,447	66,55,466
Bengal	77,45,496	1,02,89,524	1,45,96,499	53,12,600	55,50,470	88,30,141	1,30,59,096	1,58,39,994	2,34,26,640
TOTAL	1,27,50,559	1,40,73,040	1,98,99,061	65,98,817	69,69,401	1,01,83,045	1,93,49,376	2,10,42,441	3,00,82,106

LAND TRADE OF BRITISH INDIA—continued.

Total Value of Imports from, and Exports to, each country in the seven Months, April to October of each year—continued.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1909	1910	1911	1909	1910	1911	1909	1910	1911
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
IKKIM— Bengal	4,39,806	5,47,525	6,23,663	6,09,217	5,00,074	6,12,811	10,49,023	10,47,599	12,36,474
THUTAN— Bengal	3,379	13,082	21,332	2,818	4,238	5,079	6,197	17,320	26,411
Eastern Bengal and Assam	21,717	18,141	17,484	54,104	17,337	30,467	75,821	35,478	47,951
TOTAL	25,096	31,223	38,816	56,922	21,575	35,546	82,018	52,798	74,362
LOWANG— Eastern Bengal and Assam	52	89	2,759	...	425	1,802	52	514	4,561
NAGA AND MISHMI HILLS— Eastern Bengal and Assam	24,253	1,15,029	86,394	1,665	5,083	1,169	25,918	1,20,112	87,563
DUFFLA AND AKA HILLS— Eastern Bengal and Assam	6,156	29,103	28,260	201	203	630	6,357	29,306	28,890
WESTERN CHINA— Burma	13,66,057	19,00,799	14,59,803	18,35,971	22,78,821	22,01,705	32,02,028	41,79,620	36,61,503
NORTH SIAM— Burma	18,14,411	14,08,540	13,72,136	15,44,247	13,14,217	15,20,291	33,58,658	27,22,757	28,92,427
SOUTH SIAM— Burma	4,02,790	4,88,249	4,92,557	4,52,256	4,06,766	4,91,018	8,55,046	8,95,015	9,83,575
N. SHAN STATES— Burma	56,71,273	66,60,562	67,28,241	41,34,292	41,38,559	54,68,626	98,05,565	1,07,99,121	1,21,96,867
S. SHAN STATES— Burma	31,25,479	33,26,118	42,62,942	51,00,993	49,44,419	59,87,961	82,26,472	82,70,537	1,02,50,003
KARENNEE— Burma	13,74,328	13,98,698	12,18,988	8,52,139	5,56,019	8,74,331	22,26,467	19,54,717	20,93,319
GRAND TOTAL	3,73,44,515	3,97,29,786	4,78,61,836	3,67,14,896	3,64,77,649	4,35,19,638	7,40,59,411	7,62,07,435	9,13,81,474
Share of each Province in the total trade—									
Sind and British Baluchistan	44,22,857	42,95,531	45,13,009	40,97,545	43,95,575	47,85,621	85,20,402	86,91,106	92,98,630
North-West Frontier Province	48,16,492	42,39,733	57,09,328	1,05,10,571	1,00,56,265	1,03,08,858	1,53,27,063	1,42,95,998	1,60,18,186
Panjab	1,61,313	1,70,897	2,08,486	1,51,780	2,65,542	2,03,252	3,13,093	4,36,439	4,16,737
United Provinces of Agra and Oudh	55,29,629	43,93,764	59,69,193	16,22,875	17,09,492	16,97,445	71,52,504	61,03,256	76,66,640
Bengal	86,07,708	1,12,84,533	1,57,92,255	63,56,257	63,88,926	99,41,462	1,49,63,965	1,76,73,459	2,57,33,717
Eastern Bengal and Assam	52,178	1,62,362	1,34,897	55,970	23,048	34,068	1,08,148	1,85,410	1,68,965
Burma	1,37,54,338	1,51,82,966	1,55,34,667	1,39,19,898	1,36,38,801	1,65,43,932	2,76,74,236	2,88,21,767	3,20,78,599
GRAND TOTAL	3,73,44,515	3,97,29,786	4,78,61,836	3,67,14,896	3,64,77,649	4,35,19,638	7,40,59,411	7,62,07,435	9,13,81,474

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1911-12	Average price of 44,130 packages Dust* sold to 30th January	6s. 4p.
" 1910-11	" 48,054 "	27th " 6s. 3 3/4p.

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

TARIFF VALUATION OF SUGAR.

THE following statement, showing in respect of each of the descriptions of sugar distinguished in the Tariff Schedule IV (excepting molasses and all other kinds of sugar) *firstly*, the total imports into India in the month of December 1911, and the average value per cwt. as calculated on the returns received from the Customs Houses; and, *secondly*, a running total showing the total imports into India since the beginning of the year (1st October to 30th September) and the average net value per cwt. so far established, is published, in conformity with the procedure laid down in Customs Circular No. V of 1911 in order to enable merchants to compute the probable rate of duty for the year 1913 :—

Description of sugar.	IMPORTED DURING THE MONTH OF DECEMBER 1911.		IMPORTED SINCE 1ST OCTOBER 1911.	
	Quantity.	Average net value per cwt.	Quantity.	Average net value per cwt.
	Cwt.	R. a.	Cwt.	R. a.
Sugar, crystallised, beet	203	17 8	203	17 8
„ „ and soft, refined in China	14,519	13 0	16,024	13 0
„ „ and from Java, 23 Dutch Standard and above	405,410	12 12	1,675,692	12 8
„ „ and from Java, 16 to 22 Dutch Standard.	152,225	11 8	1,274,455	11 4
„ „ and from Java, 15 Dutch Standard and under	12,028	8 0	64,049	9 0
„ „ and from Mauritius equal to 16 Dutch Standard and over	29,621	13 10	122,540	13 12

NOTICE.

Messrs. The Planters' Stores & Agency Co., Ltd.

3, MISSION ROW, CALCUTTA,

Give notice that they have been appointed Agents for India and
Burmah for—

The Metropolitan Amalgamated Railway Carriage and Wagon Co., Ltd.,
Birmingham,

Incorporating and including amongst other Companies—

Messrs. Docker Bros., Ltd.,

Patent Shaft and Axletree Co., Ltd.

The Leitner Electrical Co., Ltd., London.

"Leitner" System of Train Lighting.

Messrs. G. D. Peters & Co., Ltd., London.

Railway Rolling Stock Supplies.



REGISTERED.

PUBLISHED WEEKLY.

The Indian Trade Journal.

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NOTES.

MONEY MARKET.	Wednesday	Evening.
PRESIDENCY BANK RATES	Calcutta 8 per cent. (Jan. 26).	
	Bombay 8 per cent. (Feb. 1).	
	Madras 8 per cent. (Jan. 29).	
	On demand 1-4½	
	Telegraphic 1-4¾	
EXCHANGE	Transfers	
	3 months 1-4½	
	6 months 1-4¾	
GOVERNMENT PAPER (3½ per cent.)	Rs. 95-12.	

The spot price of wheat at Karachi on the 10th February was Rs. 32-0-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 13th February was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 262 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 14th instant were as under :—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 58 0 0
M. per 400 lbs.	52 8 0
Rice—Ballam No. 1 per B. md.	Nil.
„ Moonghy	3 8 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold, Cawnpore, 4% per B. md.	Nil.

The following general memoranda on crops of the season 1911-12 will appear in the *Indian Trade Journal* of 22nd February, 1912:—

Rice—Final General Memorandum.

Sugarcane—Final General Memorandum.

The gist of these in tabular form will, as usual, be exhibited in the portico of the New Imperial Secretariat Buildings at No. 1, Council House Street, Calcutta, on the 21st instant at 4 p.m.

The official estimate of the **Argentine linseed crop** for this season is now to hand and shows a total yield of 638,000 tons, which is very little in excess of last year's revised figures of 595,000 tons. The present figures confirm the reduced estimates made by all the shipping houses, and shows that from an original promise of 1,000,000 or over for export the surplus for shipment will be only about 500,000 tons, compared with 455,000 tons in 1911. In 1909 the crop produced 716,515 tons, and in 1908 1,048,852 tons, while in 1907 as much as 1,100,710 tons were harvested.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	— 1·9	Cwts (dye) 48,700	+ 5·9	21st Dec., 1911.
Cotton	20,393,000	— 9·7	Bales* 3,135,000	— 18·6	15th Feb., 1912.
Sesamum (til or jinjili)	4,164,700	— 15·6	Tons 311,300	— 30·4	18th Jan., 1912.
Groundnut	1,200,900	+ 26·2	542,200	+ 7·8	15th Feb., 1912.
Sugarcane	2,209,500	+ 5·0	Information not yet available.	Information not yet available.	26th Oct., 1911.
Rice	54,441,400	— 4·0	Do.	Do.	21st Dec., 1911.
Wheat	25,570,000	— 1·0	Do.	Do.	28th Dec., 1911.
Rape and Mustard	3,554,000	— 9·0	Do.	Do.	Do.
Linseed	3,233,600	+ 12·6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

In the **Final General Memorandum** on the **cotton crop**, published on another page, it is estimated on data available up to date that 3,135,000 bales of 400 lbs. each will be the outturn of cleaned cotton in India in the season 1911-12. Assuming the proportion of **cotton seed** to be 70 per cent of unginned cotton, the total outturn of seed may be roughly estimated at 1,300,000 tons. The following particulars relating to the crop in **other countries** will be of interest. The area under cotton in **America** is estimated at 34,989,449 acres and compares with 33,418,000 last season, and, as regards the yield, estimates vary from 15½ to 16 million bales, compared with 12 million bales last season. In **Egypt** the area under cultivation is 1,775,566 acres and the probabilities are for a yield of 6½ million cantars compared with 6,750,000 cantars last season (Cantar = 99·05 lbs.). As regards **Sea Island cotton** the crop in sight on 22nd December was 76,970 bales against 52,741 bales in the corresponding time last season. The crop outlook in **Russia** is considered poor and the probabilities are for a result of 900,000 bales, a decrease on last year of 50,000 bales. The **Uganda** crop is expected to come up to 20,000 bales (400 lbs. each).

Mr. E. F. Crowe, Commercial Attaché, Yokohama, informs us that at a meeting of the Boseki Rengokwai (**Cotton Spinners' Association**) held in **Osaka** on January 10th it was decided by a majority of those present that, from April 1st, the system of **short time** and of **export bounties** now in force should come to an end and that for six months (i.e., from April 1st to September 30th) spinning mills should stop working for four days and nights per month. It will not be optional any longer to stop a certain number of spindles instead of suspending work altogether. Up to the present, it will be remembered mills have stopped work on the 1st and 15th of each month so that the practical effect of the new decision is to stop for two extra days and nights. In the course of the discussion at the meeting it was stated that the home demand for yarns is very good and that the effect of the disturbances in China has not been great so that there need be no pessimism about the export trade.

The *Bombay Gazette's* commercial writer says:—As a result of delaying shipments of **yarn to China** on a large scale, stocks have accumulated at mills in Bombay and mill agents have commenced to complain bitterly. Their position is awkward, the mills turning out goods but buyers not taking delivery. Bales have come consequently to be stored in mill godowns. Besides loss in interest and extra fire insurance premia, the godowns are filling up fast and very soon want of accommodation for storage of further bales will oblige agents to call upon buyers to remove their goods. The position is such at the present moment that it is necessary to resume shipment without further delay. It is not possible for mill

agents to wait until the markets in China improve. At the present moment trade in China is in a very bad condition owing to the disturbed state of the country and there is no indication that conditions will improve in the near future. Under any conditions, until the Chinese New Year, which falls on the 16th or 17th of this month, business must remain absolutely at a standstill. Those provinces in China which are the best customers for Bombay yarn have been reduced to such straits by the Revolution that it will be months before they recover. But Bombay mill agents cannot be expected to store yarn and wait indefinitely for buyers to take delivery.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 3 weeks ended 18th January, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 18th Jan., 1912.	3 weeks ended 18th Jan., 1912.	Week ended 18th Jan., 1912.	3 weeks ended 18th Jan., 1912.
	Bales.	Bales.	Bales.	Bales.
American	99,267	310,525	10,691	37,184
Brazilian	—	612	50	230
East Indian	95	515	55	56
Egyptian	25,880	77,686	2,500	12,309
Miscellaneous	2,700*	6,428†	345	586
TOTAL	127,942	395,766	13,641	50,365

* Including 560 bales British West Indian and 196 bales British East African.

† Including 692 bales British West Indian, 43 bales British West African, and 1,488 bales British East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

In their weekly report on the **Shanghai piece-goods market**, dated January 18th, Messrs. Noël, Murray & Co., Ltd., say:—There has been no life in the market for **Indian yarn** for these staples and we do not hear of a single transaction. With dearer cotton in Bombay and an improved exchange, the outlook for those who are heavily committed does not look so gloomy as it did at one time. The market for **Japanese yarn** in Osaka has been influenced for good or ill by the changing political aspect here and there was a heavy slump when the negotiations for peace seemed to have fallen through, a recovery has since taken place, all of which however has not been maintained but prices to-day are Yen 135·80 for this month, Yen 134·60 for next and Yen 133·10 for March. No first hands transactions have come to light but we understand that dealers have sold 700 bales in all at Taels 114·00/122·50 for No. 16's and Taels 114·00/115·00 for No. 20's. In

the matter of **local yarn** it is pretty generally rumoured that the mills have had to make certain allowances, privileges or concessions to their buyers in order to induce them to take delivery of their purchases, these taking the form of so much a bale in some cases, market price and a promissory note for the difference in others, and yet again cancellation, but as these are necessarily secret arrangements and all differing as seemed best at the moment the methods of adjustment are more or less guess work, but it was evident something had to be done to encourage the all-important factor "deliveries," and we trust the necessity for such measures will soon be a thing of the past and all will be swinging in time again before very long. Re-sales of bundles have taken place at the following rates:—for 10's Taels 100·25/107·75, for 12's Taels 95·75/108·75, for 14's Taels 98·75/111·25 and for 16's Taels 105·25/113·25. A lot more cotton has come to market of late, but the quality and condition of new arrivals leave much room for improvement: the old malpractices are once more being resorted to, and overwetting, mixing bad with good grades, the addition of seeds and other weight increasing materials, has caused a lot of rejections at the Testing House and strong protests at the mills, also by a little manipulation tickets for pass cotton have been tendered with overwatered parcels in Japan, so that the staple is once more getting a bad name. The market is falling and weak, Tungechow and Taichong being bracketed together at Taels 23·00, 4-Chop Taels 22·80, Best Steam Ginned Taels 22·60, Shanghai Taels 22·40, Taichong Seed \$ 11·50 and Seed \$ 10·50.

Writing on **Japanese textile competition** with India, the *Textile Mercury* says:—It is a Lancashire-man's duty to observe and respect Japanese competition, if not actually to fear it; and the journal of the Indo-Japanese Association, Tokio, supplies some details of Japanese successes in the Indian Empire. The figures are official, and are consequently late; but the delay is possibly atoned for by a degree of accuracy which has not been compromised by too many details. Their effect is to show Japanese exports to India of £18,000,000 gross, and exports of cotton undershirts and silk habutae to a value, during 1910, of nearly £900,000. The reasoned commentary accompanying the statistics makes no pretence that the Japanese singlets are better than those from other sources. Simply, they are cheaper than "those of America, Germany, Italy, and some other countries"; and again Indian purchasing ability was greater, and was thus able to include larger quantities of stockings and cotton towels. A bolder claim is made for the silks, which by their good quality are said to have driven certain silks from other sources out of the Indian market. Increased shipment to India of Japanese cotton yarn is summarily explained by a statement that "our spinners succeeded in producing fine yarn of 80's counts at very cheap prices, when even English yarns were in less demand." The import of some 3¼ million dozen

of cotton undershirts is of moment primarily to those who are trying to found a hosiery business in India. Our own interest is more direct in respect of the development of fine spinning in Japan, although in the absence of positive assurance to the contrary we are entitled to suppose that there is an appreciable difference between the 80's of Bolton and those of Tokio. All but one per cent of Japanese yarn is ring-spun, and within very recent times counts finer than 20's formed only one-twentieth of the exported total. In large part the Japanese hosiery must be made out of Indian raw cotton, which Japan imported to the value of £9,000,000. While continuing to buy Calcutta bags, Japan is rearing a gunny and hessian trade of her own, and is importing Indian hemp for the purpose.

The following Press communiqué has been issued by the Government of India:—At a meeting of the Council of the British Cotton Growing Association, held on the 5th December, 1911, attention was drawn to certain Indian cottons which had been shipped to Liverpool during the year and which had been grown from seed in the Tinnevely district. A gentleman representing an important group of spinning mills reported that the cotton was very suitable for a considerable class of goods produced in Lancashire and that Lancashire could use 500,000 bales of this cotton per annum. The cotton is question is the variety known as Cambodia cotton of which a description is given in the *Indian Agricultural Journal* for October last, and the congratulations of the Council of the Association have been conveyed to the local authorities in Madras for their success in producing so satisfactory a class of produce. The good opinion entertained in Lancashire of this kind of cotton has also been communicated to all Local Governments with a view to such action as is possible being taken towards its cultivation in areas suitable for it.

The *Corn Trade News* gives the following summary of the world's crops as on the 23rd ultimo:—**United States of America**—Winter wheat crop still mostly under snow, but again some mention unsatisfactory condition before snow came. Receipts of wheat further increased, but duplication reported; Visible Supply decreased about 2½ million bushels. **Canada**—Receipts last week liberal, no improvement in grading. Continued good receipts predicted. **Argentina**—Weather generally favourable. Two recent estimates of wheat surplus have varied between 11½ and 15,000,000 quarters; our agent indicated no change. Strike outlook moderately better. Offerings wheat increased. Maize prospects good. **Australia**—Indications continue point surplus 2½ million quarters less than 1911. Shipments increased. **Russia**—Crops generally have good snow cover, but weather turned milder. Arrivals light, shipments decreased, stocks about unchanged.

Roumania—Weather turned milder. Sulina stocks reported moderate, but Danubian and Bulgarian ports generally have fair quantities Wheat and Maize. **Hungary**—Snow cover rather light and weather rather frosty. Offerings of wheat light. **France**—Some further rains and continued complaints weedy fields and forward growth of plant, but generally crop situation considered favourable. Wheat offerings light, market firm. **Germany**—Crops under snow, but cover rather light some parts. Offerings native grain light and buyers bidding higher for wheat. Feeding stuffs continue very firm and advancing. **Italy**—Weather generally seasonable, crop situation about normal. Native wheat held high prices. **Spain**—Good rains fallen. Officially confirmed last wheat crop large. **North Africa**—Still some complaints drought damage. **Chili**—Crop reports and indications continue good. **United Kingdom**—Crops still look well, but weather prevents field work.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns, in the week ended 20th January, 1912, were as follows:—Wheat, 33s. 4d.; barley, 33s. 3d.; and oats, 20s. 11d.

In their report on London tea sales, dated January 26th, Messrs. Gow, Wilson and Stanton, Ltd., say:—Considering the time of year importers of Indian tea brought forward the moderate quantity of 48,817 packages, the total offered showing a slight reduction when compared with that of last week. Demand has been quiet, the tendency at both auctions being towards easier rates for practically all descriptions. Common kinds at the opening sale were less enquired for and closed for the week at prices which, in many cases, showed a fractional decline. Dusts and Fannings in particular meeting with restricted competition. Medium to plain sorts were in full supply and showed a good deal of irregularity, withdrawals being somewhat heavy, as sellers were often holding for valuations. Only a few parcels of fine Tea were included, but a small invoice of Darjeeling from "The Okayti T Co." met with strong competition and made the satisfactory average of 1.11 per lb. A few invoices of autumnal Doocars were offered, but in cup quality did not compare favourably with corresponding invoices of last season and met with somewhat irregular support. Southern India was again well represented by 8,735 packages, but quality showed further deterioration. Printings for next week comprise 42,517 packages. Average for week 8.57d., against 8.75d. last sale. Week's average of Tea sold on Garden Account, season 1911-12, 46,981 packages, average 8.57d. 1910-11, 29,932 packages, average 8.62d. Season 1911-12, to date 1,083,999 packages, average 9.21d. Season 1910-11 to date 1,025,824 packages, average 8.54.

The total approximate gross earnings of State and Guaranteed Railways from 1st April, 1911, to 27th January, 1912, show a gain of Rs. 3,14,95,156, as compared with the corresponding figures for 1910-1911.

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

For the week ending 10th February, 1912—
In the Calcutta market—

Behar opium—Rs. 4,400 ; 4,400 ; 4,250 ; 4,250 ; 4,250 ; 4,250 ; 4,250.

Benares opium—Rs. 4,300 ; 4,300 ; 4,300 ; 4,300 ; 4,300 ; 4,300 ; 4,300.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 2nd and 3rd sales of 1912.

At Hongkong—(Exchange Rs. 146 to 148 per \$100.)

Behar opium—\$3,020 ; 3,000.

Benares opium—No quotations received.

At Shanghai—(Exchange: no quotations received.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 3rd February, 1912—

In the Bombay market—

(New, 1908-09) Rs. 3,745 ; (old, 1907-08) Rs. 3,752. The latest prices at Hongkong and Shanghai were (new) Rs. 4,400 and 5,540 ; (old) Rs. 4,487.

Discussing the sugar market in his *Weekly Price Current*, dated London, 25th January, C. Czarnikow says:—Since last Thursday the market has been full of rumours regarding the Brussels Convention, which were quickly acted upon, and made May move from 15s. 11½d. to 15s. 2½d. to 15s. 7d. to 15s. 4½d., whilst Cane Sugars declined from 14s. 9d. to 14s. 6d. c. i. f. U. K., basis 96 per cent. First the leading Austrian paper printed a report that Germany and Russia had agreed upon the increase of contingent; then there were strong protests from the German Trade because Russia had been the country principally benefiting by the Convention, and as a tight had become necessary, it would be absurd to start it by contributing a substantial sum to the Russian War Fund. The German Government, notwithstanding Socialist elections, was, in a Frankfurt paper, said to be acting on these manifestations, which is promptly denied to-day in the *Cologne Gazette*, but, on the other hand, Russian manufacturers held influential meetings last Saturday protesting against any giving way, as they do not want paltry concessions, and rather let the convention come to an end. Here most people get heartily tired of the whole business, but cannot help following it, because though 150/200,000 tons extra may be mostly discounted, any increase would cause some decline, whilst dissensions in Brussels and breaking off or protracted adjournment of negotiations might decidedly strengthen holders' views. It seems to us

that if Russia could be bound to moderate exports for further five years, some countries would consider it wise to make concessions now, for after all Russia is not in need of a Convention at all, as long as England admits any Sugars, and whether a change of Government here would change that attitude is a question for others to decide. Russia may deem it safer to form part of the Convention provided it continues, and if everybody should be inclined to uphold it, some way ought to be found. Another factor largely influencing the market is the Cuban reports. The weather there is drier, but rather warm still for the Canes to mature, and the yield of 10½ per cent in some centres is not up to the normal level of 12 per cent yet. If the farmers do not hurry at the beginning, it sometimes shows that the crop is not overwhelming, viz., that anyhow they expect to get through it in time. The total figures are 127,000 tons behind 1910, when 1,800,000 tons were made, but they may be corrected as in previous years, otherwise at the end of this month we should be nearly 150,000 tons behind, which is not easy to make up. Weekly figures are rather more than a week behind, and if the drought in October—November should have left traces, as in Demerara and Trinidad, it would continue to show as the crop proceeds.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 13th instant was 100,438 bags, while the stock in Bombay on the 9th idem amounted to 128,700 bags.

The Hull correspondent of the *Oil and Colour Trades Journal*, writing on the 18th ultimo regarding the Hull oil market, says:—**Linseed**: The market is quiet and inactive, with spot at 37s. 6d.; Jan.-April, 36s.; May-August, 32s. The exports for the week amounted to 7 tons, of which America took 3, Norway 1, and Turkey 3 tons each. **Cotton oil**: The market is quiet and inactive, with refined cotton oil at 23s. 1½d. spot; 23s. 4½d. Feb.-April; 24s. 4½d. May-August. **Crude oil**, 21s. 6d. spot. The exports for the week amounted to 61 tons, of which Germany took 14, Holland 25, Italy 8, Norway 1, and Turkey 13 tons each. **Soy bean oil**, 26s. 3d. spot. The exports for the week amounted to 199 tons, of which America took 16, France 40, Germany 79, Holland 23, Italy 33, and Switzerland 8 tons each. **Cocanut oil** firmer at £40 to £41 per ton for English ex-mill in casks. **Castor oil** quiet. Calcutta on spot 3½d. to 4d. per lb. and forward 3½d. per lb. **Colza oil** steady, quiet at 35s. 6d. per cwt. for East Indian refined in barrels ex-store. **Lard** oil steady, best English refined in barrels, 49s. 6d. per cwt. **Olive oil** steady but quiet. Spanish unchanged. Malaga for Feb.-March shipment, £37 to £38 per tun. **Palm oil** forward has more demand. Softs sold at £29 5s. for April-May, and £29 for May-June transit, and sales of Lagos made £29 15s. spot transit. Refined sorts quiet at £29

10s. for clarified and £32. 10s. to £32. 15s. for bleached, both in casks. Petroleum continues firm, 6½d. to 7½d. per gallon for American, and 6½d. for Russian. Turpentine dull. Spot 37s. to 37s. 3d.; and Feb.-April, 37s. 9d. per cwt.

The imports of turpentine into Great Britain during 1911 were 24,006 tons (of 1,016 kilos.), as against 23,612 tons during 1910, and as usual the United States supplied about three-quarters of the amount. Prices have been high, the persistent rise during 1910 continuing until last March, when 74s. 3d. per cwt. was registered in London and 107c. per gallon in Savannah—the highest prices since the American War of Succession. The annual report of Messrs. James Watt and Son attributes this mainly to the poor crops of 1909 and 1910, but partly to unjustified inflation, which was strongly resented on both sides of the Atlantic, and remarks that the use of substitutes became in consequence greater than had ever been known. The price of turpentine could not stand against it, and in November it had dropped to 33s. 9d. in London. The increasing production in America of high-grade turpentine from pine stumps is finding a ready market, and this year's supply will be greater accordingly. Messrs. Watt report that in London samples of it had an encouraging reception. It is welcomed by the trade, as any widening of the sources of supply tends to check such fluctuations as have been noted. The price of common strained resin rose with that of turpentine, but its subsequent reaction was less severe, and at the end of the year it stood at 17s. ex wharf, London. It seems curious, remarks the *Manchester Guardian*, that the prices of the finest resin and the common dark strained resin are tending to approximate. It is because the yield of the darker grades, which are most in demand, is being reduced by the extension of the dip system of tapping the pines in America.

The demand for copra of the best quality is, says a Ceylon paper, drawing attention to the fact that better methods of preparing the article, with a view to the production of a standard grade, should be adopted if there is to be any permanent improvement in the industry. It appears that in Samoa the advantages of artificial driers is being recognised, while in the Philippines, too, attention is being drawn to this matter of utilising rotary and other forms of drying apparatus, and the question of cheaply constructed ovens with three or four trays heated by steam or water pipes discussed. The Bureau of Agriculture is much interested in the matter. It is thought that the steam or hot water system would have considerable advantage over the hot-air-pipe system, since in the latter case it is possible for the copra to be burnt through carelessness. In any form of drier refuse husks and shells should suffice as fuel.

The *Engineering and Mining Journal* (New York) of 6th January publishes the following particulars of the mineral and metal production of the United States in 1911, as compared with 1910:—

		1910.	1911.
MINERAL AND CHEMICAL SUBSTANCES—			
Ammonium sulphate	{ tons of 2,000 lbs. }	116,000	127,000
Arsenic	{ tons of 2,000 lbs. }	2,652,000	6,162,000
Coal, anthracite	{ tons of 2,000 lbs. }	82,670,235	86,896,065
Coal, bituminous	" "	411,126,408	396,296,823
Coke	" "	36,056,059	29,338,214
Copper sulphate	{ tons of 2,240 lbs. }	26,356,788	33,454,000
Iron ore	{ tons of 2,240 lbs. }	53,267,397	41,815,471
Petroleum	{ brls. of 42 U.S. galls.* }	210,588,308	209,931,884
Tungsten ore	{ tons of 2,000 lbs. }	2,130	1,125
Zinc oxide	" "	78,000	65,000
METALS—			
Copper (a)	{ tons of 2,240 lbs. }	1,086,240,983	1,101,291,290
Ferromanganese	{ tons of 2,240 lbs. }	224,431	175,595
Gold (b)	{ dols. }	96,269,109	96,233,528
Iron	{ tons of 2,240 lbs. }	27,074,114	23,647,451
Lead (c)	{ tons of 2,000 lbs. }	392,704	402,281
Nickel (e)	{ tons of 2,000 lbs. }	25,359,544	26,716,643
Quicksilver	{ flasks of 75 lbs. net. }	22,418	21,500
Silver (d)	{ tr. ozs. }	57,137,900	57,796,117
Zinc (d)	{ tons of 2,000 lbs. }	277,065	292,700

* United States gallon = .833 Imperial gallon.

(a) Production from ore originating in the United States. (b) The statistics for 1910 are the final and those for 1911 are the preliminary statistics reported by the Director of the Mint. (c) Production of refined lead from ore and scrap originating in the United States; antimonial lead is included. (d) Total production of smelters, except those treating dross and junk exclusively; includes spelter derived from imported ore. (e) Imports for first 11 months of each year; this nickel is smelted in the United States for the production of metal, oxide and salts.

In its issue of January 22nd the *Manchester Guardian* writes:—The market for standard copper has been steady, but the higher prices of the early part of the month have not again been reached. Statistics have been slowly improving for a long time, notwithstanding the fact that the output is large. There appears to be no danger of a check, and the inevitable conclusion is that the consumption of copper is continually growing. A quick apparent growth has often occurred during "booms" in general industry, but the movement of the last year or so is quite different. There has been no "boom" but a gradual, healthy growth of

trade; no excitement, and only a moderate, normal amount of speculation.

The Toronto correspondent of the *Times* states that the Canadian Government proposes to grant a bounty of 90 cents a ton on pig iron until an inquiry into the condition of the iron and steel industry can be made by the Tariff Commission.

According to a return published by Mr. H. C. Bose, Calcutta, the actual clearances of coal from Calcutta to all countries during the year 1911 were 2,841,411 tons, against 3,192,822 tons, in the previous year.

Messrs. Morrison's latest circular says that the exports of rice and meal from Burma during the year 1911 were 2,403,625 tons as against 2,598,456 tons during 1910. The decline appears at every port. Thus the exports from Rangoon in 1911 were 1,813,996 tons as against 1,923,990 tons in the preceding year; at Akyab 199,298 against 226,123 tons; at Bassein 245,702, against 246,243 tons; and at Maulmain 144,529 against 202,100 tons. Of the total export in 1911 the export to Europe was 1,210,208 tons, the export in 1910 being 1,168,608 tons. The figures of the exports from Rangoon to Europe for the past seventeen years show that in 1911 the figure was 793,797 tons, the largest quantity on record. Seventeen years before, that is, in 1895, the figure was 420,419 tons. To America the export figures have been very changeable, but in recent years the tendency has been decidedly downwards. Thus in 1896 and 1897 over 100,000 tons were sent to America each year from Rangoon, while during the past six years the quantity has not reached 30,000 tons in any one year. The Straits, China, etc., took 798,079 tons of rice and meal from Rangoon last year, a figure which was only exceeded in the year 1904, when Russia and Japan were at war. With India including Ceylon and Mauritius, the figures are still more changeable, 1909 showing a record with 957,321 tons, while in 1895 the figure was only 73,202 tons.

According to the *Manchester Guardian*, a new aluminium syndicate may possibly be formed shortly. It is reported that a provisional agreement has just been entered into between the Aluminium Industrie Gesellschaft, Neuhausen (the leading German producers) and the French group of manufacturers. Further developments are dependent on the attitude of the English makers, with whom negotiations have been opened. These, as well as the Canadian interests, are said to be favourably disposed towards the proposed syndicate, and a meeting at which they will be represented, along with the principal Continental producers, is to be

held early in spring to discuss the whole situation. As none of the aluminium companies can be making much profit at the present low prices, it is believed that some satisfactory basis of agreement will be found possible, and this is rendered all the more probable by the firmness of the copper market.

It is reported that the negotiations which have been proceeding for some time between artificial silk manufacturers employing the cupro-ammonium and viscose processes with a view to the formation of an international syndicate are likely to be successful. It is proposed not only to regulate prices and conditions of credit, but also to apportion the trade of the various markets amongst producers. It is understood that makers of the gun-cotton variety are not concerned in these arrangements. At present there are two firms engaged with the cupro-ammonium method in Germany, two in France, and one in England, whilst there are manufacturers working the viscose system in England, America, Belgium, France, Spain, Switzerland, Italy, Russia, and Germany. The companies which are to comprise the syndicate will give their final decision early in February.

We are informed that the incorporation of the Indian Sugar Producers' Association has been completed, with headquarters at Cawnpore. The objects of the Association, briefly stated, are to determine the principles best suited to the production of sugar in India, and to endeavour to procure their general recognition and practice; also to promote, support or oppose legislation affecting the sugar industry, and, generally, to do all such things as are conducive to its interests. The formation of the Association has been in the air for some years. The body has indeed been in formal existence since 1909, but it has naturally taken some time to establish such conditions as would admit of common action.

It is announced that the Manchester Ship Canal directors have decided to proceed as quickly as possible with the erection of a new 40,000-ton grain elevator. The present elevator is of similar capacity, and was built soon after the opening of the canal. It has, it is said, been of immense value to the port in encouraging the establishment of flour mills in its immediate neighbourhood.

An attempt to test the quantity and composition of the subsoil drainage water from arable land was made some years ago by the erection of drain gauges at Cawnpore and Pusa, and the results are recorded by Dr. J. W. Leather, Imperial Agricultural Chemist, in a recent Memoir (Vol. II, No. 2) in the Chemical series of the *Memoirs of the Department of Agriculture in India*. The conclusions so far arrived at are:—(i) The amount of drainage and

evaporation in India exhibit the same characteristics that have been met with at Rothamsted, namely, the quantity evaporating is nearly independent of the season, whilst the drainage varies with the rainfall. (ii) One effect of a crop is to reduce the amount of water evaporating from the surface soil, and the Indian records have provided an estimate of this protective effect. A good crop, whilst itself transferring large amounts of water, will reduce loss of moisture in this manner to two-thirds or one-half of what it would be from fallow land. (iii) The amount of ammonia present in the drainage water both from bare fallow, as also from cropped land, is as small as has been found at Rothamsted. The amount of nitrate has been in years of good rainfall much greater than at Rothamsted. (iv) The amount of nitrate in drainage-water from cropped land is very much less than from fallow land, and there is some evidence that higher plants interfere with nitrification. (v) Nitrification has been found at Pusa to be active only during wet weather and then only for a short time. (vi) The evidence of the Indian records goes to show that the water descending during wet weather passes very uniformly through the soil and not chiefly by means of "larger channels" as has been commonly supposed. The Memoir is priced at one rupee and can be had of Messrs. Thacker, Spink & Co., Calcutta.

A general catalogue of all publications of the Government of India and Local Governments and Administrations (except Acts and Regulations and Publications which are not for sale) corrected up to 31st December, 1910, has just been issued by the Superintendent, Government Printing, India, 8, Hastings Street, Calcutta.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 3rd February, 1912:—J. G. Hume—Improved method and means for use in chemical analysis. A Smallwood—A new or improved rotary furnace or fire-box. Reis and Handels-Aktiengesellschaft—A process for making linoleum lincrusta and the like. The Metals Extraction Corporation Ltd.—Improvements in or relating to the deposition of metallic salts from solutions containing them. W. W. Pilkington, J. Whittaker, R. Bradshaw and J. Briggs—Improvements in or relating to wet-replenishing mechanism for looms. P. Hoering—Improvements in the manufacture of coke and by-products thereof. L. N. Reddie and Gramophone Company, Ltd.—Improved automatic brake for disc talking-machines and improvements in talking-machines. W. N. Dennison—Improvements in and relating to talking-machines. Horn & Co., Ltd., and A. Shaw—A new or improved axle-guard or horn-plate for railway rolling stock. T. G. Jones and D. Macbeth—Improvements in watering carts. C. Lister—Pro-

spinner. P. Herbert and G. Schlosser—A railway track. L. Bigg-Wither—Improvements in flexible hose pipes for use with vacuum brake apparatus. J. C. English—Improvements in sound boxes for talking machines. J. N. Smith—Sialkot pattern roof tiling. A. F. Berry—Improvements in or relating to electrical heating apparatus.

A demonstration was recently given in London of a French invention for holding down rail chairs or Vignoles rails. The appliance, which is known as Le Tenax expansion socket, consists, according to the *Times*, of a malleable cast iron tube, provided with a threaded flange inside and outside and tapered at one end. This socket, which is split into four branches at the tapered end for about half its length, is screwed into the railway sleeper for the reception of a coach-screw, and on the screw reaching the smaller end of the socket the branches are expanded into the sleeper, thus affording a secure hold for the screw. At the demonstration it was shown that a screw could be driven into a sleeper in the ordinary manner in about 2½ minutes, but that it could be loosened easily by thread stripping, whereas the provision of the socket entailed an additional expenditure of only about 45 seconds, and enabled the screw to have such a firm grip that on the application of sufficient force the head was broken off. Pulling tests carried out in Paris on a screw placed in a new sleeper are stated to have shown, by means of a dynamometer, a resistance of over 20,000 lb. The cost of the sockets is £45 per ton of about 6,700. The advantages claimed for this method of securing rails to sleepers include, in addition to security, the lengthening of the life of the sleeper by 25 per cent, the facility of using cheap soft wood more generally, and the abolition of plugs, while although the screws may be removed and inserted again as often as necessary they do not become loose owing to vibration.

Weather in India for the week ended Tuesday last was marked by a shallow depression over the northwest of the Peninsula, while easterly winds prevailed over the United Provinces and Central India. Thunderstorms are reported from Orissa, the Central Provinces, the Deccan and north Burma. Light rainfall is reported from Baluchistan, North-West Frontier Province, and North Punjab.

A return published by Mr. H. C. Bose, Calcutta, shows that the clearances of jute fabrics from Calcutta to all countries during the year 1911 were 358,454,300 bags as against 451,437,200 bags in 1910. The actual clearances of gunny cloth from Calcutta during the same period were 859,508,700 yards as against 1,007,641,400 yards in the previous year.

In exercise of the powers conferred by section 17 of the Indian Explosives Act, 1884 (IV of 1884), as applied to the Cantonments of Secunderabad and Aurangabad, a Notification (No. 1195-S, dated 10th February, 1912) has been issued by the Government of India, under which acetylene when liquid or when subject to a pressure greater than $1\frac{1}{2}$ atmospheres shall be deemed to be an explosive. The Notification states the conditions under which acetylene in admixture with oil gas shall not, when under compression, be deemed to be an explosive. It further states the conditions under which acetylene when compressed into porous substances with or without acetone shall not be deemed to be an explosive. Finally, absolute prohibition is decreed regarding the manufacture, possession or importation of such acetylene as is declared to be an explosive.

NOTICES.

CALLS FOR TENDERS.

Flour Sacks.

The Egyptian War Office, Cairo, is calling for tenders up to the 12th proximo for the supply of twenty thousand flour sacks, 42" x 26", 11 porters by 13 shots, and of an average weight of 2 lbs. each at time of delivery. Specification may be seen at this office.

Barley and Oats.

The Deputy Assistant Director of Supplies, Ootacamund, is calling for tenders up to the 17th instant for the supply of barley and oats.

Charcoal.

The Deputy Assistant Director of Supplies, 8th (Lucknow) Division, is calling for tenders up to the 23rd instant for the supply of charcoal at Calcutta, Dum-Dum, Barrackpore, Dinapore and Jalapahar and Lebong from 1st April, 1912, to 31st March, 1913.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Cotton Seed Oil Industry.

(1327)—An expert in producing edible products from cotton seed oil, residing in the United States, desires to be placed in communication with firms interested in the cotton seed oil industry.

Gas and Oil Engines, Marine Motors and Boats.

(1328)—A Glasgow firm desires to appoint agents in India for the sale of gas and oil engines, marine motors and motor boats.

Pine.

(1329)—A Government officer in Paris desires to be placed in communication with firms in a position to deal in pine wood.

Coir and Kapok.

(1330)—A firm in Tasmania desires to be placed in communication with exporters of coir and kapok.

Umbrella Fittings and Materials.

(1331)—A firm in London desires to appoint agents in Calcutta and Bombay for the sale of every kind of umbrella fittings and materials.

Embossing Velvet.

(1332)—A correspondent in Burma desires to be placed in communication with makers of devices for drawing, pressing and embossing figures or flowers on velvet or cloth.

Oil Seeds.

(1333)—A correspondent in Trieste is desirous of being placed in communication with shippers of oilseeds who may desire to extend business in Austria.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 21st February, 1912:—

Parliamentary Publications.

Tramways and Light Railways (Street and Road)—Return of.

Foreign and Colonial Publications.

Australia—Department of Labour (Queensland)—Report of the Director of Labour and Chief Inspector of Factories and Shops for year ended 30th June, 1911. Canada—Monthly Weather Review—August, 1911. Germany—Auswärtigen Handel—December, 1911. Norway—Statistisk Aarbok—1911. Netherlands—Uitkomsten der Woningstatistiek—31st December 1909; Bijdragen tot de Statistiek van Nederland—Nieuwe Volgreks—CLXI—1910. Statistiek van den in-, uit- en Doorvoer—December 1911. New South Wales—Monthly Statistical Bulletin—November, 1911. Sweden—Uppgift I Runda Tal Öfver Rikets in- Och Utförsel af Vissa Vror under Januari-December 1907—1911. Soudan Government Central Economic Board—Monthly Report—No. 60—December, 1911.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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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. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, FEBRUARY 15, 1912.

SEA-BORNE TRADE OF CALCUTTA IN JANUARY.

THE gratifying improvement recorded for the previous three months was continued in January, though perhaps the ratio of increase was not quite so great: the total values aggregated Rs. 12.75 crores, an increase of Rs. 1.67 crore or 15.10 per cent; last month's percentage of increase was 26.47 per cent. It may be pointed out that in the earlier portion of the month, business was interfered with by holidays which with Sundays gave a total of 10 non-working days as compared with only 6 days in the same month last year; but occurring as they did chiefly at the commencement of the month they cannot have affected the transactions for that period, which must also have been augmented by transactions flung forward on account of an additional holiday on what is usually the last working day of the year. Contributions to the greater

trade were to be observed under both imports and exports, the former predominating: imports valued at Rs. 6.03 crores rose by Rs. 1.22 crore or 25.56 per cent: exports expanded by Rs. 44.55 lakhs or 7.09 per cent, to an aggregate total of Rs. 6.72 crores: the former was influenced by larger receipts of cotton goods and metals and the defection under sugar was not so great; exports were considerably indebted to the larger movements of jute, grain and pulses. In December while there was a marked demand for the precious metals, imports of general merchandise were greater in value by only Rs. 2.83 lakhs: in January merchandise (valued at Rs. 4.93 crores) was greater in demand by Rs. 61.16 lakhs or 14.15 per cent. But treasure valued at Rs. 1.09 crore in January was not of such great importance as in December, though much larger in value than in January 1911 which month has been exceeded by Rs. 61.64 lakhs or 127.89 per cent. Imports were, of gold Rs. one crore and of silver only Rs. 9.35 lakhs: the gold embraced sovereigns to the value of Rs. 94.42 lakhs. But January saw a great rush of orders from the Indian Bazaars owing to the fall of another crore of rupees in the Indian Currency reserve: the consequence was a sudden jump in the price of silver which on the 19th idem stood at 26½ d. This is the highest since 19th November, 1910. The Currency Reserve silver has fallen further from Rs. 18.02 crores on the 22nd January to Rs. 15.91 crores on the 7th February. Exports of treasure were only Rs. 1.29 lakhs. So far this year Calcutta's trade has expanded by Rs. 12.98 crores or 11.77 per cent, aggregating Rs. 123.24 crores: last month the percentage of increase was 11.39 per cent. Imports during the 10 months were valued at Rs. 51.55 crores, an advance of 16.64 per cent: exports attained to Rs. 71.69 crores, an expansion of 8.66 per cent. Exports of treasure (chiefly silver) were only valued at Rs. 7.72 lakhs: but imports of the precious metals were enormous and totalled Rs. 7.52 crores, or greater than in 1910-11 by 89.35 per cent: imports were made up of gold to the extent of Rs. 5.75 crores and of silver to an amount equal to Rs. 1.76 crore: sovereigns were valued at Rs. 4.76 crores. Imports of merchandise rose by Rs. 3.71 crores or 9.20 per cent to accumulative value of Rs. 44.03 crores, in the first 10 months of 1911-12.

As in the month of December, the trade of the past month was to some extent interfered with by an unusual number of closed or non-working days:

these inclusive of Sundays and holidays amounted to ten as compared with only six in January, 1911. But notwithstanding this, there was a satisfactory expansion in collections of revenue: the total receipts aggregated Rs. 39.34 lakhs, an increase of Rs. 8.25 lakhs, or 26.53 per cent: this amount was inclusive of Rs. 18,549 received for the Tea Cess and Rs. 1,44,074 the gross payments under the Jute tax imposed for the improvement of the town of Calcutta. The only decrease of importance was a continuance of lessened imports of sugar which caused a further loss in revenue of Rs. 86,171: tobacco fell by Rs. 2,716 although consumption was greater, and the smaller demand for silk gave a loss of Rs. 1,845. Otherwise, all headings improved in their contributions, the miscellaneous items under the term "all other articles," increasing by Rs. 1.08 lakhs: strangely enough, the largest increase was in mineral oil, paying in Rs. 3.47 lakhs or an increase of Rs. 1.70 lakh and which, with the exception of last August, was the greatest collection for any previous month. Liquors (with the exception of salt) shewed the next greatest expansion for the month, rising by Rs. 69,758: the last 4 months have shewn a considerable expansion in collections under this heading. Although total payments under cotton goods were Rs. 6.51 lakhs, the advance was only Rs. 31,974: but the much lower prices attaining for the raw product are now influencing the prices obtainable for the manufactured article. Salt contributed Rs. 12.11 lakhs, an increase of Rs. 2.83 lakhs: clearances amounted to 13.61 lakhs of maunds, an increase of 3.25 lakhs of maunds: of this quantity 859,150 maunds were passed on payment of duty, the balance under the salt credit system; therefore the collections for the month represented Rs. 5.02 lakhs adjusted in that period. On the 31st January the unadjusted value was Rs. 22.94 lakhs. In the month salt prices tended upwards and clearances lessened. Stocks continue low, as deliveries were heavy against the former low rates. Export duty on rice displayed a slight contraction in value. The aggregate collections for the current year (10 months) have now attained a total of Rs. 3.43 crores, an increase of Rs. 40.21 lakhs or 13.27 per cent: at the end of the first nine months of the year the percentage was only 11.75 per cent. The chief features are the large increase under salt of Rs. 16.58 lakhs, under cotton goods of Rs. 8.04 lakhs, of Rs. 7.43 lakhs under oils, Rs. 3.59 lakhs under silver, Rs. 2.92 lakhs under rice,

and Rs. 2.40 lakhs under liquors: against these have to be set the considerable drop of Rs. 4.14 lakhs under sugar, of Rs. 2.37 lakhs under tobacco and a smaller sum of Rs. 33,511 in silk goods. The revenue credited to salt of Rs. 95.05 lakhs does not represent the actual transactions, as the total quantity cleared for consumption in the 10 months was 102.01 lakhs of maunds, of which 60.59 lakhs of maunds were duty paid and 41.42 lakhs of maunds credit salt: in the same period of 1910, revenue from salt was given as Rs. 78.47 lakhs, while 94.84 lakhs of maunds were cleared for consumption, of which 72.61 lakhs of maunds were protected by cash payments and 22.23 lakhs of maunds by credits.

There was a rally in Government Stores in January the total value rising by Rs. 9.63 lakhs to Rs. 27.21 lakhs or by 54.77 per cent: there was a larger import under practically every heading. The 10 months exhibit a total value of Rs. 1.50 crores, being smaller than in the previous year by Rs. 25.12 lakhs; while metals have risen by Rs. 13.28 lakhs, receipts of railway materials have fallen by Rs. 30 lakhs. Imports of cement for building purposes continue large, the value rising from Rs. 36,331 to Rs. 2,03,658; woollen goods have also risen by over Rs. 5 lakhs.

It has been mentioned that imports were favourably affected by a larger importation of cotton goods and what may be described as the *metal group*, at the same time that imports of sugar were not so small as in December. The total clearances of sugar were 369,244 cwts. valued at Rs. 28.18 lakhs, a decrease of 225,436 cwts. and Rs. 11.81 lakhs: there were no imports of unrefined, molasses were much less, and refined sugar fell from 366,942 to 206,630 cwts.: the quantity brought into the port during the month was 103,992 bags entirely from Java, which compares favourably with 29,651 bags in December. But the quantity received in the past few months is very much below those for the corresponding months last year, though it is reported that large stocks are still available in Java. The accounts for the past month are credited with 74,701 bags of re-exported sugar chiefly to the United Kingdom. Locally, at the present time, prices are reported as higher due to diminished stocks and much reduced supplies. In the 10 months the quantity of refined sugar imported has fallen from 4.76 to 3.98 million cwts. Imports of cotton goods have risen in value in the month from Rs. 1.92 to Rs. 2.06 crores or by 7.29 per cent: in the 10 months the improvement has been from

Rs. 16.56 to Rs. 19.15 crores or by 15.64 per cent. Imports of yarns have scarcely varied this month, though 3 more million lbs. have been received in the year: piece-goods have expanded by nearly 110 to 120 million yards, while for the year an increase of 117 million has swollen imports to 1,037 million yards. As usual grey goods predominate and reached 90 million yards, a total which has only been exceeded in 7 months in the past 5 years of which 3 occurred in 1909-10. The price of raw cotton has risen steadily from 5.01d. on the 28th December to 5.87d. per lb. on the 8th February. At home in the trade there is a temporary lull in labour questions: locally the market is strong with advancing prices, while shipments of coloured cottons are now impossible to obtain. The *Metal Group* has risen in value by Rs. 19 lakhs to Rs. 1.14 crore: in the 10 months the increase has been Rs. 34 lakhs and the total value Rs. 8.57 crores. The increases in January under metals have been considerable, more especially in copper and iron: it is reported that there is a growing preference in favour of iron over steel; at the same time prices for all metals have an upward tendency, while copper had risen on the 8th January to £64½ being in the neighbourhood of only £56 a short time previously. Metals in themselves have risen by over 10 lakhs, hardware by nearly 2 lakhs, and railway plant by nearly 7 lakhs. Mineral oils were received to the extent of 3.6 million gallons, or a slight increase: there was a smart advance in imports of kerosine oil from the United States at the expense of other countries, and that country has improved its business this year to the extent of nearly 8 million gallons. From Burma kerosine oil continues to decrease: last month the decline was nearly 2 million gallons, while the year's total is slightly smaller. Practically all headings of any importance exhibit a larger business done and under the general term "*all other articles*" values have improved in value in the month by Rs. 27.16 lakhs, and in the year by Rs. 65.58 lakhs.

In the export trade jute has again been the most important product sent away and combining both the raw material and the manufactured article an aggregate value was attained of Rs. 3.08 crores in January and Rs. 29.68 crores for the 10 months of the year that have passed, representing increases of Rs. 55 lakhs and Rs. 3.77 crores respectively. Raw jute was valued at Rs. 2.07 crores, an increase of Rs. 58 lakhs in the month: in the year the total value has risen by Rs. 4.99 crores to Rs. 16.30

crores. The manufactured article fell in value by Rs. 2.9 lakhs to Rs. 1.01 crore and for the year the defect stands at Rs. 1.23 crores, the total falling to Rs. 13.38 crores. If the coasting exports be included the total value has expanded to Rs. 31.13 crores, an increase of Rs. 3.64 crores. As the season advances there is no falling off in the supply which continues far in excess of the past season's receipts. During the current season to end January 7,076,889 bales have been received into Calcutta and the mill stations as compared with only 6,144,386 last season, or an increase of 933,120 bales: the receipts so far are now only 391,395 bales short of last season's totals. As a result, exports were 1.72 million cwts. or 483,992 bales, a rise of 510,637 million cwts. or 142,978 bales: in the 10 months shipments have risen by 2.2 million cwts. (bales 617,641) to 12.11 million cwts. (3,392,411 bales). From Chittagong 39,842 bales went away in January or 350,809 bales for the year, an increase on the previous year of 76,126 bales. Of the month's shipments from Calcutta 178,635 bales were shipped to the United Kingdom, 81,354 bales to Germany, and 51,594 bales to France. Notwithstanding the heavy arrivals prices for raw jute remain much higher than they should be: at the close of January the price here may be quoted at Rs. 52 and at home £22½. Locally prices are kept up largely by speculation and it is rumoured that the Bithar Bazar is once more in evidence: when it is considered that with a price of Rs. 30 per bale a very profitable return is guaranteed to all engaged in the trade, it can be imagined the enormous profits that have been paid away into Bengal. In the manufactured article over 16 million bags were exported, a decrease of over 3.6 millions, gunny cloth rising by 6.33 yards to 67.65 million yards: the largest supplies of bags were taken by the United Kingdom, Australia, the United States, and Egypt with Cuba, in the order of their importance: gunny cloth went chiefly to the United States (57 million yards), Canada and the United Kingdom. While great attention is necessarily paid to the foreign exports in this trade, it must not be overlooked that the exports by sea to Indian ports, and by rail and river to the interior of India are also of some considerable importance: in the coasting trade exports were valued in the month at Rs. 30 lakhs and in the year at Rs. 1.45 crores. By rail and river despatches from Bengal rose in 1910-11 from 1.40 to 1.49 million cwts.: and from the Calcutta trade block for the first 8 months of the current year by all routes (the sea excepted) exports

of gunny bags aggregated 28.60 millions. The local industry continues more prosperous, prices are rising steadily, the demand is great, and stocks are small: the only depressing factor is the unnaturally high price of the raw material. A recent statement gives the number of looms in the industry at the close of 1911 as 32,632: this is an increase of 877 looms in the past 2 years. January's exports of grain and pulse were phenomenal, the quantity rising from 1.16 to 2.15 million cwts., valued at Rs. 1.06 crores, an increase of Rs. 43.36 lakhs: in the 10 months shipments have risen to 16.11 million cwts., valued at Rs. 7.88 crores, or increases of 6.58 million cwts., and Rs. 2.55 crores. Wheat exports were in defect but for the year, shipments from the chief wheat ports have been on a much larger scale than last season: the smaller despatches just now are in spite of higher prices at home, and railway difficulties may be interfering with despatches. The first general memorandum issued recently gives the area sown in the United Provinces as greater by 12 per cent, but Bengal contracts by 8 per cent. Whatever may be said about wheat, there can be no question as to exports of other food products. Rice rose from 645,692 to 894,050 cwts. carrying a value greater by 20 lakhs: for the 10 months 4.87 million cwts. have gone forward, an increase in quantity of 1.71 million cwts. and in value of Rs. 1.02 crores. More than half went to Ceylon and much to the Continent, 105,585 cwts. going to Germany where the potato crop has not been good: prices in Burma are ruling high and the Far East is taking more from us: in fact, the rice crop is going forward much more quickly and in much larger quantities this season. We have now sent away 1.48 million cwts. of barley chiefly to the United Kingdom, whence the demand is very great and Russia's shipments thereto have much contracted: whisky and cattle food are the chief claimants. Concerning barley the latest reports from home state that grinding barley remains very high, prices for shipment being dearer than those obtainable on spot and, owing to the very high level of values, trade has been restricted. Pulses (dāl and peas) are also going away in an extraordinary manner: in the month 532,778 cwts. were shipped and in the year 3.76 million cwts. or a rise of 2.37 million cwts. Here both the Continent and the United Kingdom are competing and our exports of these products will still be affected as a result of the severe summer of 1911: in no previous years have our figures been so great. To Indian ports also exports of grain and pulse have been

considerable rising in the month in value by Rs. 10.51 lakhs and, during the year, by Rs. 42.28 lakhs. Of oilseeds 104,273 cwts. (practically all linseed) were shipped as against only 17,244 cwts. and either the past season continues with more vitality than usual, or the new season's crop is coming down more quickly: the latter is hardly possible as wagons are far from plentiful and prices are not what they were. Tea seed is in much demand this year: the month of January saw 1,041 cwts. shipped and the year has seen 11,382 cwts. sent away as against only 5,145 cwts. last year: 1,815 cwts. have gone to Ceylon and 6,345 cwts. to Java. Cotton twist and yarn, lac (quantity only) and hemp with manganese ore and saltpetre shew a larger export business done but other products have not shewn such goods results. Opium fell by 1,721 chests and Rs. 53.76 lakhs, total shipments being 1,340 chests valued at Rs. 96.86 lakhs: for the year the decline amounts to 8,535 chests and Rs. 2.54 crores: at the last sale held on the 6th February 1,740 chests were disposed of at high rates, the average being Rs. 3,179 per chest. Tea exports aggregated 11.66 million lbs. valued at Rs. 50.13 lakhs, a decrease of over two million lbs. and Rs. 14.70 lakhs: in the ten months shipments from Calcutta have aggregated 174 million lbs. of a value of 8.29 crores, being an increase of 3.51 million lbs. and Rs. 36.52 lakhs. From Chittagong the month saw 3,278,451 lbs. exported, and the year 52,684,208 lbs. From British India exports this season up to the 13th February have aggregated 240.65 million lbs., an increase of 6.19 million lbs.: of this quantity 14.67 million lbs. went from Southern India. Increases to the United Kingdom have been over 11 million lbs., but to Russia they have dropped by over 9 million lbs.: to other countries variations have not been great, but America has taken nearly 2 million lbs. more. From 1st January to 5th February, 1912, 10,974,150 lbs. have been shipped from Ceylon, a decrease of 1,032,397 lbs. To date 32 sales have been held in Calcutta and 769,842 packages have been disposed of. Prices both here and at home have been irregular and lower except for good qualities: this is shewn in the average obtained at the last local sale which only touched 6 as. 7.3 pices against a season's average of 7 as. 6.6 pices: but the season is rapidly closing and at the sale just referred to only 8,353 chests were auctioned. The air is now full of reviews of the last year's work and successes, but space forbids any lengthy extracts: it may suffice to simply remark that all concur in stating that 1911 was a wonderfully prosperous

year, more especially to the producer, though distributors profits were curtailed: the consumer has had nothing to complain of. In the nine months ending with September Russia has imported 43,920,000 lbs.: Germany during 10 months ending November 7,824,200 lbs.: the Netherlands in the 10 months ending October, 7,383,400 lbs.: and the United States in the 10 months ending with October 79.70 million lbs. Stocks in the United Kingdom at the end of December were 130.26 million lbs.: at the close of January in London they were (Indian and Ceylon teas) 98.07 million lbs. Consumption per capita at home has much increased: in the last 2 years, rising from 6.29 to 6.47 lbs. per head of population. Coal shipments were again of a very disappointing nature, the total quantity shipped in the month falling from 308,405 to 228,501 tons, or less by 79,904 tons: to Indian ports the decrease was 46,991 tons: and to foreign ports 32,913 tons. In the 10 months exports have fallen by 341,840 tons from 2,713,086 to 2,371,246 tons with a decrease in the foreign trade of 61,637 tons and in the coasting trade of 280,203 tons. The trade just now is not in a happy state. Prices are stated to be purely nominal as wagons are unobtainable. In Bombay the demand for ready coal exceeds the supply and the latest news is that the supply there continues very limited; there being few steamers and no wagons. Large quantities are expected there from Natal, Australia, and Japan: but meantime the position continues serious and many important up-country industries are in danger of being brought to an absolute standstill. Locally freights are higher again and Rs. 6.2 and Rs. 6.4 are quoted for Colombo loading. Cotton has fallen in the month in value by Rs. 3.98 lakhs: indigo by Rs. 2.54 lakhs: hides and skins by Rs. 1.16 lakhs and raw wool, silk and tobacco by insignificant amounts.

Finally, it may be remarked that a scarcity of tonnage is still a feature of the Calcutta freight market. Rates continue high and absence of steamers last month discovered thousands of bales of gunnies overbooked. With plenty of wagons and ample sea tonnage January's exports might have seen a much greater percentage of increase in value.

—It is stated that a syndicate has secured a lease of some of the most likely diamond producing tracts in the Banganapalle State, Kurnool District, Madras Presidency, with a view to reopen the ancient workings on a sound commercial basis, aided by modern machinery and appliances for dealing with the diamondiferous deposits.

CROP FORECASTS.

COTTON.

Final General Memorandum on the COTTON crop of the season, 1911-12

This memorandum summarises the provincial reports of the cotton crop up to the 1st February and compares them with those for the two previous seasons.

The total area in all territories reported on is now computed at 20,393,000 acres, which marks a net decrease of 2,202,000 acres or nearly 10 per cent on the 22,595,000 acres (revised figure) at this time last year. The total estimated outturn is 3,135,000 bales of 400 lbs. as against 3,853,000 bales (revised figure) for last year, representing a decrease of 718,000 bales or 18.6 per cent. To this figure might be added some 1,000 bales estimated as the production in Native States in Bengal which make no returns. But doubt is thrown upon last year's estimate by a comparison of it with the sum of net exports and internal consumption, this latter being computed on a basis arrived at in agreement with the Bombay Cotton Trade Association, Limited. The following statement compares the figures for the last three years (the figures are in thousands).

	Year ending 30th September		
	1911	1910	1909
	Bales	Bales	Bales
Net exports	2,302	2,826	1,990
Mill consumption	1,551	1,652	1,760
Consumption outside mills (conjectural)	*450	*450	*450
Total	4,303	4,928	4,200
Deduct—estimated yield	3,853	4,718	3,692
Deficit	450	210	508

* Substituted (after renewed consultation with the Bombay Cotton Trade Association Limited) for the figure of 750,000 formerly estimated.

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 (28.9%).—According to the latest reports the total area under both early and late cotton in the British districts comes to 3,530,000 acres, a decrease of 781,000 acres or 18 per cent as compared with last year's area. The Native States (excluding Baroda) report 1,138,000 acres as compared with 2,217,000 acres—a decrease of 49 per cent. Since the publication of the December forecast, the crop, has further deteriorated in Gujarat owing to absence of moisture and excessive heat, and the dry crop entirely withered away in many places in the

north and in places it was fed to cattle. Where helped by irrigation it has survived the drought and yielded some outturn. In south Gujarat the crop has done somewhat better though dropping of bolls and leaves through cloudy weather has been reported from places. In the Karnatak also it suffered from absence of moisture, particularly in the eastern tracts, and from unfavourable winds. The total estimate of yield now stands at 439,000 bales in British districts as compared with 867,000 bales last year—a decrease of 49.5 per cent, and in the Native States 117,000 bales as against 449,000 bales last year—a decrease of about 74 per cent.

Central Provinces and Berar (21.1%).—No change has been made in the estimates made in December, namely, 4,632,000 acres and 913,000 bales as against 4,487,000 acres and 629,000 bales for last year.

Madras (7.8%).—The total area sown in *raiya* villages up to the end of January is reported to be 1,952,000 acres which is about 16 per cent more than the area at the corresponding date of last year, the increase being ascribed to timely rainfall and the high price of the commodity. The crop is reported to be generally in fair to good condition. The yield is estimated at 223,000 bales which is 7 per cent more than that of last year. Villages other than *raiya* report a total area of 171,000 acres which is 9 per cent more than last year's area. The yield of this area is estimated at about 25,000 bales. Native States report a total area of about 26,000 acres estimated to yield about 2,000 bales.

Punjab (7.5%).—The total area in British districts is now reported to be 1,457,000 acres as compared with 1,249,000 acres last year—an increase of 16.7 per cent. The crop suffered from the abnormal cold of November and December. The revised estimate of yield comes to 204,000 bales as against 272,000 bales last year—a decrease of 25 per cent. Native States now report a total area of 127,000 acres and a yield of 37,000 bales as compared with 136,000 acres and 84,000 bales last year.

United Provinces (6.6%).—Practically no change has been made in the estimates arrived at in December. The figures for the British Districts stand at 901,000 acres and 247,000 bales as compared with 1,333,000 acres and 345,000 bales last year. Those for the Native State of Rampur stand at 20,000 acres and 4,000 bales as against 14,000 acres and 3,000 bales for last year.

Sind (1.2%). reports a total area of 330,000 acres compared with 279,000 acres last year—an increase of 18.3 per cent. Deficiency of water-supply, scanty rains, and strong winds affected the crop in certain important districts. Elsewhere its condition was fair. The total yield is estimated at 120,000 bales as against 97,000 bales last year—an increase of 23.7 per cent.

Burma (0.9%) now reports 183,000 acres as compared with 167,000 acres last year—an increase of 9.6 per cent. The crop was affected by drought in several districts and by heavy rain in certain

others. The yield is roughly estimated at 34,000 bales as against 28,000 bales last year—an increase of 21.4 per cent.

Eastern Bengal and Assam (0.4%).—The total area sown is estimated at 101,000 acres, which is practically the same as last year. Owing to heavy rain in October and to the depredations of rats in certain important hill tracts, only a meagre crop has been gathered. The total yield is estimated at 20,000 bales as compared with 31,000 bales last year—a decrease of 35.5 per cent.

Bengal (0.3%) reports the total area sown as 92,000 acres as compared with 68,000 acres last year—an increase of 35 per cent. The season was, on the whole, favourable both for the early and the late crops. The yield is estimated at 21,000 bales as against 18,000 bales—an increase of about 18 per cent. The crop in the Native States, for which no statistics are available, is roughly estimated at 1,000 bales, as against 900 bales estimated last year.

North-West Frontier Province (0.2%) reports no change in the estimates made in December, namely, 56,000 acres and 12,000 bales as against 33,000 acres and 8,000 bales last year.

Ajmer-Merwara (0.2%).—The revised estimate of acreage now stands at 25,000 as compared with 45,000 last year—a decrease of 43 per cent. No change has been made in the December estimate of outturn, namely, 11,000 bales as against 20,000 bales last year.

Hyderabad (14.6%).—The total area sown is reported to be 3,234,000 acres as compared with 3,562,000 acres last year—a decrease of 9.2 per cent. The estimate of yield, being the same as reported in December, stands at 300,000 bales as against 293,000 bales last year—an increase of 2.4 per cent.

Central India (4.9%).—The total area reported comes to 1,391,000 acres as compared with 1,349,000 acres last year—an increase of 3 per cent. The revised estimate of yield now stands at 227,000 bales as against 237,000 bales last year—a decrease of 4 per cent.

Baroda (3.1%). reports 665,000 acres compared with 806,000 acres last year—a decrease of 17.5 per cent. The yield is estimated at 96,000 bales as against 134,000 bales last year—a decrease of 28.4 per cent.

Rajputana (1.9%).—The total area reported comes to 263,000 acres as compared with 465,000 acres last year—a decrease of 43 per cent. The yield is estimated at 73,000 bales as against 143,000 bales last year—a decrease of 49 per cent.

Mysore (0.4%).—The estimates made in the December forecast were 99,000 acres and 10,000 bales as against 100,000 acres and 10,000 bales in the preceding year. No further report* has been received.

* Final report just received gives 101,000 acres and 17,000 bales.

The exports of raw cotton by sea to foreign countries have been as follow (in cwts):—

April to December	1907	6,385,557
"	1908	3,873,671
"	1909	4,713,860
"	1910	5,892,312
"	1911	4,613,204

The course of prices is indicated by the following figures, which represent the price of Broach cotton

	1907.	1908.	1909.	1910.	1911.
September	268½	227	280	318	304
October	270	229	305	304	285
November	265	226	280	317	250
December	271	220	282	354	252

FREDERICK NOËL-PATON,
Director-General of Commercial Intelligence.

Final estimate of the Cotton Crop of India

Provinces and States	1911-12		1910-11		1909-10	
	Area (Acres)	Yield (Bales)	Area (Acres)	Yield (Bales)	Area (Acres)	Yield (Bales)
Bombay (a)	4,668,000	556,000	6,528,000	1,316,000	5,794,000	1,426,000
Central Provinces and Berar	4,632,000	913,000	4,487,000	629,000	4,167,000	1,070,000
Madras (a)	2,149,000	250,000	1,873,000	235,000	1,569,000	180,000
Punjab (a)	1,584,000	241,000	1,385,000	306,000	1,436,000	396,000
United Provinces (a)	921,000	251,000	1,347,000	348,000	1,241,000	384,000
Sind (a)	330,000	120,000	279,000	97,000	214,000	104,000
Burma	183,000	34,000	167,000	28,000	198,000	32,000
Eastern Bengal and Assam	101,000	20,000	101,000	31,000	99,000	18,000
Bengal (b)	92,000	21,000	68,000	18,000	67,000	17,000
North-West Frontier	56,000	12,000	33,000	8,000	32,000	7,000
Ajmer Merwara	25,000	11,000	45,000	20,000	39,000	13,000
Hyderabad	3,234,000	300,000	3,562,000	293,000	3,401,000	461,000
Central India	1,391,000	227,000	1,349,000	237,000	1,068,000	221,000
Baroda	665,000	96,000	806,000	134,000	675,000	235,000
Rajputana	(c) 263,000	(c) 73,000	465,000	143,000	464,000	148,000
Mysore	(d) 99,000	(d) 10,000	100,000	10,000	81,000	6,000
TOTAL	20,393,000	3,135,000	22,595,000	3,853,000	20,545,000	4,718,000

N.B.—A bale contains 400 lbs. of cleaned cotton.

(a) Including Native States within provincial boundaries.

(b) Excluding Native States for which the yield is roughly estimated at 1,000 bales.

(c) For certain States figures reported in the December forecast have been taken to make up the total as final report from those States have not been received.

(d) Taken from the December forecast as final report has not been received. Final report just received gives 101,000 acres and 17,000 bales.

GROUNDNUT.

Final General Memorandum on the GROUND-NUT crop of the season 1911-12

This memorandum deals with the three provinces which produce groundnut to a considerable extent.

The total area now returned is 1,200,900 acres as compared with 951,900 acres (revised figure) in 1910-11, which marks an increase of 26 per cent. The total outturn is estimated at 542,200 tons of nuts in shell as against 503,200 tons (revised figure)

for last year—an increase of nearly 8 per cent.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total reported area under groundnut in British India is ordinarily cultivated in that province.

Madras (68.4%).—The area under the crop in raiyatwari villages up to the end of January is 828,700 acres, which is 27 per cent more than the area in the corresponding period of last year. Vil-

Villages other than raiyatwari report an area of 21,700 acres as against 16,700 acres of last year. The total area therefore comes to 850,400 acres which is 27.4 per cent more than last year's area. The condition of the crop is reported to be fair or good. The probable yield of nuts in shell is estimated at 298,300 tons in raiyatwari and 7,700 tons in other villages—total 306,000 tons as compared with 254,200 tons last year—an increase of 20.4 per cent.

Burma (19.7%).—The total area sown in the five principal groundnut growing districts is estimated at 128,200 acres as compared with 98,800 acres last year—an increase of nearly 30 per cent. Large areas cultivated with sesamum and other dry crops last year have this year been put under groundnut. Except in Pakokku the prolonged drought did little harm to the crop. The probable yield is estimated at 48,500 tons as against 41,900 tons last year—an increase of 15.7 per cent.

Bombay (11.9%).—The estimates are up to 10th December. The total area sown is reported to be 220,500 acres (163,000 in British Districts and 57,500 in Native States) as compared with 184,700 acres in the corresponding period of last year—an increase of 19.4 per cent. The dry crop progressed fairly well at first but suffered, later, through absence of late rains in the north and their deficiency

in the south. The irrigated crop also suffered to some extent through deficiency of water supply at the close of the season. The rain at the end of November is reported to have slightly damaged the standing crop in places. The total yield is estimated at 186,300 tons (128,300 in British Districts and 58,000 in Native States) as against 205,600 tons last year—a decrease of 9.4 per cent. Besides these, about 1,800 acres with an outturn of 1,400 tons are estimated to have been under the crop in tracts for which statistics are not usually received.

Exports.—The quantities exported during nine months of this year and the whole of the five preceding years have been (in cwt):—

	From Madras	From Bombay	From Burma	From other Provinces	TOTAL
1906-07	1,350,096	130,336	243,575	1,221	1,725,230
1907-08	1,218,092	93,553	212,227	183	1,524,055
1908-09	1,486,871	117,930	174,557	2,491	1,781,849
1909-10	2,648,016	478,637	115,623	832	3,243,168
1910-11	2,598,347	382,977	107,584	1,228	3,090,136
1911-12 (nine months)	1,225,145	464,821	27,494	2,345	1,719,805

FREDERICK NOËL-PATON,
Director-General of Commercial Intelligence

Estimate of the Groundnut crop of the season 1911-12

PROVINCE	AREA (IN ACRES)					
	Of current year's crop (1911-12)	Of previous year's crop (1910-11)	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	
			5 years	10 years	5 years	10 years
Madras	850,400	667,300	(b) 592,900	(b) 470,400	+ 27.4	...
Burma	128,200	98,800	(b) 116,100	...	+ 29.8	...
Bombay (a)	222,300	185,800	125,800	104,300	+ 19.6	+ 76.7
TOTAL	1,200,900	951,900	834,800	...	+ 26.2	...

PROVINCE	YIELD (IN TONS) OF NUTS IN SHELL					
	Estimated yield of current year, i.e., of area in column 2	Yield of previous year, i.e., of area in column 3	Average of preceding	Percentage by which column 7 exceeds (+), or is less than (-), yield in		
				Column 8	Column 9	
1	7	8	9	10	11	
			5 years	10 years	5 years	10 years
Madras	306,000	254,200	(b) 206,800	(b) 197,600	+ 20.4	...
Burma	48,500	41,900	(b) 46,000	...	+ 15.7	...
Bombay (a)	187,700	207,100	101,100	81,700	- 9.4	+ 85.6
TOTAL	542,200	503,200	353,900	...	+ 7.8	...

(a) Including Native States

(b) Incomplete

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE Board of Trade Journal, published on the 25th ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about :—

FRANCE.—Proposed Reduction of Duties on Salted Meat.

URUGUAY.—Proposed Duty-free Admission of Motor Omnibuses.

JAPAN (KOREA).—Forthcoming Abolition of Export Duty on Rice.

COMMONWEALTH OF AUSTRALIA.—Removal of Certain Tools of Trade from Free List. Free Importation of certain Tools and Minor Articles, etc. Appointment of a Quarantine Station.

DOMINION OF NEW ZEALAND.—Customs Decisions.

GRENADA.—New Customs Tariff.

EGYPT.—Revised Valuation Tariff for Coal. Revised Valuation Tariff for Sugar.

SWEDEN.—Regulation Respecting Temporary Duty-free Admission of Foreign Motor-Cars. Re-importation of Goods Exported in order to undergo Repair, etc.

DUTCH EAST INDIES.—Trade in Opium, Morphine, etc.

BELGIUM.—Customs Classifications.

FRANCE (ALGERIA).—Increase of Consumption Duty on Alcohol.

PORTUGAL.—Importation of Rye.

ROUMANIA-MONTENEGRO.—Convention of Commerce and Navigation between the two Countries.

SERBIA.—Temporary Prohibition of Exportation of Barley and Oats.

VENEZUELA.—Customs Classifications.

—An improved process for coating iron and steel with zinc by electro-deposition has been developed by a firm of manufacturers in Birmingham, who are now in a position to supply the necessary apparatus and materials to those who think of adopting this method of galvanising. The process is similar to that employed in other plating processes—e.g., in electro-brassing. The articles are first pickled and scoured and then placed in a suitable electrolytic-action. The improvement now effected relates to the composition of the electrolyte, which is said to ensure a brighter, more regular, and firmer deposit than has hitherto been obtainable. It is stated that with a moderate amperage a deposit sufficient for all ordinary purposes may be made in a quarter of an hour, while in half an hour sufficient zinc is deposited to protect the article from oxidation even when exposed to the full effects of the weather in an acid atmosphere. The new process is applicable to such diverse manufactures as iron and steel tubes and fittings, castings, wire, staples, nails, screws, nuts and bolts, window casements, iron and steel sheets, etc. It is claimed that the process is more economical than the hot method, because the deposits being perfectly even all over instead of being deposited in blobs here and there, a given weight of zinc is made to go further.

SUGAR INDUSTRY IN THE UNITED PROVINCES.

Government Observations.

THE following Resolution, dated February 7th, is published in the *Government Gazette* of the United Provinces of the 10th instant :—

The Lieutenant-Governor has observed with anxiety the effect of the extended imports of sugar on the agriculture of those tracts of the province where sugar is made by indigenous methods. The importance of the sugarcane crop in the rural economy of the province is so great that any decline in the area must injuriously affect the general prosperity of the tracts in which it takes place, and there is reason to think that such a decline is threatened, if it is not actually in progress, in the sugar-tracts of Rohilkhand and of the eastern districts. Sir John Hewett is desirous that everything possible should be done, not only to arrest this decline, but to facilitate the expansion of the area under sugarcane, the propagation of the most valuable kinds of cane and the extension of the crop in regions where at present it is little grown.

The investigations so far carried out indicate that action is desirable along two main lines. On the agricultural side, which the Lieutenant-Governor considers to be the most important in the conditions at present obtaining in the United Provinces, much may be done by determining the most suitable varieties of sugarcane, whether indigenous or imported, and distributing them to cultivators, and by introducing improvements in the existing methods of cultivation, while important results may be hoped for from improved methods of manufacturing the final product.

Upon the agricultural side of the question a scheme for encouraging the cultivation of the best varieties by co-operation of the staff of different provinces is believed to be under the consideration of the Government of India. But so far as this province alone is concerned the matter is being studied for the eastern districts at the experimental farm at Partabgarh, and the Lieutenant-Governor has decided to establish an agricultural station in Rohilkhand to carry out similar studies for the benefit of that region. The Director of Land Records and Agriculture will pay continued attention to the desirability of further improvement of the outturn of sugarcane, and encouragement of the extended cultivation of the best varieties.

On the manufacturing side the main questions at the present time are mechanical, and Sir John Hewett is glad to be able to announce that the Government of India has placed at the disposal of the Local Government the services of an expert sugar-engineer, who will enter on his duties immediately. These duties will include the determination of the types of machinery and equipment most suitable to the varying needs of the different sugar-tracts, and Mr. Hulme, the Engineer selected for the appointment, will be available for consultation by persons engaged in the industry on application made to him

through the office of the Director of Land Records and Agriculture, under whose administrative control he has been placed.

Sir John Hewett had the pleasure of meeting to-day in conference a number of gentlemen who are themselves engaged in the sugar industry along with those officials most concerned in the matter. In that conference it was decided that Mr. Hulme should commence his duties regarding the lines on which it appeared to be most hopeful to look for successful development in methods of large and small production. Those suggestions are necessarily tentative and no end would be attained by publishing a formal record of them at present.

The Lieutenant-Governor is confident that the leaders of the community share his anxiety for the maintenance, extension and improvement of cane cultivation and sugar production, and that they will be ready to co-operate cordially in the measures designed to promote them.

STORAGE OF WHEAT.

MR. W. P. RUTTER last year published a valuable work on *Wheat*.* It deals not only with the cultivation of wheat and the factors that affect it but with the methods of storing, transporting and marketing the produce. Chapters that treat of these operations will be read with interest by the merchants and railway officers in India who have occasion to consider the expediency of adopting improved means of handling India's increasing crop. Chapters VII and VIII, which deal respectively with transportation and with storage, give a very good account of modern methods and suggest a doubt as to whether India is keeping in line with her competitors. We have from time to time placed before our readers facts regarding the use of elevators in other countries and Mr. Rutter's statements and comments on the same subject are welcome as an independent confirmation of our articles. This is specially true of his account of the distinctive functions of elevators at the farm, in the local markets, in the primary markets and at the port of shipment. In India as elsewhere the adoption of improved methods of handling must hinge upon questions of cost to the merchant; and in this the ultimate test is the rate of charges incurred by resort to elevators. For this reason we quote below the rates of storage at the local elevators, taking the Canadian North-West as representative :—

For receiving, cleaning, insuring against loss by fire, handling, sorting fifteen days, and shipping grain 1½ cents per bushel.
Each succeeding thirty days, or part thereof ½ cent „

Where competition is strong, and farmer's elevators are in operation, the above charges may be cut down to as low as ½ cent per bushel.

* *Wheat-Growing in Canada, the United States and Argentina* (London, Black, 3s. 6d.)

The following table gives the storage charges at the primary markets and lake ports :—

Duluth	. 0.50 cents per bushel first 15 days; .025 cents per bushel for each day thereafter.
Buffalo	. 0.50 cents per bushel elevating, including 10 days' storage, each succeeding 10 days or part thereof, 0.25 cents per bushel, loading into canal boats free.
Milwaukee	. 0.50 cents per bushel, including 10 days' storage and elevating; each succeeding day 0.02 cents per bushel. Rates include unloading and loading from or to cars or vessels.
Chicago	. 0.75 cents per bushel first 10 days or part thereof; .025 cents per bushel each succeeding day.
Minneapolis	. 0.75 cents per bushel first 10 days or part thereof; 0.25 cents for each 10 days thereafter.
St. Louis	. 1.00 cents per bushel first 10 days, and 0.375 cents per bushel for each 10 days thereafter.
Fort William and Port Arthur	. 0.75 cents per bushel elevating, including 15 days' storage, and 0.75 cents for each succeeding 30 days.

Storage Charges at the Seaboard.

		Cents per Bushel.
Montreal C. P. R.)	Summer storage (May 16 to November 14), elevating including 10 days' storage	0.75
	Storage for each succeeding 10 days or part thereof	0.25
	Winter storage (November 15 to May 15) (Between these dates when charges at regular rates accrue to 1½ cents per bushel, no further charge will be made).	
	Grain remaining in storage after May 15, and for each succeeding 10 days or part thereof, in addition to accrued charges	0.25
New York	Receiving, weighing, and discharging, on all sound grain, including storage, first 10 days, or part thereof	0.625
	Every succeeding 10 days, or part thereof	0.25
	Extra storage or grain delivered to ocean vessels	0.50
	Screening and blowing on receipt or delivery	0.125
	Inspection charges, 25 cents per 1,000 bushels	
	Grain loaded from elevator to car	0.50
San Francisco	Storage per year	1.5
	Loading wheat on vessels	0.75
	Weighing	0.25
Buenos Aires	Three days are allowed in the port for unloading cars, after which the railway companies charge 85 cents per car per day.	
		Cents per Ton.
	Weighing	12
	Loading on shipboard	18

It costs about 1 cent per bushel more at the ports to handle wheat in sacks than it does by the elevator methods. A close study of the chapter will show that Canada and the United States possess advantages over Argentina in storage facilities and charges. They also possess advantages as regards total transportation charges on wheat for export purposes. The development of Argentine storage facilities is sure to be slow, but there is no reason to doubt that progress will be continued.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, February 13th.

DURING the week ending February 12th rain was general in the districts of the Orissa, Chota Nagpur, Burdwan Divisions and in Monghyr, Bhagalpur, Darjeeling, the 24-Parganas, Nadia and Jessore. There was no rain in the rest of the Province. The fall was rather heavy in Orissa, Darjeeling, Ranchi, Singhbhum, Midnapore and in parts of Howrah and the 24-Parganas and light to moderate elsewhere.

The standing crops have been benefited by the recent rainfall in Howrah, Bhagalpur, Sambalpur, and Ranchi. More rain is wanted for them in Murshidabad and Purnea. Slight damage has been done by hail in parts of Sambalpur and Hazaribagh. Prospects are on the whole good.

The price of common rice has risen in Midnapore, Murshidabad, Jessore, Patna, Saran, Monghyr, Bhagalpur, Ranchi and Palamau and has fallen in Bankura, Shahabad and Champaran.

Cattle-disease is reported from Midnapore, Nadia, Jessore, Saran, Muzaffarpur, Monghyr, Bhagalpur, Purnea, Angul, Puri, Sambalpur, Hazaribagh and Ranchi.

Fodder is reported to be getting scarce in parts of Burdwan.

The supply of water is sufficient throughout the Province.

EASTERN BENGAL AND ASSAM.

Dacca, February 13th.

DURING the week ending February 12th light rain fell almost throughout the province, varying from a few cents to an inch.

The outturn of cotton is estimated at about forty per cent less than last year.

Standing crops are flourishing everywhere and prospects are good.

Ploughing for *aus* (winter) rice and jute is going on briskly.

The price of common rice has fallen slightly since last week.

Rinderpest is prevalent in parts of Mymensingh and Sylhet.

THE HIGH COST OF LIVING.

THE proposal of Professor Irving Fisher of Yale University for an international investigation of the high cost of living is, says the New York *Journal of Commerce*, meeting with unexpectedly wide support. Its author has received letters of approval from prominent men in all parts of the world, and there is good reason for expecting that the idea of an International Commission will be favourably taken up by the President and Congress. Professor Fisher has prepared the following outline of his plan and its objects:

With the support of leading economists, financiers, editors and statesmen, a movement has been launched to secure the appointment of an official International Commission on the Cost of Living.

The object of the proposed commission is: (1) To gather all available facts as to recent changes in wages, cost of living and prices generally throughout the world and to make international comparisons; (2) to secure evidence as to the main causes of these changes and of international differences, and (3) to discuss possible remedies.

I. The Facts.

The price statistics hitherto published are very limited in scope and are not fitted to indicate the price movements of the civilized world. Such index numbers of prices as have been published are usually confined to the wholesale prices, and in all cases cover only a small part of the field of general prices and wages even where the statistics are of the best, as in the United States, England and Germany. Moreover, these index numbers are constructed by different methods in different places and in consequence are not mutually comparable. Thus a recent attempt of the English Board of Trade to compare its index numbers of prices for 'foods and materials' with corresponding statistics elsewhere required a reclassification of the latter by which certain commodities were introduced, others omitted and still others transferred from 'foods' to 'materials' and *vice versa*.

A complete study of the facts would afford a general view of the differences between different countries and times so far as concerns (a) the purchasing power of the dollar or other monetary unit, and (b) the purchasing power of incomes, especially wages.

These two sorts of purchasing power do not always change together. Thus, if all prices and wages rise equally, it is clear that the purchasing power of the monetary unit must fall, though the purchasing power of wages will have remained the same. But if the rise in the prices of goods for which wages are spent is greater than the rise in the wages themselves it is clear that there has been not only a diminution in the purchasing power of the monetary unit, but also a diminution in the total purchasing power of the wages—that is, a diminution in 'real wages.'

Both problems are of the greatest importance, and the prospect of adding to our knowledge as to either of them would be a sufficient justification for the creation of the proposed commission. It is believed that the commission can throw light on both problems; for the raw materials for constructing index numbers exist in published and manuscript documents in every commercial country and only require clerical work under intelligent direction in order to be wrought into index numbers of real value.

II. The Causes.

Here also the commission will have two problems: (a) to explain the fall in the purchasing power of the monetary unit and (b) to explain the changes in the total purchasing power of incomes, especially wages.

The first problem (a) is that of the rise of prices and will fall chiefly into two parts, (1) a study of money and (2) a study of goods. The former will include a study of the production of gold, the extension of credit through the use of checks, uncovered bank notes, modern methods of indorsement, underwriting, etc., and the velocity of circulation of money; the latter will include a study of the conditions of production, transportation and the volume of trade in respect to agricultural, mining and industrial products.

The second problem (b) is that of the factors influencing the world's supply of food and other commodities which bear upon the great mass of consumers, as well as changes in standards of expenditure, concentration of population in cities and all other factors which affect the people in their capacity as consumers.

III. The Remedies.

The commission will again be confronted with two problems:

(a) The problem of preventing changes in the purchasing power of the monetary unit, as for instance through monetary or banking legislation, and

(b) The problem of increasing or at any rate of preventing any increase in the total purchasing power of wages, by combating mal-nutrition and the decay of industrial efficiency.

Those chiefly interested in the project of a commission on the cost of living do not agree on any remedy or remedies. They are agreed merely on the importance of the questions involved. The commission would not, of course, be authorized to bind the various nations represented to the adoption of any plans that might be recommended. It would simply aim to express the best unbiased scientific conclusions which they may find from a complete study of facts than has hitherto been made.

Should it happen that the commission reported favourably any plan requiring political co-operation

the way would then be open for the various nations to enter into diplomatic negotiations looking toward such co-operation, just as was the case when the "Latin Union" was formed to secure uniformity in currency or when various nations agreed to prohibit the poisonous match industry.

Further Remarks—Why the Commission should be International.

The commission should be international because the problems are necessarily international. Even the inflation of the currency of one country must spread its effect over all; for much local inflation, by expelling any exportable money such as gold, leads to inflation abroad. We cannot expect investigations by individual nations to be made by a sufficient number of nations or any one nation to make international comparisons for all. A few attempts at international comparisons on the cost of living have been made (as by Carroll D. Wright, when United States Labor Commissioner, and more recently by Dr. Shadwell in England and by the British Board of Trade). But the results are meagre and confined to a very few countries. Moreover, these results are little heeded outside of the particular nation making the investigation.

It is almost as absurd for any one particular locality or State on the basis of its own experience, to discuss the world-wide rise in the cost of living as it would be for a village on the Bay of Fundy to discuss the rise of the tides. They experience this rise, but its causes lie far beyond their vision or control.

Why the Commission should be Official.

The commission should be official in order to secure the requisite funds for so broad a study. No private person or institution can afford to make the necessary investigations in all the great countries of the world, just as no private person or institution can afford to make a census. It is true that our best statistics to-day are official statistics and this will be increasingly true in the future. Another reason why the commission should be official is that an official commission has many times the influence of private persons or institutions.

The work of the commission should be entrusted to a small staff of experts working in co-operation with the local statistical agencies of the various governments represented and acting on plans approved by the commission.

As a possible result of the work of the commission there might be established one or more permanent bureaus to continue these studies; for the need of complete statistics of wages and prices is increasingly felt every year.

The Present a Very Opportune Time to Secure Such a Commission.

There is now a world-wide interest in the subjects not only in academic circles, but also among business

men, bankers and railway men, public officials, members of Parliament, labor leaders and the public press. During the last few years there has been an enormous output of literature on the subject—in statistical works and journals, in popular magazines and newspapers, and in official reports. The "Verein für Sozialpolitik" in Berlin is planning to make some studies of prices during the last twenty years. It has secured the co-operation of the German Statistical Office, which in turn is in correspondence with the statistical offices of other countries. The International Statistical Institutes, consisting chiefly of the world's official statisticians, is also engaged in an international study of price movements. Several governments, such as the United States through its Senate, the State of Massachusetts, the Dominion of Canada, and France, have made recent reports on this subject; others, such as the Government of India, are about to undertake similar studies.

The deep public interest in the question of the cost of living is expressing itself also in many other ways, such as resentment against taxation, strikes, bread and meat riots, and other demonstrations of discontent, as well as in changes in political life, to which a great part of social unrest is due. It is therefore an urgent need to find a scientific basis for any reforms which State legislation may be asked to contemplate.

In view of the colossal proportions of the problem and its significance to hundreds of millions of human beings and in view of the present world-wide interest in it and in view of the ominous prediction of many experts that the rise of prices is to continue in the future, it is submitted that to secure such a commission as is here proposed is worth the best efforts of all public spirited citizens.

—The *Börsen Zeitung* (Berlin) of 4th January publishes the following table showing the total output of coal, coke, and briquettes for 1912, arranged for by the German Coal Syndicate, the figures for 1910 and 1911 being appended for purposes of comparison:—

	1910.	1911.	1912.
	Metric tons.	Metric tons.	Metric tons.
Coal and lignite	78,159,834	78,294,834	79,504,834
Coke	14,587,350	14,859,100	15,304,100
Briquettes	3,746,910	4,500,410	4,768,960

The increased quotas for coal are confined to five collieries, for coke to seven collieries, and for briquettes to four concerns.

COTTON MARKET IN 1911.

THE cotton trade during the year now closing has to be divided into two well defined parts—a period of extreme scarcity inherited from the crop failure in America in 1910 and another considerably shorter period of super-abundance of the American staple, resulting from one of the most bountiful seasons which the Southern planter has ever experienced. The period of scarcity made its imprint upon prices during the first six months, when the average value of middling was 7.98d. to 8d., the highest price—8.42d.—being touched on May 12th, and the lowest of the half-year—7.47d.—on February 22nd. The period of plenty began to overshadow the markets soon after the turn of the half-year. July started at 8.04d. and ended at 6.57d. for middling on the spot, a fall of practically 1½d. From this level there was a gradual recovery to about the middle of September, when 7.32d. was reached. After that a fresh decline set in, which at the close of September put American 1d. lower within little more than a week, and continued almost without a break until the beginning of November, when 5.08d. was touched. The price hovered between this figure and 5.25 until near the end of November, and has since proceeded further, 4.92d. being touched on 12th December. This is up to the present the lowest, and brings the average for the second half-year to 6.19d., while for the year the average works out at 6.67d., against about 8.00d. for 1910, 6.33d. for 1909 and 5.74d. for 1908.

Decline in Prices.

English spinners had made up their minds in the closing months of last year that the American crop was going to be of a size inadequate for the needs of the world if any improvement in trade should develop. They therefore secured to themselves a supply of raw material in the shape of forward delivery contract that would enable them to fulfil yarn contracts at a fair margin, and in this they were so far successful that whereas in 1909 the difference between the spot quotation of middling and the price of 32s. twist was practically never above 3d. per lb. and averaged only about 2½d., and in 1910 was but little better until the closing weeks of the year, it has during the closing year fallen below 3d. only during a few weeks in May, when cotton reached its maximum price, and showed an average for the 12 months of nearly 3½d., while since the middle of November it has been over 4½d. The spot trade was fairly active during the first two months, deliveries to spinners in nine weeks to March 3rd averaging 97,000 bales of which 79,000 were American. Middling fell from 8.11d. on January 3rd to 8d. on January 31st and 7.47d. on February 1st recovering to 7.72d. by March 1st. The third month of the year brought quieter but still fairly busy markets, and the price, after dipping to 7.55d. on the 7th, recovered gradually to 7.79d. on March 21st, declining again to 7.64d. on April 1st. Spinners

kept steadily in the market through April, and prices rose to 8.33d. by May 1st. May was a trying month, and prices ranged from 8.23d. on the 5th to 8.42d. on the 12th, back again to 8.22d. on the 27th, and in June to 8.33d. once more.

Consumers now drew upon their reserve supplies, and through the summer months sales rarely averaged above 6,000 bales per day. On July 1st 7.99d. was reached, and after another flicker to 8.08d. on July 6th; the steep decline began until 6.87d. was reached on July 26th and 6.57d. on July 31st. A recovery to 6.75d. on August 4th was another high water mark. But it was entirely nominal, as owing to the railway strike spinners curtailed their purchase to an unprecedented extent during the month. Prices, however, refused to yield, and gradually crept up until 7.32d. was reached on September 8th. This was followed by a rapid reaction, and on September 20th 7d. was quoted for the last time. Before the month was out 6d. also disappeared, and by October 10th the market had broken through 5½d. and reached 5.17d. on October 18th. In September new crop cotton began to pour into the port, and Lancashire became a very liberal buyer on the falling market. In the five weeks ended September 29th they received an average of 59,000 of American per week, in the four weeks of October 81,000 bales, in the four weeks of November 95,000 bales, and this month up to December 15th 85,000 bales.

The Egyptian Crop.

Egyptian cotton has had a very steady market throughout the year, despite the second crop of 7½ million cantars. It has been helped by the scarcity of American, which induced many spinners to use Egyptian to a much larger extent than ever before. The standard grade, fully good fair brown, started the year at 11½d. went to 11d. on January 16th, to 10d. on February 13th, and 9½d. on March 14th; recovered to 10d. on April 11th, to 10½d. on May 17th; fluctuated between that figure and 10½d. until the middle of June; went below 10d. (to 9½d.) by July 26th; reached 9½d. on August 30th; recovered to 10d. on September 8th; and since by easy stages, with occasional small rallies, reached 9d. on December 12th. The fall since the beginning of the current season has been contrary to expectation, for the crop now being marketed will be quite 1,000,000 cantars below the previous one. It is partly the result of the huge American supplies, but probably still more to be attributed to the severe financial crisis which has overtaken Egypt this year. Consumption has been much curtailed, and the carrying houses at Alexandria have had to write off heavy losses on stocks which they had accumulated in the expectation of spinners relieving them of the same at something like the fancy prices of the last two years.

East Indian Cotton.

East Indian has been very dear through the year. Fine Broach fluctuated between 7½d. in January and 7¾d. at the end of February, recovering gra-

dually to 7¾d. in May and June; towards the end of July it fell to 7d., on September 28th to 6d., at the beginning of November to 5½d. and has since moved between 5¾d. and 5½d., its present quotation. Last season's crop was fairly abundant, but Eastern spinners absorbed most of it at prices much above European parity. The present crop is expected to be considerably lighter owing to unfavourable weather, and its high prices at Bombay have caused unusually large purchases to be made, both by Bombay and Japan, of the relatively much cheaper American sorts.

Imports at Liverpool.

Liverpool has on the whole done fairly well during the year. Imports have been liberal, amounting during the 50 weeks to December 15th to 3,217,000 bales American, 96,000 Brazilian, 477,000 Egyptian, and 233,000 East Indian, African, etc.—making a total import of 4,024,000 bales. The quantities delivered to English spinners are 3,125,000 bales American, 89,000 Brazilian, 369,000 Egyptian, 71,000 Peruvian, 16,000 West Indian, 28,000 African, and 95,000 East Indian—making a total of 3,794,000 bales.

Prospects.

The prospects at the close of the year are not unfavourable. Liverpool is accumulating a large stock, and, unlike in recent years, importers have been able this season to operate on a paying basis, as prices of forward futures are showing a reasonable carrying margin on hedge sales. The American crop will, beyond doubt, give at least 15,000,000 bales, and prices cannot but rule cheap under this weight of cotton. The stories which are coming now and again from the States of holding trusts need not be taken very seriously, at any rate so far the movement of the crop does not seem to imply that the Southern owners are able to make any serious efforts in that direction.—*Glasgow Herald*.

—The world's visible supply of coffee increased by 7,820 tons in December last, whereas it decreased by 32,180 tons in December, 1910. It was, however, less at the end of last year than it has been for several years, as will be seen from the following table:—

World's visible supply on 31st December.

1906	14,765,000 bags.
1907	16,727,000 "
1908	15,819,000 "
1909	16,564,000 "
1910	14,106,000 "
1911	13,420,000 "

Of this supply 5,101,000 bags was in the hands of the Government of Sao Paulo at the end of the year, as compared with 6,306,000 bags on the 31st December, 1910, and 8,000,000 bags at the end of 1907.

FOREST ADMINISTRATION IN BURMA.

Teak Wood.

We take the particulars below from the Report on the Forest Administration in Burma during the year 1910-11 :—

The area of regular teak plantations was not increased during the year. An area of 121 acres was planted up and added to the Mergni Rubber Plantation, and the whole plantation was disposed of to a Company in October 1910. During the year 609 acres of new teak *taungya* plantations were formed, but owing to corrections the net increase in the total area of those plantations was only 560 acres.

The outturn of teak extracted by Government agency and purchasers is compared with that of the previous year in the following statement :—

Circle.	Government.		Purchases.		Total.	
	1909-10.	1910-11.	1909-10.	1910-11.	1909-10.	1910-11.
1	2	3	4	5	6	7
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Pegu	31,817	31,043	6,781	10,087	38,598	41,140
Tenasserim	12,001	11,037	36,203	35,631	48,204	46,668
Northern	604	2,118	102,616	126,813	103,310	128,921
Southern	5,529	3,516	88,965	89,542	94,495	93,058
Total	50,941	47,704	234,566	262,083	284,607	309,787

Outturn of Timber other than Teak.

The following statement shows the quantities of timber other than teak and of fuel extracted by departmental agency and purchasers as compared with the previous year :—

Circle.	RESERVED WOODS.		UNRESERVED WOODS.		FUEL.		TOTAL, 1910-11.			TOTAL, 1909-10.		
	By Gov. ment.	By purch. asers.	By Gov. ment.	By purch. asers.	By Gov. ment.	By purch. asers.	Re-served woods.	Unre-served woods.	Fuel.	Re-served woods.	Unre-served woods.	Fuel.
1	2	3	4	5	6	7	8	9	10	11	12	13
	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.	Tons.
Pegu	817	28,876	606	60,681	70	157,406	29,693	61,287	157,476	29,660	61,186	150,977
Tenasserim	1,322	32,025	1,881	64,488	6,326	46,474	33,347	66,369	52,800	29,170	57,213	44,082
Northern	6	9,665	973	73,092	10,645	77,467	9,671	74,005	88,112	7,626	70,639	79,855
Southern	878	5,038	450	46,293	3,623	41,140	5,916	46,743	44,763	5,073	47,756	50,707
TOTAL	8,023	75,604	3,910	244,554	20,664	322,487	78,627	248,464	343,151	71,529	236,794	325,621

There was an increase in the quantity of both reserved and unreserved timbers extracted and this took place chiefly in the Tenasserim and Northern Circles.

Departmental extraction showed a further decline and is unimportant except in the Pegu Circle where improved supervision and methods of working have hardly had time to have much effect on the outturn, besides which the work was impeded by an unfavourable floating season. Work in the Government timber Depot at Rangoon was facilitated to some extent by the purchase of three elephants.

Indents from the Admiralty and the Royal Indian Marine were complied with. The price of teak ruled generally high during the year and the average realized at Government auctions at Rangoon was Rs. 83-3-7 or nearly Rs. 5 per ton above that of the previous year.

The total outturn of teak extracted by Government agency and purchasers increased by 25,180 tons, which no doubt was partly due to most of the old purchase contracts lapsing at the end of 1910 and to the lessees making effort to get as much timber as possible measured under the old rates in cases where rates under the new agreements are higher.

Of the 262,083 tons of teak shown as extracted by purchasers 253,289 tons, or 27,561 tons more than in 1909-10, were extracted by lessees, the average royalty realized being Rs. 19-11-1 per ton.

The total quantity of *pyinkado* extracted was 48,543 tons of which 18,129 tons came from the Tenasserim Circle and 15,660 tons from the Pegu Circle.

In the Southern Circle 102,689 sleepers were supplied to the Burma Railways Company, of which 17,029 were supplied by the Forest Department, and in the Tenasserim Circle 2,434 tons of *pyinkado* were converted into sleepers for the same Company. The quantity of fuel extracted was greater in all Circles, except the Southern Circle, than in the preceding year. The value of timber and other produce at sale depôts at the close of the year was Rs. 10,20,744 as against Rs. 7,98,453 at the beginning according to revised figures. The difference in favour of the year was chiefly due to an increase in the stock of teak in the Rangoon depôt which had been allowed to fall too low a few years ago.

Experiments.

The Forest Chemist made about 40,000 lbs. of tannin extract during the year at the Government factory, Rangoon. No report on the work done has yet been received. Samples of the extract were sent to several European local Indian firms and shortly after the close of the year the balance of the extract was sent to Europe for sale.

Mr. Pearson, Imperial Forest Economist, visited the Rangoon, Tharrawaddy and Arakan Divisions in connection with the collection of statistics relating to the available supplies of different species of bamboos and their suitability for conversion into paper pulp. A fairly representative collection of specimens of woods of the principal reserved and unreserved timbers of Burma, and articles illustrating the use to which they are placed; bamboos, fibres, raw and manufactured canes; barks of economic value; wood oils, resins, wild rubber, etc., contributed by Divisional Forest Officers all over Burma and arranged by Mr. H. B. Anthony, was exhibited at the annual show of the Burma Agricultural Society and awarded the Society's gold medal, will form the nucleus of a collection illustrative of the economic products of the Province.

The Departmental Extraction of timber in the Zigon Division was at one time seriously interfered with by the organized theft of their elephants by night. The animals were hidden in the forest and only given back on payment of considerable sums of money. The police deserve great credit for the manner in which they took up the case and brought the gang to book.

The proposals made for the better control of timber on the Rangoon River by enforcing Forest Rule 50 were brought into force with effect from the 8th September, 1910, and are reported to have worked smoothly through the year.

The experiment with *Catalpa speciosa* has shown that it is not suited to the climate of the Tenasserim Circle: only 2 plants are now alive in the Toungoo Division. Andaman Padauk (*Pterocarpus dalbergioides*) promises to be fairly successful in the Toungoo Division. Of the seeds sown in May, 1910, 344 plants were alive at the end of June, 1911, some of them as much as 6 feet in height.

In the Northern Circle, **Camphor** (*Cinnamomum camphora*) seems to flourish wherever planted. Some crystals obtained from leaves and twigs were sent to the Imperial Forest Chemist and were declared to be of excellent quality. **India rubber** (*Ficus elastica*) does well in Upper Chindwin, Bhamo and Myitkyina, but further planting of it has been stopped as para rubber (*Hevea brasiliensis*) does quite as well and is much more valuable. Para rubber (*Hevea brasiliensis*), contrary to expectation, is found to yield a fair supply of latex in Bhamo and Myitkyina. Four trees of seven years of age have been tapped throughout the year; throughout the dry weather the average yield per mensem was found to be 2-0-02 and during the rains 3-1-02. Andaman padauk (*Pterocarpus dalbergioides*) has done fairly well in the Myitkyina Division, but for success the seed has to be sown in nurseries first and the young plants put out and afterwards protected. Coffee seems to thrive well in Katha; it remains however to be seen whether it will not sooner or later be attacked by blight. Seeds of Ceara (*Manihot glaziovii*) were received from Brazil in the beginning of June, and distributed to the Myitkyina and Bhamo Divisions, but so far no reports have been received.

COPRA AND ITS PRODUCTS.

THE manufacture of cocoanut oil and other copra products in Great Britain is carried on principally at Liverpool and Hull. Copra, of course, is imported from producing countries and the oil expressed therefrom in mills in England. Cocoanut, according to a recent Consular Report, is imported largely in the unrefined state, refined, and then re-exported to a considerable extent, chiefly to the Netherlands. As an indication of the movements of trade in these products it may be stated that in one week in September, 1911, there was imported into London unrefined cocoanut oil to the amount of 400 barrels and 130 drums from Germany and 36 packages and 13 hogsheads from Ceylon. In the same week only one shipment of copra (180 hundredweight) was imported into London. The unrefined cocoanut oil imported into the United Kingdom in 1910 totalled 539,686 hundredweight, valued at approximately one million sterling, and of this quantity 308,086 hundredweight were from Ceylon, 74,065 hundredweight from France, and 68,000 hundredweight from Australia. The exports (of British production) amounted to 73,173 hundredweight, of which 64,211 hundredweight went to the United States; of foreign and colonial production 112,692 hundredweight were exported, the Netherlands receiving 46,172 hundredweight. On October 30th the price for spot unrefined cocoanut oil (London) ranged from £44 to £47 per ton. Of refined cocoanut oil the total imports amounted in 1910 to 500,219 hundredweight, France supplying 266,367 hundredweight and Germany 130,060 hundredweight. The exports (of British production) totalled 228,109

hundredweight, no less than 164,847 hundredweight thereof being sent to the Netherlands. The foreign and colonial refined coconut oil exported amounted to 2,364 hundredweight of which 3,958 hundredweight were shipped to the United States. There are no available statistics relating to copra alone since it is not separately distinguished in the customs returns from several other articles.

It will be noticed that more than two-thirds of the British-refined coconut oil exported went to the Netherlands, the cause for this being the fact that it is used largely in that country in the manufacture of margarine. The use of animal fats and oils in the production of that commodity has given way largely to coconut oil, in consequence of public taste favouring the latter. From the country named Great Britain imported 818,901 hundredweight of margarine in 1909 and 1,069,558 hundredweight in 1910, valued at more than two millions sterling and £2,600,000, respectively; from the United States, 18,263 hundredweight of margarine were imported in 1909 and 11,209 hundredweight in 1910; while France supplied 23,369 hundredweight and 32,288 hundredweight in the respective years. It is stated that from 500 pounds of copra 25 gallons of coconut oil should be obtained.

In addition to margarine, the oil is now being increasingly used in the manufacture of soap. A large and well-known firm near Liverpool is spending, it is reported, one million sterling in acquiring plantations in West Africa in anticipation of rising prices of copra. The November quotations ranged from £25 to £29 per ton at London, Antwerp, and Hamburg, though they were a little lower at Marseilles. The oil is particularly suitable for making marine soap which will lather in salt water. Coconut oil is saponified in heat with strong lye, but there is no "salting out"; a hard soap is formed, although the percentage of water is high. There are two methods of drying the broken coconut kernel to form the copra: one by sun drying, the other artificial. It is stated that the former is less effective than the latter, as the drying is often not sufficiently thorough, rot setting in during transportation from the producing centre to the country of destination.

Another report from Singapore says that the only artificial drying apparatus used in the manufacture of copra in the Federated Malay States is a shed with a grating (on which the copra is placed) about 6 feet from the floor, a fire being lighted underneath. There seems to be no reason why a hot-air fan apparatus should not be used—something after the style of the "Sirocco" dryers used in the manufacture of tea in Ceylon. Sun-dried and artificially dried copra, are sold together and not separated, though if a sufficiently large quantity of the former were put on the market it would certainly command a higher price, as it is superior to that prepared by the latter method, the only disadvantages being the time it takes to dry thoroughly and the likelihood of the copra being covered with dust and other impurities. The most common pests of the

coconut palm are the black and red beetle. These, however, are easily controlled. Rats cause very little damage, and the trees of the Federated Malay States appear to be singularly free from fungal disease.

AMERICAN GRAIN CERTIFICATE IN FRANCE.

The American Consul at Havre has made the following Report to his Government:—The grain import trade at Havre, acting through the Chamber of Commerce, decided on August 22nd to adhere to the general European action following the vote of the European International Committee on American grain certificates in the direction of a new form of contract for grain shipments from the United States. The following is communicated to the Consulate as a result of the action of the Chamber:—

Conforming to the vote of the European International Committee on American grain certificates, there will be established at the beginning of November a new contract which will be applied to the next season's traffic in American grain, upon the basis of a degree of humidity not exceeding 16 per cent for No. 2 or "sail grade" grain at the time of shipment, that degree being certified by a chemist named by the Government of the United States and obtained by means of a sample taken before shipment.

While there has been more or less constant complaint against the quality of American grain shipped to Havre, and especially in heavy seasons like that of 1910 when the native crop failed, the French importers are only following the lead in this matter of the London Corn Trade Association. As was recently pointed out in a report by Consul General Skinner at Hamburg, the London association is used as a protective device by practically the whole European trade.

The situation at Havre in grain is much as it is in cotton and wool, on account of the general charge that American exporters in such lines do not hold scrupulously to the contract demands for quality. This charge is not entirely sustained, a great many buyers in some lines of raw materials being over anxious to speculate on the market and being simply the victims of second-class connections who offer prices that responsible firms cannot give. Still there appears to be some ground for genuine complaint.

The principal importer of grain at Havre informs the Consulate that during the heavy shipments of 1910 one entire cargo was received from the United States in a condition of moisture and fermentation equivalent to total loss.

The Consulate believes that this is another good opportunity to establish at Havre an American agency for arbitrating on claims of this character in behalf of the American shippers.

About 80,000,000 bushels of grain were imported into the port of Havre during 1910 from all countries, of which only about 20,000,000 bushels

came from the United States. This, of course, was an unusually heavy year. Argentina has got a very large share of the French grain trade in recent years, and no complaint is now being made against the methods obtaining there.

THE SILK TRADE IN 1911.

DISCUSSING the raw silk trade during the last year the *New York Journal of Commerce* writes:—

The depressed condition in the broad silk and ribbon trades during the past year was reflected in the raw silk markets. Although the volume of business transacted was only slightly less than the preceding year the profits obtained were the most unsatisfactory in years. While price fluctuations were comparatively few, the level attained during October and November was the lowest in years. This was especially true of the Japan and the Italian markets. In comparison, the year's trade in Canton and Shanghai silks was satisfactory.

During the fall of 1910 the Yokohama market experienced a series of advances, which sent prices up sky high. At the opening of the year 1911 the advance had subsided, but prices still remained at a comparatively high level. During January Kansai No. 1 was firm at \$3 90. In February prices began to decline and continued declining until October, when Kansai No. 1 was sold below \$3 30. Toward the latter part of November and during the first part of December Japan reelers made an effort to bolster up the market and caught a number of short sellers who never expected an advance. The advance, however, was only between 30 and 40 yen, and did not hold long. At about the middle of December prices began to decline. Toward the end of the year the market was weak and uncertain.

One of the chief reasons for the steady decline of the Japan market was the expectation during the early part of the year that the season of 1911-1912 would see the largest crop in the history of the raw silk trade. At first estimates varied, but it was not long before there was a general understanding that the crop would be between 160,000 and 165,000 bales, which is almost 25,000 bales more than was realized during the 1910-1911 season. At the end of the year there were reports current that the early estimates would have to be reduced about 10,000 bales. These reports, however, found little credence in the trade, importers being inclined to discern in them a bullish motive.

The expectation, and even the realization, of a bumper raw silk crop would have been counteracted had the trade in broad silks and ribbons been normal. The demand from ribbon manufacturers, especially, was poor, and had it not been for the rather active demand from the hosiery and other specialty trades the consumption of raw silk in this country would have fallen very low. The popularity of cheap silk hosiery in particular was a very happy incident for both the importers and the reelers.

Notwithstanding, there were reports that Japan reelers were losing money and that their losses, since July first were on the average, from 80 to 100 yen per bale. The prices they had paid for cocoons were too high in comparison with the prices they were getting for their silk. Certain reelers found trade so unprofitable that the report was that they were shutting down their filatures.

The Italian market suffered from too large a carry-over from the preceding year and a remarkable shrinkage in the demand. Although the crop was about 15 per cent smaller than the previous year the available supply was a heavy burden upon the market. Prices crumbled from \$4 20 for classical at the beginning of the year to \$3 60 in November.

To some extent the low prices at which Japans were offered affected the Italian market. Consumers of Italian for organzine substituted Japans because the latter were so much cheaper. The chief reason for the neglect of Italians, however, was the fact that piece dyed goods, for which Italians are largely used, were in very poor demand. Cotton back satins and taffetas, for instance, were the heaviest fabrics to move in the market.

There was a growing belief during the year that Japan reelers were rapidly getting the business away from Italian reelers, and that the time was not far off when Italian silk, like the French, would cease to be a factor in the market. The belief was based on the fact that the size of the Japan crop was not only increasing wonderfully, but that the improvement in quality is also keeping pace with the size of the crop. Therefore, it is argued that since the Japs have the advantage of considerably cheaper labor than can be had in Italy, the Italian reelers will shortly find Japan competition too much for them and will have to content themselves with the limited demand from consumers, who will always prefer Italian silk because of its peculiar adaptability for certain effects.

Although the Canton crops amounted to 37,000 bales, in comparison with 44,000 bales during the year 1910, the sudden cessation in the demand for 22-26s from the cotton goods trade, its chief consumers, offset the curtailed crop advantage. The broad silk trade, however, was a good consumer of 14-16s, which helped to make the total year's trade satisfactory.

Prices fluctuated more or less during the year, but owing to the ability of Canton merchants the market was never allowed to drop too low. Even in the case of 22-26s, which accumulated heavily during the summer, values were well maintained. Reelers, realizing that the demand had ceased, held back their silk and, although stocks of 22-26s are still heavy, there is no disposition on the part of reelers to force them on the market.

Political disturbances in China during the fall of the past year made reelers somewhat anxious to dispose of their holdings. Prices in Mexican dollars, as a result, came down, but as the exchange went up prices here were not affected.

The year's trade in Chinese silk was very satisfactory. The crop although slightly larger, than the preceeding one, was well taken care of. With the exception of tussahs prices were steady throughout the year. Tussahs toward the latter part of the year, took a sudden tumble from about \$1 65 to about \$1 25.

OIL GAS MANUFACTURE.

OIL gas has found its only extended application in the lighting of railway carriages. The method by which it is usually made is, probably one of the crudest and most uneconomical industrial processes of the present day, and had it not been for its unique qualities, which render it peculiarly suitable to railway requirements, oil gas must long ago have been abandoned. For more than 25 years it has served as the principal railway carriage illuminant and is still used on the larger number of trains running in England. It is not easy to say how much is consumed in this way, but 500 million cubic feet is probably a moderate estimate, representing a manufacturing cost of about £250,000 per annum, in Great Britain alone. In Germany one of the railway systems uses no less than 160 million cubic feet every year, and its adoption in the United States is being widely extended. Its chief advantages for train lighting are its general convenience and satisfactoriness and the small capital cost of a carriage installation as compared with an electrical equipment, and owing to its high calorific and illuminating value as compared with coal gas a carriage charged with it can be run several hundreds of miles without the necessity of re-charging. Owing to its high cost experiments have been made, with partial success, by some railway companies to replace it by coal gas, but the extensive adoption of the latter would necessitate expensive additions to the charging plant now existing on railway systems. If the cost of manufacturing oil gas could be reduced, and means discovered for increasing its safety in the event of a collision, it is probable that many companies would retain it in preference to other means of lighting. Recent inquiries have shown that even more oil gas is being made at various railway gas works than was the case a year ago, and on the whole the doubts which exist in the railway world as to its retention seem to be more concerned with cost than with questions of public safety.

Methods of Production.

The successful utilization of oil gas depends upon the automatic contrivances which intervene between the storage cylinders and the gas burner. These contrivances have been developed practically to perfection, and with the introduction of the inverted burner and small incandescent mantle there seems little room for further improvement in that direction. No corresponding improvements have been made, however, in the manufacture of the gas, and the process remains substantially the same as that introduced by Julius Pintsch about 1880. The reason is not far to seek. The process has always been

entirely in the hands of engineers, and in consequence, although the mechanical part which involves the construction of apparatus for the utilization of the gas has been well and highly developed, the chemical and physical parts, the manufacturing side, of the operation have been neglected.

The material used for the manufacture is an oil known as gas oil, a distillate of natural petroleum intermediate between burning and lubricating oils. This material is the cheapest and the best suited for the purpose; and in view of the falling-off in its consumption by coal gas companies its price is likely to be still lower in the future. It possesses a heating value of about 20,000 B. Th. U. per lb. and the quantity yields about 9 cubic feet of a heating value of about 900 B. Th. U. per cubic foot. That is to say, 8,100 heat units out of a possible 20,000 are made available for illuminating purposes, 60 per cent., from the point of view of gas-making being wasted in the process of manufacture. This large loss is due to the excessive formation of tar, hard carbon on the retort walls, and other products of little or no value. It is not possible by any known process to convert oil completely into a gas of high calorific value, but on the other hand it is easy to convert 60 per cent. of it into gas without the production of valueless substances such as "oil-gas-tar," etc. There are now processes which enable a large proportion of the oil to be made into gas of considerably higher illuminating and calorific value than Pintsch gas, the unconverted oil being recovered as a valuable by-product free from tar, cake, etc. The richer gas is used to advantage for train lighting, carriages charged with it running proportionately longer distances than formerly.

Defects in Plant.

Tar and coke are formed when oil is allowed to trickle or flow slowly over heated surfaces as in the Pintsch process, that is to say, when the oil undergoes fractional distillation and is allowed to remain for a long time in a gaseous condition in contact with the heated retort. The retorts in which the operation is conducted are of cast iron, and owing to the setting, to the system of firing, and to extreme local over-heating their life is short, representing an output of only 150,000 c. ft. of gas. They are so arranged that the fused oxide of iron drops upon the firebrick, causing rapid deterioration to the setting, and in renewing them it is necessary practically to renew the setting. They are placed horizontally, and the unsupported weight causes them when hot to sag in the middle, another factor which materially lessens their life. Substantially all the maintenance charges of an oil gas works are due to retort and retort-setting renewals, the other parts of the plants, although comprising more or less out-of-date compressors, boilers, etc., entailing but small charges in this respect.

The total cost of manufacturing and compressing oil-gas by the Pintsch process is, in a works of average size, about 11s. per 1,000 c. ft., or deducting for compression, say 8s. for the actual manufacture.

Allowing for the fact that it contains about 50 per cent more heat units than an equal volume of coal-gas, the cost ratio as compared with coal-gas at 2s. 9d. per 1,000, is 2 to 1 in favour of the latter. This cost ratio is not an exact one because there are advantages in the use of oil-gas on which a pecuniary value cannot be placed, but with all reservations peculiar to railway conditions, the difference in first cost is too striking to be neglected. On the other side is sometimes set the value of the tar and of the inflammable condensate from the gases, known as "hydros carbon," but this value is small.

Possible Improvements.

Of the various expenses connected with this manufacture, the maintenance charge is extremely high, amounting to about 2s. 4d. per 1,000. In a works turning out 8,000,000 c. ft. of gas per annum the cost of renewing retorts and their settings approximates to £1,000, a figure which is as true to-day as it was in 1884. With retorts constructed, placed, and worked as at present, it is not easy to see how any improvement is to be made. Radical alteration, practically an entire change of the system, is the only remedy which would materially modify this excessive charge. Conference with railway authorities has shown that the continual scrapping of the cast-iron retorts and their settings is the chief factor which militates against the economic manufacture of oil-gas, and unless the system is completely changed this scrapping will go on until the process itself is scrapped, once and for all.

The adoption of vertical retorts, which could be lowered into their setting, without structural alterations and renewals each time, would seem to be a step in the right direction with the additional advantage that any scale formed would not come in contact with the firebrick. The unsupported weight due to horizontal setting would no longer diminish the life of the retort, which itself would be more evenly heated, so that the crucial difficulty of local burning would be removed. In regard to the setting itself, the temperature of operation is not so high that good firebrick, uncontaminated with oxide of iron and slag from the fire, should not last a long time in a vertical setting. The coke used for heating the retorts should preferably be gasified in a producer, for in this way important advantages in regard to temperature-control, fuel economy, and even heating would be realized. The fires of a bank of retorts as at present constructed all exhaust into a common flue, and as the gases leave the retorts at least at a temperature of 1,600 deg. F., a heat-saving appliance is almost a necessity. There is a waste of much more than sufficient heat to raise the steam required for compressing operations, the cost of which would be considerably reduced; and the advantages accruing to working boilers under such conditions are too well known to need emphasis. The system would be simpler and much cheaper where only one lot of fuel is used (in producers) instead of separate lots for retorts and boilers, stoking would be largely done away with, and no more fuel would

be consumed than is necessary for gasifying the oil. At present about 18 lb. of coke are used for gasifying one gallon of oil, or more than two tons per ton of oil gasified. Compared with the coke consumption in a modern gas-fired coal-gas retort, which is 1-30th to 1-40th of the coal carbonized, the whole operation being conducted at a substantially higher temperature than in a Pintsch plant, the results obtained in the latter are quite disproportionate, although the two operations are not, of course, strictly comparable.

The Process of Gasification.

Respecting the gasification of the oil and the reduction of its cost, the only method available at the present time is based on the recognition of the fact that oil cannot be entirely gasified by heating, but that the part not gasifiable, instead of reverting to tar, can be recovered as a distillate, from which motor spirit and naphtha for air-gas machines can be obtained, the recovered value reducing to that extent the cost of manufacturing the oil-gas. Attention has been drawn to processes which treat oil for the production of oil-gas and of liquids containing large proportions of hydrocarbon suitable for petrol. From 50 to 60 per cent of the gas-oil may be converted into gas, the balance containing 40 per cent of light oils such as the above. For the purposes of a railway company the liquid product can be sold to refiners, as is often the case now with the small proportion of "hydrocarbon" produced by the Pintsch process. The latter liquid is sold for about 3d. a gallon, certain quantities of it being employed for enriching coal-gas, and in addition it is to some extent treated by Hull oil-refiners. The profitable sale of all the liquid products of the later processes, if used for the manufacture of oil-gas, would materially reduce the cost, and with the adoption of vertical retorts, gas-firing and heat-economy, would assist to a substantial extent in bringing this cost more into line with modern requirements. Oil-gas would thus be better able to maintain its position against the projected use of coal gas.—*Times*.

—It is stated that a process has been discovered by which the stinging nettle can be made to yield a supply of smooth, bleached, spinnable yarn at a price considerably less than that of raw cotton. The nettles are harvested twice a year, and when dry they lose the power to sting and can be handled like flax to remove the leaves and twigs. "The naked stems are then boiled in diluted soda-lye in open kettles for half an hour or so, until the fibre begins to loosen, when it is separated by a revolving brush-machine. The process of refinement is completed by repeated boilings of short duration in the diluted lye under high pressure, and by thorough washing, also under pressure. The product now consists of perfectly clean, 'degummed' lustreous fibres of a yellowish tint. Proper bleaching methods change this colour to dazzling white, at the same time heightening the natural lustre."

WHEAT ELEVATORS FOR ARGENTINA.

THE *Buenos Ayres Herald* of 2nd December, says:—In a previous article (see *Indian Trade Journal* of February 1st, p. 147) on this subject we pointed out some of the disadvantages incidental to the archaic manner in which grain is handled in this country.

Amongst other factors which prejudice the interest of the grower, we mentioned the advantages accruing to the clique of big exporters, which has succeeded in creating a veritable monopoly of the cereals which are shipped to Europe from Argentina. This monopoly is no new thing. Successive Ministers of Agriculture have recognised its existence and have even made feeble efforts to assist the grower in his efforts to emancipate himself from the grip of what is to all intents and purposes, a trust. These efforts have been quite futile; the only assistance which the agriculturist has received of late years being the increased knowledge of ruling values which is supplied by the daily transactions on the Buenos Ayres and Rosario grain futures markets.

It is true that at the end of 1910 a company was formed, under the title of the Argentine Warrant Company, for the primary purpose of raising money in Europe which would be lent on this side against cereals in deposits; but owing to the action of the principal railway companies in refusing to issue receipts for grain placed in their warehouses, the business of the Company has been greatly hampered, and has resolved itself into advancing money to a necessary limited clientele and acting in the capacity of broker on the futures markets.

To-day it is fair to assume that the big houses enjoy as strong a position in regard to the small grower as at any time a succession of poor harvests having depleted his financial resources and left him dependent in many cases on those who will advance a little money on growing crops, under conditions which deprive their owner of the privilege of selling in the open market. This is especially the case in the South, where the monopolists are free from the competition which the wealthy grain dealers in Rosario are able and willing to exercise.

We are informed that an arrangement exists between the four exporting houses who "run" Bahia Blanca, by which no forward purchases of wheat or oats are to be made; and which insures the absence of competition by practically dividing up the grain production of the Bahia Blanca zone at prices to be mutually agreed upon by the buyers themselves. It will be useless for the hapless farmers to remember the old warning: "Caveat Emptor," for there will only be one buyer and only one price.

The elevator as it exists in North America, automatically emancipates the farmer from the monopoly, because it gives him scientific storage, the facilities for selling in the highest market, and a documentary title to his grain which can be turned into hard cash on favourable terms.

The thing must come. This year we may have 7 million tons of grain to handle before the Maize comes along. Already the rise in the price of bags and twine has reached alarming proportions. Already we find practical grain men who predict a wholesale snag up on the railways, and already we find the prices of our products lower in Europe than on the local market because the grain must go forward in the absence of accommodation for its retention in the country.

It is understood that the railways refuse the offer of American capital for the purpose of equipping their systems with elevators, because they profess to fear the creation of another monopoly, as omnipotent as that which is in operation. For this apprehension we can find no warrant in the real situation.

COUNTERFEITING METHODS IN UNITED STATES LEATHER INDUSTRY.

H. M. Consul at Philadelphia (Mr. W. Powell) has furnished the following particulars of counterfeiting methods used in the leather industry in the United States:—

The United States Bureau of Chemistry has recently been investigating various methods employed in the leather industry. It is estimated by the official experts that at least half, probably more than half, of all leather that comes into the market in the shape of boots, shoes, harness, bookbindings, etc., is a counterfeit of what it purports to be. A bull's hide is split into half-a-dozen thicknesses, these being used to counterfeit various kinds of leather, such as kid and crocodile skin. In the shoe trade leather known as "Box Calf" is made of this split hide, and is largely employed for making boots and shoes of the cheaper grades. Pigskin is also imitated in the split leather; it is possible to buy false pigskin leggings at from 12s. to 16s. a pair. The leather is stamped by a special machinery which gives it the apparent grain of pigskin. Indeed, the little holes from which the bristles have been removed are counterfeited; the imitation may be detected, however, from the fact that the holes are not to be found inside the leggings. The use of stamping machinery has enabled the manufacturer to counterfeit with great accuracy almost any kind of leather, especially when the split bull's hide is used. A very large proportion of the "crocodile skin" bags are of this material. Cordovan leather is least liable to imitation owing to the difficulty of reproducing its appearance.

With regard to the adulterants used on leather, the chief among these is glucose obtained from corn starch, employed to increase the weight. This glucose is sometimes brushed on the leather or added to the leather in a revolving drum. A frequent adulterant is Epsom salts, which is stated to clear the grain and render the material brighter in colour. The treatment, however, is very harmful, destroying as also does treatment with glucose, the waterproof

quality of the leather. The weight of leather may be increased by the application of Epsom salts as much as 12 per cent.

An even worse method of treating leather is to put in an excess of tanning material, comprising tannin and the related compounds of sugar and organic acids. This will often increase the weight of the leather by as much as 20 per cent. The leather is at first fairly watertight, but constant use soon washes out the superfluous tannin, and the material, which by the treatment is rendered hard and stiffer, is likely to crack and break in the creases.

What is called sophistication is the common practice of bleaching the leather by means of alkalis and sulphuric acid. If, as very often is the case, some of the free sulphuric acid remains in the leather, it has the effect of burning the tissue and causing its disintegration, so that it breaks easily. The acid also makes the material harsh and brittle, sometimes softening the surface, which is easily rubbed off. Alkalis also render the substance of the leather hard, and easily cracked and broken. The object of this bleaching is of course to improve the appearance of the leather, which, as it comes from the tanneries, is apt to be dark and often blotchy in appearance.

A frequent practice of boot manufacturers in the United States is to put the leather on an emery-wheel, thus scratching off all the grain or outside surface, in order to render the leather more attractive in appearance.

Large quantities of paper are used in the manufacture of boots and shoes of the cheaper grades, which are given an outer cover of a mixture of leather scraps and pulp paper moulded into the required shape. This mixture is treated with oil, rubber and glycerine, the last named ingredient serving to soften it, whilst the others tend to make it waterproof for a certain time.

There appears to be no law in the United States which can prevent the adulterations and manipulations carried on in the leather trade. The Bureau of Chemistry, however, is working to acquire a knowledge that will bring about a more intimate appreciation of the fundamental principles of leather making. It is endeavouring to find out how to obtain a greater percentage of tannin from the tan bark, and to discover and explain to leather workers the action of bacteria of the various kinds used in the manufacture of leather. No exact knowledge on these matters has hitherto been attained.

With the growing scarcity of leather, there is much need of a substitute, but no satisfactory one appears to have been produced. Some imitation leather fabrics have been applied to the manufacture of valises and portmanteaux and handbags of the cheaper kinds. Most of these fabrics are produced by the use of sulphurated linseed or other oils, sometimes with an admixture of a solution of rubber applied to canvas or cotton cloth; and they are not suitable for footwear.

INDIAN COTTON-SEED.

THE *Oil and Colour Trades Journal* publishes the following article:—The trade in Indian cotton-seed is a branch of the great cotton-oil industry which appears to require some investigation. The movements and variations in the quantity of seed available are so strange that it is evident an elucidation of the circumstances governing the trade is urgently needed. It would, of course, be possible for the crushers in Great Britain to appoint a Commission to proceed to India and make full inquiry into the conditions; but it seems to us that such inquiry should come within the scope of a Government Department; and we are quite sure that its results would amply justify the small sum which would have to be expended upon it. The first fact which needs to be made clear is why so small a proportion of the total output of seed appears in our markets. Probably it will be found that a very large quantity of seed is wasted; thrown away through the ignorance of growers, or perhaps discarded because of the expense of getting it down to a shipping port. In many cases it is probable that the cotton-growers do not know the value of the product, for it is inconceivable that a grain worth £7 per ton cannot be profitably dealt with as a general rule. The greatest quantity of Indian seed which ever reached the English market was 415,192 tons in the year 1910. This showed an enormous advance on any previous year; 1909 imports being 177,088 tons, and 1911, 197,773 tons. Previously to 1909 the figures are included in imports from other countries; but the Indian supply was about as follows:—1908, 200,000; 1907, 300,000; 1906, 210,000; 1905, 133,000; 1904, 110,000 tons. Now the highest of these figures bears but a moderate proportion to the seed which should result from the cotton crop of India. This crop is, roughly speaking, from one-third to one-half of the American crop. We might expect to find India exporting nearly 800,000 tons of seed, and we naturally want to know why she does not. It is estimated that this season we shall receive from India only about 130,000 or 140,000 tons of seed. We do not assume any responsibility for the estimate, but it is given by a firm who ought to know something about the matter. The Indian crop is not supposed to be a very good one on this occasion, but it is far too great to allow anyone to believe that such a quantity of seed is all that we have a right to expect from it. In examining the figures quoted, our readers will see that no regular expansion in the shipments has occurred, such as might have been expected, first as a result of the higher prices of the last few years, and secondly as a result of better knowledge amongst the growers and improved means of transport. The imports stood at about 300,000 tons in 1907. In 1908 they dropped to 200,000, or by 33 per cent. The actual difference between the cotton crops of the two seasons was about 15 per cent, so that it is clear that something occurs other than crop output which affects these shipments.

Altogether the figures are too irregular to allow of any serious calculation as to what is likely to happen.

The cotton-oil market will, no doubt, be governed largely during the present season by the conditions obtaining in America, and a small increase or deficiency in the supply of Indian seed will probably not make much difference; but it will be well worth while to ascertain why the Indian cultivator does not sell more of his seed; and to take steps to ensure his better acquaintance with the value of his product. The increase in the world's requirements in all kinds of vegetable and animal oils is, as we know, continuous, and the last year or two has proved to us in a very painful manner the inconveniences resulting from a short supply. It is therefore our clear duty to see that no waste occurs, but that every ton of oil-seed which can be procured on profitable terms should be utilised.

SHIPBUILDING IN 1911.

THE Iron and Coal Trades Review writes:—Some remarkable results have been achieved in the world's shipbuilding industry during the year that has just expired. A huge tonnage of new ships has been launched, easily breaking all previous records. It is a striking testimony to the mercantile and naval activities prevailing among the nations that during the year a total of 3,199 new vessels, aggregating nearly 3,570,000 tons, should have been put into the water. So far as the United Kingdom is concerned it appears from returns collected in the various districts that the output of new ships reached 1,478, aggregating 2,080,397 tons, as compared with 1,163, aggregating 1,339,488 tons in 1910, thus showing an increase of 315 vessels, and 740,909 tons. The full significance of the position which this country occupies in the shipbuilding industry of the world may be realised from the fact that, as against this increase, the advance in all foreign countries and colonies combined is only 245 vessels, aggregating 456,740 tons. A study of the foreign statistics, given below, shows clearly that while in the United States there has been a marked decrease in output, the German returns indicate a very considerable advance, showing that that country must be regarded as our most serious competitor. The British total last year included 59,260 tons of naval shipbuilding, as against 52,521 in the previous year. English yards contributed 1,21,948 tons to the grand total in 1911, while Scottish yards, contributed 671,624 tons, and Irish 186,825 tons. Their respective shares in 1910 were 752,136 tons, 420,250 tons, and 153,102 tons. The respective increases are thus 469,812 tons, 251,374 tons, and 19,723 tons. The Clyde is still far ahead of all other districts in point of output; indeed, in 1911 it produced a larger tonnage than any country apart from the United Kingdom, its total falling not far short of those of Germany and the United States combined. The figures for the various districts of the United

Kingdom during the past year aggregate 2,080,397 tons, which compares with 1,339,488 tons in 1910.

Colonial Shipbuilding.

From the returns received it appears that shipbuilders in British overseas dominions improved their output as compared with the previous year. The total is given at 29,249 tons, as against 24,077 tons in 1910.

Foreign Shipbuilding.

The following table, compiled from the available figures, may be taken as representing approximately the record of output in foreign yards, as compared with the previous year:—

	1910. Tons.	1911. Tons.
Germany	217,748	401,881
United States	351,369	268,561
France	99,796*	184,411
Holland	124,115	178,618
Russia	1,854	94,905
Italy	36,075	86,814
Japan	60,192	84,462
Austria-Hungary	32,121	68,390
Norway	32,998	38,222
Denmark	11,922	18,961
Belgium	15,302	12,480
Sweden	9,733	9,734
Spain	3,234	6,769
China	5,211	4,222
Greece	20	—
Totals	1,001,690	1,458,430

* Revised figures.

The figures show an increase of 456,740 tons, following on a decrease of over 80,000 tons in the preceding year. Germany heads the list with 401,881 tons, or an increase of about 184,000 tons on her 1910 figures. It will be noted that in a year of record progress the United States, which stands second on the list, has lost ground considerably.

—The exports of cultivated rubber from the Federated Malay States during the month of November, and the eleven months ended November, 1910 and 1911, were as under:—

	November, 1910.	November, 1911.	Jan.-Nov., 1910.	Jan.-Nov., 1911.
	Lbs.	Lbs.	Lbs.	Lbs.
Perak	303,226	625,822	2,209,534	4,854,237
Selangor	706,849	1,190,835	7,495,908	10,489,856
Negri Sembilan	142,338	285,403	1,267,456	2,191,637
Pahang	724	2,257	4,869	11,741
TOTAL	1,153,137	2,104,317	10,977,857	17,547,471

THE YEAR'S TEAK MARKET.

MESSRS. Denny Mott and Dickson Ltd.'s Wood Market Report dated London January 1st, says under the heading Teak:—This market has not emerged from the "cribbed, cabined and confined" condition which has obtained for the last two years, owing to the scarcity of supplies of first-class logs in India and Siam. The forest outget continued to yield a very small percentage of first-class squares fit for Europe, with a consequent full maintenance of the high cost of such first-class product, entailing necessary caution on the part of shippers in committing themselves to forward contracts. Business therefore was chiefly restricted to hand-to-mouth quotations as orders for constructional work were given out, and such orders were principally for warships or such high-class work where teak is still considered essential, irrespective of cost. The reliable information to hand from the shipping ports points to no improvement in the percentage of first-class wood likely to be obtained from the new season's forest outget now coming to hand for preparation at the Rangoon, Maulmain and Bangkok mills; and again the position obtains that the high cost is quite a secondary consideration to that of a sufficient quantity of first-class logs being produced for the consumption in Europe, although such consumption has been and is being cut down wherever practicable. The above facts have naturally induced an increasing conversion at the shipping ports of decks, planks and other scantling for which, owing to cheap native labour, inferior wood can be to some extent economically utilised when European quality logs are very costly. The cost of such conversions is logically much cheaper than that of the first-class logs; but this class of business is severely handicapped by the great variation in the sizes specified in constructional work which causes the merchant to be very chary to enter into speculative contracts for even such an apparently stable conversion as decks, where the former basis size of 5 in. x 3 in. is now varied by many other sizes, owing to special sets of conditions and very often to the mere fancy of the naval architect. Decks which have to be cut to special order require a long time for conversion and forwarding, so that consumers needing special sizes and quick delivery are still compelled to convert the log on this side. Notwithstanding all these difficulties in respect to conversions, the fact remains that their importation is increasingly displacing that of the log, as their relative cheapness to that of the first-class log where the time conditions are practicable, is indisputable. The demand of the rolling-stock consumers during the past year has been very contracted, and the supply of their special class of plank and other conversions having been quite sufficient for their needs, prices of such material have been kept at a reasonable level, notwithstanding the efforts at the shipping ports to raise them to a nearer approach to the parity of European logs. The assistance of Java importations has continued on a modest scale, but the cost of this product has increased very appreciably, owing to the

more onerous conditions imposed by the Dutch Government on the foresters and shippers.

In respect to London *per se*, the imports into and deliveries from the London Docks during the twelve months ending December 31, 1911, show as follows:—Logs: 5,527 loads imported, against 2,680 loads delivered into consumption; planks and conversions 4,169 as against 3,234; total 9,696 loads as against 5,914 loads.

NOTE.—The above figures deal only with landed stocks, and are exclusive of overside deliveries, which are not noted by the dock companies.

The dock stocks at date analyse as follows:—Logs: Burma and Siam 3,724 loads, as against 1,156 loads at the same date last year; Java 777 as against 498; total 4,501 loads as against 1,654 loads. Planks and conversions, Burma and Siam, 3,230 as against 2,462; Java 671 as against 506; total 3,901 as against 2,968; total 8,402 loads as against 4,622 loads. In appreciating the above figures it should be borne in mind that a large proportion of the increased importation of logs is due to consignments of more or less inferior quality, for which as previously explained there is little demand, such enquiry for consumption as there has been, having been practically confined to first-class wood, the stock of which is embarrassingly meagre.

NEW REFERENCE BOOKS.

AITKEN'S MANUAL OF THE TELEPHONE.

By W. AITKEN, M.I.E.E. 9x6, xxix+647 pp. (The Electrician Series.) 18s. net. (This comprehensive and fully-illustrated technical treatise is to be followed by a second volume in which Mr. AITKEN will be assisted by experts on special subjects.)

The Electrician Printing and Publishing Co.

ALTERNATING CURRENT DESIGN.

By J. FRITH, M.Sc., M.I.E.E., Special Lecturer on Electrical Design in the Manchester University. 8½x5½, 118 pp. 5s. net. Harper.

MACHINE TOOLS COMMONLY EMPLOYED IN MODERN ENGINEERING WORKSHOPS.

By J. W. FRENCH, B.Sc. With a Foreword by J. D. CORMACK, D.Sc., Professor of Mechanical Engineering, University of London (University College). Two Vols. 13½x5½, 170 + 212 pp. £22s. net. The Gresham Publishing Co.

THE CHEMICAL MANUFACTURERS' DIRECTORY OF ENGLAND, WALES, AND SCOTLAND.

With some of the Firms in Ireland. Forty-fourth Edition. 8x5½, 192 pp. 2s. 6d. net. Simpkin, Marshall.

A DICTIONARY OF APPLIED CHEMISTRY.

By SIR EDWARD THORPE, C.B., F.R.S. Assisted by eminent contributors. In five volumes. Vol. I., A-Chem. Revised and enlarged edition. 9½x6½, 758 pp. 45s. net. Longmans.

THE SOUTH AFRICAN ALMANACK AND REFERENCE BOOK, 1911-12.

The National South African Chronicle, Gazetteer, and Year-Book. Compiled and Edited by E. GLANVILLE. (First year of issue.) 8½x5½, 864 pp. 5s. Cape Town; and London, 82-85, Fleet Street; The Argus Printing and Publishing Co.

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,439,644	3,917,594	14,820	133,926	975	302	Not	reported.
Bombay	"	2,617,470	3,171,461	34,738	66,711	92,798	7,432	949,748	831,434
Karachi	"	18,707,310	20,934,956	29	...	477,637	170,185	Not	reported.

KEROSENE OIL, WEEK ENDING 10th FEBRUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	120	120
Bombay	...	24	...	24
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
		Bengal	...	817,572
		E. B. & Assam	...	307,200
		Bombay	...	1,371,650
		Sind	...	...
		Madras	...	189,000
		Indian Ports, Non-Br.	...	...
		Foreign Ports	...	...

IMPORTS OF SUGAR, WEEK ENDING 10th FEBRUARY, 1912.

	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	23	...	67	...	10	22	122
Germany	...	...	...	1,555	...	...	1,555
Austria-Hungary	...	...	27	...	...	...	27
Other European Countries	10	...	35,652	6,094	...	32,017	73,773
Java	...	...	776	1,579	...	...	2,355
Mauritius	...	...	807	...	...	1,713	2,520
Other Non-European Countries	...	...	...	...	...	...	...
Total refined							80,352
Total unrefined							...
Grand Total							80,352

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1911-12.				SEASON 1910-11.			
	Sold in sale of 6th February.		Sold to 6th February.		Sold in sale of 10th February.		Sold to 10th February.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.
Assam	1,271	7 2 5	191,098	7 11	814	6 11 8	187,591	7 5
Cachar	3,778	6 5	145,433	6 11 5	7,044	6 2 9	145,155	6 3 8
Sylhet	2,128	6 7	118,044	6 11 6	4,345	6 4	103,416	6 4 8
Darjeeling	60	10 7	71,742	9 7 4	31	5 10 8	69,055	9 6 1
Dooars	932	6 6 5	205,218	7 4 1	1,920	7 3 2	202,357	6 11
Terai	31	5 11	23,435	7 1 2	23	3 9 9	23,298	6 7 1
Chittagong	51	5 2	8,402	6 11 2	135	6 2 9	8,694	6 3 5
Chota-Nagpore	35	6 8 2	1,629	7 5 7	10	6 5 4	1,569	7 4 7
Kumaon and Kangra	67	5 1	3,797	6 9 1	259	6 1 3	3,652	6 4 5
Madras	...	...	40	6 4	...	...	43	5 5 8
Dehra Dun	...	...	399	6 2 8	...	...	687	6 5 3
Nepal	...	...	605	6 10 8	104	6 5	76	5 11
All other places	...	...	...	...	...	...	...	...
TOTAL	8,353	6 7 3	769,842	7 6 6	14,685	6 5 2	745,593	7 0 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 1911-12 Average price of 45,690 packages Dust* sold to 6th February 6a. 3 7p.
 " 1910-11 " 50,193 " 10th " 6a. 2 8p.
 * On account of gardens which sell only that grade on this market.

PUBLISHED WEEKLY



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CALCUTTA, THURSDAY, FEBRUARY 22, 1912.

[ANNAS 4

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NOTES.

MONEY MARKET.

	Wednesday	Evening.
PRESIDENCY BANK RATES	Calcutta 8 per cent. (Jan. 26).	Bombay 8 per cent. (Feb. 1)
	Madras 8 per cent. (Jan. 29).	
EXCHANGE	On demand	1-4 1/2
	Telegraphic	1-4 3/4
	Transfers	
	3 months	1-4 5/8
	6 months	1-4 7/8
GOVERNMENT PAPER (3 1/2 per cent.) Rs. 95-12.		

The spot price of wheat at Karachi on the 17th February was Rs. 32-0-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 20th February was Re. 0-8-3 to Re. 0-9-0 per lb. and of Fully Good Oomras cotton, ready goods, Rs. 265 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 21st instant were as under:—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 48 0 0
M. per 400 lbs.	" 53 0 0
Rice—Ballam No. 1 per B. md.	" Nil.
" Moonghy	" 3 8 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold,	
Cawnpore, 4% per B. md.	Nil.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop	Estimated Area	Percentage variation as compared with estimate at same date in previous year	Estimated yield	Percentage variation as compared with estimate at same date in previous year	Date of publication in the <i>Indian Trade Journal</i>
Indigo	Acres 271,100	- 1.9	Cwts (dye) 48,700	+ 5.9	21st Dec., 1911.
Cotton	20,393,000	- 9.7	Bales* 3,135,000	-18.6	15th Feb., 1912.
Sesamum (til or jinjili)	4,164,700	-15.6	Tons 311,300	-30.4	18th Jan., 1912.
Sugarcane	2,331,700	+10.3	2,390,400	+ 7.8	22nd Feb., 1911.
Groundnut	1,200,900	+26.2	542,200	+ 7.8	15th Feb., 1912.
Rice	56,443,000	- 2.7	Cwt. 521,992,000	- 6.4	22nd Feb., 1912.
Wheat	25,570,000	- 1.0	Information not yet available.	Information not yet available.	28th Dec., 1911.
Rape and Mustard	3,554,000	- 9.0	Do.	Do.	Do.
Linseed	3,371,600	+12.6	Do.	Do.	Do.

* A bale contains 400 lbs. of cleaned cotton.

The January number, which commences the third volume of the *Bulletin of Agricultural Statistics*, was published on 20th January by the International Institute of Agriculture (Villa Umberto I, Rome). The figures referring to the cereal harvest in the Southern Hemisphere, are the same as those published in the December issue of the *Bulletin* (see *Indian Trade Journal* of February 8th, 1912, page 177), with the addition of a few data of the probable harvest area. A small table gives the areas sown to wheat, rye, barley and oats during the past autumn. The areas sown to wheat, compared with the areas sown during the corresponding period of 1910 are as follows: Belgium 104 per cent, Spain 95 per cent, France 112.1 per cent, Great Britain 106 per cent, Canada 97.1 per cent, United States 98.7 per cent, India 99 per cent. Sowing, which is now finished, was done, on the whole, under good condi-

tions, and germination is uniform. The final returns of the cereal harvest in 1911 are given for Norway, Sweden and Canada. In the latter country the wheat harvest is given as 58,746,008 quintals, and oats as 53,697,553 quintals, being 143.9 per cent and 107.6 per cent respectively of the previous year's crops. Figures for the production of wine in the whole of France have now been received, and show a total production of 44,885,550 quintals as compared with 28,529,964 quintals in 1910. The Single Numerical Statement of the production of wine in Spain, France Hungary, Italy, Luxembourg, Roumania, Switzerland, Algeria and Tunis is now 141.2 per cent as compared with 136.4 per cent last month. The Bulletin also contains a table showing the production of cotton in the United States, Mexico, India and Egypt, which four countries produce some 2/3 of the total cotton crop of the Northern Hemisphere. The production in 1911 was as follows: United States 32,303,378 quintals; Mexico 347,520 quintals; Indian 5,628,176 quintals; Egypt 2,860,012 quintals, giving a total of 41,139,086 quintals or an increase of 15.8 per cent above the production of the same four countries in 1910. Quintal = 220.46 lb.

On another page will be found the Final General Memorandum on the sugarcane crop of the season 1911-12. In this connection it may be noted that the Cuban crop is estimated at 1,700,000 tons against 1,483,451 tons last season. The Java crop is estimated at 1,395,000 tons as compared with 1,229,100 tons last season. The crop in Mauritius is estimated to yield between 160,000 to 180,000 tons against 217,757 tons last season. Latest reports (December 22nd) from the West Indies indicate that the canes are ripening rapidly, but as reaping has not been general, no estimates are available. As regards Formosa the crop is expected to yield 220,000 tons which compares with 267,000 tons last season. In regard to the European beet sugar crops, the crop in France is estimated to yield 550,000 tons against 720,000 tons last season. In Germany the crop is estimated at 1,350,000 which compares with 2,600,000 tons last season. As regards Austria the crop is estimated at 1,150,000 tons against 1,538,000 tons last season. The crop in Russia is estimated to yield 2,000,000 tons against 2,140,000 tons last season.

Elsewhere in this issue will be found the Final General Memorandum on the rice crop of the season 1911-12. In this connection the following particulars relating to the crop in other countries will be of interest. In China latest advices indicate that the disastrous floods in the Yangtse Valley have done considerable damage to the crop. Consequently China will require during the current year larger supplies than usual of foreign rice. According to latest advices the new crop in Japan is estimated to yield a little over seven million tons. In Formosa the last crop was expected to be about

694,440 tons as against the average of 763,884 tons. According to the latest news from Korea the present crop is expected to turn out from 1,250,000 to 1,388,800 tons as against 1,179,450 tons last season. In Indo-China (Saigon) owing to the severe drought the crop is expected to be much below that of 1910-11, and only 650,000 tons are expected to be available for export. As regards Siam it is estimated that barely one-third of the usual yield will be obtained. With reference to the Philippines, the crop is expected to be about the same as usual, but the requirements of these islands appear to be increasing more rapidly than home production. Advices from the United States indicate that the crop is expected to yield 460,749 tons compared with 492,411 tons last season. The crop in Italy is expected to yield 471,651 tons against 431,062 tons last season.

The total approximate gross earnings of State and Guaranteed railways from 1st April, 1911, to 3rd February, 1912, show a gain of Rs. 3,26,19,350, as compared with the corresponding figures for 1910-11.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 4 weeks ended 25th January, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 25th Jan., 1912.	4 weeks ended 25th Jan., 1912.	Week ended 25th Jan., 1912.	4 weeks ended 25th Jan., 1912.
American	Bales. 113,226	Bales. 423,751	Bales. 11,332	Bales. 48,516
Brazilian	229	612	220	40
East Indian	229	744	248	304
Egyptian	24,154	101,810	3,646	15,955
Miscellaneous	2,540*	9,968†	158	744
TOTAL	141,149	536,915	15,604	65,969

* Including 1,291 bales British East African, and 396 bales foreign East African.

† Including 692 bales British West Indian, 43 bales British West African, and 2,779 bales British East African, and 296 bales foreign East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

In their weekly report on the Shanghai piece-goods market, dated January 25th, Messrs. Noël, Murray and Co., Ltd., say:—This has been a lifeless week and no sales or clearances of Indian yarn are reported, but purchases of some 10,000 bales from Bombay are advised for shipment from March up to September next. The market here is said to be weak although there has been nothing passing to

test its strength. Importers of Japanese yarn have been inactive, but second hand holders have parted with 500 bales at lower prices, viz., Tals 112.50/120.00 for No. 16s. and Tals 113.00/122.00 for No. 20s. The market at head-quarters is very much weaker, January delivery being down to Yen 132.00, February to Yen 130.90, and March to Yen 130.20. There has been no business in local yarn reported; but the dealers have reduced their prices for bundles to Tals 96.75/99.25 for 10s., Tals 96.75/106.75 for 12s., Tals 98.25/109.50 for 14s., Tals 103.75/112.00 for 16s. Moderate arrivals of cotton are going into godown and are reported to be undesirable quality and too wet to pass the Testing House inspection. Prices are weakish, but it is doubtful whether holders would part thereat, preferring to wait till after the New Year. Tung-chow is quoted at Tals 22.60, Taichong and Four Chop, Tals 22.40, Best Steam Ginned and Shanghai Tals 22.20, Taichong Seed \$11.20 and Seed \$10.20.

The statement below shows the quantity of cotton goods calendered and proportion thereof to the total production in Indian mills in the month of December, 1911, and in the nine months from April to December, 1911, compared with the corresponding periods of 1910:—

	1910.		1911.	
	Dec.	Nine months, April to Dec.	Dec.	Nine months, April to Dec.
BRITISH INDIA—Quantity calendered lbs.	14,507,819	110,828,656	13,609,172	117,903,699
Ratio of calendered goods to production %	58.06	60.44	57.90	60.85
NATIVE STATES (excluding Hyderabad)—Quantity calendered lbs.	109,973	1,030,038	48,404	507,304
Ratio of calendered goods to production %	12.01	14.34	6.73	7.56
TOTAL INDIA (excluding Hyderabad)—Quantity calendered lbs.	14,617,792	111,858,694	13,657,576	118,411,003
Ratio of calendered goods to production %	56.43	58.70	56.38	59.07

The estimated production of wheat in Argentina is 91,374,000 cwts., and in New Zealand 3,475,000 cwts. The total production of wheat in countries in the Southern Hemisphere is estimated at

156 million cwt., or 5.5 per cent above last year. The estimated production of oats in Argentina is 17,381,000 cwt., and in New Zealand 5,342,000 cwt. The production of maize in Argentina is estimated at 137,790,000 cwt.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 27th January, 1912, were as follows:—Wheat, 33s. 7d.; barley, 33s. 1d.; and oats, 21s. 1d.

The *Times* correspondent writing from Buenos Ayres under date December 22nd, 1911, refers to the present harvest in the following terms:—"The present condition of affairs is not conducive to calmness and good temper. All the golden dreams of a record harvest have vanished into thin air; the reports of the examiners are beginning to come into the big grain exporting houses, the banks, and the railways. A definite verdict is more or less in embryo yet, but there is a painful unanimity in estimating the wheat crop at 25 per cent less than anticipations provided there is no more bad weather. The losses in linseed are pronounced to be much heavier than those in wheat; but the reports are so conflicting that it is impossible to arrive at a definite figure. No one estimates a wheat harvest for export to exceed more than 3,000,000 to 3,200,000 tons. If there were sufficient mowing machines in the country much of the grain lying flat could be cut and saved. During the last few years a number of local insurance companies have been doing profitable business in insuring crops. Last year dividends up to 65 per cent were paid to the share-holders—in fact, all the profits were paid away in dividends. Up to three weeks ago these companies were issuing policies right and left; then the rain began. They are now mostly all in a state of bankruptcy. The big ones may save their existence by making compositions with their creditors; the smaller ones will disappear. The British companies do not enter into the business of insuring crops."

Some interesting particulars about the Western Canadian Farming Industry are furnished by a correspondent to the *Times*. The Canadian West up to the 31st day of December had sold from her farms grain, cattle, and produce to the value of \$101,620,716 (£20,324,141), as compared with \$80,202,947 for the same period in 1910. This, says the correspondent, is gratifying in view of the fact that the year 1911 was unfavourable for the farmer. A closer investigation of the returns from the various sections of the farm shows some interesting and suggestive comparisons. Wheat of course occupies first place, as being the crop from which the largest amount of money is

obtained; 122,664,700 bushels of wheat have been already accounted for, as follows:—

	Bushels.
Wheat actually inspected	74,914,700
In interior elevators at the close of the year	20,750,000
Total	95,664,700

This has passed from first into second hands. There will be required for seed in 1912 at least 21,000,000 bushels, and there will be required for milling in interior mills at least 6,000,000 bushels. These amounts account for 122,664,700 bushels. Assuming that the *Manitoba Free Press* estimate of October 5th is correct—namely, 169,725,000 bushels—there is still in farmer's hands for market 47,000,000 bushels. Prices for the crop have been good, the average price for No. 1 Northern for the four months having been 98½c. per bushel in store at Fort William, as against 95½c. for the corresponding period of 1910, and prices for other grades have been relatively on the same basis. There is an undue proportion of low-grade wheat, but even for these grades the prices have ruled high, the lowest price paid for No. 6 wheat during the four months being 63c. per bushel. The total so far received for wheat actually inspected is \$62,996,517. The forward movement of coarse grains has been very much in excess of any previous year, and prices for these also have ruled high and have been remarkably steady.

The *Corn Trade News* gives the following summary of the world's crops as on the 30th ultimo:—*United States of America*—Weather and crop reports from winter wheat belt less favourable; snow cleared over wide area, and in south-west alternate freezing, thawing weather reported. Primary receipts well maintained but fair decrease in Visible Supply. *Canada*—Receipts at Winnipeg are big, although grain is being diverted to U. S. points. No improvement in grading, stocks about unchanged. *Argentina*—Officials have estimated the Wheat crop 21,000,000 qrs. which indicates surplus of 14,000,000 qrs.; Oats crop 6½ million qrs. against 6 million last year; Linseed 638,000 tons against 600,000. Owing to strike shipments still small but large stocks collected on railways and large exports expected shortly. Maize prospects excellent. Recent threshings reports have been worse. *Australia*—No change in crop estimates. Shipments of fair size but smaller than year ago. *Chile*—Wheat surplus estimated at 450,000 qrs. but about one-third probably required for Peru. *Russia*—Weather in Southern region variable but position of crops still reported all right. Receipts at ports small and stocks are decreasing. *Roumania*—The weather is mild. Position of crops reported satisfactory. Great snowfall last night. *Hungary*—Weather last week mild and snow cover about cleared, which unfavourable. *France*—Weather turned cold and dry,

which favourable for crops. Offerings native grain still very small, markets firm. *Germany*—Weather last week was mild and fields have lost their snow cover. Offerings have been larger. *Italy*—Crop conditions normal, but native Wheat very firm. *Spain*—Weather and crop reports favourable. *United Kingdom*—The weather has turned frosty, which is favourable.

The Census and Statistics Office of the Department of Agriculture, Canada, gives the following estimates of area, yield and value of leading crops in 1911:—

	Area, Acres.	Yield, Bushels.	Value.
Winter Wheat	1,172,000	26,014,000	\$21,461,000
Spring Wheat	9,202,000	189,837,000	117,106,000
Total Wheat	10,374,000	215,851,000	138,567,000
Oats	9,220,000	348,188,000	126,812,000
Barley	1,404,000	40,641,000	23,004,000
Linseed	1,132,000	12,921,000	19,167,000
Fodder crops	8,290,000	15,493,000	161,314,000

*Tons.

The total area under crops in 1911 was 32,853,000 acres, and the total value was \$565,712,000. In the three North-west provinces of Manitoba, Saskatchewan and Alberta the wheat production was 194,083,000 bushels, compared with 128,891,000 bushels, the estimate of 1910; of oats, 218,819,000 compared with 126,753,000, and of barley, 24,043,000, compared with 21,377,000. The wheat production of 1911 in Manitoba was 60,275,000 bushels from 2,980,000 acres; in Saskatchewan, 97,665,000 bushels from 4,705,000 acres, and in Alberta 36,143,000 bushels from 1,617,000 acres. The area and production of wheat in 1911 exceed by over 1,000,000 acres, and 65,862,000 bushels the estimates of 1910. A more satisfactory criterion of the difference between the two seasons of 1911 and 1910 is afforded by the average rates of yield per acre, which for fall wheat was 22.19 bushels in 1911, against 23.49 in 1910; spring wheat 20.63, against 15.33; oats 37.76, against 32.79; barley 28.94, against 24.62; and linseed 11.41, against 7.97.

The South African Trades Commissioner in London notifies the receipt from the Department of Agriculture at Pretoria of a cablegram to the effect that the yield of maize in the Transvaal Province for 1912 is estimated at 234,000 quarters less than the average for previous years, owing to severe drought during the ploughing season and to insect pest. The average maize crop of the Transvaal in previous years has been approximately 1,000,000 quarters.

It is notified in the *Gazette of India* of the 17th instant that the duty of Rs. 17 per viss on all opium imported into Upper Burma (except the Shan States) is cancelled.

The daily prices of opium per chest for the periods mentioned below were as follows:—
For the week ending 17th February, 1912—

In the Calcutta market—

Behar opium—Rs. 4,250; 4,275; 4,375; 4,800; 5,500; 5,300; 5,250.
Benares opium—Rs. 4,300; 4,325; 4,425; 4,875; 5,550; 5,350; 5,300.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 3rd sale of 1912.

At Hongkong—(Exchange Rs. 146 to 150 per \$100.)

Behar opium—\$2,990; 2,980; 2,975; 3,300; 3,875 and 3,900; 3,900; 3,900.

Benares opium—\$2,980; 3,300; 3,875.

At Shanghai—(Exchange: Rs. 201 per 100 taels.)

Behar opium—Taels 3,075.

Benares opium—No quotations received.

For the week ending 10th February, 1912—

In the Bombay market—

On the 4th and 5th instant (New, 1908-09) Rs. 3,745; (old, 1907-08) Rs. 3,752. From 6th to 10th instant (new, 1908-09) Rs. 3,450 to 3,465; (old, 1907-08) Rs. 3,500. The latest prices at Hongkong and Shanghai were (new) Rs. 4,400 and 5,109; (old) Rs. 4,487 and 5,207, respectively.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 25th ultimo regarding the Hull oil market, says:—**Linseed oil:** The market is quiet, with 37s. 9d. spot, January-April, 33s. 9d. May-August. The exports for the week amounted to 321 tons, of which Africa took 3, America 146, Australia 146, Belgium 5, Egypt 3, India 15, and Norway 3 tons each. **Cotton oil:** The market is steady, with refined cotton oil at 22s. 6d. spot, 22s. 9d. February-April, 24s. Buyers May-August. Crude oil, 20s. 9d. spot. The exports for the week amounted to 50 tons, of which Africa took 8, Belgium 5, Germany 20, Holland 14, Italy 1, Norway 1, and Sweden 1 ton each. **Soy bean oil,** 26s. spot. The exports for the week amounted to 228 tons, of which Austria took 25, America 69, Belgium 28, France 47, Germany 46, and Holland 13 tons each. **Rape oils:** Ravison 17s. 3d., brown East Indian 31s. **Cocanut oil** slow. English for prompt in casks, £40 to £41 per ton. **Castor oil** steady, quiet at 3½d. per lb. for forward Calcutta quay terms. Spot easier at 3½d. to 3¼d. per lb. quay terms. **Colza oil** firmer at 36s. per cwt. for East Indian refined. **Lard oil** steady. Best English refined, 49s. 6d. per cwt. **Olive oil,** spot quiet, Spanish, ex-store, £42 10s. per ton, forward firm. **Palm oil** quietly steady, and only a limited business continues, including spot Lagos at £29 15s.; afloat at £30 spot, and afloat hards at £27 5s. and spot and February-March Benin at £28 5s. transit. Refined sorts quiet, but steady at £32 10s. per ton for bleached in casks, and £29 10s. for clarified. **Petroleum** firm. American ordinary 6½d., R. D. 7d., and W. R. 8d.

per gallon. Russian 6½d. to 7d. per gallon. Turpentine steady, quiet. Spot 36s. 6d., and February. April 37s. per cwt.

With the maturing of large rubber plantations in many parts of the world the need for seed for planting is diminishing and a great quantity of the seeds is becoming available. At the same time the fall in the price of rubber, and the probability of an increased cost of labour in the plantations, are causing planters to think seriously of a market for the seeds. The kernel, which is half the weight of the seed, contains some 42 per cent of oil whose commercial value as a substitute for linseed oil is favourably reported on by the Imperial Institute. The experimental feeding of cattle with Para rubber seed-cake has given promising results, but its definite value as a food cannot be stated without more extended trials. The oil is clear, and in colour and smell resembles linseed oil. It belongs to the class of drying oils, and gives a clear transparent film when dried by exposure to air. The husks contain a yellow fat which has a high saponification number and a low iodine value, but since the amount of this solid fat in the husks is very small it hardly affects the properties of oil obtained by grinding kernels and husks together. The following table gives the constants as found by the Imperial Institute for oil from the kernel and from the whole seed. The constants of linseed oil are added for comparison:—

	Para Rubber Seed Oil.		Linseed oil.
	A. (from kernels only).	B. (from whole seed).	
Specific gravity at 15 deg. C.	0.9302	0.9316	0.931-0.937
Free fatty acids—			
Acid value	10.7	19.0	...
Calculated as oleic acid	5.4 p. c.	9.6 p. c.	...
Ester value	195.4	190.3	...
Neutral oil	94.6 p. c.	90.4 p. c.	95.5-99.6 p. c.
Saponification value	191.8	193.0	190-195
Iodine value	128.3	121.2	170-194

On saponification with caustic soda the oil yields a rather soft yellowish soap. The time needed for saponification is about half as much again as for olive oil. Leading brokers report that the oil would be worth probably 20s. per ton, but that merchants would not take it up without an opportunity of first testing it in bulk.

Discussing the sugar market in his *Weekly Price Current*, dated London, 1st February, C. Czarnikow says:—The news from Cuba still mentions an unsatisfactory yield, though weather had been mostly clear and occasionally cooler, but to-day it is again unsettled, heavy rains both East and West. The sucrose in January has been nearly one degree

less than last year, and most estimates are nearer 1,700,000 than 1,800,000 tons. The Cuban planters are not hurrying sales, whilst U. S. requirements may become more pressing. The nominal quotation is still at 4.39 cents, but sales are making at 4.42 cents 14s. 1½d. c. i. f. New York, or 14s. 7½d. Europe (freights being very scarce and irregular).

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 20th instant was 81,921 bags, while the stock in Bombay on the 16th idem amounted to 85,900 bags.

In their rubber market report, dated London, February 2nd, Messrs. Gow, Wilson and Stanton, Ltd., write:—We have again to report a continuance of the active condition of the market during the interval since the last auction, a large volume of business having passed, particularly in plantation grades for delivery all through the year. The rubber shut out of the previous auction caused this week's to be a record, some 630 tons being catalogued. In face of these large supplies the sales opened on Tuesday with somewhat quiet competition, prices ruling from 1d. to 3d. lower than previous rates. The feature of the auction, however, was the steady and continued improvement in tone which took place and resulted in quotations at the end of the second day showing only about 1d. drop on the average of last sale. The highest price was 5s. 5½d. for some of the Highlands smoked sheet. Other lots of this grade selling up to 5s. 4d., and on the second day 5s. 3½d. was paid for light crepe. The medium descriptions of the latter grade were perhaps in best demand, but all kinds were readily taken and only a very few parcels failed to find buyers.

In their report on London tea sales, dated February 2nd, Messrs. Gow, Wilson and Stanton, Ltd., say:—Importers of Indian tea catalogued the moderate amount of 42,511 packages against 48,817 last week. The market opened on Monday with a rather quiet demand, and in the case of common and lower medium descriptions, buyers were not prepared to operate with freedom except at a slight reduction in values. Dusts and Fannings again being a particularly weak market. Amongst Assams, Teas with appearance only to recommend them were difficult of sale, and several parcels of this class were withdrawn from the auction through valuations not being reached. There was, however, stronger competition for the best liquoring sorts, and one or two invoices of autumnal Doears with nice flavour made satisfactory prices. At Wednesday's auction no material alteration took place in prices, but bidding was slightly brisker and anything with "stand-out" cup was well enquired for at firm rates. Next week's offerings show a further slight reduction at 41,113 packages and include several final and semi-final invoices. Average for week 8.61d., against 8.57d.

last sale. Week's average of Tea sold on Garden Account, Season 1911-12, 42,015 packages, average 8.61d. 1910-11, 31,775 packages, average 8.64d. Season 1911-12, to date 1,126,014 packages, average 9.19d. Season 1910-11 to date 1,057,599 packages, average 8.54d.

In their weekly report on Australian wool sales dated Melbourne, 25th January, Messrs. Goldsbrough Mort & Co., Ltd., say:—We held our third sale of the year to-day, offering a compact catalogue of 4,300 bales, including perhaps the best display of scoureds seen here this season, the demand for which was particularly keen, except in some odd instances for town scoured crossbred parcels. In scoured merino the well-known Tweedsmuir, from Central Queensland, splendidly handled by Messrs. Ladbury & Co., touched the record price of 24½d., the whole of the fleece averaging 24d., one of the best sales for many years. The balance of the scoured, being largely composed of oddments, calls for no special comment, but a big clearance was made at very satisfactory prices. Tasmania greasy merino met with fair success, prices ranging from 13½ to 15d. Outside of the above the market was very firm at last week's rates, except perhaps in odd instances of burry and inferior sorts.

A supplement to the official *Nachrichten für Handel* (Berlin) of 22nd January publishes the following particulars of the production and imports and exports of coal, coke, etc., of Germany in 1911, as compared with the previous year:—

	Production.		Imports for Home Consumption.		Exports (Domestic Production.)	
	1910.	1911.	1910.	1911.	1910.	1911.
	1,000 metric tons.	1,000 metric tons.	1,000 metric tons.	1,000 metric tons.	1,000 metric tons.	1,000 metric tons.
Coal	152,682	160,742	11,106	10,914	24,257	27,412
Lignite	69,105	73,517	7,398	7,069	62	58
Coke	23,600	25,405	623	699	4,128	4,555
Briquettes	19,667	21,828	241	211	1,088	2,477

In its issue of January 29th the *Manchester Guardian* says:—The copper market has suffered depressing influences during the past week, and when these are all taken into consideration it is surprising that the price has not been more affected. Standard copper opened last week at £62 15s. and closed at £61 17s. 6d., so that the total difference against the market is only 17s. 6d. per ton. This, however, coming on the top of a 25s. fall from the highest point may have led to the execution of some "stop-loss" orders. There is unshaken belief that

the position is still sound, nothing having occurred to change the conditions upon which this belief is based. The state of the share market has perhaps most to do with the present fall in warrant prices; and probably the position has really been improved by the shaking out of some of the weaker bull speculators.

The reports being issued by the German cotton spinning companies reflect very clearly the difficulties of last year, and most of them, says the *Manchester Guardian*, disclose heavy losses. The following is a summary of the principal reports published during the last few days:—The Power Cotton Spinning and Manufacturing Company, Augsburg, have a net loss of 1,190,321 marks, against a net profit last year of 786,255 marks. A dividend is being paid of 7 per cent, against 17½ per cent, and the loss covered from the reserve fund. The unsatisfactory results are due to the heavy fall in raw cotton and depreciation of stocks. The Power Cotton Spinning and Manufacturing Company, Kempten, report a net loss of 70,255 marks, against a net profit for the previous year of 289,419 marks. A dividend of 5 per cent is being paid, against 6½ per cent. The Power Cotton Spinning and Weaving Company, Kaufbeuren, have a net loss of 207,486 marks, against a net profit last year of 13,395 marks. A dividend of 3 per cent, against 4½ per cent, is being paid from the reserve fund. The Senkelbach Cotton Spinning Company, Augsburg, report a net loss of 84,963 marks, against 651 marks net profit last year. No dividend is being paid, against 4 per cent from the reserve fund last year. Naegely Freres, cotton spinners, Mulhouse, after providing for depreciation, have no profit. In the German cotton centres there are very clear indications that the new year has brought improved conditions for spinners and manufacturers. The recovery of the cotton market is considered beneficial to the trade, inasmuch as it has justified the large orders for yarn placed during the final quarter of last year; it has also stimulated further buying of yarn and woven goods and restored the confidence of merchants in the stability of cloth values. Spinners have secured a very satisfactory volume of business for late delivery during the month, and the demand has been so good that they have had little difficulty in making yarn buyers bear the whole of the advance in raw cotton. Spinners of waste and Indian cotton are now in a much stronger position than a month ago, for the certain prospect of a small Indian crop has convinced yarn buyers that no reduction in prices is likely, and has induced them to give large orders. Spinners in this branch complain that margins are not what they should be, but they are certainly better than for a long time past, whilst the amount of work on hand is now such that very few are able to accept orders for near delivery. Manufacturers of ordinary goods from American yarns (shirtings, printing cloths, etc.) are engaged for months ahead. New business is rather more difficult to obtain, for dealers are not

inclined to give the higher rates now demanded, some really large lines are nevertheless being booked, and as every confidence is felt in the continuance of the prevailing activity, manufacturers show absolutely no disposition to make concessions. The cold weather has stimulated the trade in cotton blankets, stocks are very low, and dealers seem to have abandoned their policy of cautious buying. Although manufacturers profess that prices are not good, the volume of current business is considerable, and makers will doubtless make use of their position to advance rates. The export trade in blankets made from waste and Indian yarns is not yet brisk, the disturbances in China, South America, and Mexico are having an adverse effect, but the outlook in India is brighter.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 10th February, 1912:—G. G. Mooraj—Improvements in weather guards for motor cars and other vehicles. A. Minnick—Cab and track systems. W. W. Pilkington, J. Whittaker, R. Bradshaw and J. Briggs—Improvements in or relating to self-replenishing mechanism for looms for weaving. C. H. A. F. I. Ross—Improvements in or relating to fire-arms. H. Braun—Apparatus for extracting nitrogen and carbonic acid from combustion gases. H. W. Time-well—An improved starching or sizing material for jute and cotton fabrics and the like, to be called "Racina". H. A. Murphy and J. F. Simpson—Improvements in or connected with the threading of loom and like shuttles. E. Zublim—Improvements in closures for exit orifice of silos and the like. D. J. Barnard—Improvements in or relating to grabs. J. A. Collie—An apparatus, on the typewriter principle and which may be used in conjunction with a typewriter, for the transmission of telegraph signals, for use with Morse, Baudot and other such systems. G. Dubern—An antiseptic process for the manufacture of ice.

Mr. Alma Latifi of the Indian Civil Service has written a most interesting review of **Industries in the Punjab**.^{*} Recent years have seen a succession of monographs upon the industrial position of single provinces in India. Their preparation has usually been entrusted to such members of the Indian Civil Service as were likely to have good local knowledge of the province to be discussed. Mr. Latifi possessed more than the ordinary qualifications for such a work relating to the Punjab and the result shows that he employed them well. The book runs to some 300 pages, comprises twenty chapters, valuable appendices, and an adequate index. The range of subjects touched on is very comprehensive. It is of course not the purpose of such a book to deal exhaustively with any of the industries surveyed.

^{*} The Industrial Punjab. (Bombay and Calcutta, Longmans. Price Rs. 3.)

An attempt to do so would merely argue failure to realize the complexity of industrial problems even of seemingly elementary kind. All that can be done is to bring together the main facts about each so that some conception may be formed of the general industrial phase of the tract described, and so that such persons as are seriously interested in the study of any single industry may see it in proper proportion and perspective at the first glance. This involves a certain selection of facts and such selection can be intelligently made only in the light of a preconception probably tentative. The work therefore cannot be well done by a brain of the type that can eschew all preconception or hypothesis. Mr. Latifi has fortunately not been the victim of such atrophy and even if his readers may here and there hesitate to subscribe unreservedly to a conclusion he has arrived at, they will welcome the animation of his work and the activity of the interest he has taken in its details. It would probably be impossible for any one to bring together such a mass of detail as he has amassed and marshalled without an occasional error of fact or an occasional placing of the cart before the horse. In Mr. Latifi's book they are rare; and the author has every reason to congratulate himself on a piece of work that gives evidence of good memory and power of co-ordination as well as industry. The Punjab now possesses such a review of its industries as more than bears comparison with the monographs on other provinces.

Weather in India for the week ended Tuesday last was marked by fairly general thunderstorms in Eastern Bengal and Assam, and also in Burma. The disturbance in West Persia has influenced only the extreme north of India, where thick cloud has already appeared. A heat depression is reported to have developed over Sind and Baluchistan. During the week light rainfall was reported from the Upper Assam valley and the extreme south of the Peninsula.

The quantity of salt of every description cleared in Calcutta during the quarter October, November and December, 1911, amounted to 3,335,334 maunds (including 1,415,033 maunds issued under the credit system), as compared with 2,886,778 maunds (including 1,193,599 maunds issued under the credit system) in the previous quarter, and 2,944,191 maunds (including 1,007,738 maunds issued under the credit system) in the corresponding quarter of the previous year. The net amount of duty levied was Rs. 29,00,801 (including Rs. 11,90,563 adjusted under the credit system), as against Rs. 24,29,478 (including Rs. 10,03,989 adjusted under the credit system) in the previous quarter, and Rs. 18,91,418 (including Rs. 1,99,174 adjusted under the credit system) in the corresponding quarter of the previous year. Compared with the corresponding quarter of the previous year and the same quarter of 1909-10, importations were greater by 20.4 per cent and 21.2 per cent respectively, and

clearances were greater by 13.4 and 23.8 per cent. As compared with the corresponding period of the previous year, the increased imports from Spain, the United Kingdom, Aden and Bombay and the decreased imports from Port Said and Hamburg and Bremen are specially noticeable. The large increase in clearances is mainly due to the sudden fall in the prices of salt in the middle of December 1911, in consequence of which dealers made large speculative purchases in addition to ordinary requirements. During the quarter the prices of Bombay "kar-kuch" fell gradually, while there was a slump in those of all other descriptions of salt in the last fortnight of the quarter. This sudden fall is attributed to the importation of a consignment of Aden salt, the owners of which are not among the firms who had combined to fix the price of salt. Rates have consequently been greatly lowered by the combine against the new comer. There were no imports of Madras salt into the port of Calcutta during the quarter.

NOTICES.

CALL FOR TENDERS.

Jute Manufactures.

The Government of Roumania is calling for tenders for the supply of jute sacks and cloth on terms that may be inspected in this office.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Sporting Goods.

(1334)—A London firm manufacturing athletic goods desires to be placed in communication with importers.

Linseed.

(1335)—A firm in Budapest desires to be placed in touch with exporters of linseed from Calcutta.

Rape and Mustard Seed.

(1336)—A firm in Austria desires to be placed in communication with exporters of rape and mustard seed from Karachi.

Rice.

(1337)—A Budapest firm desires to be placed in communication with Calcutta and Rangoon shippers of rice.

Wild Pig Skins and Tushes.

(1338)—A Government officer desires to be placed in communication with purchasers of wild pig skins and tushes.

Cotton Yarns.

(1339)—A correspondent in Smyrna desires to be placed in touch with manufacturers of cotton yarn.

Furniture Leather.

(1340)—A firm in Leeds desires to appoint agents in Calcutta, Bombay, Madras and Delhi for the sale of furniture leather.

Patna Rice.

(1341)—A concern in Trieste desires to be placed in communication with shippers of Patna rice, sample of which may be seen at this office.

Oilseeds.

(1342)—A correspondent in Trieste desires to be placed in communication with exporters of oilseeds.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 28th February, 1912:—

Parliamentary Publications.

Colonial Reports—Annual—No. 705—East Africa Protectorate—Report for 1910-11. Board of Agriculture and Fisheries—Report of Intelligence Division, 1910-11—Part II. Report of the British Delegate to the International Sugar Commission together with his instructions—December, 1911—Commercial No. 1 (1912).

Foreign and Colonial Publications.

Africa—Trade of the Union of South Africa, Southern and N. W. Rhodesia and British South Africa—November, 1911. Austria-Hungary—Statistik des Auswärtigen Handels des Vertragszugesgebietes der Beiden Staaten der Osterr.—Ungar. Monarchie im Jahre 1910. Canada—Canadian Trade—Report of—Part II. Ceylon—Customs Returns—December, 1911. Japan—Monthly Trade Return of Japan Proper and Karafuto (Sagalien) with Chosen (Korea)—November, 1911; Monthly Return of the Foreign Trade of the Empire of Japan—November, 1911. Mexico—Resumen de la Importacion y de la Exportacion—Octubre de 1911. New South Wales—Monthly Statistical Bulletin—December, 1911.

Indian Publications.

Customs Tariff Guide for the year 1912—Containing Orders relating to the Rates of Customs and Other Duties Leviable in Customs Houses in Burma. Department of Agriculture, Bombay—Bulletin No. 44—Preliminary Study of the Red Rot of Sugarcane in the Bombay Presidency; No. 45—Second Year's Experiments in the Treatment of Grape-Vine Mildew in the Bombay Presidency, No. 46—Seed Selection Series, I—Broach Cotton; No. 47—San Hemp (Crotalaria Juncea) Tag (Marathi); No. 48—Poona Furnace (In the Satara District) and Bulletin No. 49 of 1911—"An Examination of the Seed Supply of the Ahmednagar District,"—Part I. Department of Agriculture, Bengal—Annual Report of the Bankipore Agricultural Station—1910-11; Dumraon Agricultural Experiment Station, 1910-11; Kalimpong Demonstration Farm, 1910-11, and Chinsurah Agricultural Station, 1910-11.

BUSINESS NOTICE.

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The Indian Trade Journal.

THURSDAY, FEBRUARY 22, 1912.

INDIAN WHEATS.

THE Report of Mr. A. Howard, M.A., A.R.C.S., F.L.S., Imperial Economic Botanist, for the year 1910-11, contains a deal of information on the subject of Indian wheats. One of the directions in which the improvement of Indian wheat has been attempted at Pusa has been the increase in rust-resisting power of the kinds at present in cultivation in the plains. Mr. Howard explains that this is a subject which has on several previous occasions occupied the attention of the Government of India, but little or no results of practical value have been obtained in the past. It was found at Pusa and at Lyallpur that although the types at present in cultivation differ considerably in rust-resisting power, and that in consequence a considerable improvement in this character is possible by simple isolation methods, nevertheless India does

not possess any wheats with the same power of withstanding rust as is shown by many of the wheats of Northern Europe, and especially by American Club. The quality of resistance of the best Indian wheats is of quite a lower order than that possessed by the wheats grown under the more adverse climatic conditions of the North Temperate Zone. This is seen not only when the two classes are grown side by side in India, but also when they are cultivated together in England. One of the directions, therefore, in which improvement might be attempted was, in the light of the work already done at Cambridge on the inheritance of rust-resistance in wheat, the production of new kinds by hybridization between Indian wheats and some rust-resistant forms from Northern Europe or America. It is explained that attempts to carry this out in practice at Pusa failed on account of the impossibility of getting the rust-resisting parents to flower in time for crossing to be done and for the resulting grain to ripen before the hot weather set in. This difficulty was overcome by sending the Indian parents to Cambridge for spring sowing in 1910 and by carrying out the actual hybridization work in England. The facilities given by Professor Biffen at Cambridge enabled the Imperial Economic Botanist to make crosses between various Indian types and American Club and other rust-resistant wheats at Cambridge, and the first generation of the hybrids was grown at Pusa during the past wheat season. A duplicate set of these seeds was also successfully grown at the Cawnpore Experiment Station by Mr. H. Martin Leake, Economic Botanist to the Government of the United Provinces. Now that the difficulty of growing the first generation in India has been overcome, the Imperial Economic Botanist expects that among the progeny of these crosses wheats will be isolated of much greater rust-resistance than any of the types now grown in India.

Mr. Howard took advantage of his visit to England to consult with Mr. A. E. Humphries, Past President of the Incorporated National Association of British and Irish Millers, on many matters connected with the milling and baking qualities of Indian wheat and to go over in detail the samples sent to England for testing in 1910. He obtained a large amount of valuable technical information on the quality of wheat and also took full opportunity of discussing in detail the lines of future work on the improvement of Indian wheat.

In order to compare the appearance of the new Pusa wheats with those now on the market from various parts of the world, Mr. Howard visited Mark Lane with Mr. Humphries, and the Liverpool Corn Exchange with Mr. Broomhall, the proprietor of *Corn Trade News*. It was acknowledged that there were no wheats on the market superior in combined appearance, quality and condition to the best Pusa wheats. As far as quality only is concerned, Indian wheats are somewhat inferior to Manitobas, but in their greater dryness and in the greater thinness of the skin best Pusa wheats at least make up for their slight lack of quality. As wheats are sold entirely on the appearance of the samples taken from the ships, it is, says Mr. Howard, of the greatest importance to the Indian wheat trade to keep the various grades of Indian wheats separate and not to mix red and white, hard and soft wheats in the sample. This lowers the price that would otherwise be obtained, while adulteration with earth and other seeds does still greater harm. Mr. Howard saw several good samples of Indian hard white wheat at Mark Lane entirely spoiled by admixture with soft white and red wheat and with dirt and other seeds. In Liverpool the Pusa wheats appear to have been greatly admired and were shown to a meeting of Liverpool millers by Mr. Broomhall, who, in returning the samples wrote: "I have just sent you back the samples you left with me. I have shown them to several of our millers who have greatly admired them. The wheat appears equal in value to the best Manitoba."

It would appear that a considerable demand for the new wheats has arisen from Australia in consequence of the satisfactory behaviour of the Indian samples grown there in 1909. In the same year a small sample of Pusa 6 was tried in Hungary, with the result that 16 maunds of this variety were asked for by, and supplied to, the Minister of Agriculture of Austria-Hungary in April last.

Mr. Howard draws attention to one result of the wheat investigations, which is believed to be of considerable importance to India and to the future policy of the Agricultural Department. This is the value of the variety of a crop when it stands alone. It is, he observes, sometimes thought that in the case of crops improved varieties can be produced of such excellence that when distributed to cultivators greatly improved yields will result, no matter what the methods of cultivation adopted by the people may be. A little consideration will show that these expectations are bound to result in disappointment,

as they entirely disregard the fact that two of the limiting factors in crop production in India are the methods of cultivation and moisture conservation adopted. Inadequate preparation for any crop and insufficient moisture cut across the real yielding power of varieties and tend to bring them to the same level. Optimum yields of the varieties and therefore true comparisons in yielding power are only possible if the limiting factors of bad cultivation and poor moisture conservation are removed. The full benefit of improved varieties, and especially those of high quality, can only be realised if cultivation is good and moisture is adequate. It is suggested that in all seed distribution schemes in India due attention should be paid to the prime importance of cultivation and moisture conservation as well as to the value of improved varieties. That it is possible to obtain greatly increased yields using only the means now possessed by the cultivators has, says Mr. Howard, been abundantly proved by the results obtained in the botanical area at Pusa during the last three years.

The results of the wheat experiments at Pusa were brought to the notice both of the trade and of those interested in the cultivation of the crop, and it would appear that everywhere the greatest surprise was expressed that wheats like those shown could be grown in India. In Karachi and Calcutta Mr. Howard ascertained from the leading wheat merchants that no difficulties are likely to be experienced by the growers in disposing (with considerable advantage to themselves) of uniform parcels of wheat of high quality. It is essential, however, observes Mr. Howard, that the quantities should be large and that the grades should be maintained from year to year.

—As a result of investigations completed recently with reference to fires which have been extinguished by automatic sprinklers it is stated that during the last ten years 505 of these fires have resulted in such slight damage either by fire or water that no claim was made on the insurance companies. The average number of sprinkler heads opened in extinguishing these fires was rather less than four. The record does not include any fires in America, and only represents a comparatively small proportion of the total number of fires extinguished by sprinklers in other countries, but so far as it goes the evidence seems to contradict the impression at one time prevalent that automatic sprinkler protection involved a very serious risk of excessive damage by water. This impression is probably one of the principal causes which, until lately, have prevented sprinklers from being adopted to any considerable extent in certain classes of warehouses and shops where a really effectual automatic system of protection against fire seems specially desirable.

CROP FORECASTS.

RICE.

Final General Memorandum on the RICE crop of the season 1911-12

THE provinces dealt with in this memorandum ordinarily include some 78 per cent of the total area under rice in British India.

The total area reported is 56,443,000 acres, which represents a net decrease of 1,586,000 acres or 2·7 per cent as compared with last year's area.

The total estimated outturn is 521,992,000 cwts. of cleaned rice as compared with 557,938,000 cwts. of last year, representing a decrease of 6·4 per cent.

The following is a summary of the provincial reports. The figures in brackets, following the name of each province, indicate what percentage of the total rice area in British India is ordinarily cultivated in that province.

Bengal (32·8%).—The total area under winter rice is now reported to be 19,555,000 acres as compared with 20,947,000 acres last year—a decrease of 6·6 per cent, attributed to want of sufficient rain at the time of transplantation. The total yield is estimated at 215,503,000 cwts. as against 258,551,000 cwts. last year—a decrease of 16·6 per cent.

Adding to these figures those for the summer and autumn crops given in the second memorandum in December last, the total area and yield of all kinds of rice would come to 24,969,000 acres and 251,413,000 cwts. as against 25,793,000 acres and 290,596,000 cwts. last year. The total estimated decrease of outturn would, therefore, be 39,183,000 cwts. or 13·5 per cent. As compared with the average of the preceding five years, however, the present estimate shows an increase of 23 per cent.

Eastern Bengal and Assam (22·2%).—The area under winter rice is now reported to be 12,311,000 acres as compared with 12,201,000 acres last year—an increase of 1 per cent. The season, on the whole, has been exceptionally favourable. The total yield is estimated at 126,309,000 cwts. as against 121,709,000 cwts. for last year—an increase of nearly 4 per cent.

Adding to these figures those for the summer and the autumn crops given in the December Memorandum, the total area and yield of all kinds of rice would amount to 16,985,000 acres and 153,337,000 cwts. as compared with 17,000,000 acres and 146,378,000 cwts. last year. These figures indicate an increase of 6,959,000 cwts. in outturn in spite of a decrease of 15,000 acres in area.

Madras (12·5%).—The total area under rice in *raiya* villages is estimated to be 6,667,000 acres, as compared with 7,317,000 acres last year—a decrease of about 9 per cent attributed to want of timely rains and the consequent insufficient supply of water in irrigation sources. The condition

of the crop is reported to be generally fair. The yield is estimated at 53,649,000 cwts as against 59,611,000 cwts last year—a decrease of nearly 10 per cent. Villages other than *raiya* report a total area of 484,000 acres which is some 3 per cent in excess of the area reported at this date last year. The yield of this area is estimated at 4,272,000 cwts as against 3,860,000 cwts last year.

Lower Burma (10·2%).—The total area under rice in the fifteen chief rice producing districts is reported to be 7,338,000 acres as compared with 7,449,000 acres last year—a decrease of 1·5 per cent. Untimely rain in January slightly damaged the crop in places. The total yield is estimated at 59,321,000 cwts. as against 57,493,000 cwts. last year—an increase of about 3 per cent. The surplus available for export is estimated at 2,425,000 tons of cargo rice equivalent to 41,000,000 cwts. of cleaned rice.

The figures below state the total quantity of rice exported to foreign countries by sea in the last five years (in cwts.) :—

	From Burma.	From Bengal and Eastern Bengal and Assam.	From Madras, Bombay and Sind.	Total.
1907	28,322,915	3,664,588	6,532,491	38,519,994
1908	25,382,819	2,441,220	5,618,543	33,442,582
1909	25,243,308	5,037,089	3,974,913	34,260,310
1910	34,763,734	7,193,010	3,452,346	45,409,090
1911	38,737,527	8,974,800	4,098,269	51,810,596

The exports from Burma to Indian ports have been :—

	Cwts.
1907	17,857,101
1908	20,432,061
1909	25,163,158
1910	15,181,267
1911	5,873,262

FREDERICK NOËL-PATON,

Director-General of Commercial Intelligence.

Estimate of the Rice crop of the season 1911-12

PROVINCE		AREA (IN ACRES)						
		Of current year's crop (1911-12)	Of previous year's crop (1910-11)	Average of preceding		Percentage by which column 2 exceeds (+) or is less than (—) area in		
						Column 3	Column 4	
				1	2	3	4	
				5 years	10 years		5 years	10 years
Bengal	{ Summer crop	148,000	151,000	163,000	170,000	—1·9	—8·7	—12·9
	{ Autumn "	5,266,000	4,695,900	4,452,000	4,313,000	+12·2	+18·3	+22·1
	{ Winter "	19,555,000	20,947,000	19,925,000	19,819,000	—6·6	—1·9	—1·3
Total, Bengal		24,969,000	25,793,000	24,540,000	24,302,000	—3·2	+1·7	+2·7
E. B. and Assam	{ Summer crop (a)	274,000	267,000	262,000	269,000	+2·6	+4·6	+1·8
	{ Autumn "	4,400,000	4,532,000	4,044,000	(b)	—2·9	+8·8	...
	{ Winter "	12,311,000	12,201,000	11,813,000	(b)	+0·9	+4·2	...
Total, E. B. and Assam		16,985,000	17,000,000	16,119,000	...	—0·1	+5·4	...
Madras	:	7,151,000	7,787,000	(c) 9,295,000	(c) 8,391,000	—8·2	(c) —28·3	(c) —20·5
Lower Burma	:	7,338,000	7,449,000	7,200,000	6,900,000	—1·5	+1·9	+6·3
TOTAL		56,443,000	58,029,000	57,154,000	...	—2·7	—1·2	...

PROVINCE		YIELD (IN CWTs) OF CLEANED RICE						
		Estimated yield of current year, i.e., of area in column 2	Yield of previous year, i.e., of area in column 3	Average of preceding		Percentage by which column 7 exceeds (+) or is less than (—) yield in		
						Column 8	Column 9	
				1	7	8	9		10	11
				5 years	10 years		5 years	10 years
Bengal	{ Summer crop	1,090,000	998,000	970,000	1,086,000	+9·2	+12·4	+0·4
	{ Autumn "	34,820,000	31,047,000	25,894,000	25,828,000	+12·1	+34·5	+34·8
	{ Winter "	215,503,000	258,551,000	177,497,000	181,815,000	—16·6	+21·4	+18·5
Total, Bengal		251,413,000	290,596,000	204,361,000	208,729,000	—13·5	+23·0	+20·4
E. B. and Assam	{ Summer crop (a)	2,740,000	2,374,000	2,367,000	2,462,000	+15·4	+15·8	+11·3
	{ Autumn "	24,288,000	22,295,000	22,097,000	(b)	+8·9	+9·9	...
	{ Winter "	126,309,000	121,709,000	98,691,000	(b)	+3·8	—28·0	...
Total, E. B. and Assam		153,337,000	146,378,000	123,155,000	...	+4·8	+24·5	...
Madras	:	57,921,000	63,471,000	(c) 73,430,000	(c) 69,187,000	—8·7	(c) —26·9	(c) —22·5
Lower Burma	:	59,321,000	57,493,000	62,400,000	60,400,000	+3·2	—4·9	—1·8
TOTAL		521,992,000	557,938,000	463,346,000	...	—6·4	+12·7	...

(a) For Eastern Bengal only.

(b) Not available.

(c) For *raiya* villages only.

SUGARCANE.

Final General Memorandum on the SUGAR-CANE crop of the season 1911-12.

This memorandum summarises reports received from seven provinces, the aggregate sugarcane crop of which, on the average of the five years ending 1909-10, represents about 98·4 per cent of the total area under sugarcane in British India.

The total area under sugarcane in these seven provinces is now reported to be 2,331,700 acres. This represents a net increase of 217,100 acres or 10 per cent as compared with the acreage of last year; and it is slightly higher than the average of the last five years.

The total yield is estimated at 2,390,400 tons of unrefined sugar—an increase of 172,600 tons or nearly 8 per cent as compared with last year.

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 (52·6%).—The total area is now reported to be 1,340,600 acres as compared with 1,047,100 acres last year—an increase of 28 per cent. In the eastern half of the province the rainy season, on the whole, proved favourable to the cane crop; but in the western half the crop was affected by prolonged drought. The total yield of raw sugar (*gur*) is estimated at 1,259,300 tons as compared with 1,042,900 tons last year—an increase of some 21 per cent.

Bengal (17·1%).—The total area planted is now reported to be 340,600 acres as compared with 334,300 acres last year—an increase of nearly 2 per cent. The weather conditions have been generally favourable, though some damage was done to the crop by heavy rain and floods in places. The total yield is estimated at 393,400 tons as against 367,700 tons last year—an increase of 7 per cent.

Punjab (13·6%).—The total area is reported to be 292,300 acres as compared with 387,900 acres last year—a decrease of nearly 25 per cent. The season was very unfavourable, as, except at sowing time and in September, there was very little rain. Further, owing to the scarcity of fodder, a considerable portion of the crop has been fed to cattle in places. The total yield is estimated at 176,600 tons as compared with 262,600 tons last year—a decrease of about 33 per cent.

Eastern Bengal and Assam (8·1%).—The total area planted is now reported to be 179,300 acres compared with 181,300 acres last year—a decrease of about 1 per cent. Rainfall was so abundant and well distributed from April to November, that its subsequent entire absence has caused no serious loss. Some damage was, however, done by floods in low-lying fields. The total yield is estimated at 215,200 tons as against 195,800 tons for last year—an increase of nearly 10 per cent.

Madras (3·4%).—The area planted in *raiya* villages is reported to be 57,200 acres, which is 26 per cent more than the area at the corresponding date of last year. The increase is attributed partly to timely rains and partly to high prices. The crop is reported to be either fair or good. The yield is estimated at 105,500 tons as compared with 82,600 tons reported last year—an increase of some 28 per cent. The area reported from villages other than *raiya* is 2,800 acres, as against 2,400 acres for last year. The probable outturn of this area is estimated at 5,200 tons.

Bombay (2·4%).—The total area is now reported to be 87,100 acres (55,900 in British districts and 31,200 in Native States) as compared with 82,900 acres (54,100 in British districts and 28,800 in Native States) for last year—an increase of nearly 5 per cent. In North Gujarat the crop suffered through absence of rain since July and in places it was fed to cattle. In South Gujarat conditions were somewhat better. The Deccan crop was affected through short supply of water in the middle of the season particularly in the eastern tracts, but November rain benefited it to some extent in places. In most places in the Karnatak the crop suffered through deficiency of rains. It has been fairly satisfactory in the Konkan. The total yield is estimated at 202,400 tons (142,900 in British districts and 59,500 in Native States) as against 224,700 tons last year—a decrease of some 10 per cent. Besides these some 300 acres yielding about 900 tons are estimated for tracts which do not usually furnish statistics.

North-West Frontier Province (1·2%).—The total area as now returned amounts to 31,500 acres as compared with 32,700 acres last year—a decrease of 3·7 per cent. The total yield is estimated at 31,900 tons as against 35,700 tons last year—a decrease of 10·6 per cent.

FREDERICK NOËL-PATON,
Director General of Commercial Intelligence

Estimate of the Sugarcane crop of the season 1911-12

PROVINCE	AREA (IN ACRES)					
	Of current year's crop (1911-12)	Of previous year's crop (1910-11)	Average of preceding		Percentage by which column 2 exceeds (+), or is less than (-), area in	
					Column 3	Column 4
			5 years	10 years	5 years	10 years
1	2	3	4	5	6	7
United Provinces	1,340,600	1,047,100	1,243,700	1,212,500	+ 28·0	+ 7·8
Bengal	340,600	334,300	399,000	419,900	+ 1·9	- 14·6
Punjab	292,300	387,900	298,000	311,600	- 24·6	- 1·9
Eastern Bengal and Assam	179,300	181,300	180,600	...	- 1·1	- 0·7
Madras	60,000	47,900	49,900	49,400	+ 25·3	+ 20·2
Bombay (a)	87,400	83,400	82,700	...	+ 4·8	+ 5·7
North-West Frontier	31,500	32,700	29,500	(b) 27,900	- 3·7	+ 6·8
TOTAL	2,331,700	2,114,600	2,283,400	...	+ 10·3	+ 2·1

PROVINCE	YIELD (IN TONS) OF RAW SUGAR (<i>gur</i>)					
	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
			5 years	10 years	5 years	10 years
1	7	8	9	10	11	12
United Provinces	1,259,300	1,042,900	972,800	999,800	+ 20·8	+ 29·4
Bengal	393,400	367,700	361,500	404,100	+ 7·0	+ 8·8
Punjab	176,600	262,600	174,600	208,800	- 32·7	+ 1·1
Eastern Bengal and Assam	215,200	195,800	188,800	...	+ 9·9	+ 14·0
Madras	110,700	87,100	94,000	(b) 94,000	+ 27·1	+ 17·8
Bombay (a)	203,300	226,000	212,500	...	- 10·0	- 4·3
North-West Frontier	31,900	35,700	30,200	(b) 27,000	- 10·6	+ 5·6
TOTAL	2,390,400	2,217,800	2,034,400	...	+ 7·8	+ 17·5

(a) Including Native States

(b) Nine years

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 1st instant, relating to Tariff Changes and Customs Regulations, gives particulars about:—

BRITISH GUIANA.—Proposed Collection of Duty on Patent Medicines by means of Labels.

UNITED STATES OF AMERICA.—Proposed Alteration of Yacht Tax.

NEW SOUTH WALES.—Pure Food Act. Amended Regulations respecting Coffee and Chicory.

BRITISH GUIANA.—Merchandise Marks Ordinance; Warning Notice to Importers.

Fiji.—Consolidated Customs Tariff.

SUDAN.—“Plants Diseases Ordinance” and “Preservation of Wild Animals Ordinance.”

RUSSIA.—Customs Duties on Preparations for Washing and Healing Domestic Animals.

FINLAND.—Customs Classifications.

SWEDEN.—Importation of Certain Machine Parts at Reduced Rates of Duty. Imports of Machinery. Declared Value of Imports.

GERMANY-CAMEROONS.—Prohibition of Importation of Cowrie Shells.

FRANCE (REUNION).—Consumption Duties.

SPAIN.—Translation of New Customs Tariff.—A Correction.

BRAZIL.—Budget Law for 1912.

CHILE.—Revised Valuations for Certain Articles Imported.

ARGENTINE REPUBLIC.—Importation of Forage Plant Seeds.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, February 20th.

DURING the week ending February 19th rain fell in Burdwan, Bankura, Midnapore, Hooghly, Nadia, Khulna, Balasore, Angul, Sambalpur, Ranchi, Singhbhum and in parts of Howrah and the 24 Parganas. There was no rain in the rest of the Province. The fall was moderate in Balasore and Angul and generally light elsewhere. More rain is wanted for standing crops in Murshidabad. Some damage has been done by recent rain in parts of Sambalpur and by hail in Hazaribagh.

Some injury to linseed and barley by insects is reported from Patna. Prospects are on the whole good.

The price of common rice has risen in Midnapore, Murshidabad, Khulna, Gaya, Saran, Monghyr, Bhagalpur, the Sonthal Parganas, Angul, Sambalpur, Hazaribagh and has fallen in Nadia, Jessore, Shahabad, Purnea and Darjeeling.

Cattle-disease is reported from Midnapore, Murshidabad, Monghyr, Bhagalpur, Angul, Puri, Sambalpur and Palamanu.

Fodder is reported to be getting scarce in parts of Burdwan.

The supply of water is sufficient throughout the Province.

EASTERN BENGAL AND ASSAM.

Dacca, February 20th.

During the week ending February 19th the weather has been unusually warm.

Light showers have fallen in most parts of Assam and several places in East Bengal. More rain is wanted to facilitate cultivation and sowing.

Owing to the absence of rain the prospects of the standing *rabi* (Spring) crops are somewhat less favourable than they were a few weeks ago.

Sowing of *jute* and *aus* (Winter) rice has commenced in some tracts.

The average price of common rice is nearly one per cent less than last week.

No report has been received of contagious cattle disease.

PRICES OF COMMODITIES.

THE following are the index-numbers of the prices of forty-five commodities worked out to the month of December by Mr. A. Sauerbeck, the average of the eleven years 1867—1877 being 100:—

Average.			
1878—1887	= 79	1903	= 69
1890—1899	= 66	1904	= 70
1901—1910	= 73	1905	= 72
		1906	= 77
1883	= 82	1907	= 80
1896	= 61	1908	= 73
1900	= 75	1909	= 74
1901	= 70	1910	= 78
1902	= 69	1911	= 80

The index-number is two points higher than in the previous year, and is 20 per cent below the standard period, which was equivalent to the average of the twenty-five years 1853—1877, but it is 21 per cent above the average of the lowest decade, 1890—1899.

The monthly fluctuations were thus:

February, 1895	= 60.0	April, 1911	= 80.0
July, 1896	= 59.2	May, 1911	= 80.3
May, 1907	= 82.4	June, 1911	= 80.0
February, 1909	= 71.9	July, 1911	= 78.9
December, 1909	= 76.3	August, 1911	= 79.5
December, 1910	= 77.9	September, 1911	= 80.3
January, 1911	= 78.5	October, 1911	= 80.7
February, 1911	= 78.6	November, 1911	= 80.6
March, 1911	= 78.9	December, 1911	= 80.9

Prices went up until May. There was some reaction in July, but a gradual improvement to the end of the year.

The prices and index-numbers of **silver** were as follows (60.84d. per ounce being the parity of 1 gold to 15½ silver=100):—

	Price.	Index-number.
Average, 1890—1899	. 34d.	= 55.8
Average, 1901—1910	. 26½d.	= 43.4
Average, 1893	. 35½d.	= 58.6
Average, 1909	. 23½d.	= 38.9
Average, 1910	. 24½d.	= 40.5
Average, 1911	. 24½d.	= 40.4
Lowest, November, 1902	. 21½d.	= 35.6
End December, 1906	. 32½d.	= 53.1
End December, 1909	. 24½d.	= 39.9
End December, 1910	. 25½d.	= 41.2
End November, 1911	. 25½d.	= 42.0
End December, 1911	. 25½d.	= 41.2

THE INTERNATIONAL SUGAR COMMISSION.

Report of British Delegate.

A WHITE Paper issued in London on January 29th, contains a report of the British delegate to the International Sugar Commission, together with his instructions, December, 1911.

In a communication from Sir Edward Grey to the British delegates, dated December 7th, it was stated that the Government were anxious, if possible, that the sugar consumers and the sugar-using interests of this country should secure a measure of relief which would result from an expansion during the present season of the Russian exports westwards and that in no circumstances would Great Britain continue to remain a party to the Convention after the expiry of the present period for which it had been prolonged unless Russia was accorded permission to export westwards during the current year at least 500,000 tons of sugar in place of the 200,000 tons to which her exports were limited by the protocol of December 19th, 1907, and Mr. Algernon Law was requested so to inform his colleagues on the Commission.

A letter from Mr. Law to Sir Edward Grey from Brussels, dated December 12th last, sets forth that the desire of the British Government was duly communicated to the Commission on the particular point named. The chief Russian delegate announced that the Russian Government would be ready to reduce their surtax—i. e., the excess of Customs duty over the Excise which is leviable whenever the Russian producers put upon the market additional quantities of sugar for home consumption beyond the amount fixed by the Government. At a subsequent meeting of the Commission the principal German delegate observed that the conditions of any future arrangement must not be less favourable to the German sugar industry than those existing at present.

A proposal was submitted by Dr. Teleszky, the principal Hungarian delegate, in the following terms:—

1. Renewal of the Convention for a period of five years from the 1st September 1912.
2. Maintenance of the limit of 200,000 tons for the annual export of Russian sugar westwards in normal seasons.
3. Extension of the powers of the Permanent Commission so as to enable that body, in the event of exceptional conditions occurring, such as those that prevail this year—i. e., scarcity of sugar with a simultaneous rise in its price—to grant Russia the right of making a supplementary exportation over and above the usual amount.

The Hungarian delegate suggested that the votes of three delegations should be regarded as sufficient to defeat a proposal for supplementary exportation.

Before the sitting closed the Italian delegate stated that if Russia were allowed to export any supplementary amount over and above the 200,000 tons now permitted, whether this year or at any future time, Italy would expect to be allowed to export, if she so desired, the same proportion to her

total production as the Russian export might be to the total Russian production. The Swiss delegate also asked that if Switzerland became a party to any new arrangement which might be agreed upon the Swiss delegation might be allowed a vote. At the meeting on the 12th December the principal German delegate observed that the conditions of any future arrangement must not be less favourable to the German sugar industry than those existing at present.

The Foreign Office under date January 5th acknowledged receipt of Mr. Law's despatch as to the meeting of the Commission held at Brussels to consider the proposals respecting the increase of the export of Russian sugar westwards, and Mr. Law was informed that his action as reported therein was approved by His Majesty's Government.

The Hungarian proposal on being put to the vote met with the following result:—Eight States (Austria, Hungary, Belgium, France, the Netherlands, Peru, Sweden, and Switzerland) accepted the proposal; three States (Germany, Italy, and Luxemburg) accepted with reserves; two States (Great Britain and Russia) abstained from voting.

After discussion, January 29th was agreed upon as the date when the Commission should resume its sittings, and the session was accordingly adjourned.

The present position is explained in an enclosure which states: “If the present negotiations result in an agreement between Russia and the other contracting States which, while reserving to Russia the right to export at least 500,000 tons westwards during the current annual period, also determines the position of Russia in regard to the Convention during the following year and during the period following the expiration of the protocol, my Government will take into consideration at an early date the question whether the terms of this arrangement are such as to allow them to continue their adhesion to the Convention. In examining this question my Government must naturally consider the interests of the consumers and manufacturers of sugared goods. Nevertheless, I am instructed to announce to the Commission that my Government will not in any case consent to remain bound by the Convention except from year to year after the 1st of September, 1913, experience having shown by the actual situation that unforeseen difficulties may arise which may be injurious to our interests. According to the terms of the Convention of 1902, that Convention should after the expiration of the first period of five years have remained in force from year to year. The additional Act gave Great Britain a special position by freeing her from the obligation to penalise bounty-fed sugar, and my Government was at that time of the opinion that the conditions were such as to justify the prolongation of the agreement. But the situation which has arisen during the present year has convinced my Government of the danger of a further prolongation of the Convention for a term of several years.”

INDUSTRIAL DEVELOPMENT OF INDIA.

Fruitful Education.

A PAPER on "Some Recent Economic Developments of India" was read by Sir Theodore Morison (Vice-President of the India Council) at a meeting of the London Chamber of Commerce on January 25th.

Sir Theodore Morison said it was significant that the thoughts of the educated classes of India were all turned in the same direction. Numberless books and articles converged on the point that India must develop manufacturing industries. The young men themselves were trying to get into industrial careers, being ambitious to get on in the world. They knew that the greatness of England was made by trade and thought it no shame to copy her. Nowadays, therefore, they showed less eagerness to enter Government service or the over-crowded law courts, and sought to create for themselves positions in commerce and industry. He believed that the educated classes would succeed in transforming the industries of the country. He forecasted that the young men trained in Government schools and colleges would found factories, employ workmen, and direct industries on modern lines and that these capitalist industries would gradually supplant the petty craftsmen who, until recently had supplied the needs of the Indian people. This would mean that the independent craftsmen would fall into the position of a wage-earner; the population, now diffused over the country in myriads of villages, would be aggregated in large towns; wealth would be increased; education and intelligence would be stimulated, but at the same time there would come into existence a proletariat living in slums in conditions of which India had hitherto been happily ignorant. If India made for herself most or many of the things which we now exported to her, we should lose a large market in those particular goods. Industrial revolution would, however, bring an immense increase of wealth to India and therefore an immense increase in her purchasing power. She would not take so many of the cheaper goods which we now send to her, but she would certainly want many of the dearer articles which she could not at present afford.

Considerations for Great Britain.

On the whole he thought that though there might be a change in the quality of the trade, a rich India would prove a better customer than a poor India. A considerable time must, however, elapse before this transformation was carried to completion. In the transitional period there must be an immense demand for manufacturing plant. The equipment of modern industries over so large an area would be a very costly process. To finance it India would have to raise loans in the London Money Market, which would be spent for the most part in the purchase of mechanical and other plant. If we were wise the orders for that plant would come here; if we were unwise they would go abroad. At

present he thought we were pursuing the 'unwise course. The Indian would place his orders among the people with whom, and in the country where, he had had his training. Yet, so far from taking care that the future captains of Indian industry were receiving their industrial training in this country we were shutting the gates of all our workshops upon them and driving them against their will to get their apprenticeship abroad. There were many Indian students in this country. At our technical Colleges and modern Universities they learned a certain amount of scientific theory; but when they tried to obtain experience of its practical application in a work shop, mill, or tannery, which all business men said was indispensable, all doors were shut against them. The consequence was that they were beginning to look abroad, and were going for their training to Germany, Japan, and America. English firms, not unnaturally, were jealous of their trade secrets and they feared to train up men who might become their competitors in the future. Manufacturers abroad appeared to believe that these dangers were counterbalanced by the probability that Indians trained in their works would send them business when they returned to their own country. From the national point of view the policy of the foreign manufacturers was far-sighted, while the practice of the English firms by contrast, appeared to be penny wise and pound foolish. A particular firm might gain by it, but the effect of the English practice as a whole was disastrous, for it drove the Indian business of the future into the hands of England's commercial rivals.

The Discussion.

Mr. Stanley Machin, in the discussion which followed, suggested that English manufacturers should send to India to ascertain what goods were required. The tendency of the English manufacturer was to expect the foreigner and Colonial to take what he made, and not to make what the foreigner and Colonial wanted.

Sir Edwin Grant Burls said that manufacturers did not object to train Indians. The difficulty was created by the British workman who, to use the workman's own language, would not work with a "nigger." Indian students should not be excluded from works by the Trade Union spirit.

Sir J. D. Rees said that the irony of the charge just made against the British working man struck him when he remembered that every one of the Indian students belonged to the greatest Trade Unions in the world—their castes. One reason why Indian students did not derive so much advantage from their training was that it was superimposed on a literary beginning. The progress of India, compared with the progress of other Asiatic countries, even those under European rule, was marvellously great. There was some ground for shyness of Indian students on the part of the British manufacturer, because the students did not make it sufficiently clear that they abstained from the sort of anti-English feeling which had become fashionable among some of them.

Sir Theodore Morison, in reply, said he was informed that the theoretical training given to Indian students at Manchester and Leeds Universities was not worth twopence. The boys needed to go to the workshops.

Mr. Tomalin said the slighting remarks of Sir Theodore Morison regarding our technical schools were not justified. These schools were doing very good work.

Mr. Morton Frewin held that the greatest problem of the Empire was the future relation of India to the Empire. He hoped that the population of India now engaged in agricultural pursuits in the villages would not be drawn together in urban areas, and expressed the opinion that the magnificent supplies of cheap labour and raw materials in China pointed to that country becoming the Lancashire and Yorkshire of Asia.

THE WHEAT POSITION.

THE following particulars are taken from the *Statist* of January 27th:—

The wheat market has on the whole been quite firm in tone during the past few weeks, and there has been a further gradual improvement in values, the advance in prices since the middle of December ranging from 1s. to 1s. 9d. per quarter, according to description, the rise being greatest in Kurrachee and the better qualities of Canadian wheat, the latter owing to scarcity. It may here be mentioned that although the receipts of wheat at Winnipeg have, as expected, been on a very much larger scale since the commencement of the season than in 1910-11, the proportion of the arrivals grading below No. 3 Northern Manitoba continues to be very large, as will be seen by the following statement:—

	Nos. 1 & 2	No. 3.	No. 4.	No. 5.	Total
	Cars	Cars	Cars	Cars and below	Cars
1911-12	15,900	17,900	11,000	29,200	74,000
1910-11	26,000	14,000	4,600	6,900	51,500

As the Canadian mills are using the greater portion of the higher grades, there is a comparatively small quantity of such available for export, and this is why No. 2 Northern Manitoba is 4s. dearer than last year, whilst other wheats are only 1s. 3d. to 2s. 6d. dearer. There has been no excitement in the market at any time so far this season, but on a few days during the past month there has been quite a considerable trade put through in cargoes. The principal causes of the better feeling in the trade have been the very unfavourable harvest weather experienced in the Argentine during the greater part of the past two months, and the moderate to very small weekly shipments, which, especially in the past three or four weeks, have been decidedly below the consumptive requirements, even after allowing for the much smaller needs of importing countries this season.

The exports of wheat from the beginning of the present season (August 1) show a very great reduction

compared with the previous season, as will be seen by the following tabular statement:—

Exports of Wheat to Europe in the past Three Seasons from August 1 to date.

	1911-12.	1910-11.	1909-10
	Qrs.	Qrs.	Qrs.
United States and Canada	9,600,000	6,890,000	10,715,000
Argentina	1,300,000	2,305,000	405,000
Russia and other Black Sea ports	5,700,000	15,930,000	15,620,000
Roumania	5,725,000	8,220,000	3,265,000
India	2,400,000	2,895,000	1,555,000
Australasia	2,500,000	1,890,000	1,380,000
Sundries	825,000	920,000	880,000
Total	28,050,000	39,050,000	33,80,000

In comparing this season's total with last season's it has to be borne in mind that the requirements of importing countries are nearly 300,000 quarters per week less; on this basis the shipments to date, although about 11 million quarters smaller than in 1910-11, are about equal to the actual wants; with the exception of France, stocks in importing countries are about the same as at the commencement of the season. It is usually the case to import freely in the autumn and early winter months in order to accumulate reserves before navigation is closed by ice in many important shipping ports; in the first half of last season, for instance, the exports were 4,000,000 quarters more than required for actual consumption. This season practically no accumulation of wheat has taken place. Millers, however, owing to the great demand for oats, consequent on the shortage in feeding crops, have ground more wheat than usual, and are believed to hold larger stocks of flour than at this time last year. This is the reason why English flour has risen only slightly during the past two months, notwithstanding the improvement in the price of wheat. Allowing for some increase this season owing to the shortage in the European potato crops, the weekly requirements would work out at about 1,100,000 quarters per week, and it may be interesting to see where the wheat needed, say for the period ending April 30th, is likely to come from. By that time something definite will be known of the prospects of the important winter wheat crops of the United States and Europe, and the movement in prices will probably be governed as much by the crop outlook as by the supplies then in sight. North America, including Canada, is in a position to export more wheat than last year, and same remark applies to India. The Argentine, when the labour troubles are over, is also expected to ship somewhat more freely than in 1911, although nothing like to the extent promised a month or so ago. Roumania will probably ship as much, but both Russia and Australia less than last year, especially the former country, where the deficiency, compared with 1911, will no doubt be considerable.

The following statement shows the actual exports in January—April last year and the probable exports this year. It will be seen that the total comes out at very nearly the estimated requirements, and would

indicate that, although there may be no great scarcity, there is very little prospect of any superabundance:—

	Shipments Jan. to Apl. 30, 1911	Estimated Shipments Jan. to Apl. 30, 1912	Per Week 1911	Per Week 1912
	Qrs.	Qrs.	Qrs.	Qrs.
U.S. and Canada	3,683,000	4,675,000	217,000	275,000
Argentina	4,799,000	5,100,000	280,000	300,000
Russia	6,020,000	2,125,000	353,000	125,000
Roumania	2,147,000	2,125,000	125,000	125,000
India	1,744,000	2,125,000	102,000	125,000
Australasia	3,434,000	2,550,000	202,000	150,000
Sundries	358,000	340,000	23,000	20,000
Total 4 months	22,215,000	19,040,000	—	—
Weekly total	1,305,000	1,120,000	—	—

Owing to the delay in harvesting the crop in Argentina, caused by the exceptionally long spell of very unfavourable weather, the movement of new wheat to the railway stations began much later than usual, and now, as a result of the strike on the railways, it is extremely difficult to get the wheat to the shipping ports. In fact shipments of new wheat have not really commenced yet, but in view of this year's expected large maize crop, which, with favourable weather conditions, would begin to be exported freely in the latter part of April, every effort no doubt will be made to ship out of the country in the next three months as much wheat, oats, and linseed as possible. The surplus of Argentine wheat for export, which a month ago was estimated at 15 million quarters, is now expected not to exceed 13 to 14 million quarters, and some authorities do not look for much more than last year's total of 11 million quarters. This will probably prove to be too small, as it must not be forgotten that a very large portion of the crop was made before the bad weather set in, and although the quality must have suffered, the very low estimates of the yield are probably too pessimistic.

The latest reports from Australia point to the deficiency in the yield being fully as large as previously indicated, with the probability that the shortage will be $2\frac{1}{2}$ to 3 million quarters, or a total crop of 9,250,000 quarters, against 12 million quarters last year. This would leave a surplus for export, including reserves of old wheat of about $5\frac{1}{2}$ million quarters, against 7,925,000 quarters in 1911.

In the first half of the season 191-12 Russia has shipped only about 5,250,000 quarters, against 15,600,000 quarters in 1910-11; last year, from the end of January to the end of July, the exports amounted to 11,300,000 quarters, but it is considered doubtful whether in the same period this year Russia will ship sufficient wheat to bring the total export for the twelve months up to 10 million quarters, against 26,905,000 quarters.

The latest official estimate of the Canadian crop was an unexpectedly large one, viz., 215,851,000 bushels; this estimate is not credited generally, and will probably prove some 20 million bushels too large; even then the crop would be a record one, and would permit of an export of fully 15 million

quarters, including, owing to the unfavourable harvest weather, a large quantity of inferior wheat only fit for feeding purposes. However, this large yield shows the possibilities of Canada as an exporting country in the future, and it is quite possible, had the harvest weather been fine, that Canada would have been the largest individual exporter this season. Manitoba wheat, on account of its strength, is a great favourite with millers, and notwithstanding that this year's wheat grades very much lower than usual, continues to meet an active demand.

The condition of the autumn-sown wheat both in America and Europe is satisfactory. Notwithstanding the long spell of wet weather, the outlook in the west of Europe is described as favourable, with the area sown distinctly larger than last year. In Russia and Roumania the fields are mostly well protected against frost by a good covering of snow, and the same remark applies to winter wheat in America.

It was mentioned in *The Statist* of December 16 that the course of prices appeared to depend very much on the final result of the Argentine crop, and this has proved to be the case; the continued unsettled weather there has caused further deterioration in the crop, and, in addition, the railway strike prevents supplies coming to the ports, so that shipments in quantity are still further delayed. This has caused the movement of prices to be in sellers' favour; what will happen when the Argentine commences to export in earnest remains to be seen. Meanwhile imports have recently been on a very small scale and stocks are rapidly diminishing; present indications are that this state of things will continue for some time, as a large proportion of the wheat afloat is being carried by sailing vessels, and is not due to arrive for some weeks.

The visible supply in North America, although it decreased sharply last week, is a very large one, and entirely owing to this, the total "visible" at the present time is much larger than in either of the past two years.

The following table shows the American "Visible Supply" of wheat, the quantity of wheat on passage, and the estimated stock of foreign wheat in first hands in the U.K.:

	1912 Qrs.	1911 Qrs.	1910 Qrs.
Week ended Jan. 20			
Quantity on passage			
— U. K. orders	1,400,000	1,210,000	1,565,000
Do. do. direct	1,155,000	1,140,000	1,110,000
Estimated stocks in the U. K.	1,900,000	2,655,000	1,980,000
Total	4,455,000	5,005,000	4,655,000
Quantity on passage			
— Continent	1,020,000	1,825,000	765,000
American visible supply—(Bradstreet's)	14,255,000	9,305,000	6,807,000
Grand total Jan. 20	19,730,000	16,145,000	12,227,000
Total Jan. 13, 1912	20,610,000	16,345,000	12,005,000
Total Jan. 6, 1912	20,620,000	16,453,000	11,961,000

IMPORT TRADE OF BRITISH EAST AFRICA

ACCORDING to the report for the year ended 31st March, 1911, by the Acting Chief of Customs of the British East Africa Protectorate, the trade of the Protectorate in that year marked in almost every respect an advance upon that of 1909-10, and its future prospects are very bright. The financial status of trade in the East African Protectorate suffers periodically from the effects of over-trading. Petty merchants are tempted with long credits to increase the turnover of their businesses beyond all margin of safety and this of course leads to bankruptcies. Apart from this, everything points to increasing confidence in the potentialities of the country, and greater activity in trade. The opening of branch lines as feeders to the Uganda Railway, improved means of transport and shipping facilities, the making of roads to outlying districts rich in produce, and the working of the soda deposits, are factors which are bound to increase the volume of the import trade. The good prices at present obtainable for almost all products stimulate the natives to increased cultivation. As the purchasing power of money is brought home to the native's mind it encourages him to work and to value his personal belongings. His needs expand and he begins to purchase articles of adornment and utility—and amongst the more civilised even gramophones and bicycles are in demand.

The imports of merchandise* into the East Africa Protectorate in the year ended 31st March, 1911, as compared with the two previous years, were as follows:—

	1908-09.	1909-10.	1910-11.
	£	£	£
Cotton goods	207,545	209,734	261,141
Apparel	20,357	27,251	25,065
Provisions	72,935	63,595	77,351
Sugar	34,469	24,728	33,332
Grain and flour	99,473	74,880	80,654
Spirits and liqueurs	38,796	29,083	31,096
Tea	7,250	6,072	7,895
Tobacco	17,669	21,027	22,697
Kerosene oil	14,108	13,334	14,408
Beads	2,078	4,542	9,273
Brass and copper wares	8,445	11,043	26,303
Agricultural implements	25,171	27,512	29,265
Arms and ammunition	14,459	14,412	19,015
Building materials, including timber	37,177	23,079	40,173
Furniture	13,240	12,386	4,600
Other articles	84,547	212,543	318,078
Total imports of merchandise	797,717	775,246	1,000,346

The imports of cotton goods into the Protectorate increased in 1910-11, as compared with the previous year, by 10 per cent in quantity and 24 per cent in value (see p. 200 of the *Board of Trade Journal*).

* Exclusive of imports on behalf of the East African and Uganda Administrations and for the construction of the Uganda Railway.

of 25th January). In the entries of firearms and ammunition there was an increase of £4,573, owing to the increasing number of Europeans visiting and settling in the country. There was also a slight increase in the consumption of ale, beer and wines, due to the same cause. The steady growth of the imports of agricultural implements, bags and sacks for packing produce, machinery, motor cars and launches, and iron and steel wares is indicative of continued effort in the development of the agricultural and industrial resources of the country. Noticeable increases also occurred in the imports of beads, boots and shoes, and brass and copper wares, due to expansion of trade among the native tribes.

SUGAR IN THE UNITED PROVINCES.

A CORRESPONDENT writes to the *Pioneer*:—To most people the condition of the sugar industry in this country is incomprehensible, and this is not surprising when it is considered that in the United Provinces alone the annual outturn of *goor* amounts to over four crores of maunds, of which thirty-seven lakhs are exported from the Provinces, two crores and thirty-eight lakhs are consumed in the raw state, and one crore and twenty-five lakhs are used for refining purposes.

The average outturn of *goor* per acre is 33 maunds, which is arrived at by taking the results of the cultivators' present primitive methods of crushing the cane and boiling the juice, but if we divide the total outturn of *goor* by this figure we have one and a quarter million acres of land at present under sugar-cane cultivation in the United Provinces.

In numerous parts of the Provinces and in many parts of India sugar-cane of excellent quality for sugar manufacture can be had in abundance to keep a factory at work day and night during the cane season, and the cultivator if sympathetically and tactfully dealt with will grow and deliver any quantity of cane required by a factory. This fact is at present being demonstrated by the single factory in the United Provinces which manufactures sugar direct from the cane and also those in Behar, and where such factories are established the cultivation of the cane has been largely extended.

Many are no doubt of opinion that until the extension of the cane cultivation takes place in other parts also it would not be wise to put a factory down, but on consideration it must be evident that the cultivator will not put all his land under sugar-cane when he has no means of dealing with it, and the making of *goor* does not bring him sufficient profit to give him the necessary encouragement to grow more than he does, but if a sugar factory be established in his vicinity he will be only too glad to grow all he can and supply it to the factory so long as he is fairly dealt with.

It is therefore obvious that the first thing to be done is to establish factories for dealing with the canes in specially selected centres and until this is

accomplished all the valuable work done by the agricultural experts at the various experimental farms throughout the country will have been done in vain.

Let us compare what is done in Mauritius with what is done in the United Provinces.

In that little Island, which is about 10 days' sail south from India (not in the West Indies as many people think), there existed some years ago about 200 sugar factories, although the island has a total area of only about 743 square miles, four-fifths of which may be taken to be under sugar-cane cultivation. Owing to the competition of the continental beet sugar, however, some attempts at centralising have been made within recent years, the number of factories have now been reduced to about 100 and these notwithstanding the numerous disadvantages under which they work, the interest to be paid on loans received from Government, the annual cyclones that destroy the crops, *surrak* which practically killed off all the transport animals a few years ago, the importation of food and labour from India, are able to send the bulk of the 200,000 tons of sugar turned out annually to Bombay.

Sugar is manufactured from the canes direct during the cane season only, the factories being closed for the greater portion of the year, and as a considerable portion of the island is now in the hands of Indian cultivators, the factories in numerous cases purchase the canes from them at Rs. 8 per ton delivered at the factory, at practically the same price for which it can be obtained in the United Provinces. Neither do the Mauritian canes contain a higher quantity of sugar than many of the Indian canes some of which contain as high as 21 per cent of sucrose. The average cultivation for the island may be taken as 30 tons per acre, but whether the cultivator grows 10 tons or 30 tons per acre has nothing to do with the factory which purchases good sugar-making canes by weight, the more the cultivator can grow on his land the better for him and the better for the factory as regards supply.

As stated the factories work during the cane season only and the important members of the staff are a Manager, a Sugar-Engineer, Analytical Chemist and a Superintendent of cane supply.

These, along with a few employes necessary for repairs, etc., are retained all the year round, while the remainder find employment on the fields and elsewhere during the period the factories are closed.

The business is conducted from the various Sugar Companies' offices at Port Louis, the Managers or Secretaries being under the control and supervision of a Board of Directors consisting of several gentlemen with business qualifications. This is all that is required to make the business of sugar manufacture profitable and enable Mauritius to dump its sugar in Bombay, and it is to be hoped that the Government of India will take the necessary steps to remove what His Honour the Lieutenant-Governor of the United Provinces has rightly termed to be "a blot on the country."

TURPENTINE AND ROSIN MARKETS.

Turpentine.

MESSRS. James Watt & Son report as follows:—The persistent rise during 1910 increased in intensity until late in March, 1911, when record quotations since the war of secession were registered for American spirits, *viz.*, 107c. per gal in Savannah; 74s. 3d. per cwt. in London. Dear turpentine during the early months of 1911 was a corollary of the two poor crops of 1909 and 1910; but the above prices were certainly unduly inflated; the trade, on both sides of the Atlantic, strongly resented them; the upshot was a larger use of substitutes than has ever been known. This popularity of substitutes, and the larger crop in America, brought about a remarkable fall, *viz.*, from 107c. in March to 44½c. in November in Savannah, and from 74s. 3d. in March to 33s. 9d. in November in London. The rapidly increasing production in America of high grade turpentine made from pine stumps is attracting considerable attention; it has found such a ready market in the United States in 1911, that the supply in 1912 will be vastly increased. Towards the end of 1911 we received sample shipments of this stump turpentine to London, which met with a flattering reception, and the import to the United Kingdom in 1912 bids fair to be on a large scale. In view of the rapid rate at which the eligible pine forests in the United States are disappearing before the lumberman's axe, whereas the demand for turpentine by varnish and paint makers is constantly growing with the increase of population and wealth of the world, we look upon the advent of this stump turpentine as a great boon, because by broadening the base of supply it will tend to give greater stability to prices. Such fluctuations as those noted above cannot but be detrimental to the trade. There is, probably, ample room for both gum-distilled and wood-distilled turpentine on the markets of the world.

Highest and Lowest Turpentine Prices in London.

	1909.	1910.	1911.
January	28/9	30/9	40/6 43/3 58/— 57/9
February	27/3	30/—	41/— 42/9 57/9 63/6
March	26/—	27/—	41/6 42/9 63/3 74/8
April	25/6	28/—	42/— 41/3 62/— 71/—
May	26/6	29/3	42/9 44/9 46/— 64/—
June	28/—	32/9	42/6 44/9 43/— 48/—
July	33/9	36/—	45/— 50/6 37/6 39/—
August	36/—	41/—	48/9 51/6 36/6 39/9
September	39/9	43/3	51/3 54/6 38/— 39/4
October	40/6	42/9	53/3 56/— 35/— 38/3
November	39/9	41/—	54/— 55/9 33/9 35/9
December	38/6	40/9	53/3 56/— 35/9 37/6

The average price of American turpentine in London was:—1905, 45s. 7d.; 1906, 47s. 3d.; 1907, 44s. 3d.; 1908, 31s. 9d.; 1909, 33s. 11d.; 1910, 47s. 8d.; 1911, 47s. 9d. (The average for 1891-1900 was 25s. 2d.; for 1909-10 was 39s. 4d.; for 20 years 1891-1910, 32s. 3d.).

The total exports from France were (in tons of 1,000 kilos): 1905, 12,214; 1906, 12,922; 1907, 9,754; 1908, 9,212; 1909, 9,220; 1910, 10,954; 1911 (11 months), 9,207.

The total exports from United States were as under:—1905-06, 49,482; 1906-07, 47,181; 1907-08, 54,800; 1908-09, 61,093; 1909-10, 46,747; 1910-11, 44,835; 1911 (April to October, seven months), 37,717. The American crop year begins April 1 and ends March 31; 320 American gallons, calculated as one English ton, equal 1,016 kilos.

Turpentine Imports into Great Britain.

From—	1906.	1907.	1908.	1909.	1910.	1911.
United States	19,960	19,593	25,184	18,298	18,264	18,181
France	1,535	989	1,291	1,020	1,138	1,183
Spain and Portugal	—	—	327	69	339	260
Russia and Scandinavia	4,139	4,910	1,849	2,752	3,777	4,344
All other Foreign Countries	8	23	33	30	94	38
Tons of 1,016 kilos	25,642	25,515	28,634	22,169	23,612	24,006
Percentage from—	1906.	1907.	1908.	1909.	1910.	1911.
United States	77.84	76.78	87.79	82.54	77.35	75.73
France	5.99	3.88	4.50	4.60	4.82	4.93
Russia	16.14	19.24	6.45	12.41	16.00	18.10
All other countries	.03	.10	1.26	.45	1.83	1.24

Stocks of Turpentine in London at the end of each year.

	1906.	1907.	1908.	1909.	1910.	1911.
American (barrels)	18,467	24,614	45,912	26,735	20,488	24,686
French (barrels)	2,544	1,051	4,601	3,680	2,539	1,569
Spanish "	—	—	636	299	956	276
Afloat "	21,011	25,665	51,149	30,714	24,003	26,531
Barrels	800	7,750	600	3,500	2,100	14,168
Barrels	21,311	33,415	51,749	34,214	26,103	40,719
Price in London.	50/3	32/3	29/3	40/6	56/-	37/4½
Price in Savannah	67½c.	40½c.	38½c.	56c.	77c.	50½c.

Rosin.

The price of common strained rosin, like that of turpentine, soared to record heights in the spring of 1911, but the subsequent reaction of the former was much less severe, as a glance at the table will show. The year closes with common strained at 17s. ex wharf, London, and 7 at Savannah; against 14s. 9d. ex wharf, London, and 5-90 at Savannah, end of December, 1910; against 10s. 3d. ex wharf, London, and 4 at Savannah, end of December, 1909. The extension of the cup system of tapping the pines in the United States means a smaller yield of dark-grade rosin, and it is the darker grades that are most in demand. We, therefore, see the prices of finest and dark rosins tend more and more to approximate. One of the new processes of wood distillation produces a fine clean ruby rosin; late in the year 1911 we imported to London some of this stump rosin, which has given great satisfaction to those who have tried it; like the stump turpentine, it promises to be a valuable and much needed adjunct to the supply, but the quantity produced is relatively small. The Customs Board of New York has not yet made the final pronouncement on the question of the duty on rosin imported to the United States. It will be remembered that the decision of the Court of Appraisers in October, 1910, was in favour of the repeal of the duty. It is the appeal against this decision which is now "sub judice."

Average Monthly Quotations of Strained Rosin.

Price per cwt. = 50½ kilos. ex wharf, London.

	1906.	1907.	1908.	1909.	1910.	1911.
January	9/7½	10/6	9/6	8/3	10/4½	15/9
February	9/6	10/9	9/7½	8/4½	10/9	17/3
March	9/9	10/10½	9/6	7/10½	10/7½	18/9
April	9/9	10/10½	9/6	8/—	10/9	19/3
May	10/1½	11/—	8/4½	8/1½	11/—	17/3
June	10/1½	10/10½	7/10½	7/9	12/—	16/—
July	9/9	10/7½	7/10½	8/—	14/—	14/6
August	10/—	10/6	7/4½	8/4½	14/6	14/7½
September	10/3	10/6	7/1½	9/4½	14/9	15/6
October	10/4½	10/3	7/4½	10/2	15/1	15/6
November	10/4½	9/9	7/9	10/1½	14/9	15/4½
December	10/3	8/9	8/3	10/—	14/8	16/1½

Average of year . . . 10/— 10/5 8/4 8/8 12/9 16/4

Total exports of rosin from France (in tons of 1,000 kilos.):—1906, 37,888; 1907, 37,931; 1908, 49,230; 1909, 57,234; 1910, 55,751; 1911 (11 months), 64,608.

The total exports from United States were (in tons of 2,240 lbs. = 1,016 kilos., net weight):—1905-06, 241,243; 1906-07, 270,990; 1907-08, 277,707; 1908-09, 229,336; 1909-10, 209,934; 1911 (seven months, April-October), 152,158. The American crop year begins April 1 and ends March 31.

Rosin Imports into Great Britain.

	1906.	1907.	1908.	1909.	1910.	1911.
From—						
United States	66,043	66,295	55,989	50,310	48,381	50,089
France	11,793	11,780	19,056	14,610	16,987	13,250
Spain and Portugal	3,816	4,607	6,440	5,298	8,160	8,644
All other countries	884	126	641	781	1,503	2,288
Total tons of 2,240 lbs. (1,016 kilos.)	82,536	82,808	82,126	70,999	75,031	74,271
Percentage from—						
United States	80.02	80.06	68.18	70.86	64.48	67.44
France	14.28	14.23	23.20	20.58	22.64	17.84
Other countries	5.70	5.71	8.62	8.56	12.88	14.72

Spelter (from the circular of Henry Murton & Co.).—The output of spelter from Europe, Australia and the United States for 1911 and 1910 was as follows:—

	1911.	1910.
Tons.	Tons.	Tons.
Belgium	192,000	169,960
Holland	22,400	20,600
Germany—East	153,700	128,000
West	92,700	86,100
Great Britain	65,900	62,100
France and Spain	43,200	58,200
Austria and Italy	13,700	13,100
Poland	9,500	8,500
Total	613,100	556,500
Australia	1,000	500
United States	263,300	246,700
Total	877,400	803,700

The total production of spelter thus shows an increase of 73,700 tons, Belgium being the principal contributor to this result. The imports of spelter into England decreased by 5,900 tons last year. The average price of the metal in 1911 was £25 3s. 2d., an advance of £2 3s. 2d. on 1910 and the highest since 1906, when the figure was £27 1s. 5d.

COTTON PRICES.

REVIEWING the cotton trade in January, the *Manchester Guardian* writes:—The prices of cotton have advanced steadily during the month, although the movements of the American crop have generally confirmed the forecasts. On January 2nd middling American was 5.10d. and on the 30th it had reached 5.57d. by easy stages. The latest ginning report—the ninth of the season—was issued on January 23rd, and gave the total up to January 15th as 14,511,000 bales, which may be compared with 12,666,000 in the season 1908-09, when the commercial crop reached 13,829,000 bales. The rate of ginning is falling a little behind that of 1908-09, and in this and in the alleged poor quality of a considerable portion of the crop those of the bull side base some of their arguments. Messrs. Neill Brothers have adhered to their estimate of 15½ to 16 million bales, and warn us not to take the Southern agitation about a reduced acreage too seriously. Demand, however, is accountable for the general firmness of prices, and it is notable that the cotton industry is improving in the States, where, however, there are threatenings of serious labour difficulties, and on the Continent, which, as a yarn buyer, is now a strong support to this market. A welcome change in the reports on the Egyptian crop movement may be noted, and it is now anticipated that the commercial crop may reach 7,000,000 cantars or more. Prices have, nevertheless, hardened during the month; fully good fair was 8½d. on January 2nd, and on January 30th it was 9¼d.

Appended is a table showing the fluctuations in futures and spot cotton. The highest price for futures was touched on January 29th and the lowest on January 1st:—

	Jan. 2nd Opening.	Lowest.	Highest.	Jan. 30th Close.
	d.	d.	d.	d.
January	...	4.92½	5.35	5.34
January-February . .	4.91½	4.91½	5.36½	5.33
February-March . . .	4.91½	4.94½	5.35½	5.33
March-April	4.96½	4.96½	5.40	5.35½
April-May	...	4.99½	5.42½	5.33
May-June	5.01½	5.01½	5.44½	5.40
June-July	...	5.03½	5.46	5.41
July-August	5.06	5.05½	5.46	5.41
August-September . .	5.07½	5.07	5.44½	5.40
September-October . .	...	5.14	5.40	5.37
Mid-American spot . .	5.10	5.10	5.57	5.57
F. G. F. Egypt spot . .	8½	8½	9½	9½

Manufacturers have done a large business before, during, and since the lockout. Even while their looms were stopped and strike clauses were rarely to be obtained they continued to book for distant delivery. It is customary to exaggerate the average of engagements and to take the exceptional as the usual, yet though a month or two without buying might considerably alter the estimates of recent buying there can be no doubt that it has been excep-

tional. Calcutta has bought enormously of dhooties, jaconets, shirtings, and various other staples and specialities; and during the last week or two Bombay, Karachi, and Madras have followed her example. China, of course, has been generally out of the market, and though a little has been done with Hong Kong and an occasional line with Shanghai, we are told that general trade will hardly revive before the Chinese New Year, which would seem to imply that this festival should correspond with some political settlement. A good deal of business has been done with Singapore, Rangoon and Java have been mentioned frequently, Turkish and Syrian markets have been doing better, and there has been some good buying by European countries. The Egyptian market is still very much depressed, and South American advices are mixed, though in no case really discouraging.

PRESERVATION OF TIMBER.

THE increase in the durability of timber which may be brought about by the use of preservatives is a question of considerable importance in the United States in view of the large annual production of timber in that country, and the subject has engaged the attention of the Forest Service of the Department of Agriculture since 1902. Although the experiments carried out by the Forest Service were confined to the treatment of poles for telegraph and telephone purposes, many of the results are, remarks the *Journal* of the Board of Agriculture (London), of interest to agriculturists from the point of view of state management.

Seasoning of Timber.

The question of seasoning necessarily requires consideration before the use of preservatives is dealt with, since proper seasoning not only prepares timber to receive the preservative treatment, but under certain conditions may be in itself a means of increasing its durability.

Contrary to general opinion, the Forest Service found the shrinkage taking place during the seasoning of poles to be very slight, amounting, in seasoning from green to air-dry condition, to about 0.1 in. or 0.2 in. in the circumference at the butt-end and from 0.15 in. to 0.25 in. in the circumference at the top end of poles. The loss in weight during such seasoning was found to be ordinarily from 16 to 30 per cent of the original weight, but in the case of yellow pine of the western United States as much as 49 per cent was lost during seasoning from three to nine months.

The rate at which wood seasons was found to depend chiefly on climatic conditions, timber cut during spring and summer becoming seasoned, as a rule, much more rapidly than that cut in autumn or winter. Soaking the timber in water, the degree

of exposure to the air, and the method of piling the timber also affect the rate of seasoning. Timber which is seasoned rapidly is much more liable to split than that which is seasoned slowly. In the latter case numerous small splits are formed, but these close again when the wood absorbs moisture, and apparently no detrimental effect is caused. If, however, the wood seasons rapidly, wide and deep splits may be formed, which do not again close, and which not only decrease the strength of the timber, but materially hastens decay by allowing the entrance of insects and fungi.

Application of Preservative with a Brush.

A very simple method of using a preservative is to apply it to the surface of the wood with a brush, but while experiments carried out in this direction by the Forest Service have given good results, this form of treatment does not present a complete solution to the question of timber preservation. It is especially useful, however, where the erection of even the simplest plant would not be justified, as the cost is very low. Creosote was applied hot to poles of chestnut, cedar, and pine, and the average amount of preservative absorbed in each case is shown in the following table:—

Species.	Absorption per pole		Length and diameter of pole.	Length treated.
	1 coat.	2 coat.		
	Lb.	Lb.	Ft. in.	Ft.
Chestnut	2.6	4.7	30 x 7	6*
White Cedar (Southern U. S.)	...	4.9	30 x 7	6*
White Cedar (Northern U. S.)	3.0	4.4	30 x 7	6*
Red Cedar (Western U. S.)	...	6.5	40 x 8	8†
Yellow pine (Western U. S.)	2.4	3.6	40 x 8	7†

* Between 2 ft. and 8 ft. from butt-end.

† From butt-end to height indicated.

In these experiments a penetration of from ¼ in. to ½ in. was obtained in seasoned timber. With regard to chestnut, it is stated that in some cases failure of treatment was due to the tendency of the thin sapwood to scale off after exposure to weather and that better results might have been secured if the sapwood had been shaved off for a few feet above and below the ground-line, so that the preservative would be applied to the more firm heartwood. Applications of carbolineum, creolin and tar were also made with a brush, the absorption of tar by 6 ft. of pole being on an average about 7 lb. Care should be taken in this method to fill all splits formed during seasoning; the preservative should not be applied when the surface of the wood is wet or when very cold. In most cases better

results will be obtained by heating the preservative before applying.

Treatment by Immersion.

Immersion in a tank filled with preservative has the advantage, in common with the brush method of application, that the butt-end only of poles can be treated, and the expense is avoided of applying the preservative to the portion above ground, which in many cases is sufficiently durable without treatment. The treatment consists in subjecting the timber to successive baths of hot and cold preservatives, these latter being thus driven into the wood by atmospheric pressure. Three methods of procedure are possible:—(1) After the timber has been held in the hot preservative for the required length of time, the heating may cease, and without other change the whole be allowed to cool; (2) the timber may be transferred from the hot liquid to another tank containing cooler preservative; and (3) the preservative may be changed, the hot being drawn off and colder preservative run into the treating tank. The hot bath, as a rule, simply prepares the wood for treatment, absorption taking place, except in the case of very dry and porous woods, during cooling.

The length of time during which the wood must be kept under treatment is dependent among other things on the species and condition of the wood. Thus where the sapwood is narrow and the heartwood difficult of penetration, the treatment should be discontinued after the sapwood has been impregnated; and where the sapwood is wide, the period of treatment must be arranged so as to avoid an unnecessarily large absorption of preservative.

In the case of porous woods a relatively deep penetration is obtained as compared with the quantity of preservative absorbed by shortening the cold bath and removing the wood while the preservative is still fairly hot. Immersion of chestnut in creosote at a temperature of 231° F., for four hours, and subsequently in cold creosote for two hours, gave relatively good results; while in the case of white cedar (Northern United States), little advantage was gained by prolonging the hot bath beyond three or four hours. Good results were obtained by treating red cedar (Western United States) for two hours with hot creosote and one hour with cold creosote, although in this case longer treatments sometimes give better results.

As regards the condition of the wood, it was found that the drier the wood the more readily it may be treated. The absorption of preservative by green timber is small and irregular, and the treatment of unseasoned timber is unsatisfactory in addition, on account of the liability of such wood to split in drying, and thus expose untreated wood to decay. Where it is decided to treat wood not thoroughly seasoned, the temperature of the hot bath of preservative should be high, about 215° F. to 230° F. Experiments carried out by the Forest Service on wood which had been soaked in water before seasoning

showed that the wood was not rendered any more permeable to preservative by such treatment.

The Forest Service found that the sapwood of nearly all the common species of wood of the United States could be successfully impregnated by the open-tank process; while, on the other hand, the heartwood of many species could only be successfully treated by artificial pressure. The absorption of creosote by poles of various woods was found to be as follows, 6 ft. of the butt-end being treated in each case:—

Species.	Absorption per Pole.	Penetration.
	lb.	lb.
Chestnut	21.5	0.3
White cedar (Northern United States).	48.4	0.5
Red cedar (Western United States).	39.5	0.8
Yellow Pine (Western United States).	81.4	3.1
Lodge Pine	34.0	1.0

Increased Durability as Result of Treatment.

The results of the tests indicated that an average increased life of at least three years may be expected from applications of preservatives with a brush. The cost of applying two coats of creosote to 6 feet of pole (including cost of labour) is estimated on the average at about 10d., and it is computed, therefore, that if the pole has an increased life of one to two years the cost of treatment is amply repaid.

The application of creosote by the tank method will, it is stated, so preserve the butt-end of the pole that the life of the pole will be the life of the top, and no data as regards the life of that part of the pole which is above ground are possessed by the Forest Service, since replacements are commonly made because of the failure of the portion immediately above and below the surface. It is estimated, however, that the life of chestnut is increased by six years, white cedar by eight years, red cedar by ten years, yellow pine by seventeen years, and lodgepole pine by fifteen years. The total cost of treatment with creosote by the tank method of 6 ft. of pole is given as follows:—Chestnut, 3s. 3d.; white cedar, 4s. 4d.; yellow pine, 6s. 9d.; red cedar, 5s. 7d.; lodgepole pine, 5s. 2d.; and the annual saving per pole, after deducting cost of treatment, is computed as follows:—Chestnut, 7½d.; white cedar, 6d.; red cedar, 1s. 6d.; yellow pine, 9s.; lodgepole pine, 4s. 1d. It will be noticed that preservative treatment pays better where wood has very little natural durability than where it has naturally a large durability; the use of wood for poles, posts, gates, etc., which would otherwise be unsuitable is thus rendered possible.

STEAM vs. INTERNAL COMBUSTION FOR MOTORS.

The claims of steam as a motive power are so great that, in spite of hopeful prophecies by all petrol enthusiasts, the steam lorry and the steam tractor continue to hold their own in competition. Steam-lorry makers have not stood still, since they recognised—some four years ago—an unwritten but none the less distinct challenge from petrol-vehicle men in many branches of sales which had hitherto been regarded as the undisturbed preserves of the older power. Desultory attacks upon the fields of use in which the five-ton steam lorry held undisputed possession began to make themselves felt about the year 1907, at which date owners of double-deck motorbuses, the wheels, frame and mechanical portions for which were well suited for the conveyance of three-ton loads, were slowly emerging from their troubles. Very quickly thereafter, and most particularly during the years 1908 and 1909, some of our leading manufacturers of commercial motors got their designs absolutely right, and began to take orders which would previously have gone to steam-wagon builders. The particular form of response which steam-wagon men adopted was the fitting of india-rubber tyres to 3½-ton steamers, whereby the effective daily mileage was practically doubled, a representative increase being from 35 miles a day to at least 70 miles. These 3½-tonners on rubber tyres are enabling their makers to hold much trade which they must otherwise have failed to retain. At the same time, the efficiency of the five-ton models was increased, and the selling prices brought down, so that, nowadays, wherever water and solid fuel are obtainable, the former at intervals of, say, 20 miles as a maximum and the latter at prices which do not exceed £2 per ton for good Welsh coal, the steam vehicle, on the cost per mile run, can beat the petrol vehicle. This statement, however, must be qualified in relation to performance, for it will often pay a buyer better to have a unit which costs a little more per mile to operate, if the possession of that unit enables him more than to compensate himself for the added cost by reason of a greater increase in the earnings.

Broadly speaking, the following may be taken as a general statement of the situation as it now has developed in the United Kingdom; for five-ton loads, the steam lorry is more economical where useful mileages in excess of 35–45 miles per day cannot be arranged. Beyond those mileages, the five-ton petrol lorry will frequently give the better result, but it is seldom that a five-ton lorry can be worked, inclusive of all charges, at a figure less than 1d. per mile run over and above the figure (for the corresponding work) for which a five-ton steam lorry can be run. The petrol lorry scores by possibly doing one or more extra trips in the working day, thus reducing fixed charges per mile run and earning more for its owner. It has also to be admitted, on behalf of the petrol lorry, that its point-to-point

speed is double that of the iron-tyred steam lorry for the older type of vehicle is subject to road-side delays for watering, clinkering, etc. On fixed routes along which arrangements can be made for the provision of road-side supplies, or for the revictualing of the machine at the terminal points, the rate of this speed inferiority of the steam lorry may be improved. It has further to be granted, on behalf of petrol vehicles for loads between one and six tons, that their unladen weight is much lower than is the case with steam vehicles. Thus, in the case of a vehicle which is built to comply with the British gross limit of 12 tons laden weight, a petrol vehicle can carry as much as seven tons of useful load, whilst a steam lorry can seldom carry more than 5½ tons of useful load, after allowing for fuel, water, stores, body and attendants. In the Colonies, of course, where total weight is not restricted by arbitrary legal regulations, this matter of lessened dead weight cannot be so important as is at home. —Commercial Motor.

A UNIQUE HUNGARIAN SUGAR CONCERN.

In the preface to a pamphlet on *The Indirect Benefits of Sugar Beet Culture*, which document was prepared for and presented to the United States Congress last summer, Mr. Trueman G. Palmer made a reference to a visit he had paid to sugar estate in Hungary which is worked on such a comprehensive and economical system that it might well serve as an ideal for other agricultural communities to copy. We venture to quote from the preface Mr. Palmer's very interesting account of the estate:—

At Hatvan, Hungary, 60 kilometres from Budapest, I visited the 25,000 acre estate of the Barons Alexander and Joseph Hatvany, both of whom are agricultural economists of high repute throughout Europe. This estate is equipped with the largest beet sugar factory in Europe, slicing 3,000 tons of beets per day and using the beets grown on 50,000 to 70,000 acres. While they were producing sugar at a small profit, the great inducement in operating the factory was the indirect advantages secured through beet culture. They grow 3,000 acres of beets on the estate, which they rotate with 9,000 acres of wheat, barley, and other crops. The balance of their beets are grown on other near-by estates, the owners of which, in order to secure the rotating value of sugar beets, are only too glad to produce large quantities of high-grade beets and sell them for a fraction over one-half the average price paid for poorer beets in the United States. Their largest contractor furnishes them with 3,000 acres of beets, which average 15½ per cent. sugar, and the price paid per short ton was at the rate of \$3.36 (14s.) as compared to the average price of between \$5 and \$6 (20s. to 25s.) per ton in the United States.

I will digress for a moment to state that this estate, formerly the property of Maria Theresa's favourite prime minister, is the most perfectly equipped and managed property I have ever visited. Aside from the 120-room palace, which in summer

is occupied by the Hatvany, there are beautiful homes for the various managers and superintendents, a small city of working men's houses, innumerable barns of great proportions, machine shops, wagon and blacksmith shops, dairies, electric light plant, ice plant and everything else necessary to conduct the estate without calling on the outside world. A private narrow-gauge railway, equipped with 600 cars, taps every field. The estate is equipped with an abundance of the best agricultural machinery, including numerous steam ploughs, all of which is carefully housed. It is stocked with 4,000 dairy cows and draught oxen, which produce great quantities of manure, and this is prized as highly and protected as carefully as is the grain, being thoroughly rotted before it is spread on the fields. Every pound of milk is shipped to Budapest. The refuse of the sugar factory is used to feed the cattle, and upon learning that American farmers about many of our beet sugar factories would not haul the pulp away as a gift they asked me to look the matter up and see if arrangements could not be made to dry it and sell it to them for a term of years. They raise vast quantities of wheat, but never sell a bushel, seven modern flour mills on the estate, with a capacity of 30,000 sacks a day, turning it into flour and leaving the by-products to be fed to stock. The same with the barley; a well-equipped brewery turns it into beer, leaving the by-product for stock food. One cannot imagine a more scientifically managed property, where every farthing of profit is secured.

First.—They secure the customary profit in producing raw cereal products.

Second.—By preparing the raw material for the table and shipping nothing but what is ready for direct consumption, they secure the manufacturing profit.

Third.—By feeding the by-products to their own stock instead of wasting or selling them to feeders, they secure the profit from dairying and fattening cattle.

Fourth.—From their 4,000 head of dairy cows and draught oxen they secure an abundance of manure with which to build up the chemical condition of their soil and make it more productive, thus securing another profit.

Fifth.—By operating a sugar factory which slices the beets from 50,000 to 70,000 acres of ground, they secure the profit derived from sugar manufacture and also from the feeding value of the resultant by-products.

Sixth.—By growing 3,000 acres of beets, they secure the profits of sugar beet farming.

Seventh.—By rotating beets with 9,000 acres of wheat, barley, oats and other crops, the consequent deep ploughing, thorough cultivation, and astringent effect of the beet rootlets keeps their soil in perfect physical condition and so greatly increases the yield of all other crops that this produces the greatest profit of all.

By following the above method, they are able to extract the last dollar the estate is capable of

producing, and however long this method might be continued the productivity of the soil would be maintained at its maximum. It reminded me of Armour's packing house, where he said they saved all of the hog but the squeal. The Hatvanys own two other large estates in Hungary, one of 15,000 acres, both equipped with huge, up-to-date beet sugar factories, the raw product for which furnishes the inspiration for this character of farming. This is but one of many equally well-managed European estates where sugar beets form the pivot around which all agricultural operations centre.—*International Sugar Journal*.

GRAIN SPECULATION IN AMERICA.

THE Washington correspondent of the New York *Journal of Commerce* states that a new Bill has been introduced to prohibit future trading in wheat, corn, and oats. The Bill follows the lines of the original Scott and Burleson. Bills relating to cotton. It provides in section 2 that: "It shall be unlawful for any person to send or cause to be sent any message offering to make or enter into a contract for the purchase or sale for future delivery of wheat, corn or oats without intending that such wheat, corn or oats shall be actually delivered or received, or offering to make or enter into a contract whereby any party thereto or any party for whom or in whose behalf such contract is made acquires the right or privilege to demand in the future the acceptance or delivery of wheat, corn or oats without being thereby obligated to accept or to deliver such wheat, corn or oats; and the transmission of any message relating to any such transaction is hereby declared to be an interference with commerce among the States and Territories and with foreign nations."

Section 3 of the Bill requires an affidavit from persons making contracts to deliver wheat, corn and oats, but adds the following provision: "Provided, that any person electing to do so may file with the telegraph, telephone, wireless telegraph, or cable company an affidavit stating that the message or messages being sent, or to be sent, for the six months next ensuing by such persons do not, and will not relate to any such contract or offers to contract as are described in section 2 of this Act, and any such company shall issue thereupon a certificate evidencing the fact that such affidavit has been duly filed and such certificate shall be accepted in lieu of the affidavit herein required at all the transmitting offices of such company during the life of said affidavit. Any person who knowingly shall make a false statement in any affidavit provided for in this Act shall be punished by a fine of not more than five thousand dollars nor less than one thousand dollars and shall be imprisoned for not more than two years nor less than one year. And in any prosecution under the provisions of section 2 or 3 of this Act the proof of failure to make any affidavit herein required shall be *prima facie* evidence that said message or messages related to a contract prohibited by section 2 of this Act."

Section 6 contains the old provision about not

allowing printed matter relating to futures to go into the mails, as follows:—

"Section 6. That every book, newspaper, pamphlet, letter, writing, or other publication containing matter tending to induce or promote the making of such contracts as are described in section 2 of this Act is hereby declared to be non-mailable matter, and shall not be carried in the mail or delivered by any post-master or letter carrier. Any person who shall knowingly deposit or knowingly cause to be deposited for mailing or delivery any matter declared by this section to be non-mailable, or shall knowingly take or cause the same to be taken from the mails for the purpose of circulating or disposing thereof, or of aiding in the circulation or disposition thereof, shall be fined not more than five thousand dollars nor less than one thousand dollars, or shall be imprisoned not more than five years nor less than one year, or both. Any person violating any of the provisions of this section may be proceeded against by information or indictment and tried and punished either in the district at which the unlawful publication was mailed or to which it is carried by mail for delivery according to the direction thereof, or at which it is caused to be delivered by mail to the person to whom it is addressed."

—From circulars issued by the Amsterdam and London brokers regarding the progress of the cinchona and quinine industry in 1911, a contemporary learns that the German makers' price of the alkaloid has remained unchanged for two years, the last alteration being a reduction of $\frac{1}{2}$ d. to $\frac{7}{8}$ d. per oz. in sulphate of quinine in January, 1909, and that the London unit remained unchanged throughout last year at $\frac{9}{16}$ d. per lb. According to statistics issued by Messrs. Widenmann, Broicher & Co. and C. F. Boehringer and Sons, the consumption of quinine continues to increase, which fact they attribute to the low cost and to the official efforts being made by various Governments in malarial countries to extend its use. The exports of quinine from both Germany and Great Britain in 1911 were considerably in excess of those of previous years, and the imports into the United States also increased. Allusion is made to the increasing consumption of quinine in India, the fact that the Government of India purchased less bark in Amsterdam last year being accounted for by their large purchases direct from the Java factory. The quinine sulphate in the bark sold in Amsterdam last year amounted to 16,695,950 ozs., and in London to 686,850 ozs., making a total of 17,382,800 ozs., which total exceeds that for the previous year by 339,000 ozs., and does not include 1,648,942 ozs. of quinine sulphate sold privately in Holland. The shipments of bark from Java were about 8 per cent less than in 1910, but greater than in any other year except 1907. A more important announcement, however, is that the quinine content of the bark from Java continues to increase, the average last year being 6.59 per cent which is the highest so far recorded.

TARIFF VALUATION OF SUGAR.

THE following statement, showing in respect of each of the descriptions of sugar distinguished in the Tariff Schedule IV (excepting molasses and all other kinds of sugar), *firstly*, the total imports into India in the month of January, 1912, and the average value per cwt. as calculated on the returns received from the Customs Houses; and, *secondly*, a running total showing the total imports into India since the beginning of the year (1st October to 30th September) and the average net value per cwt. so far established, is published in conformity with the procedure laid down in Customs Circular No. V of 1911 in order to enable merchants to compute the probable rate of duty for the year 1913:—

Description of sugar.	IMPORTED DURING THE MONTH OF JANUARY, 1912.		IMPORTED SINCE 1ST OCTOBER, 1911.	
	Quantity.	Average net value per cwt.	Quantity.	Average net value per cwt.
	Cwt.	R. a.	Cwt.	R. a.
Sugar, crystallised, beet	15	11 12	218	17 0
" " and soft, refined in China	13,438	13 0	29,462	13 0
" " and from Java, 23 Dutch Standard and above	459,094	12 12	2,134,786	12 8
" " and from Java, 16 to 22 Dutch Standard	207,056	11 0	1,481,511	11 4
" " and from Java, 15 Dutch Standard and under	...	...	64,049	9 0
" " and from Mauritius equal to 16 Dutch Standard and over	167,463	13 4	290,003	13 8

INDIAN CATTLE IN THE WEST INDIES.

A RECENT American Consular Report says that more than a century ago East Indian cattle were brought to Jamaica and crossed with the native breeds, to produce a hardier stock for that tropical climate. Brahmin cattle were first brought over by Lord Howard de Warden and later Mysore and Gujerat cattle were imported for his estate at Montpelier in the parish of St. James. From time to time zebu, Nellore, and Hissar bred Haryana cattle, as well as others from the Maharaj's herds in Mysore, were brought in from time to time. It is said that the Haryana first cross produced the finest cattle ever seen in Jamaica, while the zebu with the Mysore also produces very fine stock. The Mysore have proved to be the best draft cattle and the Gujerats are also of large size, but both are found to be somewhat intractable, though it is said that the East Indian coolie labourers in Jamaica have no difficulty in managing them. The oxen used in Jamaica for ploughing and hauling on the larger plantations are partly of Indian blood, and nearly all the ordinary cattle of the island show to some extent the results of the introduction of Indian stock. Especially for draft purposes has the benefit of the hardier stock been most apparent, while the general gain is shown by an official statement that the introduction of Indian blood has decreased the losses of cattle in Jamaica from

34 to 6 per cent. The results of the experiments made in the island seem to be worthy of consideration in other tropical countries. It is said that good results have been obtained in Texas from Indian cattle sent from Jamaica.

The results obtained from 28 cows at the Farm School at Hope, near Kingston—including Holstein, Leyden, and Barbadian, half-bred Jerseys, Devons and Holsteins; mixed Canadian and Guernsey; quarter bred Indian (Nellore); and ordinary cows—showed that the three cows giving the greatest net profit over their original cost were quarter-bred Nellores. These not only paid for themselves, but placed the sums of £27, £24 and £23 to their credit for the year's record. The three-quarter bred Indian cows cost £8-10 each, which was, with one exception, the lowest price paid for any of the 28 cows, while the highest price was £16-10 for a Holstein, which, however, was in milk only 149 days during the year of the test. The Director of Agriculture expresses the hope that from these 28 cows it will be possible to evolve a superior breed of hardy milch cattle suitable for local conditions. A German who has travelled extensively in collecting cattle for the German Government and several universities is authority for the statement that a cross of gayal bulls with German cows produces a breed the cows of which will have 30 per cent. more butter fat in their milk, this increased fat value continuing for generations.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the second half of January, 1912. (Prices are stated in annas and pies per ser of 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—	2 1	...	...	...	...	...	...	1 2
Rangoon	1 7	...	...	...	...	...	...	1 2
Toungoo	...	...	...	...	...	...	...	...
EASTERN BENGAL AND ASSAM—	...	...	...	...	...	...	...	...
Rangpur	1 7	1 8	...	...	...	...	...	1 1
Backarganj	1 4	...	...	...	...	...	...	1 0
BENGAL—	2 0	1 7	...	...	...	...	...	0 11
Calcutta	1 2	1 2	0 9	...	...	...	...	0 10
Patna	...	...	...	...	...	...	...	...
UNITED PROVINCES—	...	1 4	1 1	0 11	1 1	...	0 11	0 9
Cawnpore	...	1 4	0 11	...	...	...	0 10	0 10
Fyzabad	...	1 3	1 1	1 0	1 1	...	0 11	0 9
Meerut	...	...	...	...	...	...	...	...
PANJAB—	...	1 5	1 2	1 2	1 2	...	0 11	0 9
Delhi	...	1 3	1 1	1 2	1 3	...	0 11	0 7
Amritsar	...	1 4	1 1	1 1	1 2	...	0 11	0 7
Bawalpindi	...	...	...	...	...	...	...	...
SIND—	...	1 8	...	1 5	1 7	...	1 2	0 7
Karachi	...	...	...	...	...	...	...	...
BOMBAY—	...	1 8	...	1 4	1 5	...	...	0 9
Belgaum	...	1 7	...	1 2	1 5	...	...	0 11
Ahmadnagar	...	2 3	...	1 8	1 7	...	...	0 10
Pombay	...	1 6	...	1 4	1 6	...	...	0 7
Ahmadabad	...	...	...	...	...	...	...	...
CENTRAL PROVINCES—	...	1 3	...	0 8	...	...	1 0	1 0
Jubbulpore	...	1 2	...	1 1	...	...	1 0	1 0
Nagpur	1 7	1 3	...	...	...	...	0 11	1 0
Raipur	1 5	...	...	...	...	...	...	...
MADRAS—	2 3	...	...	1 2	...	1 1	...	0 11
Bellary	2 2	...	...	...	...	1 2	...	0 7
Madras	2 5	...	...	1 4	1 8	1 2	...	1 1
Salem	...	...	...	...	...	...	...	...

JOINT STOCK COMPANIES.

Number and particulars of new Companies working exclusively in India with sterling capital and similar Companies increasing their capital, registered in the United Kingdom in the month of December, 1911.

No.	Class and Name.	Shares.	CAPITAL.		New Debentures issued.
			Nominal.	Extra	
		£ s.	£	£	£
I—TEA AND OTHER PLANTING COMPANIES.					
1	Elak (Southern India) Rubber	...	...	...	10,000
2	Teekoy Rubber Estates	...	...	9,823	...
GRAND TOTAL			...	9,823	10,000

SEA-BORNE TRADE OF INDIA.

The following is a summary of accounts relating to the Sea-borne Trade and Navigation of British India for the calendar year 1911, compared with the years 1909 and 1910:—

	1909	1910	1911
IMPORTS—	£	£	£
MERCHANDISE, PRIVATE—	29,842,610	32,132,213	34,391,854
Bengal	406,387	328,596	418,068
Eastern Bengal and Assam	25,762,732	29,789,137	32,751,490
Bombay	6,634,599	7,277,201	8,437,575
Sind	6,434,262	6,500,065	7,797,725
Madras	7,414,119	7,014,894	7,767,024
Burma	...	...	...
TOTAL	76,494,709	83,033,106	91,563,736
DITTO, GOVERNMENT STORES	4,083,611	2,821,856	3,351,372
TOTAL MERCHANDISE	80,578,320	85,854,962	94,915,108
TREASURE, PRIVATE—	3,226,893	3,328,841	5,327,911
Bengal	10,754	12,267	14,334
Eastern Bengal and Assam	14,235,945	20,659,183	25,069,776
Bombay	461,839	716,152	758,853
Sind	774,100	560,718	323,161
Madras	92,799	83,130	320,770
Burma	...	...	...
TOTAL	18,802,330	25,360,291	31,814,805
DITTO, GOVERNMENT	77,016	45,832	27,534
TOTAL TREASURE	18,879,346	25,406,123	31,842,339
GRAND TOTAL OF IMPORTS	99,457,666	111,261,085	126,757,447
EXPORTS—			
MERCHANDISE, PRIVATE—			
(Foreign Merchandise)—			
Bengal	140,301	155,248	534,830
Eastern Bengal and Assam	175	1,010	1,008
Bombay	1,660,881	2,131,243	2,309,594
Sind	275,683	270,603	621,171
Madras	77,153	125,479	147,405
Burma	34,374	45,492	43,083
TOTAL	2,188,567	2,729,075	3,657,141
(Indian Merchandise)—			
Bengal	45,706,745	50,642,772	55,884,343
Eastern Bengal and Assam	2,904,157	3,318,718	3,261,446
Bombay	29,789,587	42,802,924	40,809,752
Sind	12,241,811	14,115,730	15,078,773
Madras	12,408,933	13,859,810	14,757,793
Burma	9,505,435	12,613,597	16,198,620
TOTAL	112,556,668	137,353,551	145,490,727
Total Foreign and Indian Merchandise exported—			
Bengal	45,847,046	50,798,020	55,919,223
Eastern Bengal and Assam	2,904,332	3,319,728	3,262,454
Bombay	31,450,468	44,934,167	43,119,346
Sind	12,517,494	14,386,333	15,699,944
Madras	12,486,086	13,985,239	14,905,198
Burma	9,539,809	12,659,089	16,241,703
TOTAL	114,745,235	140,082,626	149,147,868
DITTO, GOVERNMENT STORES	65,012	59,011	77,779
TOTAL MERCHANDISE	114,810,247	140,141,637	149,225,647
TREASURE, PRIVATE—			
Bengal	113,655	290,928	63,504
Eastern Bengal and Assam	...	1	...
Bombay	3,366,496	3,705,515	5,776,213
Sind	172,763	287,499	235,984
Madras	437,903	526,336	283,635
Burma	7,850	18,503	20,104
TOTAL	4,093,667	4,828,782	6,379,440
DITTO, GOVERNMENT	2,940	6,090	3,830
TOTAL TREASURE	4,101,607	4,834,872	6,383,270
GRAND TOTAL OF EXPORTS	118,911,854	144,976,509	155,608,917
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	4,773,972	5,880,324	6,231,060
DITTO, EXPORT DUTY COLLECTED	611,161	811,855	910,348

WEEKLY TRADE MOVEMENTS.

For the week ending 17th February, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta lbs.	179,448
Imports by sea into	Bombay "	234,855
	Madras "	487,715
Indian—	Calcutta "	14,420
Exports by sea from	Bombay "	2,248,548
	Madras "	1,200

Grey Piece Goods.

Imports by sea from	Calcutta yds.	9,616,259
Foreign ports into	Bombay "	3,814,491
	Karachi "	3,600
	Madras "	1,053,997
	Rangoon "	543,463

White Piece Goods.

Imports by sea from	Calcutta yds.	3,421,673
Foreign ports into	Bombay "	3,951,827
	Karachi "	644,254
	Madras "	376,829
	Rangoon "	655,121

Other Piece Goods.

Imports by sea from	Calcutta yds.	1,408,394
Foreign ports into	Bombay "	7,517,152
	Karachi "	145,794
	Madras "	827,002
	Rangoon "	1,468,745

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	41,404
	Bombay "	23,794
	Karachi "	14,069
	Madras "	5,243

Raw Cotton.

Imports into Bombay	By sea cwt.	19,364
	Coastwise "	22,384
	By rail "	362,522
Imports into Karachi by rail	"	44,590
" " Calcutta by rail and river	"	16,633

JUTE.

Arrivals by all routes in	Calcutta	cwt.	448,377
Exports by sea from	Calcutta	No.	11,241,309
	Gunny bags	yd.	30,191,832
	Jute cloth	yd.	496,478
	Chittagong—Jute	"	...

COTTON SEEDS.

Exports by sea from Bombay	cwt.	109,843
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OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river	cwt.	6,654
	By sea "	"	...
	Coastwise "	"	406
	By rail "	"	34,927
	Karachi by rail and river	"	...
Exports by sea from	Calcutta	"	9,835
	Bombay	"	39,889
	Karachi	"	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river	cwt.	60,356
	By sea "	"	...
	Coastwise "	"	2
	By rail "	"	4,557
	Karachi by rail and river	"	33,000
Exports by sea from	Calcutta	"	88
	Bombay	"	9,016
	Karachi	"	64,826

RICE.

Arrivals by all routes in	Calcutta	cwt.	731,013
	Calcutta	"	333,727
	Chittagong	"	245,916
Exports by sea from	Bombay	"	16,654
	Karachi	"	6,329
	Madras	"	26
	Rangoon	"	927,484

TEA.

Arrivals by all routes in	Calcutta	lbs.	430,029
Exports by sea from	Calcutta	"	1,537,422
	Chittagong	"	...

WHEAT.

Imports into	Calcutta by rail and river	cwt.	94,892
	Karachi by rail	"	259,600
	By sea "	"	520
	Coastwise "	"	1,113
	By rail "	"	86,187
Exports by sea from	Calcutta	"	29,613
	Bombay	"	46,496
	Karachi	"	423,968

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	. . Cwt.	3,551,795	3,947,207	17,821	143,261	1,043	390	Not	reported.
Bombay	. . „	2,705,313	3,217,957	64,679	106,600	106,029	16,448	1,176,951	941,277
Karachi	. . „	19,141,924	21,358,924	29	...	733,431	235,011	Not	reported.

KEROSENE OIL, WEEK ENDING 17th FEBRUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	1,061,337	1,061,337
Bombay	...	265,563	1,345,763	1,611,326
Karachi	...	...	93,236	93,236
Madras	...	...	...	...
Exports by sea from Burma to				
			Bengal	1,196,206
			E. B. & Assam	330,600
			Bombay	...
			Sind	...
			Madras	...
			Indian Ports, Non-Br.	...
			Foreign Ports	...

IMPORTS OF SUGAR, WEEK ENDING 10th FEBRUARY, 1912.

	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	237	...	64	1	33	73	408
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...	...
Java	31	...	10,632	19	...	1,982	12,664
Mauritius	...	...	...	...	...	...	...
Other Non-European Countries	2,000	...	...	844	...	447	3,291
Total refined							16,363
Total unrefined							...
Grand Total							16,363

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1911-12.				SEASON 1910-11.			
	Sold in sale of 13th February.		Sold to 13th February.		Sold in sale of 10th February.		Sold to 10th February.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
Assam	10	7 1	191,108	7 11	814	6 11-8	187,591	7 5
Cachar	3,083	6 3-7	148,516	6 11-3	7,044	6 2-9	145,155	6 3-8
Sylhet	1,507	6 8-5	119,551	6 11-5	4,345	6 4	103,416	6 4-8
Darjeeling	...	...	7,742	9 7-4	31	5 10-8	69,055	9 6-1
Dooars	102	7 1	205,320	7 4-1	1,920	7 3-2	202,357	6 11
Terai	...	...	23,435	7 1-2	23	3 9-0	23,298	6 7-1
Chittagong	...	...	8,402	6 11-2	135	6 2-9	8,694	6 3-5
Chota-Nagpore	90	6 4-2	1,719	7 5	10	6 5-4	1,569	7 4-7
Kumaon and Kangra	...	...	3,797	6 9-1	259	6 1-3	3,652	6 4-5
Madras	...	...	40	6 4	...	...	43	5 5-8
Dehra Dun	...	...	399	6 2-8	...	...	...	...
Nepal	...	...	605	6 10-8	104	6 5	687	6 5-3
All other places	162	6 7	162	6 7	...	...	76	5 11
TOTAL	4,954	6 5-5	774,796	7 6-5	14,685	6 5-2	745,593	7 0-9

The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.
Season 1911-12 Average price of 46,042 packages Dust* sold to 13th February Ga. 3-7p.

" 1910-11 " 50,193 " 10th " Ga. 2-8p.

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

NEW REFERENCE BOOKS.

LOCKWOOD'S BUILDERS', ARCHITECTS', CONTRACTORS', and ENGINEERS' PRICE BOOK, 1912.

Edited by F. T. W. MILLER. 7½ × 5, lxxxiii + 488 + 260 pp. 4s.

Crosby Lockwood.

THE INTERNATIONAL NUMBER OF THE PAPER-MAKER.

And British Paper Trade Journal. 11¼ × 8½, 312 pp. 2s. 6d.
S. C. Phillips, 47, Cannon Street, E. C.

COST ACCOUNTS.

With Special Reference to those of an Engineer and Ironfounder. By J. W. BEST. Second Edition. (Revised.) 8½ × 5½, 126 pp. 5s. net.
Gee.

THE FACTORY SYSTEM AND THE FACTORY ACTS.

By R. W. COOKE-TAYLOR. Now Revised Edition. 7½ × 5, 189 pp. 2s. 6d.
Melhuysen.

THE TRADE OF THE EAST INDIA COMPANY FROM 1709 to 1813.

By F. P. ROBINSON. B.A. The Le Bas Prize Essay, 1911 3s. 6d. net.

—M. Lafont, Directeur of the Station Séricicole of Montpellier, in an article on the production of silkworm eggs ("Bulletin No. 4 de l'Union Franco-Persane"), furnishes some interesting information on the silkworm trade of Persia. He made experiments at Resht during three consecutive years, and is of opinion that silkworm eggs of good and sound quality could easily be produced in Gilan. This would be of great economic interest to the Persian Caspian provinces, which now import from Asia Minor 230,000 to 300,000 ozs. of eggs, valued at the Customs at between £45,000 and £50,000, but which are sold to the native for a much higher amount. The quantity of silkworm eggs required in Persia is given as:—

Gilan	230,000 to 300,000
Manzaderan and Astarabad	15,000
Khorasan	30,000
Azerbaijan (Urumia and Astara)	3,000 to 4,000
Central Persia (Kashan and Yazd)	4,000 to 5,000

DELICIOUS COFFEE
RED
WHITE
& BLUE

For Breakfast & after Dinner.
In making, use less quantity, it being so much stronger than ordinary COFFEE.

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

H. F. HOWARD,
Collector of Customs, Calcutta.

23rd September, 1909.

PUBLISHED WEEKLY



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[ANNAS 4.]

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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	8 per cent. (Jan. 26).
	Bombay	7 per cent. (Feb. 22).
	Madras	8 per cent. (Jan. 29).
	On demand	1-4½
	Telegraphic	1-4½
EXCHANGE	Transfers	
	3 months	1-4½
	6 months	1-4½

GOVERNMENT PAPER (3½ per cent.) Rs. 96.

The spot price of wheat at Karachi on the 24th February was Rs. 31-4-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 27th February was Re. 0-8-3 to Re. 0-9-0 per lb. and of cotton (Fully Good Oomras) ready goods, Rs. 274 per candy of 784 lbs..

The wholesale spot prices of the undermentioned articles in Calcutta on the 28th instant were as under:—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 65 0 0
M. per 400 lbs.	" 57 0 0
Rice—Ballam No. 1 per B. md.	" Nil.
" Moonghy	" 3 10 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold, Cawnpore, 4% per B. md.	Nil.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop.	Tracts comprised in the figures.	Percentage of average Indian crop represented by the tracts mentioned in col. 2.	Estimated Area.	Ratio of reported area to annual average for these tracts at corresponding date.	Estimated outturn.	Ratio of estimated outturn to annual average for these tracts at corresponding date.	Date of publication of the forecast in the Journal.
1	2	3	4	5	6	7	8
Indigo.	Bengal, Madras, Punjab and United Provinces.	98.3	271,100	81	Cwts (dye) 48,700	101	Dec. 21st, 1911.
Wheat.	Practically all wheat growing tracts.	99.8	25,570,000	117	Information not yet available.	...	Dec. 28th, 1911.
Rape* and Mustard.	U. P., Panjab, Bengal, E. B. and Assam, N.-W. Frontier, Bombay*, Sind* and Hyderabad.	99.5	3,554,000	(a)	Do.	...	Do.
Linseed.	U. P., C. P., and Berar, Bengal, Bombay*, E. B. and Assam and Hyderabad.	99.8	3,371,600	(a)	Do.	...	Do.
Sesamum (til or jinjili).	U. P., C. P., and Berar, Madras*, Bombay*, E. B. and Assam, Bengal, Punjab, Sind* and Hyderabad.	79.3	4,164,700	92	Tons 311,300	81	Jan. 18th, 1912.
Groundnut.	Madras, Burma and Bombay.	(a)	1,200,900	121	542,200	120	Feb. 15th, 1912.
Cotton.	All cotton growing tracts.	100	20,393,000	95	Bales* 3,135,000	77	Do.
Rice.	Bengal, E. B. and Assam, Madras and Lower Burma.	77.7	56,443,000	101	Cwt 321,992,000	113	Feb. 22nd, 1912.
Sugarcane.	U. P., Bengal, Punjab, E. B. and Assam, Madras, Bombay* and N.-W. Frontier.	98.4	2,331,700	102	Tons 2,390,400	114	Do.

N. B.—The ratios in column 3 are calculated on the total acreage in all India in the case of wheat and cotton and on that in British India in the case of other crops.

* Including Native States.

(a) Data for calculation of ratio not available.

The total approximate gross earnings of State and Guaranteed Railways from 1st April, 1911, to 10th February, 1912, show a gain of Rs. 3,36,02,024, as compared with the corresponding figures for 1910-1911.

Sanction has been accorded to the provision during the year 1912-13 of the following additional 5' 6" gauge wagon stock for the Bengal Nagpur Railway, viz., 200 "D" type covered goods wagons; 160 "K. G." type coal wagons.

Sanction has been accorded to a survey being carried out by the agency of Messrs. Martin and Company of Calcutta for a line of railway on the 2' 6" gauge from Futwah station on the East Indian Railway to Islampur, a distance of about 26 miles. The survey will be known as the Futwah-Islampur Railway Survey.

Sanction has been accorded to the provision during the year 1912-1913 of the following additional rolling stock required for the Tirhoot Railway, namely:—30 bogie 3rd class carriages for lower class passengers; 6 goods brake vans, 4 wheelers; and 300 covered goods wagons, 18 feet long.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 5 weeks ended 1st February, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 1st Feb., 1912.	5 weeks ended 1st Feb., 1912.	Week ended 1st Feb., 1912.	5 weeks ended 1st Feb., 1912.
American	Bales. 174,539	Bales. 598,290	Bales. 5,790	Bales. 54,306
Brazilian	3,150	3,762	812	1,262
East Indian	432	1,176	288	592
Egyptian	15,628	117,468	6,922	22,877
Miscellaneous	2,027*	12,955†	436	1,180
TOTAL	196,776	733,691	14,248	80,217

* Including 81 bales British West Indian, 34 bales British West African, and 1,175 bales British East African.

† Including 773 bales British West Indian, 77 bales British West African, and 3,954 bales British East African, and 396 bales foreign East African.

NOTE.—Cotton "in transit" or "for transshipment under bond" if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

After being suspended for nineteen weeks, the Shanghai piece-goods auctions will be resumed this week, owing to the general feeling that it is best to begin early even if a full measure of business is not to be expected immediately.

In the *Indian Trade Journal* of February 15th (page 214) reference was made to the proposal to stop working in the Japanese cotton spinning mills for four days' and nights per month and to abolish the export bounties given by the Cotton Spinners' Association. Mr. E. F. Crowe, Commercial Attaché, Yokohama, now informs us under date January 31st that it is announced in the press that all the cotton spinning companies have at last given their consent to the proposal.

In their weekly report on the Shanghai piece-goods market, dated February 1st, Messrs. Noël, Murray and Co., Ltd., say:—The yarn market has been almost lifeless—quite so, so far as Indian yarns go, and only 500 bales of Japanese spinnings have been sold by second hand holders, at lower rates, viz., Taels 108.00/116.00 for 16s. and Taels 108.00/119.00 for 20s., say a decline of 4 Taels from last. The closing prices on the Osaka Bourse were Yen 127.80 for February and Yen 128.00 for March, the 30th and 31st January were holidays on the Exchange. A few hundred bales of local yarn have been contracted for by the Native Mills at cheap prices: Moon Season Chop 14s. at Taels 103.00, Water and Moon Chop 16s. at Taels 108.00, Bundles are Tael 1 to 2 cheaper, viz., Taels 94.75/96.75 for No. 10s. Taels 95.75/102.75 for No. 12s., Taels 97.25/105.75 for No. 14s., Taels 101.25/108.75 for No. 16s. It is reported that a native Tientsin Yarn operator has failed, having bought large quantities of Japanese spinnings at top prices. Cotton is weak and small sales are reported to local mills at rather lower prices than quoted, but so much depends upon the quality that is selected. Prices are Tungchow and Taichong: Taels 22.60, 4-Chop Taels 22.20, Best Steam Ginned and Shanghai Taels 22.00, Taichong Seed \$11.00 and Seed \$10.00.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 3rd February, 1912, were as follows:—Wheat, 33s. 8d.; barley, 32s. 10d.; and oats, 21s. 3d.

The *Corn Trade News* gives the following summary of the world's crops as on the 6th instant:—United States of America—Further complaints received from Winter Wheat belt but "Modern Miller" says complaints confined Soft Winter. Receipts rather smaller and Visible Supply decreased one million bushels. Canada—Still many complaints about quality and some predict good milling Wheat soon be very dear. A government bulletin says there are 32 million bushels of wet, tough Wheat which will be unfit for use if not moved immediately. The lower grades even including No. 6 are being sold freely for milling purposes on this side. Argentina—Complaints of poor quality are increasing

and one published in Chicago yesterday says only 25 per cent good quality. Our agent cabled nothing fresh, but a mail advice just received from him reports very unfavourably of the quality owing to rust. Strike situation still improving on railways but port labourers threaten general strike. Forecasts of shipping movement vary greatly; some claim shipments cannot be really large until March. Australia—No actual reduction crop estimates, but our agent now reports surplus in South Australia only 1,450,000 qrs. compared with 2,700,000 qrs. exported last year. Offers are disappointing. Russia—Crops have good snow cover, and position considered satisfactory. Arrivals at the ports are generally very small, and stocks are decreasing. Offers are small. Roumania—End of last week weather thawing, crop conditions satisfactory. Stocks decreasing. Hungary—Weather frosty with snow. Wheat offers small. France—Weather seasonable, crop outlook favourable. Owing to continued small offers, some fears small reserves, but many hold opinion north and west of France, also Paris region hold good quantities. Germany—Frost returned, accompanied by snow after thaw. Cold weather influenced markets, but crops believed unharmed. Offers native Wheat small and meet good demand. Italy—Weather and crop conditions generally normal. Native Wheat firm. Spain—Crop reports favourable. North Africa—Rains improved prospects. United Kingdom—Severe frost experienced, but more or less snow fallen.

It is stated that steps are being taken to expand America's steel trade. A single sales agency is to be organised to serve all the "independents"—that is to say, all the steel producers not in the United States Steel Corporation. This step has been decided upon as a result of the recognition of the fact, for long patent to outsiders, that the capacity of American producers has been expanded far in excess of present requirements, and, indeed, of prospective needs for years to come. Fully 90 per cent of the export (exclusive of pig iron and scrap) has been attributable to the Steel Corporation, and they alone, as producers of nearly 60 per cent of the output of finished steel in the United States, have shown any enterprise in endeavouring to bring about conditions which would facilitate export. Now, however, conditions are changed, for producers in the United States are no longer under an agreement for the restriction of competition in the home market. With the re-establishment of free competition, prices have fallen heavily, and producers are now in greater need of foreign markets than almost at any time in their history. Assuming that the proposal fructifies, the question arises how far American producers will be able to compete with British, German, and other foreign steels. It is notorious that in the United States steel trade costs of production have been steadily increasing. Wages, transport charges, and raw material prices have all

advanced since the 'nineties,' when the low-water mark of American costs was touched; but similar movements have been in progress in other parts of the world, so that American producers may be able to offer more effective competition in European and other foreign markets than is generally believed by the steel trade in Europe to be possible.

Messrs. H. A. Watson & Co., Metal and Mineral Brokers in their **Metal Report**, Liverpool, February 1st, say:—We have had an irregular market for **Standard Copper** since our last, with a slight fall on balance. Towards the end of the month, with free selling, the Cash price fell to £60 17s. 6d., with £61 12s. 6d. Three months, but this brought in buyers resulting in an advance to £62 7s. 6d. Cash on the 31st. To-day, however, the market is easier again, closing quotations being £61 17s. 6d. Cash and £62 12s. 6d. Three Months. The Copper Market has been largely influenced in connection with the Share Market, and not by any adverse conditions—the intrinsic position remaining sound. The European demand is almost unprecedented, and while this is maintained we are not likely to have any serious setback in values. On the other hand should the American demand continue to improve we may well see much higher values later on. The statistics for the past fortnight show decreases of 13 tons in the Visible Supply, and 1,172 tons in the Liverpool and Swansea Stocks. The arrivals from America at Liverpool and Swansea during the past fortnight amount to 2,374 tons, making 4,334 tons, 1st January to date, against 6,035 tons same time last year. The present prices for Manufactured Copper are as follow:—Strong Sheets £77, B. S. £65 15s. to £66 5s., Tough £65 15s. to £66 5s., Electrolytic, February £64 15s., March £64 17s. 6d., April £65, India sheets £74 to £75, and Yellow Metal 6½d. per lb. **Tin**.—Standards: After improving to £192 Cash on the 18th, the price fell to £188 15s. on the 22nd, again improving to £194 10s., at which the market was steady for several days, and £194 15s. was done on the 31st ultimo, closing easier to-day at £194 Cash and £192 Three Months. **Bolivian**.—We quote £160 to £179 per ton, according to quality. **English**.—Ingots: £197 to £198 per ton. **Antimony**.—English Regulus, £26 10s. net per ton; Antimony Ore, we quote nominally £6 to £6 5s. basis 50 per cent. **Bismuth**.—7s. 6d. per lb. **Iron**.—The market for Cleveland Warrants has been quiet and down to 48s. 8½d. Cash was done on the 29th ultimo, closing steady to-day at 49s. 2d. Cash, 49s. 5½d. One Month, and 50s. Three Months. **Lead**.—Quiet; English Pig, £15 17s. 6d.; Soft Spanish, Sellers, £15 12s. 6d.; Buyers, £15 11s. 3d. **Nickel**.—£167 to £171 per ton. **Quicksilver**.—First £8 5s.; Second £8 3s. 6d. per bottle. **Spelter**.—Steady; Silesian, Ordinary Brands, April sold £25 17s. 6d.; Specials, £26 5s. **Sulphate of copper**.—Prompt £21 15s., March-April £22. **Wolfram**.—Considerably better. Busi-

ness been done at 31 marks per unit per ton 1,000 kilos. **Bar Silver**.—Spot, 26½d.; Two Months, 26½d.

Reports are to hand of the **discovery** in the **Kachin Hills** of mineral-bearing ground which is likely to be of great value. The following seven minerals are reported to be found:—Gold, platinum, iridium, osmiridium, palladium, rhodium and arsenium. The ground is on the Namsan Creek, which is a tributary of the Moyoung river, being readily reached by water during the rains. A syndicate has been formed to deal with the area.

The daily **prices of opium** per chest for the periods mentioned below were as follows:—
For the week ending 24th February, 1912—
In the Calcutta market—

Behar opium—Rs. 5,250; 5,350; 5,600; 5,600; 5,600; 5,600; 5,500.
Benares opium—Rs. 5,300; 5,400; 5,650; 5,650; 5,650; 5,650; 5,550.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 3rd sale of 1912.

At Hongkong—(Exchange Rs. 145 to 146 per \$100.)

Behar opium—\$3,900; 4,000; 4,000; 4,000; 4,000; 4,000; 4,000.

Benares opium—No quotations received.

At Shanghai—(Exchange: no quotations received.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 17th February, 1912—

In the Bombay market—

On the 11th and 12th instant (new, 1908-09) Rs. 3,450 to 3,465; (old, 1907-08) Rs. 3,500. From 13th to 17th instant (new, 1908-09) Rs. 4,530; (old, 1907-08) Rs. 4,600 to 4,650. The latest prices at Hongkong and Shanghai were (new) Rs. 5,127 and 4,970; (old) Rs. 5,274 and 5,211, respectively.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 1st instant regarding the **Hull oil market** says:—**Rapeseed oil**—Ravison, 27s. 3d.; brown East Indian, 30s. 3d. **Linseed oil**—The market is flat, with spot at 36s. 6d.; February-April, 35s. 9d.; May-August, 32s. The exports for the week amounted to 40 tons, of which America took 20; China, 1; India, 15; Norway, 3; and Sweden, 1 ton each. **Cotton oil**—This market is also flat, with refined cotton oil at 21s. 10½d., spot; 22s. 6d., February-April; 23s. 6d., May-August; crude oil, 20s. 6d., spot. The exports for the week amounted to 14 tons, of which Holland took 3; Italy 8; Norway, 2; and Sweden 1 ton each. **Soy bean oil**, 26s. spot. The exports for the week amounted to 30 tons, of which Denmark took 4; France 24; and Norway 2 tons each.

Cocoanut oil steady, but continues very slow for English for prompt at £39 10s. to £40 10s. per ton. **Castor oil** quiet but steady; Calcutta on spot, 3½d. to 3¾d. per lb. ex-store, and forward 3½d. per lb. quay terms. **Colza oil** steady but quiet at 36s. per cwt. for East Indian refined ex-store. **Lard oil** steady. Best English refined ex mill, 49s. 6d. per cwt. **Olive oil** continues steady, but quiet on spot at £42 10s. per ton ex-store for Spanish. Forward very steady, unchanged. **Palm oil** demand continued slower. Lags quoted at £30 to £29 15s.; softs, £29 10s. to £29 5s.; hard, £27 5s.; Benin, £28 5s. to £28 2s. 6d.; Accra, £28; and Congo, £25 12s. 6d. to £25 10s. per ton. Refined sorts quiet at £32 10s. per ton for bleached and £29 10s. for clarified in casks. **Petroleum** firm. Russian 6½d. to 7d., and American, 6½d. to 8d. per gallon. **Turpentine** weaker at 34s. 9d. per cwt. for spot; 35s. for February-April.

It is reported from **Scotland** that owing to the deficiency in supplies and the exceedingly high freights, the Anglo-American Oil Company has intimated a further advance in the **prices of its burning oils** of ½d. per gallon. Prices are now 75 per cent higher than 12 months ago. The advance is held to be justified by the increase of 250 per cent in tank steamer freights from America. Still greater stringency may be experienced as the deficiency in tank steamers cannot be made good until the end of the year.

In their report on **London tea sales**, dated February 9th, Messrs. Gow, Wilson and Stanton, Ltd., say:—The amount of **Indian tea** offered was 41,088 packages as compared with 42,511 packages last week. At Monday's auction a quiet tone prevailed, common kinds being barely steady, whilst mediums met with slack enquiry and quite a number of parcels of this class were withdrawn. Fine sorts were in very small supply, but the best liquoring Assams and one or two autumnal invoices from the Dooars district met with good support at firm rates. The balance of the catalogues submitted on Wednesday passed with distinctly brisker bidding; buyers appeared to be acting with more confidence than of late, and as a result prices for medium to fine kinds often showed a turn in Sellers' favour; whilst common descriptions were more enquired for. Six final invoices have been sold to date against five for the corresponding period last year. At both auctions Southern India was well represented, and prices here were mostly steady to rather dearer. The amount printed for next week is rather larger, 45,657 packages being advertised. Average for week 8'65d., against 8'69d. last sale. Week's average of tea sold on Garden Account, season 1911-12, 40,813 packages, average 8'65d. 1910-11, 31,680 packages, average 8'69d. Season 1911-12 to date, 1,166,827 packages, average 9'17d. Season 1910-11 to date, 1,089,279 packages, average 8'54d.

Imports of tobacco from each principal country into British India in the month of January, 1912, and total duty realised thereon have been as follows:—

Imports—	Unmanufactured.	MANUFACTURED.						Total tobacco.
		Cigars.	CIGARETTES.			Other sorts.		
			Weighing less than 3 lbs. per 1,000.	3 lbs. or more per 1,000.	Total.			
	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	Lbs.	
From the United Kingdom.	4,348	413	...	...	160,372	31,649	196,732	
From Holland.	7,144	4,004	...	...	1	...	11,209	
From Belgium.	3,928	518	...	...	...	...	4,416	
From Egypt	565	...	...	...	5,363	...	5,928	
From the United States of America.	8,726	...	...	...	...	14,005	22,731	
From other countries.	2,163	2,713	...	...	190	1,053	6,519	
total	26,874	7,708	..	...	166,326	46,707	247,616	
Total duty realized thereon Rs.	24,721	12,492	1,14,732	11,720	1,26,461	43,026	2,09,700	

In their weekly report on **Australian wool sales**, dated Melbourne, 1st February, Messrs. Goldsbrough, Mort & Co., Ltd., say:—We held our fourth sale of the year yesterday, offering a rather indifferent selection, including a large number of passed lots out of earlier sales. The market for good merinoes was practically unchanged, but for all mixed cross-breds and inferior merinoes a weaker tone was noticeable. Merino sold to 12½d. and crossbred to 11½d.

It is stated that Messrs. Apcar & Co., the owners of the line of steamers, which runs between Calcutta, the Straits Settlements, China, and Japan, have disposed of their steamers and the goodwill of their shipping business to the British India Steam Navigation Company. The opportunity has been taken of Lord Inchcape's visit to India to carry the arrangement through. The following is the fleet of steamers owned by Messrs. Apcar:—**Japan** 6,013 tons; **Gregory Apcar** 4,600 tons; **A. Apcar** 4,450 tons; **Lightning** 3,315 tons, and the **Catherine Apcar** 2,727 tons.

The **stock of sugar** at the various Port Commissioners' Warehouses in **Calcutta** on the 27th instant was 93,245 bags, while the stock in **Bombay** on the 24th idem, amounted to 62,800 bags.

The Report of the Tuticorin Chamber of Commerce for the year 1911, a copy of which has come to hand, records the activities of the Chamber during the past year and contains some interesting tables relating to the import and export trade of the port during the past nine years.

An interesting collection of papers and reports on **Cotton Cultivation** in the several countries of the world has been brought together by Dr. Wyndham Dunstan and published by the International Association of Tropical Agriculture and Colonial Development. Copies may be obtained from the Imperial Institute, London, price five shillings. The papers are the work of men of experience in the several tracts of which they treat and the collection forms the most compendious mass of information upon the subject which we have seen.

A copy of the **Netherlands Indian Quarantine Ordinance** of 1911 has been received and may be inspected at this office.

One of the latest publications from the Agricultural Research Institute, Pusa, is Bulletin No. 27 entitled *Experiments on the Cultivation of sugar-cane at the Partabgarh Experimental Station in 1909-11*. The authors are Messrs. G. Clarke, H. E. Annot and S. Z. Hussain, assisted by Messrs. S. C. Bannerji and N. Hussain. Copies are available from the Superintendent of Government Printing at five annas each.

We have received a number of reports and papers (in Dutch) from the **Java Fibre Congress** and these may be seen at this office. The titles are as under:—De Kapokcultuur Op Java door G. F. J. Bley; Kapokcultuur op Europeesche eindenemingen en van de Inlandsche bevolking, door Ch. Mac Gillavry; Iets over de Kokosvezel door R. Toemeng-goeng Ario Tirta Koesoemo Regent van Karanganjar; De Mechanische Bewerking van Sisal-En Manila-vezels Opmerkingen omtrent de Cultuur van Hibiscus Cannabinus door W. A. Zegers Rijser, Landbouw Adviseur; Sisal-Bereiding; De Cultuur, Handel, Bereiding en Vooruitzichten der Katoen in de Residentie Palembang, door D. J. G. van Setten; De Katoencultuur in Demak door Pangeran Ario Hadiningrat Regent van Demak; De Katoencultuur op Sint-Eustatius, door G. J. van Grol; Welke Waarde Heeft de Afval, Varkregen Bij de Sisal Vezelbereiding? door E. De Kruijff; De Vooruitzichten der Katoencultuur in Palembang door J. van Breda de Haan; Geschiedenis der Katoencultuur in Palembang door J. van Breda de Haan; Inlandsche vezelbewerking op de Vezeltentoonstelling to Soerabaia 1911, Borneo, Celebes, Java, Sumatra; and Catalogus vezel-Tentoonstelling to Soerabaia-Juli-Augustus.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 17th February, 1912:—Gones Prosad Luchmon Prosad—Khatta cutting machine. T. A. Dring—Improvements in flying machines. Manganes Steel Rail Company—Methods of producing wrought shapes of manganese steel. Simmons Sugar Company—Improvements in sugar-making products and processes of making the same. G. A. Hunason—Improvements in and relating to rail joints. A. J. Oliver—Footwear of a simple design suitable for India. E. McLean—Improvements in fan blowers. M. H. Mead—Improvements in sericulture. E. S. G. Rees—Improvements in ejector condensers, air pumps, or compressors. F. S. Old—Improved gauge tie.

Weather in India for the week ended Tuesday last was marked by a precipitation in Kashmir and the hills of the Punjab and of the West United Provinces. Local thunderstorms are reported from North Burma and Tenasserim, while a high breeze, accompanied by sleet, is reported from Simla.

Sales of Tanned East Indian Sheep Skins in London began on 29th January and concluded on 31st. The main supply of Bombay and Kurrachee tannages was sold first. First selections in the better tannages receded fully 1d. per lb. and "seconds" also slightly favoured buyers, but "thirds" realised fully December prices to $\frac{1}{2}$ d. per lb. advance. Kurrachee and the inferior descriptions did not mark any material alteration in value. A good clearance of Madras tannages has been effected at prices ranging from last sales' rates to about 1d. per lb. decline. The large proportion of middle-class descriptions sold steadily throughout with little loss in value. Trichinopoly and Dindigul tannages, which were sparsely represented, sold to advantage, and do not record any loss in average results. Vellore and good town descriptions were in fair supply, and sold at prices ranging from December rates to 2d. per lb. decline. A few parcels possessed of more than average merit appreciated about 1d. per lb. Prime city tannages show a decline of $1\frac{1}{2}$ d. per lb. With the exception of two parcels offered earlier in the series, the bulk of the offerings of Coimbatore descriptions show a somewhat serious decline. Of 893,904 skins offered, 820,616 were sold. Stock in brokers' hands: about 850,000 skins. In **Tanned Hides** the statistical position of the article is good but there is a feeling among consumers that trade does not warrant the present high level of prices and constant pressure upward. Labour troubles are still on the horizon, and these circumstances together combine to create much reserve in distant operations. There is a fair enquiry for calf skins, and buffalo leather is in good demand.

The export trade by the **Nushki route** in November last totalled Rs. 1,55,080, or an increase of

Rs. 53,156 over the figures of the previous November. The imports totalled Rs. 1,04,872 and show an increase of Rs. 57,808 over the corresponding figures of the previous year.

The Governor General in Council is pleased to prohibit, with effect from the 1st of March, 1912, the bringing by sea or by land into **Burma**, by means of the post, of **hypodermic syringes** or of needles for hypodermic injections and to restrict the importation of these articles by other means to cases in which they are imported by a medical practitioner or licensed pharmacist.

It has been decided to modify in certain respects the **Burma** Government rules governing the granting of **prospecting licenses**. One change decided on is that an applicant for prospecting licenses need not produce a certificate of approval with each application; one certificate will suffice.

NOTICES.

CALLS FOR TENDERS.

Ordinance Stores.

The Officer in charge, Agra Ordnance Depot, is calling for tenders for the purchase of sixteen smooth bore 8 inch howitzers, which will have to be broken up before delivery.

Indian Coal.

The Director of the Royal Indian Marine, Bombay, is calling for tenders up to the 20th proximo for the supply of 15,200 tons of Indian steam coal at Bombay, 13,400 tons at Calcutta, 850 tons at Colombo, 1,700 tons at Karachi, 700 tons at Madras, and 8,500 tons at Rangoon.

Welsh Coal.

The Director of the Royal Indian Marine, Bombay, is calling for tenders up to the 20th proximo for the supply of 1,000 tons of Welsh unscreened steam coal at Karachi and 2,000 tons at Rangoon.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Fancy Leathers.

(1343)—A firm in Leeds desires to be placed in communication with suitable agents for the sale of all kinds of fancy leathers for book-binding, bags, purses, and fancy goods generally.

Pumping and Turbine Installations.

(1344)—A London firm wishes to be placed in communication with firms interested in pumping and turbine installations.

Wood for Boxes.

(1345)—A firm in London desires to be placed in communication with importers of shooks of wood for box manufacture.

Gut.

(1346)—A concern preparing dried gut desires to be placed in communication with purchasers in Calcutta.

Belt Dressing.

(1347)—A Dublin firm desires to appoint agents in Calcutta, Madras, Karachi and Delhi for the sale of a special belt dressing.

Jute Sacks.

(1348)—A Government office in Turkey desires to be placed in communication with shippers of jute sacks, particulars of which may be obtained at this office.

Tussore Silk.

(1349)—A firm in the Transvaal desires to be placed in communication with suppliers of tussore silk.

Market Bags.

(1350)—The Director-General of Commercial Intelligence desires to hear from European importers of the bags known as "market bags" made of matting and used by fish-mongers and green-grocers. It is requested that samples and specifications of size and packing be furnished with approximate quotations.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 6th March, 1912:—

Parliamentary Publications.

Accounts relating to Trade and Navigation of the United Kingdom for each month during the year 1912—January 1912.

Foreign and Colonial Publications.

Canada—Weekly Report—January 22nd, 1912. Egypt—L'Egypte Contemporaine—No. 9—Janvier 1912. Italy—International Institute of Agriculture—Bulletin of the Bureau of Economic and Social Intelligence—2nd Year—Number 10—31st October, 1911; Numbers 11-12—November-December, 1911; Bulletin of Agricultural Statistics—Vol. III.—January, 1912—Supplement; Bulletin de Statistique Commerciale—Numero II—Fevrier 1912. Java—Statistiek van den Handel en de in—Uitvoerrecht in Nederlandsch—Indie over het Jaar—1910—Deel III. Mexico—Boletin de Estadistica Fiscal—Mayo de 1911—Numero 364. Netherlands—Statistiek Van Het Gevangeliswezen over Het Jaar 1910. New South Wales—Bulletin No. 50—Report on the Trade of China, 1910. Russia—Commerce Extérieur de la Russie par la Frontière d'Europe—1 Janvier—1 Decembre 1911. United States of America—Crop Reporter—December, 1911.

Indian Publications.

Forest Bulletin No. 8—1912—A Note on some Germination Tests with Sal Seed—(Shorea Robusta); No. 9—Note on the Resin-Value of *Podophyllum Elmodi* and the Best Season for Collecting it.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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

Subscribers and advertisers in the United Kingdom may remit either through a bank or by money order. For the purpose of postal remittances, one penny should be taken as the equivalent of one anna, and 1s. 4d. as the equivalent of one rupee.

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 Kalyaharama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, FEBRUARY 29, 1912.

DISTILLATION OF WASTE WOOD.

In our last issue we reviewed Mr. Latifi's book on the *Industrial Punjab*; and we now quote certain passages in which that writer deals with distillation of wood. These passages are selected for publication because it appears that in parts of a province very remote from the Punjab large quantities of waste wood and timber are available. In parts of Burma, forest land is still cleared for rice cultivation by the wasteful method of burning, and considerable tracts have in recent years been opened up by similar means as sites for rubber plantations. Where either of these measures has been carried out, the ground remains encumbered with timber, much of it of very great size. In most Indian forests, waste wood produced in the extraction of timber is so scattered that cost of collection would probably eat up the profit on its industrial use. In Burma the wood exists in solid trunks of all sizes and often in large quantities at one point.

The numerous timbers of Burma offer a wide field for study and one that has been scarcely

trodden. We have enquired whether there has been published any such analysis of Burma woods as would enable one to judge of their suitability for distillation. We have been informed on eminently good authority that, while no such work is known, there is every reason to believe that most of the woods would give excellent results in distillation.

Points in favour of the proposition are that Burma is short of coal and would probably offer a good local market for charcoal, while the increasing number of rubber factories in Burma and countries within easy reach of it would welcome a cheap supply of acetic acid. This is one of the principal bye-products in wood distillation and is required in considerable quantities for the coagulation of the latex in rubber factories. We believe that it is indeed a fact that the present high cost of imported acetic acid is proving a serious matter to some of the younger rubber concerns.

The dry distillation of wood, says Mr. Latifi, is an industry with a future in the vast Indian forests of inferior timber. The subject is, for various reasons, already engaging the serious attention of the Government of India. Charcoal, which constitutes only one-fifth of the weight of wood, and which in reality ought to be only a bye-product of dry distillation, is, in the primitive process locally practised, the only substance recovered. The consumption of charcoal in the Punjab is considerable, but difficult to estimate. It has its largest outlet in household cooking and in metal workshops. It is also used for the generation of carbonic acid gas and for making gunpowder. In Europe it is employed in iron and steel works, copper foundries, sugar refineries, and for filtering drinking-water. It is the basis of the manufacture of carbon bisulphide, the demand for which is increasing, and has, besides, a future in suction gas engines. For an account of the different woods used in India for preparing charcoal for various purposes, see Troup's *Indian Forest Utilization*, page 85. The other very valuable products, which in European countries are obtained by the use of brick and iron retorts, are entirely wasted in India. Amongst these products may be mentioned pyroligneous acid, from which by a brief chemical process are obtained acetic acid, acetone and the various acetates. Acetone is in much demand in Europe and, to a certain extent, in India, for the manufacture of cordite, chloroform and celluloid. The other commercial products of distillation are wood-pitch, wood-tar and wood-spirit (methyl alcohol). Wood-pitch mixed with 20 per cent of colophony asphalt is sent into the market for use by shoemakers. Wood-tar is used

for creosoting wood, roofing felts and as an antiseptic. Wood-spirit is used for various purposes, the chief of which are, (1) the methylating of rectified spirits, and (2) the production of paints, varnishes, Perfumes, formaldehyde, etc. As it is very much more volatile and powerful in action than methylated spirit, it has been suggested as a solvent in the manufacture of shellac.

The two conditions of success for a wood-distillation factory are (1) abundant supply of cheap and suitable wood, and (2) a good market for charcoal. In Europe, beech and birch are considered best for the purpose. In India, acacia, oak and other hard species of wood, which are generally used only for fuel, would be the most suitable as they yield the largest percentage of charcoal, methyl-alcohol and acetates of lime. No statistical information is so far available on these species or on the economic prospects of the industry, but the Forest Research Institute is now endeavouring to collect it.

The industry has been highly developed in France, Germany, and the United States of America, and the actual balance sheet of a German factory will be of interest in the present inquiry. The stills are at work for three hundred days in the year and handle birch wood (one mark = 12 annas). The destructive distillation of wood, Mr. Latifi here explains, may be taken to yield approximately:—Charcoal, 25 to 29 per cent; Water-free tar, 5 per cent; Pyroligneous acid, 1 per cent; Acetate of lime, 6 per cent; Wood-spirit 80 per cent, 2 per cent.

Cost of production:—

	Marks.
Wood, 530,000 c. f. (about 6,000 tons)	67,500
Coal, 900 tons at 15 marks	13,500
Lime, 150 tons at 15 marks	2,250
Labour, 8,400 shifts at 2-10 marks	17,640
Repairs	4,000
Packages	6,000
General (including management)	17,300
	Marks 128,190

Sales:—

	Marks.
Charcoal, 1,650 tons at 48 marks	74,250
Wood-spirit, 91-75 tons at 592-9 marks	54,450
Acetate of lime, 382 tons at 160 marks	61,120
Wood tar	7,500

Marks 197,320
" 128,190

Gross profit, Marks 69,130

Depreciations:—

	Marks.
1 per cent on land (9,000 marks)	90
2 per cent on buildings (50,000 marks)	1,000
12 per cent on plant (125,000 marks)	15,000

Marks 16,090

Net profit, Marks 53,040 per annum.

The capital of the factory is 184,000 marks and the return amounts therefore to 35 per cent.*

In conclusion Mr. Latifi contends that the industry has great possibilities, but it is not one for private persons to take up in the first instance. It would certainly, he says, be worth while for Government to spend a capital sum of three lakhs of rupees on an experimental factory to treat 25,000 tons of wood yearly. The first step would be to send sample consignments of, say, ten tons each of all suitable varieties of wood to Europe, for expert opinion as to the value of their products. An officer of the Forest Department with the necessary qualifications might then be deputed to study wood-distillation methods in France, Germany, Austria and America, and then frame a scheme in consultation with the best manufacturers for setting up a factory in a selected forest area.

* The balance sheet is taken from a lecture by Mr. Max Muspratt reported in the *Jour. Soc. Chem. Ind.*, Vol. XXIV. (April 29th, 1905), pp. 372-74. It apparently leaves out of account interest on the floating capital. For an account of the industry as it exists in America, see *Chemical Method for Utilising Wood* (U. S. Dep. Agr. Bureau of Chemistry, Circular No. 36), and Harper, *Utilization of Wood Waste by Distillation*.

The provisional returns of the foreign trade of France show an increase over imports for consumption and domestic exports combined of £37,000,000. Imports have increased by £39,480,000, while exports have decreased by £2,480,000. The following table shows the increases or decreases in each class of goods:—

	Imports.	Exports.
Food stuffs	+ £23,080,000	- £5,320,000
Raw materials	+ £11,720,000	- £560,000
Manufactures	+ £4,680,000	+ £3,160,000
Parcel post	.....	+ £160,000
Total	+ £39,480,000	- £2,480,000

The largest trade movements have occurred in the class of foodstuffs, the increase of imports and fall in exports being due to the bad French harvests, which have caused a rise in the cost of food and outreries against the tariff. It is noticeable that the increase in the imports of manufactures is greater than that in the exports. This, indeed, has been an important manifestation in French commerce since the beginning of the century. From 1907 to 1911 imports of manufactures increased by £46,440,000, while exports of manufactures increased by only £4,160,000. Since 1902 manufactured imports have more than doubled, while exports have increased by only 43 per cent.

TARIFF CHANGES AND CUSTOMS REGULATIONS.

THE *Board of Trade Journal*, published on the 8th instant, relating to Tariff Changes and Customs Regulations, gives particulars about:—

UNION OF SOUTH AFRICA.—Proposed Consolidation of Laws relating to Importation, etc., of Arms and Ammunition.

GOLD COAST.—Proposed Legislation to prevent Introduction of Insect Pests.

SIERRA LEONE.—Proposed Legislation to prevent Introduction of Insect Pests Destructive to Plants, etc.

COMMONWEALTH OF AUSTRALIA.—Free Importation of Certain Machine Tools, etc. New Customs Tariff Amendments.

DOMINION OF NEW ZEALAND.—Amended Forms of Declaration Required for *ad valorem* Goods.

UNION OF SOUTH AFRICA.—Importation of French Potatoes.

RUSSIA.—Customs Duties on Preparations for Washing and Healing Domestic Animals. Duty-free Admission of Iron Seagoing Vessels.

RUSSIA.—JAPAN.—Prohibition of Importation of Certain Sealskins.

GERMANY.—New Regulations respecting "Import Certificates."

DUTCH EAST INDIES.—Export Duty on Benzine and Gasoline.

ITALY.—Customs Classifications.

MOROCCO.—Revised Regulations respecting the Temporary Duty-Free Admission of certain Articles.

COSTA RICA.—Revised Customs Tariff.

VENEZUELA.—Customs Classifications.

BRAZIL.—Modifications of Consular Invoice Regulations. Budget Law for 1912.

URUGUAY.—Customs Duties on Glass Receptacles.

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

DUTCH EAST INDIES.

Benzine and Gasoline—Export Duty on.

It has been understood that the Government of the Netherlands has had under consideration a Bill to impose an export duty of 3 cents per hectolitre (0.0273*d.* per gallon) on petroleum-benzine and petroleum-gasoline exported from the Dutch East Indies. It is now officially announced that the Bill has been passed and received the Royal sanction on 29th December 1911.

—His Majesty's Embassy at Berlin report the publication of regulations, made under the German Weights and Measures Law of 30th May, 1908, authorising the use in Germany until further notice of the English system of weights and measures in connection with the importation and exportation of textiles and the exportation of pharmaceutical goods; and the use until the end of 1922 of the English and certain other systems for trade in timber.

CHAMBERS OF COMMERCE.

BENGAL.

THE Annual General Meeting of the Bengal Chamber of Commerce was held on February 28th with the Hon'ble Sir Cecil Graham, President of the Chamber, in the chair. In addressing the meeting the Chairman said:—

The Factory Act.

Now to turn for a few minutes to some of the more important matters with which our Report deals. The Factories Bill which was at the time of our last meeting passing through its stages in the Legislative Council, emerged, not perhaps quite in the form that many of us would have liked, but I think that on the whole it was moulded into a workable measure, and it only now remains to be seen how it will work out in practice, when it comes into force on 1st July next. I am sure, that those interested in the Mill Industry in Calcutta will give it a fair and reasonable trial and that with a little give and take on both sides there is no reason why its provisions should not be made to work smoothly and without unnecessary friction or disturbance to the trade. We all owe Mr. Birkmyre a debt of gratitude for the able way in which he represented the Chamber's views in Council, the Bill amended to bring it more into conformity with the general views of the Trade, which efforts though not entirely successful, were yet attended with a considerable amount of success.

Arbitration.

As you will have noted we have recommended and now passed some alterations in our Arbitration rules, to meet the position which had arisen owing to a decision of the High Court in an arbitration case which came before it some years ago. In a similar case decided quite recently, a totally opposite decision was come to, and though welcoming this latter decision as going to show that our former rules were not at fault, yet there can be no harm in being on the right side and so wording them, that legal points cannot possibly arise to upset the decisions of our arbitrators and the prestige of our Chamber arbitration Court.

Improvement Scheme.

Another important matter has been the Calcutta Improvement Scheme, which finally passed through the Provincial Legislative Council last summer, and the Trustees appointed under that Act are already at work. I think we may congratulate Government and Calcutta generally on the selection made of gentlemen to serve on the Trust, and that if ever Calcutta is to have her congested areas opened out, and her approaches and streets widened and improved and made worthy of the city, her chance has come now, and that the right men have been found to

superintend the first beginnings of what cannot but be an immense and protracted undertaking.

Life Insurance.

Here again much needed legislation is at present in course of discussion in the Legislative Council. The Chamber pressed for three main points, viz., first, a Government Department to supervise the working of the Life Insurance Companies and Provident Societies Acts, secondly, a substantial deposit (2 lakhs instead of 1 lakh as proposed in the Bill), and thirdly, the proper control of the investments of the Companies' Funds. Now, as you will see from the report of the select Committee appointed to consider these Bills, our first point though not actually granted, is, we think, foreshadowed by the suggested appointment of a Government Actuary, such an officer must in time, we think, from sheer inability to cope with the work successfully singlehanded, eventually blossom out into greater things, and we trust that as time goes on, he will emerge a full blown department under the Member for Commerce and Industry. Our second point is now met by the deposits having eventually to accumulate up to a sum of 2 lakhs of rupees, and though we would have preferred a larger sum than Rs. 25,000 as an initial deposit, as that is a most meagre sum, yet under the circumstances with 2 lakhs as the amount to be eventually reached by all, I think we may rest content. As regards our third point there are many difficulties, and we can realize, why Government are, for the present at least, unable to meet us in this direction, but we can only hope that the Act may be amended before long, and that this control of investments, so very necessary in the interests of policy-holders in a country like India, may ere long become an integral principle of the Act.

Foreign Telegrams.

The next point I should like to touch upon is the excessive inconvenience and delay to business to which merchants all over India have been put to during the year, and especially just of late. Your Committee have addressed many protests to the Telegraph Department on this count, but little seems possible to be done. With Persia so disturbed, our telegraphic facilities are naturally much curtailed, and when the other line is also interfered with we are all in a bad way. The matter is so serious for all commercial interests, that I hope Government will before long take special steps to get this state of affairs rectified, and your new Committee will not, I am sure, let the question drop, until something has been accomplished to put this most essential means of communication for the modern Commercial Community again in a more normal condition.

Port Facilities.

To turn for a moment to our more domestic affairs, I would bring to your special notice the congestion there has been at the docks almost throughout the entire year, but this is having the par-

ticular attention of a Committee specially appointed to go into the question, and some of their suggestions have already, I fancy been adopted. We may look forward therefore hopefully to their final report and the eventual results of their labours; with full confidence that all their recommendations will receive most careful consideration, and be acted on fully wherever they are shown to be reasonably practicable. Another point in connection with our Port has been the suggested lighting of the lower reaches of the Hugli, with a view to night navigation of these lower approaches to our Port. I am sure you will all agree with me that if the Committee who are going into this proposition, all see their way to approve of it from the point of view of the safety of steamers passing up and down these reaches during the night, there will be an immense advantage to the whole seaborne trade of Calcutta, and our Commerce will gain enormously in consequence.

Railways and Waterways.

Points in connection with these perhaps more especially with the latter have taken up a lot of the time of your Committee during the year. We have always been steadily pressing, that the great waterways of Bengal should be used to their very best advantage, and that this form of cheap transport should be given every opportunity of legitimate expansion. Our Railways are essential but so are our waterways, and they should both be allowed to work together instead of in competition with each other, in their own spheres of influence. We want cheap transport, of whichever class it is, and there is no reason why these two should clash. Let the Steamer Companies have every facility in those parts of the country which are suited to water carriage, and let the Railways develop those districts which are not directly in touch with Calcutta by that means of conveyance, and let them have a free hand to run their lines on the cheapest basis compatible with reasonable returns, given these, I think Calcutta need have no fear of losing her commercial prosperity or standing, as she has a wonderful system of waterways which only need careful development and conservancy, to bring most places in Northern and Eastern Bengal very much closer to her and her Port and she is also fed by Railways, that can I believe, be run cheaper than any others in India, and still show a reasonable profit to their shareholders and Government. In this connection I may briefly refer to the proposal that the E. I. Railway should take over and work the O. and B. Railway, and I cannot help thinking that if that proposal is adopted it would be a most excellent move from every point of view, and one which cannot help being of the greatest advantage to the commercial interests of Calcutta. This proposal is quite likely to come before your new Committee in the near future, and I am sure you will agree with me, that they will do well to give their strong support to it. It is along these lines we must press, if we are to make the most of the changed position

in which Calcutta will soon find herself, so that we may not only hold our own, but go on steadily increasing her present Commercial and Industrial preeminence. But this brings me to the point,

Election of Office-bearers.

The President reported the following as the result of the election of the Committee of the Chamber for the year 1912-13 :—

President : Mr. A. M. Monteath.

Vice-President : Mr. E. H. Bray.

Members : Colonel C. A. R. Browne, R.E., the Hon'ble Sir Cecil Graham, Mr. H. S. Johnston, the Hon'ble Mr. Norman McLeod, Mr. J. C. Shorrocks, Mr. A. Topping and Mr. A. A. Vlasto.

The particulars below are from the abstract of the proceedings of the Bengal Chamber of Commerce for the month of January, 1912 :—

Calcutta Port Amendment Bill, 1912.

On the 16th January the Government of Bengal, Legislative Department, asked to be furnished with the views of the Chamber upon a Bill to amend the Calcutta Port Act, 1890. The object of the Bill was to make certain changes in the Act with reference to the financial powers of the Port Commissioners. The Shipping Sub-Committee of the Chamber to whom the Bill was referred, expressed their approval of its provisions; and the Committee, agreeing with this view, informed the Government of Bengal accordingly.

Strike Clause in Contracts.

At their meeting on the 30th January the Committee considered a proposal that had been made to them in this connection. It appears that a strike clause has been lately adopted by (1) the Calcutta Liners Conference in all shipping orders issued from Calcutta; and (2) the Incorporated Oilseeds Association of London in the official contract used in the sale of oilseeds in London and elsewhere. The London Corn Trade Association is also expected to adopt a similar clause. Buyers of seeds and wheat in Europe and elsewhere will, it is anticipated, demand that any shipper claiming an extension of shipment time under the strike clause should furnish an official certificate as to the existence of a strike, etc., at the loading port. This certificate should be granted, it was suggested, by the Bengal Chamber of Commerce, and an enquiry was made as to whether the Committee would be willing to undertake the duty.

The Committee agreed to accede to the request, and they directed that a fee of Rs. 5 should be charged for each certificate so issued to members of the Chamber. They were not prepared to issue certificates to non-members. They further directed that each application for a certificate should be submitted to them for their orders, and that certificates were only to be issued under their immediate instructions.

Telegraphic Communication with Saugor Island.

In the abstract for April reference was made to a proposal, which had been put forward by the Indian Telegraph Department, that the telegraph office at Saugor Island should be closed. By reason of the rapid encroachment of the sea at Saugor, the telegraph office was said to be in danger. To provide a new office, together with the necessary protective works, would involve heavy expenditure; and to avoid this it was suggested that telephones should be installed between the island and the Mud Point telegraph office. The Committee of the Chamber took exception to this proposal, and urged that the telegraph office should be maintained at Saugor. Some correspondence passed on the subject, and the Government of India have quite recently issued their final orders. These are to the effect that, in the opinion of the Government of India, telephonic communication between Saugor Island and Mud Point will prove to be satisfactory. A telephonic installation has been in use since May last, and there has been no interruption. Government have accordingly decided that the system should be given a further trial; and the Director-General of Telegraphs has been instructed to arrange for the exchange of messages between Saugor Island and the mainland by telephone until further notice. If these arrangements should subsequently prove to be unreliable, the Government of India will be prepared to consider the matter further.

Assam Bengal Railway : Proposed Bhairab Bazar and Netrakona Connection.

The Committee have recently had before them a representation, which was made in December last by the Narayanganj Chamber of Commerce to the Government of Eastern Bengal and Assam, with reference to this projected railway. The line would be constructed by the Assam Bengal Railway, and it would run from Bhairab Bazar to Netrakona, with a branch from Iswarganj to Mymensingh. The Narayanganj Chamber are opposed to the project, as they do not believe that it would be sufficiently remunerative to warrant its construction. In their representation they have stated at length their reasons for this opinion, and they have shown that the line would merely duplicate and short-circuit the existing waterway of the Brahmaputra.

The Committee of this Chamber have considered the project, and have consulted their Railways Sub-Committee and Inland Transport Sub-Committee in regard to it. After considering the views of these Sub-Committees, they agree with the Narayanganj Chamber that the line is unnecessary. Much more useful lines might, they consider, be constructed in preference to a project which merely duplicates an existing transport service. And on principle they deprecate the construction of railways which draw their traffic from other means of communication that are already efficiently serving the needs of the tracts of country through which they pass.

Indian Railways : Carriage of Offensive and Dangerous Goods.

On the 22nd November last the Railway Board published for criticism certain draft rules which they proposed to make, for railways administered by Government, in exercise of the powers conferred by notification of the Government of India in the Department of Commerce and Industry, No. 801, dated 24th March 1905, section 47 (1) (c) of the Indian Railways Act, 1890. The draft rules provide for the carriage of (1) offensive and (2) dangerous goods. The Committee have consulted the leading petroleum companies in Calcutta with reference to the draft and have submitted to Government the views of those organisations. They have also recommended that, if necessary, a meeting between the Railway Board, and representatives of the companies should be arranged.

Calcutta Improvement Trust.

The Committee have published for the consideration of members a letter, dated 31st January, from the Chairman of the Calcutta Improvement Trust in which opinions are invited, and information is sought in regard to the following points, namely :—

- (a) As to the particular interests, if any, that are incommoded by want of traffic facilities;
- (b) As to what branches of trade, if any, suffer for want of adequate accommodation;
- (c) As to whether labour finds it difficult to obtain sufficient housing accommodation in convenient proximity to its work;
- (d) As to the direction in which it is most urgent to develop the suburbs of Calcutta, so as to provide for the increase in population.

A preliminary note by the Chairman indicating the general nature of the questions that the Trustees propose to consider in the first place was published with the letter.

Condensed Skimmed Milk.

In the abstract for October the Committee defined the action that they had taken with the object of regulating the importation of condensed skimmed milk. They were addressed on the subject by members of the Chamber, who recommended that legislation on the lines of a recent Hong-kong Ordinance should be undertaken. By this Ordinance the following caution must be affixed to each tin, namely :—"This is skimmed milk : 'children under one year of age should not be fed on it.' Contravention of this regulation is punishable by fine or, in default, imprisonment with, or without hard labour for any term not exceeding three months.

In replying on the 15th January to the representation made by the Committee, the Government of Bengal dealt with the question in detail. They pointed out that the proposals for legislation that were put forward two years ago were found on examination to be impracticable. The Government of India had, however, instructed all Collectors of

Customs to require that "Prepared from skimmed Milk" should be conspicuously marked on the labels affixed to tins of condensed milk so prepared when imported into Calcutta. These instructions were issued in 1909 and are still in force. If the tins are not so labelled when imported, labels are affixed to them in the Custom house. It is the opinion of the Government of Bengal that nothing has since transpired which would justify the reopening of this decision.

In the circumstances, the Committee of the Chamber did not contemplate moving further in the matter.

BOMBAY.

The Annual Meeting of the Bombay Chamber of Commerce was held on the 21st instant, the Hon'ble Mr. C. H. Armstrong presiding. In the course of his remarks the President said :—

So far as our trade is concerned the year was not exactly a prosperous one and the failure of the rains in Gujarat and Kathiawar was a misfortune as these markets belong exclusively to us and when adverse conditions prevail over such an important area our trade must be affected. I am glad to think that great efforts are being made to relieve the distress and preserve the cattle, for many of us well remember what happened a few years ago when in a great famine the cattle died in large numbers. Prospects for this year's trade appear more satisfactory. The lower level of cotton has stimulated a very large arrival business in piece-goods, and this apart from prosperity in Lancashire means also profit to our weaving mills whose productions are steadily growing in favour. For the rest we depend very largely on our crops, but the troubles in China and in Persia are important factors which cannot be overlooked. In China we cannot influence the situation, but as regards Persia your Committee telegraphed a few weeks ago to the Government of India calling their attention to the unsatisfactory state of affairs in the southern districts and to the block at Bunder Abbas and from the reply received it is evident that some steps are being taken to get goods into the interior. As the Persian markets are of great value to Bombay the situation must be closely watched and not allowed to drift or our trade will be much hampered. We must rely on Government to take such steps as may be necessary to keep the trade routes open.

Busy Commercial Year.

In commercial legislation, continued the President, the year has been a busy one and at the forthcoming meeting of the Imperial Legislative Council the reports of Select Committees will be presented on Bills to provide for the better control of Life Assurance Companies, and of Provident Insurance Societies in India—on an Indian Post Office Amendment Act—on a Bill to prohibit the importation, manufacture and sale of matches made with white phosphorous and on a Bill amending the Indian

Stamp Act. The Life Assurance and Provident Societies Acts are sound Bills, which ought with certain amendments to be passed into law. For the prohibition of Matches Bill there is however no necessity and it will now I imagine be difficult to bring forward a convincing argument in support of it. The idea originally was to stamp out the disease of necrosis in countries where these matches are produced, but as it has been found that at any rate in Europe the disease owing to improved machinery has practically disappeared since the signing of the Berne Convention in 1906 some other reasons will now be required to justify the proposed legislation.

Nothing more has been heard during the year of a proposal I referred to at our last meeting that a **transit duty** should be levied on cotton passing through Bombay to help to pay for certain local improvements. The suggestion is so manifestly wrong in principle that I should hardly think we are likely to hear anything more of it, but if we do, we shall certainly protest most vigorously against it.

No railway questions of importance have come before your Committee during the year. The Muttra-Aligarh extension is still undecided, but under the changed conditions in northern India it is likely, I imagine, ere long to come up again for discussion, and presumably to our advantage.

Docks' Traffic Question.

After many years of discussion the traffic question in the Docks appears to have been satisfactorily settled. All this work cannot however be accomplished without great expense and final estimates for the dock and necessary works are naturally in excess of those originally put forward. The question of cost is of course an important one for trade as interest and a sinking fund must be provided on loans, but two years hence the reserve fund of the Trust will be about a crore of rupees accumulated for this very purpose of providing for deficits for some years after the opening of the Alexandra dock. There is no intention of raising charges on goods passing through the docks and even if the reserve fund does fall rather rapidly, as for a few years it is almost certain to do, the position with normal seasons is bound to right itself and there need therefore be no anxiety as to the future prosperity of our Trust. The reserve fund has been accumulated for this particular object and will be used without any fear that it will not be ample for the purpose. When the Victoria Dock was opened about 24 years ago the reserve of the Trust was nearly 16 lakhs, and in ten years it was reduced to just under 9 lakhs, but in the meantime considerable reductions had also been made in rates. It then commenced to rise and in the next ten years advanced to over 55 lakhs. It may be ten years after the opening of the Alexandra Dock before it will be possible to add again to the reserve, but considering the magnitude of the work, there is nothing very alarming about this. Good seasons are of course

necessary and helped as I hoped we shall be by better railway facilities in Northern India our trade must steadily expand.

The **shortage of railway wagons** at the present time is being much commented on, and the explanation apparently is a general shortage of coal which has drawn off a large number of trucks for the transport of this very necessary article. The transport of hay and other commodities to the famine districts is also mentioned as another reason for the present shortage, but as a member of the Central Famine Fund I can say we are finding great difficulty in getting even a moderate supply of wagons for this purpose. The fact really is, I suppose, that we are short again of rolling stock, and this being so it is satisfactory to note, according to a recent announcement, that it has been decided that out of the total railway budget for this year of 13½ crores, 10¼ crores will be given to open lines, of which 5 crores will be devoted to rolling stock. The progress India is now making commercially and industrially will surely require a much larger supply of wagons in the near future, and I hope this point will be kept well to the front by railway administrations, for a shortage in the busy export season is demoralizing trade which cannot be worked satisfactorily under such conditions.

Financial Questions.

Financial questions have not been prominent during the year, but we have watched with considerable interest and some anxiety the steady accumulation of the Government cash balances in London by heavy sales of Council Bills and Telegraphic Transfers in excess of the requirements of Home Treasury. At the end of last March the amount so held was over 16½ millions sterling and at the end of next month this will probably have reached 21 millions against an average balance of about 4½ millions only ten years ago. In his forthcoming Budget Statement the Hon'ble the Finance Member will no doubt deal with the position as it now exists and his remarks will be read with much interest, for we in Bombay are unable to understand the necessity for this rapid and continued accumulation which is depriving India of funds, which could be used to great advantage in our trade. In reply to a recent communication from the Karachi Chamber we have said that in our opinion the Indian mints should be opened to the free coinage of gold which could be arranged in Bombay at a very small cost and we have also acquiesced generally in a suggestion that the annual drawings of the Secretary of State on the Indian Treasury should be limited to the figures entered in his Annual Budget. We have also agreed that no further addition should be made to the Gold Standard Reserve in London, and this point should be promptly settled, thereby enabling profits on coinage hereafter to be retained in this country.

These, gentlemen, are the principal topics dealt with by your Committee during the year. There are other subjects mentioned in the report which are

no doubt of considerable interest, notably perhaps the Declaration of London which we generally approved as a step in the right direction and as an improvement on existing conditions, but which has been refused by the House of Lords. The improvement of cotton cultivation in India has also been another interesting topic and the difficulties under which piece-goods business is now carried on in Bombay have not been lost sight of. Being a free-trader myself I regret very much the arbitrary restrictions placed on this very important trade which must add to the cost of all supplies brought into the country besides causing irritation amongst manufacturers and shippers in Europe. I appeal for a more enlightened policy.

MADRAS.

The extracts below are from minutes of proceedings of the monthly meeting of the Madras Chamber of Commerce held on the 30th January, 1912 :—

Port and Pilotage Dues at Madras.

Read a reference from the Chairman of the Madras Port Trust, dated the 10th January, forwarding copy of a letter he had addressed to Messrs. Binny and Co., proposing certain alterations in the method of levying Port and Pilotage dues at Madras, and also a letter addressed by Messrs. Gordon, Woodroffe and Co., Madras, to the Port Trust.

Resolved to inform the Chairman, Madras Port Trust, that the Chamber, after having consulted those of its members who are interested in the matter, was of opinion that no material advantage was to be gained by adopting the proposed alterations.

White Phosphorus Matches.

Read a letter, dated the 10th January, from the Acting Consul for Norway, Madras, on the subject of the manufacture, importation and sale of white phosphorus matches.

Resolved to send the Consul a copy of the Chamber's letter to the Government of Madras and to say that the Chamber did not propose to take any further action in the matter.

British Withdrawal from the Brussels Sugar Convention.

Read a letter, dated the 19th January, from the Cawnpore Sugar Works, Ltd., forwarding copy of a letter addressed by sugar manufacturers in India to the Government of India regarding the reported intention of the British Government to withdraw from the Brussels Sugar Convention.

Resolved that this Chamber support the representation.

Customs Duty on Component Parts of Machinery.

Read a letter, dated the 22nd January, from the Upper India Chamber of Commerce, asking whether this Chamber would be prepared to make a joint

representation to the Government on the subject of the conditions governing the exception of component parts of machinery from assessment to Customs duty.

Resolved to inform the Upper India Chamber that this Chamber was prepared to support a joint representation, although no complaints had been made in Madras with reference to the method of assessment.

Eighth Congress of Chambers of Commerce.

Read a letter, dated the 23rd January, from the Bengal Chamber of Commerce, asking whether this Chamber proposed to submit any Resolutions to the Eighth Congress of Chambers of Commerce.

Resolved to inform the Bengal Chamber that this Chamber did not propose to submit any Resolutions.

Madras Small Cause Court.

Resolved to write to Government urging the necessity of appointing as Chief Judge of the Small Cause Court, in the place of Mr. Bakewell, appointed to the High Court for two years, a Barrister specially qualified to deal with cases under commercial and shipping law and custom.

Ground-nut Cultivation in Southern India.

Read a letter, dated the 29th January, signed by Messrs. Dymes and Co., Best and Co., and Parry and Co., on the above subject.

Resolved to address the Director of Agriculture suggesting that Government provide a fresh supply of the best Mozambique or other ground-nut seeds suitable for successful cultivation in view of the deterioration of the seed now being sown.

KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, on 6th February, 1912, the following among other matters came up for consideration :—

Stoppage of trade via Bunder Abbas.

Read letter, dated 25th January, 1912, from the Secretary, Bombay Chamber of Commerce, acknowledging this Chamber's telegram of 5th January, 1912, with reference to the dislocation of Persian trade, and forwarding in reply a copy of a telegram despatched by his Chamber to the Government of India in support of the same.

Resolution.—To be acknowledged, circulated and recorded.

Draft Rules for the Carriage of Offensive Goods by Rail.

Read Railway Board Notification No. 1797 R. T., dated 22nd November, 1911, inviting remarks on the new Draft Rules for the carriage of offensive goods circulated to members for expression of opinion under the Committee's Resolution No. 197 of 19th December, 1911. Read also letter, dated 23rd January, 1912, from a member, pointing out that

under the above rules freight on consignments of bones would have to be prepaid by the consignor, and stating that it is undesirable to adopt such a rule—instead of the freight being payable at destination—principally because the consignors are small people with little or no money and this charge would be a very heavy tax on their trade.

Resolution.—A letter to be drafted to the Chairman, Railway Board, for approval by the Committee pointing out the hardship referred to by the member and the undesirability to make freight on certain articles payable before despatch.

Railway Consignments of bazar pressed bales of Piece-goods.

(a) Read letter, dated 10th January, 1912, from the District Traffic Superintendent N.W. Railway, Karachi Port, forwarding for Chamber's expression of opinion, a copy of the conditions under which consignments of bazar pressed bales of piece-goods will be accepted at railway risk at 2nd class rate only.

(b) Read letter, dated 11th January, 1912, from the same, forwarding, for the information of the Chamber, a copy of his letter, dated 10th January, 1912, to the Karachi Indian Merchants' Association, pointing out that booking to Keamari is only permitted for merchants holding plots there and that goods booked to Keamari for merchants who do not hold plots there are being transferred to the Railway Inward Yard at Karachi City and delivered there.

Resolution.—(a) To be referred to the Sub-Committee for Piece-Goods and Yarns for favour of their opinion. (b) To be acknowledged, circulated and recorded.

Administration of Bankrupt Estates.

Read letter, dated 2nd February, 1912, from the Judicial Commissioner of Sind, stating with reference to the Chamber's letter of 31st January, 1912, drawing attention to the delays that occur in the administration of insolvents' estates, that he will lose no time in enquiring into the matter, and adding that it would facilitate his enquiry if the Chamber would give some details specifying the estates to which the letter refers and instances of delay.

Resolution.—The member who invited attention of the Committee to the matter to be asked to be good enough to supply the information required. The members of the Chamber generally should also be invited to send in the particulars of any cases of delay which may have come to their knowledge.

Scarcity of Rolling Stock.

Read three letters from members of the Chamber inviting attention to the great difficulty experienced in getting down produce from up-country stations owing to the inability of the N.-W. Railway to

supply waggons, and pointing out that produce has accumulated at various points up-country and that unless it is moved down expeditiously there will be losses to merchants.

Resolution.—The following telegram to be sent to the Manager, N.-W. Railway:—Exporters experience utmost difficulty obtaining sufficient rolling stock for produce up-country stations. Present accumulations cause immense inconvenience, goods being urgently required for early shipment. Kindly inform Chamber of reasons for this continued scarcity and whether relief may shortly be expected, as otherwise losses to merchants as well as curtailment of transactions and restriction of trade unavoidable.

PUNJAB.

The extracts below are taken from the minutes of a Committee meeting of the Punjab Chamber of Commerce held on 16th January, 1912:—

Railway Charges on Cotton.

Read letter, dated Amritsar, 14th November, 1911, from the Amritsar Cotton Mills Co., Ltd., regarding the rate of Freight on Kappas and Cotton on the North Western Railway.

Resolution.—The Secretary of the Amritsar Cotton Mills Co., Ltd., to be informed that this Chamber addressed the Managements of Railways in this matter recently advocating the consideration of special concessions in the rates charged on Kappas and Cotton to the Mills. The Committee sympathise with the Cotton Mills in the Punjab in the difficulties they are experiencing, they are not however prepared, at present, to make a further representation in the interests of any special locality.

Gold Coinage.

Read letter, No. 574, dated Karachi, 25th October, 1911, from the Secretary, Karachi Chamber of Commerce, expressing the opinion that the time had arrived for a more effective recognition of the recommendations made by Sir Henry Fowler's Committee of 1898-99 and suggesting that this end would best be attained by—

(1) Opening the Indian Mints for the Free Coinage of Gold. (2) By restricting the Annual drawings of the Secretary of State on the Indian Treasuries of the figures entered in his annual budget (approximately £16,000,000). (3) By restricting the further coinage of new rupees until the proportion of gold in the currency was found to exceed the requirements of the Public. (4) By encouraging the use of gold coins in every possible way as recommended by Sir Henry Fowler's Committee. And reaffirming the opinion already expressed by the Chamber that a larger portion of the gold Standard Reserve should, for the present, be retained in India in gold.

Resolution.—The Karachi Chamber of Commerce to be informed that the Committee are of opinion

that.—(a) The Bombay Mint should be equipped with the necessary appliances, and be empowered to coin sovereigns. (b) A restriction should not be placed on the drawings of the Secretary of State on the Indian Treasuries for the reason of the facilities these drawings afford. (c) Government should continue to accumulate Gold for the purposes of reserves held against the Paper Currency and other reserves in India and suspend the coinage of new rupees until all the coined rupees at present in these reserves are put into circulation. Thereafter the coinage of rupees should be restricted to the amount actually required to make good waste in the coinage and to meet the natural requirements of an expanding trade and population. (d) The present currency system is admirably suited to existing conditions and Government should refrain from taking any active part in stimulating the use of any particular metal. (e) A larger portion of the Gold Standard Reserve than is at present held in gold should be held in sovereigns and it will probably be found more convenient for the purpose for which the Reserve has been created to hold the greater part of this gold in London.

State Scholarships.

Read letter, dated 6th January 1912, from the Hon'ble Mr. J. C. Godley, Under Secretary to the Government of the Punjab, regarding the scheme for the award of State Scholarships to Natives of India for the study of Technical subjects in England and other Western Countries.

Resolution.—The Hon'ble Mr. J. C. Godley to be thanked for his letter and to be informed that the Committee desire to suggest electrical and mechanical engineering as the most suitable industries for encouragement.

The Prices Enquiry.

To read and confirm letter No. 35-1912, dated 12th January 1912, from this Chamber to the Karachi Chamber of Commerce, in reply to their letter, No. 649, dated 1st December 1911, enquiring what questions, if any, submitted to this Chamber by the "Prices Commission" have been replied to and requesting the favour of a copy of the replies. The Karachi Chamber of Commerce is informed that replies were given to the following questions.

Question 15.—Do you think that the rise (in the price of food grains) has anything to do with possible "corners" by merchants?

Question 16.—Are there now more middlemen in any business than there used to be 21 years ago, and if so, do you think this has anything to do with the rise in prices?

Opinion.—It is the opinion of the Committee of this Chamber that merchants have not at any time attempted to "corner" any of the food grains, but in recent years there has been a growing tendency on the part of the general public to speculate in them when a failure of the crop appeared imminent. An instance of this occurred in July of 1910 and as the speculative spirit is strong in the Native it

is to be expected that he will go in again and "bull" food grains when he thinks there is a possible chance of realising at famine prices. These waves of speculation have had something to do with the advance in prices.

Question 20.—Do you think that any part of the rise in prices is due to a depreciation of the value of the rupee, and if so, how and why has the value of the rupee been depreciated?

Opinion.—The rise in prices that took place in the years preceding the closing of the Mints was undoubtedly due in a great measure to the fall in the value of silver consequent on its demonitization in Europe and America.

Question 23.—Has the present system of rupee coinage any effect on prices, and if so, how and to what extent has the coinage affected prices?

Question 24.—Do you think that the adoption of a gold Standard in India had anything to do with the recent variations in prices? Has the total output of gold in the world had any effect on such variations?

Opinion.—The present system of a rupee coinage supported by a gold standard has had a steadying influence on prices.

Question 27.—How far are the variations in prices due to what may be called "world-factors"?

Opinion.—Condition being normal in India, prices are now more under the influence of what may be called "world-factors" than they were when the Mints were open. The price of products that are exported, such as wheat, are practically ruled by what the foreign consuming markets can pay for them from day to day.

Question 28.—What have been the probable effects of these variations on the different sections of the community?

Opinion.—The rise in prices has pressed heavily on the poor in the towns who live on fixed incomes and on those who follow cottage industries that yield a small margin of profit.

Question 29.—Do you think that the demand for Council Bills in excess of the Secretary of State's requirements should necessarily be regarded as a demand for an increase in the circulating medium of the country?

Opinion.—The demand for Council Bills in excess of the Secretary of State's requirements should be regarded as evidence of a demand for an increase in the circulation medium of the country, but it may only be of a temporary nature. These extra Councils offer a convenient facility which enables Banks who avail of them to finance exports at the least possible cost to the exporter. What happens when they are availed of is this: they bring out into active circulation, from the Government Treasuries and Reserves, rupees required to pay for the produce. If the currency requires supplementing the rupees remain in circulation; if not, and when the Secretary of State is open to sell on London, as he does on India, they go back again to the Government reserves.

Question 30.—Can you account for the fact that the total imports into India of foreign goods during the last famine has been greater than any previous period, however prosperous? The value of imports in 1907-08 was Rs. 1,29,89,51,000, in 1906-07 Rs. 1,08,30,75,000 and in 1908-09 Rs. 1,21,25,57,000. The rupee prices of imported articles, as represented by their index numbers, were also the highest in 1907 and very high in 1908 and 1909, being 116, 105 and 107, respectively, and in all these years the exchange was steady and almost the same as fixed by Government. How would you reconcile this?

Opinion.—Importance should not be attached to the fact that the imports into India of foreign goods during the years of the last famine were greater than at any previous period. Speculation and over-trading brought them about.

Resolution.—The letter to the Karachi Chamber of Commerce is confirmed.

BURMA.

At a meeting of the Committee of the Burma Chamber of Commerce held on 25th January, 1912, the following among other matters were considered:—

Proposed Amendment to the Rangoon Port Act.

Read letter, dated 16th December, 1911, from Messrs. Bulloch Brothers and Co., Ltd., enclosing copy of a letter addressed by them to the Local Government with reference to the second paragraph of the resolution by Government on the Report on the Administration of the Port Commissioners for 1910-11, which dealt with the proposed amendment to the Rangoon Port Act, 1905, as "accepted by the Rangoon Mercantile Community as represented by the Chamber of Commerce and approved by the Local Government." This amendment was said to provide for the "enhancement of the maximum rate of river due from four to eight annas a ton coupled with the power to vary the rate according to commodities." Messrs. Bulloch Brothers and Co. Ltd., pointed out that the question of endowing the Port Commissioners with "power to differentiate the rate on different classes of goods and to impose it by measurement of number or value if desirable instead of by weight only" (vide the Administration Report), had never been accepted by the Rangoon Mercantile Community or the Burma Chamber of Commerce, and they protested against the proposed amendment pending a reference to the Chamber; also read reply dated 18th December, 1911, from the Local Government to Messrs. Bulloch Brothers and Co., Ltd., saying that the remark in the resolution quoted by them was not intended to convey the meaning that the provisions of the Bill were confined to the proposal to vary the rate of river due according to commodities. The Bill had not yet come before the Legislative Council or been published for criticism, and the procedure which must be followed before it passed into law provided ample opportunity for the Chamber

of Commerce or the public generally to forward their objections to any or all of its provisions.

Messrs. Bulloch Brothers and Co., Ltd., asked in their letter to the Chamber that the Committee should take the matter up, but, in view of the reply received by them from the Local Government, it was—

Resolved.—To await the publication of the Bill for criticism before taking any action in the matter.

Weevils in Shipments of Rice to Mozambique.

Read letter, dated January, 1912, from the Officiating Director of Agriculture, forwarding copy of a letter received from the Agricultural Department of the Government of Mozambique on the subject of the presence of weevils in shipments of Burma Rice to that country, together with copy of a note on the subject prepared by Mr. Shroff, Assistant Entomologist in the Agricultural Department. The Mozambique Agricultural Department asked whether it would not be possible to take precautions at Rangoon to prevent weevilled rice from being shipped to Mozambique or to enforce the disinfection of ships carrying grain. Mr. Shroff in his note stated that the infestation of grain by weevils usually began on the threshing floor and the slightly infested grain was then stored by merchants and millers in godowns which also contained weevils even when empty—the weevils remaining hidden in cracks and crevices whence they emerged and attacked the new grain brought in. This being so dealers might induce the cultivators to keep their threshing floors as free as possible from infested grain, and themselves be careful not to buy immature grain which was more liable to be attacked by weevils than mature grain. If this were impracticable merchants and millers should fumigate the grain in a separate air-tight brick or wooden building by means of Carbon Bisulphide before storing it in their godowns, which latter should be dry and well ventilated and should be disinfected and whitewashed where necessary before grain was stored therein. Disinfection of grain-carrying ships was also desirable, as these also harboured the pest. Failing this the grain should be fumigated on arrival at the port of destination. A description of the method of fumigation was also given.

Also read report on the subject by the Sub-Committee on Rice, who recommended that the Director of Agriculture should be informed that the method of fumigation proposed was quite impracticable.

Resolved.—That a reply be addressed to the Director of Agriculture in terms of the Rice Sub-Committee's report.

Malagon-Dawbong Railway.

Read letter, dated 6th December, 1911, from the Agent, Burma Railways, saying that owing to the expense of the scheme the Board of Directors had asked for various particulars which were being submitted to them, and that no funds had been allotted for the work during the financial year 1911-12.

Resolved.—To express regret at the delay in the construction of this very important line which has been under consideration for so many years, and to ask whether there is any possibility of funds being allotted during the next financial year 1912-13.

Technical Scholarship for 1912.

Read letter, dated 6th December, 1911, from Mr. W. J. Keith to the Chairman, saying that "Agriculture" was not an admissible subject for the Burma Technical Scholarship of 1912, and asking for another suggestion; also read reply from the Chairman on behalf of the Committee suggesting "Organic Chemistry."

English Congress of Chamber of Commerce of the Empire.

Read circular letter, dated 8th December, 1911, from the Secretary, British Imperial Council of Commerce, saying that organisations wishing to place resolutions upon the agenda paper of the Eighth Congress of Chambers of Commerce of the Empire to be held in London in 1912 should communicate with him not later than the 1st March, 1912. List of subjects discussed at the last Congress and of other subjects that might profitably be discussed were enclosed.

Resolved.—To circulate the papers among the general body of Members.

Mutilation of Telegrams.

Read letters, dated 22nd and 29th November, 1911, and 13th January, 1912, from Messrs. Foucar and Co., Ltd., forwarding for the consideration of the Committee copies of correspondence with the Director of Telegraphs regarding mutilations in telegrams, which, they stated, were as frequent as ever and a source of great inconvenience.

The Chairman stated that on the eve of his departure for Delhi at the end of November last the Superintendent, Rangoon Division, had called to see him with reference to a system which had been introduced with very good results in Madras, and which it was desired to introduce in Rangoon. Under this system corrections would be obtained much more quickly than that at present and the Chairman suggested communicating with the Superintendent for the purpose of ascertaining further particulars with regard to the system.

Resolved.—That the Chairman's suggestion be followed.

List of Cotton Piece-Goods.

Read and recorded letter, dated 22nd November, 1911, from the Director-General of Commercial Intelligence asking whether the Chamber had any suggestions to offer in connection with the annual revision of the list of cotton piece-goods; also Chamber's reply thereto dated 6th December, 1911, in the negative, as recommended by the Sub-Committee on Imports to whom the matter was referred.

Enquiry into the Rise in Prices.

Read letter, dated 26th December, 1911, and 17th January, 1912, from Mr. K. L. Datta, saying that

he had been appointed by the Government of India to conduct an enquiry into the rise in prices, and asking the Chamber to assist him. He enclosed papers showing the nature and scope of the enquiry and the information he wished to obtain. He also stated that he intended to visit Rangoon in April, and that he would be glad if Members of the Chamber could meet him and discuss informally the questions connected with the subject. A list of questions indicating the points he proposed to discuss was enclosed and also some forms to be filled up regarding average wages paid in the mills and factories in Burma during each of the 21 years from 1890 to 1910. Statistics of prices of the principal articles imported into and exported from Rangoon during these years were also asked for.

Resolved.—That the Secretary prepare statistics of the prices of the principal articles asked for, and any other information he can obtain, and that copies of the papers enclosed be circulated among the Members of the Chamber with a request that they will kindly render any assistance in their power.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, February 27th.

DURING the week ending February 26th light rain fell in Howrah, the 24-Parganas, Khulna, Gaya, Monghyr, Ranchi, Cooch Behar and parts of Hooghly, Nadia, Jessore and Balasore. There was no rain in the rest of the Province. More rain is wanted in parts of Murshidabad.

Preparation of lands for the next season's crops and pressing of sugarcane continue. Standing crops are doing well.

The price of common rice has risen in Bankura, Nadia, Shahabad, Saran, Champaran, Balasore, has fallen in Burdwan, Jessore, Khulna, Gaya and Hazaribagh and has been stationary in the remaining districts.

Cattle-disease is reported from Midnapore, Nadia, Jessore, Bhagalpur, Angul, Puri and Sambalpur. The supply of fodder is reported to be getting scarce in parts of Burdwan and Midnapore.

Water is sufficient throughout the Province except in parts of the latter district.

EASTERN BENGAL AND ASSAM.

Dacca, February 27th.

During the week ending February 26th the weather has continued unusual. Some rain has fallen in most districts and has enabled progress to be made with ploughing and sowing of aus (Winter) rice and jute.

Present prospects of the Malda mango crop are good.

The average price of common rice is slightly higher than last week, but 1-6 per cent less than this date last year.

Sporadic cattle-disease is reported from the Chittagong Hill tracts.

IMPROVEMENT OF SUGARCANE IN INDIA.

Production of Improved Varieties.

THE following Note by Mr. A. Howard, Imperial Economic Botanist, was presented to the last meeting of the Board of Agriculture in India held at Pusa :—

The botanical work connected with the improvement of the sugarcane in India may be conveniently considered under the following main heads :—

The fact that in ordinary cultivation this crop is always reproduced vegetatively renders the maintenance of the type a comparatively easy matter. Once a good kind is found, its propagation presents none of the difficulties which attend the continued growth of many of the crops raised from seed.

Several methods of producing new and improved types are possible,—(1) the introduction of new varieties from other sugar-growing regions, (2) the propagation of bud variations or "sports," and (3) the production of new seedling varieties.

Introduction of New Varieties.

Now that it is possible to send cane cuttings by parcel post from any cane-growing country to India, the introduction of new kinds is a very simple and inexpensive matter. As the introduced cuttings will often reach India, in an enfeebled condition care will be necessary to grow them in nurseries for the first year, and to make comparisons in the field with local sorts only, from the first and succeeding crops raised from Indian-grown plant material. In Madras, work on these lines in the past has yielded results of great value.

Bud Variations or Sports.

In some varieties of sugarcane sports are comparatively frequently observed and advantage of this occurrence is taken for the production of new varieties. Sports are most easily seen in striped canes, but it is very likely that it occurs in many other canes and that its occurrence might be detected by careful observation.

Seedling Canes.

Although a very large number of seedling canes have been produced, practically nothing is known of the inheritance of characters in this crop. As a rule the method adopted is haphazard; a large number of seedlings of doubtful parentage are raised, the majority of which are discarded after an inspection of their vegetative characters in the field. To place the work on a scientific basis in India three things are necessary.

In the first place the conditions under which the flowering of the sugarcane takes place in India will have to be determined and means may have to be taken to make the canes flower. At present canes do not flower freely in India, but the proper regulation of the water supply may increase the tendency to produce flowers.

In the second place, the pollination of the various varieties should be studied in great detail; any with infertile pollen, with defective pistils, or which are

self-sterile should be noted. In such cases crosses can be raised easily by growing these varieties with another suitable cane in alternate rows. In this way the thin Indian canes have been used in Java to produce hybrids with one of the local canes with defective pollen. Among the resulting offspring canes with good qualities and high disease resistance have been obtained.

In the third place, the inheritance of characters in the crosses made should be studied. This is likely to be a matter of great difficulty, as one or both of the parents used may be heterozygotes and may not breed true from seed. Under these circumstances it may not be possible to say what characters will be dominant in the F generation of any given cross, and possibly this generation may not always be uniform.

At a modern sugarcane experiment station these matters however should receive attention, and efforts should be made to place the production of new varieties on a higher plane.

The keeping qualities of sugarcane pollen should also be studied, both with a view of overcoming the difficulty of crossing two kinds with different flowering periods and also of importing for hybridization the pollen of kinds which cannot be made to flower in India.

Testing of New Varieties.

In sugarcane, as in other crops, one of the difficulties of handling a large number of varieties which confronts the economic botanist is to determine which kinds should be thrown away and which should be kept for a trial on a larger scale. A safe method of elimination is required in the early stages, otherwise the work becomes impossible. Much could be done by growing the new sorts in uniform land accurately spaced with a standard known sort, say, in every tenth hole. All kinds which give a low yield of cane could at once be eliminated and the examination of the juice restricted to those of great vegetative vigour and heavy cropping power. Elimination should be continuous and only the most likely sorts be kept for testing on the large scale.

Determination of the yield.

After the preliminary tests it is necessary to carry the work of variety testing still further. The only satisfactory method of determining the yield of a variety of sugarcane is to cut the crop and make the juice into sugar. Calculations from the behaviour of the juice of small crushed samples almost invariably indicate high yields which are not subsequently realized in practice. If a whole-time officer is placed in charge of the botanical work of sugarcane improvement it will be quite possible for him to complete the field tests.

Field tests on a suitable scale and in different parts of the same sugar tract are necessary before a new variety can be recommended with confidence. Provided only exceedingly likely sorts are considered for this work it would be safe to enlist the co-operation of selected cultivators in obtaining a final opinion on a new variety.

PIECE GOODS CONTRACTS.

THE Committee of the Bengal Chamber of Commerce recently took counsel's opinion regarding one of the several points that have arisen in connection with the delay of piece-goods shipments as a result of strikes in England. The Chamber quoted the Late Shipments Clause in the standard piece-goods contract and pointed out that, while the first paragraph of the clause provides that should goods be late the buyer has the option of cancelling them or of accepting them with certain allowances which are specified therein, it is further laid down as follows :— "Should, however, the delay be due to occurrences such as storms, fire, war, tempest, flood, drought, strikes, lock-outs, accidents at mills, warehouses, railways, canals, and the like, or any other causes beyond human control, the buyers agree to take the goods with the extension required, without allowance if such extension does not exceed one month. Should a larger extension than one month be necessary, the buyers shall have the option of cancelling or accepting the delayed portion of their contract without an allowance in either case." The point upon which counsel's opinion was taken was stated in the following terms :—On account of strike certain goods were late for August shipment and under the *force majeure* clause the shipment date was extended to September. The same goods were further delayed owing to a breakdown at the mill and could only be shipped in October. Under the circumstances have the buyers to accept the goods without allowance, or have they the option of cancelling or accepting the delayed portion, the goods having been delayed the second time owing to a different cause from that of the first delay, both of the causes being specified in the *force majeure* clause?

We give the counsel's opinion textually :—I assume that the contract does not contain any provision that is not before me which may affect the construction of the clauses submitted for my opinion. In my opinion in the case submitted the buyer has the option of cancelling the contract as to the delayed portion of the contract, or of accepting the delayed portion without an allowance. In other words I consider the case is governed by the concluding sentence of what is called the *force majeure* clause. The clauses submitted are, in my opinion, quite capable of the above construction; and the last of such clauses, as to non-shipment occasioned by suppliers and/or producers stopping payment, supports it. That clause, I think, certainly applies to a stoppage of payment whenever occurring whilst the contract continues operative—and the construction gives effect to what it appears to me is the governing intention of the contract, namely, that the seller shall not come under any responsibility to the buyer on account of non-performance of the contract occasioned by any of the specified causes. It is, therefore, in my opinion, the proper construction of the clauses. Upon this, my view of the construction, the position will remain the same so long as the shipment continues deferred by any of the specified

In connection with these tests it seems desirable to determine the lower limit of purity of cane juice from which good *gur* can be made under local conditions. It is well known that purity of juice is of great importance in factory work and canes of low purity are useless. In *gur* making, however, where the product is not pure sucrose, it is possible that juices of lower purity could be used. In this case the choice of an improved kind need not be limited to cane of the highest purity and to those most suitable for use in a factory.

This portion of the work connected with the testing of varieties involves chemical determinations. These, however, are so simple that all that is necessary is that a competent chemist should supervise the arrangement for the work at the beginning and occasionally inspect them afterwards.

Distribution of Cane Cuttings.

After the canes are tested it will be necessary to give them out to cultivators and to maintain the supply. The best method of growing canes for plant material at a sugar experiment station should be worked out and care should be taken to maintain the vegetative vigour of the best kinds. The best methods of preservation of the cuttings during transport and the most suitable methods of transport are matters which should receive attention.

Selected cultivators might find it remunerative to grow plant material in the various localities in a sugar-growing tract. Everything should be done to bring this about and to make a district self-supporting, as the transport of cane cuttings of long distance is a very expensive matter on account of the great weight of cane required per acre.

Conclusions.

In the above an attempt has been made to indicate the main lines of work in the improvement of sugar cane varieties in India which could be carried out by an economic botanist with the necessary agricultural knowledge. It now remains to offer suggestions as to the best means of actually carrying out this work.

The production of improved canes for India need not be an expensive matter. All that is necessary is to place a whole-time officer with the requisite experience and knowledge in the most suitable province in sole charge of the work. One of the existing farms could be converted into a sugar experiment station and any necessary chemical assistance could be given. The province most suitable for the first sugar experiment station devoted to the improvement of sugar cane varieties is undoubtedly Madras, where the industry is well developed and where the cultivators can command the necessary capital. Compared with this province the cultivation of cane in the Indo-Gangetic plane is somewhat primitive, while the conditions in Madras for the production of new seedlings are likely to be much more favourable than in Northern India.

causes, and until either the shipment takes place, or the buyer cancels the delayed portion of the contract under the option given by the *force majeure* clause.

Views of the Manchester Chamber.

We take the following extract from the annual Report of the Manchester Chamber of Commerce for 1911:—

Questions relating to Indian indent terms have been again under discussion by the India Committee—Chairman, Mr. F. Ashworth—the matter having been forced into prominence by the labour troubles, which prevented fulfilment of contracts within time limits. In the opinion of the Solicitor consulted by the Chamber, which was published in the Manchester newspapers, a strike is not such an exercise of *force majeure* as would entitle a contractor effectively to plead it as a reason for non-fulfilment of contract. It, therefore, follows that, to obtain protection from liability for the consequence of breach of contract due to a strike, the shipper or manufacturer ought to protect himself by a clause expressly providing for the contingency.

In consequence of numerous inquiries as to the position under the indent terms of Calcutta, Bombay, Delhi, and Karachi, from shippers who, owing to the strikes, could not complete indents within the stipulated time, the India Committee published a memorandum, which was circulated amongst the firms engaged in the India trade, setting out some of the variations which existed between the various series of terms, and the shippers' liability thereunder respectively. Special reference was made to a decision in the District Court of Delhi, which put a construction upon one of the clauses different from that which had previously obtained amongst shippers and indentors. The general effect of the clause was now adjudged to be in the buyer's favour. It is not necessary to set forth the particular point, as the ground of discussion has been entirely altered since this decision was published, as will be seen from the following paragraph:—

The Delhi Native Piece Goods Association have promulgated an amended series of terms, which are unacceptable to Manchester shippers to Delhi. These recently conferred at the Chamber, and drafted a form which, in their judgment, reduces conditions to a fairer basis. Most of the leading houses in the Delhi trade have given in their adhesion to the Manchester terms, and it is hoped that, on consideration, the Delhi Native Piece Goods Association will perceive the desirability of conducting their business under conditions which give the shipper some assurance that his interests receive fair treatment. It is too soon to report the answer of the Delhi Association, as the new Manchester terms were only despatched by the mail of 15th December.

The various Native Piece Goods Associations in India have been requested by the Chamber to include in their terms a condition similar to one which appears in the Calcutta indent form, *viz.*, the concession of a month's latitude for delay in shipment where the cause is beyond the control of the shipper,

such as a strike. Even with this clause, it has been sufficiently difficult, under recent conditions, to supply goods within the extended time, and it appears to the Chamber only reasonable that the option of cancellation should be ruled out for at least a month in all the Indian markets, when it is out of the shipper's power to obtain the goods he has contracted for. It is held that what is considered reasonable in Calcutta is equally reasonable for Bombay, Karachi, and the upcountry markets. To this request the Bombay Native Piece Goods Association—the only one which has given a definite reply—declines to accede.

Other matters of interest to the India trade which have been dealt with are Delayed Instructions; Adequate Evidence of Date of Shipment; the Marking of Packages for Bombay; and the Question of European *versus* Native Umpires in connection with Surveys.

WORLD'S LINSEED PRODUCTION.

We take the following from *Dornbusch's Floating Cargoes List*, dated February 9th, 1912:—

The World's Production of Linseed last year was with but one exception (1907) the largest for many years and exceeded the preceding season by about 600,000 tons. India not only yielded the highest since 1904, but gave a crop far in excess of the past 15 years' average. Argentina, despite a record acreage, unfortunately again proved more or less a failure, and we have yet to learn whether the official estimate of 638,000 tons recently published can even be relied upon. One thing seems certain: that the quality is very disappointing and likely to be worse than 1910-11. Russia is computed to have yielded better than the year previous, which receives confirmation from the large shipments of the past few weeks. North America is officially reckoned to have yielded a crop 170,000 tons better than in 1910, but concerning same there is much doubt and commercial authorities are of the opinion that the excess is barely 70,000 tons. Canada is officially said to have trebled the previous record, but, a good proportion being under snow, the actual quantity available has yet to be defined. Of the Indian crop, the whole quantity of the seed known as "Pure" has not only been accounted for, but about 83 per cent of the "Mixed," the shipments since Xmas keeping up very freely for the time of the year. Argentina last season shipped about the average proportion of its crop, with America absorbing 19 per cent of the total export. North American shipments to Europe were a blank, which is likely to be repeated this year, so far as concerns the present crop. The Russian and the Danubian contributions again proved useful, although rather under the previous year's quota. Of the world's total shipments the United Kingdom took a bigger percentage than in 1910, but still fell short of preceding seasons, and compared with 1900 the United Kingdom absorbed but half the proportion of shipments.

A year ago at this time we opined that 60/ for Calcutta would produce a good consumptive trade, whereas 64/ proved the lowest spot price during all 1911, with spot London Linseed Oil not touching under £33-10/ per ton.

From present indications it may be predicted, that although the record high prices of 1911 are not likely to be repeated, values will more or less remain at a lofty level, and in the neighbourhood of 55/ Calcutta Linseed should have considerable attraction for crushers.

The World's Production of Linseed for the past 15 years.

(Specially compiled by *Dornbusch* from official returns.)

(In tons.)

	India.	Argentine.	N. America.	Canada.	Russia.	Total.
1911	557,800	638,000	481,250	323,000	*670,000	2,673,050
1910	427,600	595,000	317,950	95,050	*650,000	2,085,600
1909	288,800	716,515	487,825	55,325	558,360	2,106,825
1908	163,200	1,048,852	645,125	35,133	556,339	2,418,649
1907	425,200	1,100,710	646,275	40,670	550,590	2,763,445
1906	353,400	825,764	626,500	...	540,500	2,346,164
1905	347,400	591,912	711,944	...	421,000	2,072,256
1904	571,832	740,000	585,013	...	471,846	2,368,691
1903	481,567	937,601	682,513	...	461,314	2,562,995
1902	342,624	763,976	732,122	...	512,231	2,380,956
1901	336,136	365,035	650,000	...	455,414	1,806,615
1900	295,674	389,951	475,000	...	533,877	1,694,502
1899	427,891	220,185	437,500	...	316,570	1,402,140
1898	443,668	*260,000	412,500	...	563,409	1,682,577
1897	220,953	*180,000	273,000	...	520,552	1,174,535

* Estimated.

—Messrs. Chabrieres, Morel & Co., Lyons, discussing the silk market on February 8th, remark:—Scarcely any change has taken place since our review of the year 1911, dated December 28th. Neither the Turco-Italian war nor the revolution in China are over and there is no positive indication yet as to the evolution of fashion. Thus nothing worthy of note having occurred, buyers were not roused from their inveterate apathy and transactions remained confined to daily wants with the usual bargaining over prices. It is only for a week or so that a better feeling seem perceptible, owing to a better enquiry from America and a steady rise in the exchange with China. The slackening of production in many filatures of Italy strengthens also the position of European silk. At the present level of prices, the margin for a further depreciation being extremely limited, the market is likely to show more sensitiveness whenever any encouraging influences can be discounted. In fact, quotations are about the same as a month ago, but holders are now firmer.

MANUFACTURES AND MINES IN BENGAL.

We take the particulars below from the Report on the Administration of Bengal during 1910-11:—

The outturn of jute rose from 1,329,400 bales in the previous year to 1,446,000 in the year under report. A somewhat larger quantity of tea was manufactured in Ranchi and Hazaribagh than in the previous year, but in Darjeeling, where the industry is important, the total quantity manufactured was 597,262 lbs. less than in 1909-10. There was a marked recovery in the coal industry, the total output being 10,778,530 tons, or 117,719 tons more than in 1909. Mica, iron and manganese ore showed a smaller output than in the previous year. The sugar industry continues to decline owing to the competition with bounty-fed sugar, especially in the Presidency division; the sugar factories of North Bihar, however, had a successful year in spite of the floods and competition.

Since 1899 the Indian Tea Association, with the assistance of subsidies from Government, have been carrying on research work in connection with the cultivation and manufacture of tea. The enquiries made have emphasised the need for a closer knowledge of the different forms of plant disease, and the Association propose to attach a mycological section to the existing scientific departments. In support of this scheme, Government has raised its contribution to the Association from Rs. 3,500 to Rs. 4,000 per annum for a period of five years from 1st April 1911.

Working of the Indian Factories Act.

As the temporary appointment of Inspector and Certifying Surgeon of Factories in the area comprised between Naihati and Baranagore, in the Barrackpore sub-division of the 24 Parganas District, for one year from the 12th August, 1909, resulted in a distinct improvement in the standard of child labour employed in the factories of that area, its retention for a further period of one year was sanctioned. At the same time, in order to extend the benefits of the Certifying Surgeon's inspections as far as possible, 12 factories lying within the Serampore thana in the Hooghly district and Gola-bari and Bally thanas in the Howrah district on the opposite bank of the river were added to his jurisdiction.

Trade.

The value of the sea-borne trade of the Province (merchandise only) in 1910-11 was Rs. 26·87 crores, as against Rs. 116·94 crores in 1909-10, an improvement of Rs. 9·93 crores, or nearly 8·5 per cent. Of this total, the share of Calcutta amounted to Rs. 126·4 crores, as compared with Rs. 116·51 crores in the preceding year. Both the grand total for the Province as a whole and the total for Calcutta, exclusive of the subordinate ports, surpassed the record figures of 1907-08.

Fisheries.

The organization of a permanent Fishery Department to be controlled for the present by the

Director of Agriculture, Bengal, has been sanctioned by the Secretary of State. The expert establishment will consist of a European scientific assistant, to be styled Deputy Director of Fisheries; he will be assisted by two Superintendents of Fisheries.

During the year experiments were conducted in the breeding of carp in confined waters and in *bheri*-culture, and investigations were undertaken with a view to locate the spawning grounds of *hilsa*. Much useful information has been collected, but the results so far achieved are inconclusive. The fishery survey of the Province is progressing.

Railways.

Over 316 miles of nine light railways, constructed by private enterprise, were subject to a certain measure of control by the Government of Bengal. The total length of railways in the Province of Bengal on the 31st of March, 1911, was 4,580.52 miles, of which 142.95 miles were opened to traffic during the year, 57.21 miles being on the broad gauge, 1.44 miles on the metre gauge, and 84.30 miles on the 2' 6" gauge.

The Lower Ganges Bridge in the vicinity of Sara was under construction and preliminary works have to a large extent been completed. Quarters, offices and power-houses were constructed and good progress made on the earthwork of the right and left guide banks and approaches. One hundred and seven lakhs of cubic feet of stone for pitching were brought to site, and a large amount of English stores. The flood of 1910 rose to 47.85, which is two feet below the estimated maximum flood level.

A portion of the Kalinati-Gurumasini extension of the Bengal-Nagpur Railway from Kalimati to Onlajuri in the district of Singhbhum was completed and opened for traffic on the 1st of February, 1911. The Barbarwa-Azimganj-Katwa Railway was under construction, of which a portion from Barbarwa to Dhulian in the district of Murshidabad was completed and opened for traffic on the 19th January, 1911. The Arrah-Sasaram and the Dheri-Rohas Light Railways in the district of Shahabad, authorized for construction under the Bengal Tramways Act, III of 1883, were opened for traffic on the 6th of March and the 6th of February, 1911, respectively.

Concessions were granted under the Railway Board's branch feeder line terms to construct a railway from Jessore to Jhenidah with a branch line to Kotchandpur, under the guarantee of the District Board of Jessore.

During the year, surveys were completed by the Bengal-Nagpur Railway for an extension from Ranchi to Lohardaga in the district of Ranchi; and by the Darjeeling-Himalayan Railway for extensions (1) from Darjeeling to Lebong, (2) from Ghum to Tukda (Hum), (3) from Siliguri to the Teesta Bridge in the District of Darjeeling, and (4) from Siliguri to Kishanganj in the district of Purnea. A reconnaissance survey was made by the East Indian Railway for a 2' 0" gauge line from Hazaribagh Road Station to Hazaribagh. The Bengal-Duars

Railway Company completed surveys of lines (1) from Bagrakote to Sivok and (2) from Sivok to the Teesta Bridge.

The Bengal and North-Western Railway was breached in several places by exceptionally heavy floods in the Darbhanga district. The causes were investigated by a committee, whose recommendations are to be carried out.

Canals.

The Major Works are (1) the Sone Canals, (2) the Orissa and Midnapore Canals, and (3) the Hijli Tidal Canal. The first two systems are used for both irrigation and navigation, and the third for navigation only. The area irrigated during the year was 892,557 acres, showing a decrease of 58,340 acres compared with the area irrigated during the preceding year. The decrease occurred chiefly on the Sone Canals, owing to the fact that a smaller area was irrigated during the *rabi* and hot weather season. The revenue from these four canals amounted to Rs. 25,41,054 or Rs. 1,38,211 less than that of the year 1909-10. The decrease was principally in irrigation receipts.

Of the two protective works, the Dhaka Canal, which has been completed, irrigated 6,387 acres compared with 5,627 acres irrigated during the preceding year. The total revenue from this canal amounted to Rs. 13,543 against Rs. 13,544 in the previous year. The upper half of the Tribeni Canal was completed and will be opened for irrigation from the year 1911-12.

—After negotiating for many months, says the *Manchester Guardian*, the principal tube makers of the Midlands have agreed upon an advance of prices, or rather a reduction of discounts, which in this industry is the same. By this agreement the discount on gas tubes is fixed at 75 per cent, on galvanised gas tubes at 65 per cent on water tubes at 72½ per cent, on galvanised water tubes at 62½ per cent, on steam tubes at 70 per cent, on galvanised steam tubes at 60 per cent, and on boiler tubes at 65 per cent. It is three years since the last agreement collapsed, and prices have since been cut to an extent which left a very small margin of profit. Although these new discounts represent a material increase in the prices charged, it is argued that they are not more than is warranted by the increase in the cost of production, while compared with other iron and steel commodities they are held to be very moderate. The first proposal put forward was a combination of the whole of the English tube manufacturers, but this was found to be impracticable. The next was to combine only certain willing firms and leave the rest out, but obviously that had small chance of success. It would only slightly minimise the price cutting, which was the industry's chief difficulty. The recent combination of the principal Scottish manufacturers, also after long negotiation, has apparently given the necessary fillip to the English makers, and it is not impossible that this agreement may be extended, or at least strengthened.

FOREST ADMINISTRATION IN THE PUNJAB.

Exotics.

We take the particulars below from the Report on the Forest Administration in the Punjab during the year 1910-11:—

The eucalyptus sample plots were extended by Pandit Gokal Das in Simla, 22 varieties being tried at ten different sites, and Rs. 1,415-9-10 being spent on the work. A full report of this work has been furnished to Government, and all that need be said here is that results of the sowings are satisfactory and probably next year will show that varieties have been found which will suit the different aspects and elevations found between Simla and Kalka, and can be raised by direct sowing without preparation of the soil or tending of the seedlings. The *Catalpa* has failed in Rawalpindi, although it survives in Simla; it is not suited to the Punjab. On the other hand, of the 600 *Pinus ponderosa* seedling raised from seed at various places between Kalka and Simla, 80 per cent are alive; unfortunately those which were in the hottest places are those which did the least well, and it is likely that this species will not prove suitable for the purpose for which they were experimented with, that is, to find a conifer which would grow easily in the hot, low hills. *Cryptostegia grandiflora* is being tried in various divisions for the production of rubber, under the orders of the Local Government; but the results of the attempts are not yet available. *Salix babylonica* failed in Multan, as did the *Tun* in Kangra, while as regards attempts made to plant up landslips, the willow at Patriata in Rawalpindi failed, the hill side being too unstable for any plant to be able to establish itself. In the Kangra landslips the *Jatropha* did not succeed on the hot slopes, where it was most required, and the *Lespedeza* also failed; on the other hand *Vitex negundo willow* and *sanatha* are doing well.

Fruit Culture.

The Forest Ranger trained at Pusa has made three experimental orchards in the Outer Seraj Range of the Kulu division, and is also helping the Zamindars to bud and graft trees. In addition to this he has done some budging in the Simla experimental orchards.

Commercial Experiments.

In Bashahr, at the request of Sir Louis Dane an experiment was attempted in floating logs of spruce and silver-fir to the Nauti Khad junction in the Sutlej, the place where the Simla hydro-electric works are being installed, and where it may be possible to establish saw-mills. Unfortunately an outbreak of cholera in the autumn of 1910 so delayed the work that the launching could not be made until the spring of 1911, when the logs were washed away by a spring flood; the attempt will be repeated in 1911. In this connection it may be noted that a valuable experiment was made by

Mr. Parker in the Hazara division, who launched 500 broad-gauge sleepers of spruce and silver-fir, of which half were untreated while the other half had had their ends dipped in hot coal-tar. Of the untreated sleepers 41 per cent of spruce and 39 per cent of silver-fir were lost in transit, while the corresponding figures for those treated were 3 per cent and 1 per cent. Since it is unlikely that any were stolen by river thieves, and since the whole 500 were brought down to Jhelum under similar conditions, it may be accepted that at all events with scantlings, this treatment is very effective in preventing loss by water-logging. One hundred broad-gauge sleepers of *Pinus excelsa*, *Pinus longifolia*, spruce and silver-fir were given to a commercial firm to be sent to England for creosoting purposes; they will be tried by the Railway Board and if found to be suitable for Indian work, an outlet will be provided for the produce of immense forests now valueless for trade purposes.

The most important commercial experiments, however, were those conducted by Messrs. Jerram and Parnell and by Munshi Imam-ud-din in Rawalpindi and Kangra, respectively, to ascertain the best methods of tapping the *chil* pine for resin. In Kangra, an attempt was made to kill 594 trees by tapping them to death, but only 35 died in two years. Their outturn was double that of the 13,122 trees tapped in the ordinary way during that period. This experiment was conducted under considerable difficulties, owing to the Divisional Forest Officer having to carry it out in addition to his ordinary duties, and it is from the experiments in Rawalpindi, commenced by Mr. Jerram in 1910, and now being conducted by Mr. Parnell, who is on special duty for the purpose, that the information wanted must be obtained before it will be possible to give effect to the whole scheme of resin works proposed for the circle, which works are expected to produce a nett annual profit of from two to three lakhs of rupees. The Rawalpindi experiments as to whose progress the United Provinces Forest Department is being informed, are not yet concluded, so that final deductions cannot yet be made from them. They cover the following ground:—(a) A comparison of the French and American methods of tapping; (b) the number of blazes required according to the girth of the trees tapped; (c) the most economical length of the freshening period; (d) a comparison of the yield from trees tapped to death and from those tapped in the ordinary way; (e) the effect of tapping on the growth of trees—this being a very important point since the belief that much damage was done to trees by tapping which was largely responsible for the closing of the Nurpur factory in 1905-06; and (f) the effect of the elevation of the forests on the yield of resin.

Resin.

A central factory has been established at Shahdara, four miles from Lahore, and has been equipped with the Lahore exhibition steam-distilling plant, whose installation has cost Rs. 13,000 in all up to date,

and which is capable of dealing with 8,000 maunds of crude-resin when worked for the six months or so during which the climate is suitable for manufacture. At first it was contemplated to establish this plant in the Rawalpindi division, and to erect other similar plants in the other divisions which will be exploited for resin; but difficulties of obtaining suitable supplies of water, fuel and trained labour, as well as difficulties of carriage to remote places in the hills, led to Mr. Jerram suggesting the installation of a central factory for the whole circle. This proposal was accepted by the Local Government having in view the fact that the loss in weight between the manufactured outturn and the crude product is only fifteen per cent., and considering that one large central factory will be much cheaper to instal and to work than smaller factories. There is, moreover, this overwhelming advantage in having a central factory that the manufactured articles produced will be of absolutely standard quality, and *ipso facto* will be able to find and to keep a place in the open market. At Shahdara there is good water, an unlimited supply of fuel, and excellent means of communication both by train and road; moreover, Lahore will provide the principal local market for the turpentine and rosin manufactured.

The object in view being to place the industry in the hands of private individuals, so that Government will do nothing but sell to a private company the right to collect crude-resin, of which it is estimated some 50,000 maunds are available annually, the first step was to show that the industry could be established on a profitable basis; and for this end Mr. Gibson utilising the experience he acquired in helping Mr. Hart to make the Nurpur factory a success in 1900-01, and adapting the well-known principles employed in other countries, has been perfecting, with the steam-distillation plant, a process by which is obviated the necessity for all subsidiary refining of the turpentine by means of the methyl-alcohol process introduced by Mr. Puran Singh, Forest Chemist in the United Provinces, and by which the rosin produced can be controlled throughout the period of manufacture. Great credit is due to Mr. Gibson for his unremitting efforts to improve the process of manufacture, and there is no doubt that but for him this promising industry would never have reached its present state of development. Not only has he succeeded in avoiding the complication of the methyl-alcohol system, but he has also clearly established that by means of steam-distillation the necessity can be avoided of employing the costly vacuum apparatus referred to in the report of the Board of Scientific Advice for 1909-10. Comparative tests of the refined oil produced by the methyl-alcohol process in the United Provinces and of the crude oil produced at Shahdara show that there is no difference whatever in their respective qualities. A further and very marked advantage obtained by Mr. Gibson has been the production of rosin at low temperatures, thereby

ensuring its having a light colour, and obviating the need for working out the processes of decolourisation referred to by Mr. Puran Singh in the above-quoted report: at Shahdara any required colour is obtained simply by lengthening the boiling period, than which process nothing more simple or cheap can be devised.

The second step towards attaining the object in view, that is to say, towards handing over to private enterprise the right to collect crude-resin, was to ascertain the best methods of tapping, to train local labour to do the work, and to ascertain definitely the cost of obtaining the resin under commercial conditions. Mr. Parnell, Deputy Conservator of Forests, who has assisted Mr. Gibson with the Shahdara factory, has been engaged on this, and has made good progress with the work.

Commercial Developments.

The following is a list of some of the more important of the commercial developments inaugurated or attempted during the past three or four years on the initiative of His Honour Sir Louis Dane, or of one of the Punjab Forest Officers: (i) The exploitation of the Pabar forests; (ii) the wood-pulp industry; (iii) fruit-culture in Kulu; (iv) the introduction of eucalyptus for fuel in the Simla hills; (v) the re-establishment of the resin industry; (vi) the preliminary negotiations for the establishment of a railway sleeper industry in the inferior species of hill-timbers, and the provision of timber to be sent to England for treatment; (vii) the giving of a lease under which purchasers of standing trees have to provide for the introduction of mechanical means of exploitation in the hills; (viii) the finding of a market for mulberry timber in Changa Manga; (ix) the exploitation of the Kangra bamboos, and (x) the Patriata ropeway. Many of these developments do not yet bring in any revenue; but that is inevitable with all commercial undertakings at the outset, it is, moreover, partly due to the manner in which the work of the department has been hampered by the want of a proper controlling staff, and by the inability of the Dera Dun College to train a sufficient number of Forest Rangers for the needs of the circle. This list of developments shows the value of the work done, and the amount of attention which has been paid to the commercial duties of the department. The officers who are mainly responsible for the results accomplished are Messrs. Gibson and Jerram of the Imperial Service, and Pandit Gokal Das and Munshi Imam-ud-din of the Provincial Service.

The following details concerning some of these developments will be of interest. The Pabar forests of the Bashahr division, hitherto almost unworked, will produce a nett revenue Rs. 20,000 during the current financial year and hereafter some Rs. 18,000 a year. The wood-pulp industry is not yet established, but the preliminary arrangements are so far advanced that, after lengthy negotiations, an agreement has been finally submitted to the would-be lessee for his signature. This agreement provides

for giving him a prospecting lease for three years, during which he will have to work out 1,500 trees a year of spruce and silver-fir for manufacture into pulp. When this three years' lease has expired he will have the option of taking 20,000 trees a year for the first ten years at two rupees a tree, and an increase of ten per cent for the second ten years, with a further option of extending the lease for another ten years on paying a further ten per cent increase. The terms of the agreement are such that if the lessee does not complete it, it will be necessary to conclude that there is little chance of private enterprise undertaking the manufacture of wood-pulp in the Punjab at present, and that Government must either inaugurate the industry, or else must wait for some years and until there is a prospect of larger profits being derived from it. The introduction of fruit-culture on an extensive scale among the zamindars in Kulu cannot furnish any profit to the department, but, if successful, it will attain Sir Louis Dane's object, and will add greatly to the prosperity of the hill people. The introduction of mechanical means of exploiting timber in the hills is perhaps the most important development attempted, since without it the utilisation on a large scale of the inferior timbers, whether for pulp or for railway sleepers, or for house-building purposes, can never be accomplished. The lessees, with whom the negotiations are now complete, although the entire scheme has not yet received the approval of the Local Government, are ready to make a serious attempt to introduce ropeways and saw-mills, in return for which they will receive a seven years' lease at cheap rates; should this attempt not be serious, that is, should it not conform to certain specified conditions, then they will have to pay a higher rate than their present one for the trees they take, and the duration of their lease will be reduced. The Conservator thinks this scheme should result in achieving its object, although it is possible that the mechanical appliances introduced will not be exactly those now contemplated.

—The following item of news is culled from the *Australasian*, dated January 13th:—**Cornsacks** included in a shipment landed recently at Adelaide were found to be wider than the prescribed measurement, being 24 inches instead of 23 inches, and were accordingly "held up" by the Customs authorities. A deputation representing the Melbourne Chamber of Commerce waited on the Minister for Customs (Mr. Tudor) on January 9th, and asked that the shipments should be released. It was pointed out that the sacks when full would not contain more than the 200 lbs. which was the standard limit of capacity, and it was asked that the shipment should be passed without the importers having to brand the sacks in conformance with the regulations. Mr. Tudor promised to take the matter into consideration.

MANCHESTER COTTON INDUSTRY.

EXPORTS OF COTTON YARN AND CLOTH TO THE EAST during the month and twelve months ended December, 1911, and in the corresponding twelve months ending December, 1910, 1909, and 1908 (in millions of lbs. and millions of yards).

	Twist—lbs.				
	Dec. 1911.	1911.	1910.	1909.	1908.
Bombay	12	12.9	8.2	16.4	10.8
Calcutta	7	9.1	6.3	8.4	9.0
Madras	7	8.7	6.7	6.1	10.6
Ceylon	1	1.9	1.5	1.4	1.1
Kurrachee	2	1.8	9	1.9	1.6
Rangoon	1	2.4	2.6	2.3	4.7
Shanghai	1	1.2	3	1.9	2.4
Tientsin*	—	—	—	5	1.0
Hong Kong	—	1.6	7	2.3	2.0
Singapore	1	1.2	1.4	1.7	2.3
Java	—	8	6	7	1.0
Manilla	1	9	8	7	9
Japan	—	8	4	1.0	1.9
Total	3.3	43.3	30.4	45.3	49.3
Plain Cottons—yards.					
Bombay	44.0	387.0	379.0	316.0	306.0
Calcutta	99.2	1102.0	993.0	1079.0	886.0
Madras	8.6	100.0	71.0	79.0	151.0
Ceylon	1.3	18.0	12.0	16.0	18.0
Kurrachee	22.2	197.0	160.0	132.0	192.0
Rangoon	4.8	59.0	39.0	46.0	53.0
Shanghai	23.8	875.0	205.0	308.0	292.0
Tientsin*	1.7	12.0	10.0	18.0	11.0
Hong Kong	4.3	65.0	75.0	102.0	55.0
Singapore	5.0	66.0	64.0	68.0	58.0
Java	8.1	104.0	76.0	80.0	91.0
Manilla	6	9.0	12.0	14.0	13.0
Japan	1.7	62.0	61.0	72.0	89.0
Total	225.3	2556.0	2157.0	2330.0	2215.0
Dyed and Coloured Cottons—yards.					
Bombay	9.5	96.7	83.8	56.8	72.1
Calcutta	4.0	54.3	61.8	48.6	51.2
Madras	6	9.7	8.0	7.4	16.2
Ceylon	4	5.2	5.1	3.8	3.2
Kurrachee	3.9	42.7	31.9	23.8	43.3
Rangoon	1.5	17.1	14.0	13.3	17.8
Shanghai	8.6	112.4	96.4	73.1	68.3
Tientsin*	9	6.6	4.9	2.0	5.0
Hong Kong	9	17.1	34.9	30.0	19.5
Singapore	1.5	18.9	20.7	14.2	14.5
Java	4.0	57.0	37.8	38.7	39.6
Manilla	3	4.9	7.3	6.9	6.7
Japan	1.4	18.3	19.1	19.1	17.9
Total	37.5	460.9	425.7	337.7	376.3
Printed Cottons—yards.					
Bombay	14.0	151.2	152.9	103.8	104.6
Calcutta	6.0	72.6	71.9	55.4	58.1
Madras	2.5	33.5	29.0	22.6	34.9
Ceylon	1.1	7.6	9.6	5.7	5.3
Kurrachee	6.0	71.2	77.1	47.5	67.6
Rangoon	3.2	28.9	23.6	20.7	29.7
Shanghai	1.3	19.9	21.4	10.0	9.3
Tientsin*	1.2	7.6	4.4	2.0	2.4
Hong Kong	2	4.0	7.8	8.1	4.3
Singapore	1.3	16.4	19.5	18.3	11.5
Java	6.9	93.8	71.5	82.7	73.2
Manilla	3	6.5	12.0	9.8	8.0
Japan	3	8.0	11.4	14.5	9.0
Total	44.3	521.2	512.1	401.1	417.9

*Includes Newchwang and Taku.

COTTON BILLS OF LADING.

How Checking is Done.

Mr. H. Kern, Chairman of the Liverpool Cotton Bills of Lading Conference Committee, took an opportunity during his recent visit to New York of seeing for himself the working of the Central Bureau which was established for the safeguarding of cotton bills of lading and he has now sent the *Manchester Guardian* a statement in which he describes the result.

The checking is done in the following manner:—The Bill of lading and the signature certificate are most carefully scrutinised as to the proper filling out and stamping of the latter, as to the cross references to the bill of lading number in the certificate, and *vice versa*, and as to all other details. Any irregularities discovered in this way are at once entered upon a special printed form addressed to the auditor of the railway. The clerk who is checking the Bill of lading initials it and then passes it to another clerk, who goes through it independently and compares notes afterwards, thus preventing mistakes and oversights in the checking. He then likewise initials the bill of lading.

After this, out of the compartment in the steel box filing cabinet the special file of the station issuing the bill of lading is taken, and the copy under examination is carefully compared with the copies previously received from that station. This comparison is first made with regard to the signatures of both the railway agent issuing the bill of lading and of the certifying clerk. On discovery of any discrepancy the auditor of the railway is immediately notified. Then the numbers of both the bill of lading and the signature certificate are checked, and if, for instance, the last bill of lading received from the particular station bore the number 18 and the bill of lading under examination is numbered 21, a "shortage note" is immediately despatched to the auditor, upon which inquiries are made about the whereabouts of Nos. 19 and 20.

The bill of lading is then filed with the copies of any communications addressed to the auditor attached to it. When the notification is received from the Exchange buyer, the particulars of the bill of lading as stated in the notification are compared with the bill of lading, and, if in order, the notification is likewise attached to the bill of lading. In the same manner, when the master's receipt is sent forward by the ship's agent it is carefully compared with the bill of lading, and the Central Bureau copy is fastened to the bill of lading, whereas the consignee's copy is forwarded to the acceptor of the draft in Europe whose name is given in the notification. All documents received by the Bureau are stamped with the date of receipt.

In addition to all this, the auditor of each railway is furnished every day with a summary of all bills of lading received from the different stations on his road, irrespective of whether such bills of lading are in order or whether they contain irregularities. He is thereby put into a position to control the total

cotton shipments from each station, and if at any time any one station showed an unexpectedly large increase in the shipments his suspicions might become aroused, and he might make special inquiries.

The foregoing detailed account will show that a quick discovery of forgery is assured, more especially if it is borne in mind that in all cases of serious irregularities the auditor is communicated with by telegraph.

NEW REFERENCE BOOKS.

WOOL CARDING AND COMBING.

With Notes on Sheepbreeding and Woolgrowing.
By ALFRED F. BARKER, M.Sc., and E. PRIESTLEY. Illustrated. 5s. net.
Cassell and Co.

THEORY OF SIZING.

By HARRY NISBET. 2s. 6d. net.
E. and S. Nisbet, Manchester.

PITMAN'S COMMERCIAL ENCYCLOPEDIA AND DICTIONARY OF BUSINESS.

Edited by J. A. SLATER. In Four Volumes. Vol. I. 10½ x 7½, 432 pp. 30s. the 4 vols.
Sir Isaac Pitman.

THE AMERICA YEAR-BOOK.

A Record of Events and Progress, 1911. Edited by F. G. WICKWARE, B. Sc. 8 x 5½, xx + 863 pp. 15s. net.
Appleton.

THE GRENADA HANDBOOK, DIRECTORY, AND ALMANAC, 1912.

Compiled by the Colonial Secretary. 7½ x 5, 273 pp. 5s.
Wynman.

THE LONDON ASSOCIATION OF ACCOUNTANTS.

Proceedings, etc., 1912. 7½ x 5, 240 pp. 5s.
The Office of the Association.

THE LAW OF GENERAL AVERAGE, ENGLISH AND FOREIGN.

By the late RICHARD LOWNDES. Fifth edition, by E. L. DE HAET and G. R. RUDLOF. 10 x 6½, 1 + 848 pp. 30s.
Stevens and Sons.

LES COFFRES-FORTS ET LE FISC.

Par Charles Lescœur. Bloud et Cie. 3f. (The "coffre-fort" has become almost a slang term for capital or the capitalist, and in most countries the fisc—or, broadly speaking, the taxing power—is turning on it covetous eyes. It is the chief object of this book to show that the various devices adopted by parliamentary ingenuity for taking toll of the "coffre-fort," though vexatious in themselves are quite useless because they can easily be evaded.)

THE STOCK EXCHANGE YEAR-BOOK FOR 1912.

By THOMAS SKINNER. 35s. net.
Thomas Skinner and Co.

MANCHESTER BANKS.

Analysis of the Published Balance-sheets for 1911. By D. DRUMMOND FRASER. 1s. net.
The Manchester University Press.

SIAM.

A Handbook of Practical, Commercial, and Political Information. By A. W. GRAHAM. Illustrated. 10s. 6d. net.
Alexander Moring Ltd.

THE BRITISH WEST INDIES.

Their History, Resources, and Progress. By ALGERNON E. ASPINALL. Illustrated. 7s. 6d. net.
Sir Isaac Pitman and Sons.

DEPRECIATION AND WASTING ASSETS.

Their Treatment in Assessing Annual Profit and Loss. By B. D. LEAKE. 10s. 6d. net.

A BIRD'S-EYE VIEW OF INDIAN ECONOMIC PROGRESS, 1901-10.

By DINSHA EDULJI WACHA. 4 as.
Leader Office, Allahabad.

FOREIGN TRADE OF THE UNITED KINGDOM IN JANUARY 1912.

I.—GENERAL.

THE trade returns for January, 1912, when compared with those for January, 1911, show increases in the values of the Imports into the United Kingdom, and of the Exports both of the Produce and Manufactures of the United Kingdom and of Foreign and Colonial Merchandise.

The value of the Imports in January was £67,002,582, an increase of £1,309,161 or 6.9 per cent, as compared with January, 1911; whilst the total Exports amounted to £50,011,438, an increase of £2,685,981, or 7.1 per cent, as compared with January, 1911; whilst there is an increase of £953,154, or 11.3 per cent, in the Exports of Foreign and Colonial Merchandise.

II.—IMPORTS.

The following table shows the value of the Imports for January, 1912, as compared with January, 1911 and 1910, according to the different categories of merchandise:—

Imports (Value C.I.F.*)—January.

	MONTH OF JANUARY.			Increase (+) or Decrease (—) in 1912 as compared with 1911.	Increase (+) or Decrease (—) in 1912 as compared with 1910.
	1910.	1911.	1912.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	7,108,476	5,225,209	6,005,515	+ 780,306	+ 1,102,961
B. Meat, including animals for food	3,838,472	4,181,398	3,790,226	— 391,172	— 48,246
C. Other food and drink—					
1. Non-dutiable	5,861,065	6,376,085	7,627,202	+ 1,251,117	+ 1,766,137
2. Dutiable	4,431,174	4,371,851	6,257,345	+ 1,885,494	+ 1,826,171
D. Tobacco	359,398	460,731	537,704	+ 76,973	+ 178,306
Total, Class I	21,598,585	20,615,274	24,217,992	+ 3,602,718	+ 2,619,407
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	733	1,335	2,963	+ 1,628	+ 2,230
B. Iron ore, scrap iron and steel	461,544	626,400	522,906	— 103,494	+ 61,362
C. Other metallic ores	740,920	710,437	720,311	+ 9,874	+ 20,609
D. Wood and timber	1,013,133	1,128,679	1,428,477	+ 299,798	+ 415,344
E. Cotton	5,840,176	12,705,569	9,494,961	— 3,210,608	+ 3,654,785
F. Wool	4,850,649	5,581,038	4,952,712	— 578,326	+ 102,063
G. Other textile materials	1,634,779	1,672,162	2,282,514	+ 610,352	+ 647,735
H. Oil-seeds, nuts, oils, fats and gums	2,920,364	2,452,439	3,278,534	+ 826,095	+ 358,170
I. Hides and undressed skins	1,146,688	1,035,069	1,252,808	+ 217,739	+ 106,120
J. Paper-making materials	411,278	356,243	530,524	+ 174,281	+ 119,246
K. Miscellaneous	2,688,033	2,531,750	2,946,497	+ 414,747	+ 258,464
Total, Class II	21,708,297	28,751,121	27,413,207	— 1,337,914	+ 5,704,910
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	714,616	825,305	1,069,593	+ 244,288	+ 354,977
B. Other metals and manufactures thereof	2,231,099	2,247,501	2,754,249	+ 506,748	+ 523,150
C. Cutlery, hardware, implements (except machine tools) and instruments	270,357	392,752	447,581	+ 54,829	+ 177,224
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	109,471	125,805	139,996	+ 14,191	+ 30,525
E. Machinery	333,816	433,719	514,917	+ 81,228	+ 181,131
F. Ships (new)	103	9,791	57	— 9,734	— 46
G. Manufactures of wood and timber (including furniture)	165,985	187,638	209,190	+ 21,552	+ 43,205
H. Yarns and textile fabrics—					
1. Cotton	844,290	947,854	1,050,127	+ 102,273	+ 205,837
2. Wool	856,276	848,220	928,663	+ 80,443	+ 72,387
3. Silk	1,015,041	1,095,869	1,231,152	+ 138,343	+ 219,111
4. Other materials	688,730	724,815	800,452	+ 75,637	+ 111,722
I. Apparel	319,956	325,762	357,335	+ 31,623	+ 37,429
J. Chemicals, drugs, dyes and colours	881,270	877,001	1,050,840	+ 173,839	+ 169,570
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	958,168	856,510	994,727	+ 138,217	+ 36,559
L. Earthenware and glass	277,511	315,831	339,595	+ 23,764	+ 62,084
M. Paper	516,248	533,656	586,462	+ 52,806	+ 70,214
N. Railway carriages and trucks (not of iron) motor cars, cycles, carts, etc.	373,834	490,189	601,430	+ 111,241	+ 227,596
O. Miscellaneous	1,817,750	1,827,412	2,028,466	+ 201,054	+ 210,716
Total, Class III	12,374,521	13,065,570	15,107,912	+ 2,042,342	+ 2,733,391
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£	£	£	£	£
Total value	55,909,684	62,933,421	67,002,582	+ 4,309,161	+ 11,092,898

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

III.—EXPORTS.

The following table shows the value of the Exports of produce and manufactures of the United Kingdom for January, 1912, as compared with January 1911 and 1910, and the increase or decrease in each principal category:—

Exports of Produce and Manufactures of the United Kingdom.
(Value F.O.B.*)—January.

	MONTH OF JANUARY			Increase (+) or Decrease (—) in 1912 as compared with 1911.	Increase (+) or Decrease (—) in 1912 as compared with 1910.
	1910.	1911.	1912.		
I.—FOOD, DRINK, AND TOBACCO—	£	£	£	£	£
A. Grain and flour	260,520	328,735	293,965	— 34,770	+ 53,445
B. Meat, including animals for food	74,425	87,849	94,697	+ 6,848	+ 20,272
C. Other food and drink	1,129,168	1,449,411	1,632,730	+ 243,319	+ 563,562
D. Tobacco	160,465	160,264	222,018	+ 61,754	+ 61,553
Total, Class I	£ 1,624,578	£ 2,026,259	£ 2,303,410	+ 277,151	+ 678,832
II.—RAW MATERIALS AND ARTICLES MAINLY UNMANUFACTURED—					
A. Coal, coke, and manufactured fuel	2,631,600	3,048,459	3,432,044	+ 393,585	+ 790,354
B. Iron ore, scrap iron and steel	94,737	37,947	34,068	— 2,979	— 60,669
C. Other metallic ores	3,732	8,343	13,049	+ 4,706	+ 9,317
D. Wood and timber	8,592	18,416	25,253	+ 6,837	+ 16,661
E. Cotton	—	—	—	—	—
F. Wool	406,163	340,780	340,283	— 497	— 65,880
G. Other textile materials	34,843	26,766	45,386	+ 18,620	+ 10,543
H. Oil-seeds, nuts, oils, fats and gums	312,044	408,230	445,377	+ 38,147	+ 134,333
I. Hides and undressed skins	206,704	164,901	183,801	+ 18,900	+ 22,903
J. Paper-making materials	59,922	71,731	70,557	— 1,174	— 10,645
K. Miscellaneous	223,661	275,175	315,169	+ 39,994	+ 91,508
Total, Class II	£ 3,982,088	£ 4,379,848	£ 4,895,987	+ 516,139	+ 913,899
III.—ARTICLES WHOLLY OR MAINLY MANUFACTURED—					
A. Iron and steel and manufactures thereof	3,478,872	3,830,687	4,354,238	+ 523,551	+ 875,366
B. Other metals and manufactures thereof	825,413	864,908	956,866	+ 91,878	+ 131,453
C. Cutlery, hardware, implements (except machine tools) and instruments	468,522	615,390	711,446	+ 96,056	+ 242,924
D. Electrical goods and apparatus (other than machinery and telegraph and telephone wire)	115,074	202,996	275,091	+ 72,095	+ 120,017
E. Machinery	2,100,753	2,456,083	2,666,642	+ 180,559	+ 565,889
F. Ships (new)	2,140,286	230,208	183,222	— 46,986	— 1,957,064
G. Manufactures of wood and timber (including furniture)	140,924	161,044	171,191	+ 10,147	+ 30,267
H. Yarns and textile fabrics—					
1. Cotton	8,545,359	10,289,436	10,163,626	— 125,810	+ 1,618,267
2. Wool	3,466,518	3,802,158	3,787,404	— 14,754	+ 320,586
3. Silk	168,771	193,926	173,615	— 20,311	+ 4,844
4. Other materials	1,175,067	1,085,408	1,186,010	+ 100,632	+ 10,973
I. Apparel	948,062	1,208,951	1,303,071	+ 94,120	+ 355,009
J. Chemicals, drugs, dyes and colours	1,367,105	1,610,158	1,872,762	+ 262,604	+ 505,657
K. Leather and manufactures thereof (including gloves, but excluding boots and shoes)	372,543	379,099	377,354	— 1,745	+ 4,811
L. Earthenware and glass	306,369	374,035	396,690	+ 22,655	+ 90,321
M. Paper	228,036	261,258	314,764	+ 53,506	+ 86,728
N. Railway carriages and trucks (not of iron) motor cars, cycles, carts, etc.	532,991	738,638	846,639	+ 108,001	+ 313,648
O. Miscellaneous	2,188,388	2,330,363	2,666,302	+ 335,939	+ 477,914
Total, Class III	£ 28,609,053	£ 30,664,826	£ 32,406,963	+ 1,742,137	+ 3,797,910
IV.—MISCELLANEOUS AND UNCLASSIFIED (INCLUDING PARCEL POST)	£ 587,396	£ 659,898	£ 810,452	+ 15,554	+ 223,056
Total	£ 34,863,115	£ 37,730,831	£ 40,416,812	+ 2,685,981	+ 5,613,697

Exports of Foreign and Colonial Merchandise.*—January.

	£	£	£	£	£
Total value	8,147,164	8,641,472	9,594,626	+ 953,154	+ 1,447,462

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

EXPORTS OF WHEAT AND FLOUR.

Statement showing the exports of wheat and wheat-flour from British India to foreign countries in each of the ten months, April to January, of the years 1906-07 to 1911-12:—

	1906-07		1907-08		1908-09		1909-10		1910-11		1911-12	
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
BENGAL—												
April	9,014		12,855		3,360		272,044		341,028		141,605	
May	16,398		40,881		6,506		1,026,554		538,670		758,447	
June	29,860		42,065		5,019		748,294		508,869		1,032,605	
July	72,099		39,656		5,924		324,373		95,554		447,784	
August	10,967		16,770		6,610		264,333		169,455		166,661	
September	13,722		10,020		4,719		13,956		238,729		46,289	
October	12,545		10,256		9,432		4,985		349,970		103,126	
November	9,843		8,498		4,591		6,077		234,343		230,360	
December	5,930		3,153		5,817		6,819		175,702		147,059	
January	8,977		4,314		3,613		5,233		291,098		139,593	
TOTAL		189,355		188,968		55,591		2,672,669		2,943,418		3,213,520
BOMBAY—												
April	88,333		68,828		20,921		168,321		141,658		240,387	
May	167,451		166,153		42,477		716,519		361,016		451,004	
June	148,807		167,294		59,088		751,301		111,303		531,331	
July	180,630		276,581		45,589		465,304		161,979		716,950	
August	10,662		104,744		38,365		251,753		246,636		334,572	
September	72,300		107,104		68,259		64,433		206,185		205,581	
October	163,977		143,734		72,798		97,054		297,872		215,632	
November	110,542		111,818		70,846		100,746		335,002		172,035	
December	91,367		49,513		50,948		49,614		333,714		185,754	
January	132,755		39,082		32,963		71,456		270,864		233,959	
TOTAL		1,217,825		1,234,651		502,254		2,736,501		2,456,229		3,292,205
SIND—												
April	439,238		1,395,557		20,968		17,306		313,900		1,084,996	
May	1,145,804		1,341,517		14,573		212,803		765,843		1,605,167	
June	2,724,525		1,851,899		117,881		3,268,113		2,253,885		2,352,300	
July	3,178,056		2,886,485		490,141		4,831,931		3,114,364		4,301,196	
August	1,764,921		2,879,693		247,313		3,044,522		2,783,902		2,166,638	
September	665,183		2,775,133		467,967		416,967		1,507,237		1,226,980	
October	1,372,291		2,429,341		686,313		757,944		1,393,785		1,110,405	
November	956,909		1,061,105		220,400		698,865		1,585,969		1,199,738	
December	800,202		343,783		15,321		639,334		1,727,193		1,727,217	
January	487,397		65,599		33,978		139,369		1,792,317		1,802,230	
TOTAL		13,534,526		17,030,112		2,314,855		15,018,154		16,893,395		18,576,867
OTHER PROVINCES—												
April	136		212		90		2,112		135		3	
May	30		1		3		...		31		4	
June	37		225		7		2,007		1		45	
July	4		...		6		2,004		30		76	
August	...		...		1		...		21		...	
September	...		...		5		...		...		...	
October	...		...		...		...		...		...	
November	2,001		...		2		...		3		...	
December	1,190		...		10		...		40		...	
January	1,522		...		...		35		...		...	
TOTAL		4,927		450		118		6,162		261		128
TOTAL—												
April	536,721		1,477,452		45,339		457,671		1,296,721		1,466,988	
May	1,329,683		1,548,552		63,556		1,957,988		1,665,529		2,819,621	
June	2,903,229		2,061,483		181,991		4,767,708		2,874,088		3,916,240	
July	3,430,789		3,202,722		541,661		5,623,615		3,371,898		5,465,975	
August	1,837,551		2,892,258		292,268		3,562,612		3,200,023		2,667,871	
September	751,205		2,583,336		540,951		495,360		1,952,172		1,478,917	
October	1,548,820		2,892,258		768,543		859,983		1,941,627		1,429,163	
November	1,079,295		1,181,921		295,837		805,688		2,155,314		1,602,133	
December	898,689		396,449		72,088		686,767		1,481,612		2,060,030	
January	630,651		108,995		70,564		1,216,033		2,354,319		2,175,782	
GRAND TOTAL		14,946,633		18,454,381		2,872,518		20,433,483		22,293,303		25,082,720

N.B.—The figures of wheat-flour included in this statement are taken as representing 70 per cent of wheat used in its manufacture.

EXPORTS OF MANGANESE.

Statement of the Quantity and Value of Manganese Ore exported by sea from each province of British India to countries of Final Destination in January, 1912, and in the ten months ending January, 1912, compared with the corresponding periods of 1910-11 :—

Countries of final destination.	MONTH OF JANUARY				TEN MONTHS ENDING JANUARY			
	1911.		1912.		1910-11.		1911-12.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.
BENGAL—								
United Kingdom	40,000	37,000	30,000	27,000	416,000	3,82,000	270,000	2,43,000
Germany	...	...	...	...	14	40	...	...
Holland	...	...	...	...	...	...	...	...
Belgium	10,000	9,000	19,800	19,800	543,000	5,30,000	239,800	2,39,800
France	30,000	27,000	38,000	38,000	476,799	4,71,399	370,280	3,70,280
United States of America	...	...	...	...	...	...	...	...
TOTAL	80,000	73,000	87,800	84,800	1,435,813	13,83,439	880,080	8,53,080
EASTERN BENGAL AND ASSAM—								
<i>Nil.</i>								
BOMBAY—								
United Kingdom	319,640	2,39,730	247,623	2,24,623	2,728,163	20,88,665	1,769,303	16,56,793
Germany	...	...	38,000	30,400	...	...	144,000	1,21,800
Holland	52,000	39,000	60,000	45,000	166,000	1,24,500	509,500	3,82,125
Belgium	150,000	1,40,625	259,500	2,30,475	1,495,005	13,38,529	2,013,020	17,22,902
France	150,000	1,35,125	55,000	51,563	1,071,000	9,65,537	1,277,640	11,12,917
United States of America	141,000	1,08,000	71,520	67,500	1,968,200	14,77,030	1,535,420	11,65,725
TOTAL	815,640	6,62,480	731,643	6,49,561	7,428,368	59,94,261	7,218,883	61,62,262
SIND—								
<i>Nil.</i>								
MADRAS—								
United Kingdom	65,000	19,500	...	...	245,000	73,500	180,000	54,000
Germany	...	...	...	...	...	...	...	...
Holland	...	...	...	...	...	...	...	...
Belgium	40,000	18,000	...	...	90,000	40,500	140,000	42,000
France	...	...	...	...	...	...	220,000	72,000
United States of America	100,000	45,000	...	...	494,000	2,22,300	356,000	1,60,200
TOTAL	205,000	82,500	...	...	829,000	3,36,300	896,000	3,28,200
BURMA—								
<i>Nil.</i>								
TOTAL BRITISH INDIA—								
United Kingdom	424,640	2,96,230	277,623	2,51,623	3,389,163	25,44,165	2,219,303	19,53,793
Germany	...	...	38,000	30,400	14	40	144,000	1,21,800
Holland	52,000	39,000	60,000	45,000	166,000	1,24,500	509,500	3,82,125
Belgium	200,000	1,67,625	279,300	2,50,275	2,128,005	19,09,029	2,392,820	20,04,702
France	180,000	1,62,125	93,000	89,563	1,547,799	14,36,936	1,867,920	15,55,197
United States of America	244,000	1,53,000	71,520	67,500	2,462,200	16,99,330	1,891,420	13,25,925
TOTAL	1,100,640	8,17,980	819,443	7,34,361	9,693,181	77,14,000	9,024,963	73,43,542

IMPORTS OF SUGAR.

IMPORTS of Foreign Sugar (excluding Confectionery and Molasses) into British India in the month of January, 1912, and in the ten months ending 31st January, 1912, 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 Jan., 1911.	Share of each country in the total imports in Jan., 1912.	Share in the ten months ending 31st Jan., 1911.	Share in the ten months ending 31st Jan., 1912.	Countries of production of total imports.	Share of each country in the total imports in Jan., 1911.	Share of each country in the total imports in Jan., 1912.	Share in the ten months ending 31st Jan., 1911.	Share in the ten months ending 31st Jan., 1912.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Denmark	...	...	...	5	Java	616,828	682,154	7,925,050	7,561,745
Germany	385	307	5,126	8,960	China	2,564	957	117,456	4,940
Holland	40	41	665	756	Japan	...	...	...	12
Belgium	150	41	692	1,434	Egypt	...	...	7	918
France	162	27	310	187	Natal	...	6	1	13
Austria-Hungary	136,648	570	344,813	237,741	Mauritius	243,785	167,490	2,194,353	1,423,484
India	50	...	50	...	West Indies	45	7	438	23
Straits Settlements	161	134	827	619	Mexico	...	...	1	...
					South America	14	41	150	583
					Australia	...	9	2	15
					From non-producing countries—	85	9	494	353
					Origin unknown	...	...	...	...
					TOTAL	1,000,917	851,796	10,590,435	9,246,798

QUANTITY of Beet and Cane Sugar imported by sea from foreign countries into each province of British India during the month of January, 1912, compared with the corresponding period of the year 1911 :—

PROVINCES	Beet Sugar.		Cane Sugar.		TOTAL.	
	1911.	1912.	1911.	1912.	1911.	1912.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	7,766	220	389,915	206,416	397,681	206,636
Eastern Bengal and Assam	1	...	1,957	1,884	1,958	1,884
Bombay	40,664	76	237,191	353,027	277,855	353,103
Sind	86,299	580	105,620	224,955	191,919	225,544
Madras	1,549	51	59,092	23,743	60,641	22,794
Burma	1,134	61	69,729	41,774	70,863	41,835
TOTAL	137,413	997	863,504	850,799	1,000,917	851,796

IMPORTS OF COTTON YARN.

QUANTITY of Cotton Yarn No. 31 and higher counts, imported by sea from foreign countries into each province of British India in the month of January, 1912 :—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	TOTAL.
	lb	lb	lb	lb	lb	lb	lb
Mule and water, Nos. 31 to 40	221,000	...	260,577	66,000	363,200	40,000	949,777
" " 41 to 50	12,538	...	73,220	...	58,950	...	144,728
" " above No. 50	56,126	...	105,494	...	103,515	...	265,135
Orange, red and other colours, Nos. 31 to 40	699,697	4,000	170,200	152,443	452,476	18,325	1,497,051
Orange, red and other colours, Nos. 41 to 50	...	...	4,100	...	...	36,985	41,385
Orange, red and other colours, above No. 50	2,000	...	3,890	...	23,386	32,620	63,896
TOTAL	991,291	4,000	617,781	218,443	1,002,527	127,930	2,961,972

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and Exports to, each country in the eight Months, April to November of each year.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1909	1910	1911	1909	1910	1911	1909	1910	1911
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
LUS BELA— Sind and British Baluchistan	4,05,036	5,28,808	4,75,883	1,81,404	1,92,782	99,791	5,86,440	7,21,590	5,75,674
KHELAT— Sind and British Baluchistan	2,80,874	5,21,193	2,97,223	3,41,645	4,81,317	4,93,231	6,22,519	10,02,510	7,90,454
PERSIA— Sind and British Baluchistan	2,69,262	1,69,334	2,90,107	4,04,939	3,59,575	6,97,290	6,74,201	5,28,909	9,87,397
AFGHANISTAN— Northern and Eastern (including Kabul and Ghazni)— North-West Frontier Province	23,74,842	29,66,131	20,60,647	54,95,631	60,16,477	49,92,745	78,70,473	80,82,608	70,53,392
Southern and Western (including Kandahar and Herat)— Sind and British Baluchistan	44,60,909	41,98,848	45,79,681	37,60,106	41,25,605	43,48,260	82,21,015	83,24,453	89,27,941
North-West Frontier Province	1,88,882	1,05,523	1,03,960	3,30,306	2,78,369	65,928	5,19,188	3,83,897	1,69,888
Panjab	10,463	13,158	21,758	10,166	24,255	4,192	20,629	37,413	25,950
TOTAL	70,35,096	63,83,665	67,66,046	95,96,209	1,04,44,706	94,11,125	1,66,31,305	1,68,28,371	1,61,77,171
TIRAH— North-West Frontier Province	3,17,152	3,90,828	3,95,720	3,22,276	6,34,799	4,03,797	6,39,428	10,25,627	7,99,517
DIR, SWAT, AND BAJAUR— North-West Frontier Province	33,47,803	27,12,401	42,51,621	43,95,250	30,63,949	42,25,062	77,42,553	57,76,350	84,77,583
BUNER— North-West Frontier Province	1,38,323	1,76,607	2,13,177	1,89,630	2,06,000	5,07,481	3,27,953	4,82,607	7,20,658
WAZIRISTAN— North-West Frontier Province	1,88,434	2,62,401	3,98,854	1,91,682	78,656	2,50,063	3,80,116	3,41,057	6,48,917
KURRAM VALLEY— North-West Frontier Province	1,84,111	1,52,367	1,55,656	6,13,559	8,87,125	10,89,500	7,97,670	10,39,492	12,45,156
LADAKH— Panjab	1,20,503	1,64,075	1,78,800	81,382	1,35,889	1,32,384	2,10,885	3,00,564	3,11,181
TIBET— Panjab	2,44,460	2,34,345	2,43,475	60,232	1,07,878	71,676	3,04,712	3,42,223	3,15,151
United Provinces of Agra and Oudh	7,09,288	8,81,564	8,83,537	3,45,061	3,01,112	3,57,070	10,54,349	11,82,676	12,40,607
Bengal	5,15,556	6,18,436	8,41,905	4,44,646	3,83,884	6,21,367	9,60,202	10,02,320	14,63,272
TOTAL	14,69,224	17,31,345	19,68,917	8,49,239	7,92,874	10,50,113	23,19,263	25,27,219	30,19,030
NEPAL— United Provinces of Agra and Oudh	54,17,331	41,13,194	56,37,919	16,51,583	18,99,254	18,85,915	70,68,914	60,12,448	75,23,834
Bengal	93,52,817	1,24,00,581	1,75,91,438	64,48,692	67,37,060	1,03,11,897	1,58,01,599	1,91,97,641	2,78,13,335
TOTAL	1,47,70,148	1,65,73,775	2,31,89,357	81,00,275	86,36,314	1,21,97,812	1,28,70,423	2,52,10,089	3,53,37,169

LAND TRADE OF BRITISH INDIA—continued.

Total Value of Imports from, and Exports to, each country in the eight Months, April to November of each year—continued.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1909	1910	1911	1909	1910	1911	1909	1910	1911
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
SIKKIM— Bengal	5,17,716	6,11,932	7,64,140	6,63,323	5,46,448	6,93,106	11,81,039	11,58,380	14,57,246
BHUTAN— Bengal	3,944	18,072	25,762	3,303	4,432	5,387	7,247	22,504	31,149
Eastern Bengal and Assam	49,751	29,273	22,124	60,492	21,007	39,048	1,10,243	50,280	61,172
TOTAL	53,695	47,345	47,886	63,795	25,439	44,435	1,17,490	72,784	92,321
TOWANG— Eastern Bengal and Assam	52	89	2,759	...	425	1,802	52	514	4,561
NAGA AND MISHMI HILLS— Eastern Bengal and Assam	26,407	1,15,664	86,682	1,666	5,119	1,331	28,073	1,20,783	88,013
DUFFLA AND AKA HILLS— Eastern Bengal and Assam	6,156	29,103	28,260	201	203	630	6,357	29,306	28,890
WESTERN CHINA— Burma	15,93,667	22,54,820	17,65,879	21,28,289	26,65,516	23,23,788	37,21,956	49,20,336	40,89,667
NORTH SIAM— Burma	21,39,982	17,03,011	17,63,160	16,78,990	14,96,721	17,18,529	38,18,972	31,99,732	34,81,639
SOUTH SIAM— Burma	4,68,825	5,94,490	6,20,762	4,91,628	4,49,945	5,84,330	9,60,453	10,44,435	12,05,092
N. SHAN STATES— Burma	67,38,538	77,71,637	78,75,385	47,77,830	47,53,593	64,99,460	1,15,16,368	1,25,25,230	1,43,74,845
S. SHAN STATES— Burma	36,79,328	38,11,462	50,22,495	57,92,666	58,18,412	68,59,010	94,71,994	96,29,874	1,18,81,505
KARENNEE— Burma	15,55,161	16,76,219	15,85,913	8,87,394	6,24,020	10,11,077	24,42,555	23,00,239	25,96,990
GRAND TOTAL	4,53,14,093	4,83,86,171	5,80,94,682	4,17,53,972	4,23,99,827	5,02,96,047	8,70,68,065	9,07,85,998	10,83,90,729
Share of each Province in the total trade—									
Sind and British Baluchistan	54,16,081	54,18,183	56,42,894	46,88,094	51,59,279	56,38,572	1,01,04,175	1,05,77,462	1,12,81,466
North-West Frontier Province	67,39,047	58,66,263	75,79,631	1,15,38,334	1,12,65,375	1,15,35,476	1,82,77,381	1,71,31,638	1,91,15,111
Panjab	3,84,446	4,12,178	4,44,031	1,51,780	2,68,022	2,08,252	5,36,226	6,80,200	6,52,285
United Provinces of Agra and Oudh	61,26,619	49,94,758	65,21,451	19,96,644	22,00,368	23,42,985	81,23,263	71,95,124	87,64,441
Bengal	1,03,90,083	1,37,09,021	1,91,33,241	75,59,964	76,71,824	1,16,31,757	1,79,49,997	2,13,80,845	3,07,65,002
Eastern Bengal and Assam	82,366	1,74,129	1,39,825	62,359	26,754	42,811	1,44,725	2,00,883	1,82,636
Burma	1,61,75,501	1,78,11,639	1,85,33,594	1,57,56,797	1,56,08,207	1,89,96,194	3,19,32,298	3,36,19,846	3,76,29,788
GRAND TOTAL	4,53,14,093	4,83,86,171	5,80,94,682	4,17,53,972	4,23,99,827	5,02,96,047	8,70,68,065	9,07,85,998	10,83,90,729

WEEKLY TRADE MOVEMENTS.

For the week ending 24th February, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta lbs.	465,792
Imports by sea into	Bombay "	222,179
	Madras "	128,610
Indian—	Calcutta "	50,000
Exports by sea from	Bombay "	6,712,742
	Madras "	...

Grey Piece Goods.

Imports by sea from	Calcutta yds.	13,099,171
Foreign ports into	Bombay "	2,922,650
	Karachi "	149,376
	Madras "	1,638,578
	Rangoon "	202,408

White Piece Goods.

Imports by sea from	Calcutta yds.	6,697,577
Foreign ports into	Bombay "	4,805,294
	Karachi "	1,459,449
	Madras "	644,011
	Rangoon "	407,689

Other Piece Goods.

Imports by sea, from	Calcutta yds.	3,332,310
Foreign ports into	Bombay "	4,404,715
	Karachi "	1,543,379
	Madras "	1,018,861
	Rangoon "	846,132

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	36,202
	Bombay "	13,843
	Karachi "	19,497
	Madras "	4,637

Raw Cotton.

Imports into Bombay	By sea cwt.	27,506
	Coastwise "	27,190
	By rail "	368,219
Imports into Karachi by rail	"	46,867
" " Calcutta by rail and river	"	24,587

JUTE.

Arrivals by all routes in	Calcutta	owt.	408,972
Exports by sea from	Gunny bags	No.	20,619,510
	Jute cloth	yds.	52,389,333
	Jute	owt.	391,945
	Chittagong—Jute	"	...

COTTON SEEDS.

Exports by sea from Bombay	owt.	209,405
----------------------------	------	---------

OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river	owt.	6,473
	By sea	"	...
	Coastwise	"	906
	By rail	"	57,740
	Karachi by rail and river	"	...
Exports by sea from	Calcutta	"	6,758
	Bombay	"	47,821
	Karachi	"	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river	owt.	66,952
	By sea	"	...
	Coastwise	"	...
	By rail	"	4,939
	Karachi by rail and river	"	122,152
Exports by sea from	Calcutta	"	8
	Bombay	"	5,144
	Karachi	"	104,273

RICE.

Arrivals by all routes in	Calcutta	owt.	542,939
	Calcutta	"	395,627
	Chittagong	"	131,028
Exports by sea from	Bombay	"	11,001
	Karachi	"	15,527
	Madras	"	21
	Rangoon	"	464,710

TEA.

Arrivals by all routes in	Calcutta	lbs.	138,320
Exports by sea from	Calcutta	"	846,501
	Chittagong	"	...

WHEAT.

Imports into	Calcutta by rail and river	owt.	82,229
	Karachi by rail	"	669,387
	By sea	"	1,503
	Coastwise	"	102
	By rail	"	91,778
Exports by sea from	Calcutta	"	23,976
	Bombay	"	42,129
	Karachi	"	415,633

The correct figure of other piece goods imported into Bombay for the week ending 17th February, 1912, is 4,517,152 yds.

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

	FROM APRIL		FROM JANUARY					
	1910	1911	1911	1912	1911	1912	1911	1912
	Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta . . . Cwt.	3,625,918	3,971,183	24,837	150,019	1,419	398	Not reported.	
Bombay . . . "	2,776,478	3,260,086	167,357	154,421	139,690	21,592	1,582,258	1,150,682
Karachi . . . "	19,599,638	21,774,557	29	...	1,014,232	339,284	Not reported.	

KEROSENE OIL, WEEK ENDING 24th FEBRUARY, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	470,482	...	470,482
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
	Bengal	...	...	416,684
	E. B. & Assam	...	...	...
	Bombay	...	...	573,100
	Sind	...	...	204,700
	Madras	...	...	563,200
	Indian Ports, Non-Br.	...	...	191,500
	Foreign Ports	...	...	...

IMPORTS OF SUGAR, WEEK ENDING 24th FEBRUARY, 1912.

	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay	Karachi.	Madras.	Rangoon.	TOTAL.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	33	...	53	42	1	15	144
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...	...
Java	54,558	...	1,069	...	...	999	56,626
Mauritius	...	...	...	...	...	...	...
Other Non-European Countries	...	...	3,466	660	...	1,093	5,219
Total refined							61,989
Total unrefined							...
Grand Total							61,989

Statement showing World's Production of Gold in the 40 years beginning 1871.

Years.	Total for 40 years.	Total of each quinquennial period.	Annual average.	Centesimal rate of increase of production (taking average production for 1866-70 as 100).	Sauerbeck's Index Numbers for gold prices.	SAUERBECK'S PRICES (INDEX NOS.).		QUANTITY OF GOLD COINED IN THE WORLD.	
						Silver.	Other commodities.	Total of each quinquennial period.	Annual average.
		(Fine ounces.)	(Fine ounces.)		(1866-77 = 100).			(Fine ounces.)	(Fine ounces.)
1866-70 . . .		31,350,000	6,270,000	100	...	...	...	...	...
1871-75 . . .		27,955,000	5,591,000	89.17	Not available.	Not available.	93.2	28,512,061	9,504,020†
1876-80 . . .		27,715,000	5,543,000	88.41	85.3*	86*	80.6	40,809,161	8,161,832
1881-85 . . .		39,973,000	7,994,600	127.51	83.2	79.8	72	26,448,931	5,289,786
1886-90 . . .		27,306,000	5,461,200	87.1	73.2	70.2	63.2	32,537,502	6,507,500
1891-95 . . .	407,025,000	39,410,000	7,882,000	125.71	59	66.6	60	47,573,727	9,514,745
1896-1900 . . .		62,233,000	12,446,600	198.51	46	66	59.6	89,500,887	17,900,177
1901-05 . . .		176,732,000	15,346,400	244.76	43	70	63	68,227,123	13,645,425
1906-10 . . .		05,701,000	21,140,200	337.16	44	76.4	68.8	68,623,761	17,155,940‡

* Average for three years, 1878, 1879 and 1880.

† Averages calculated from figures shown at page 16 of the Index Numbers pamphlet (the year 1873 being taken as the base year).

‡ Average for three years, 1873, 1874 and 1875.

α. Average for four years, 1906-09.

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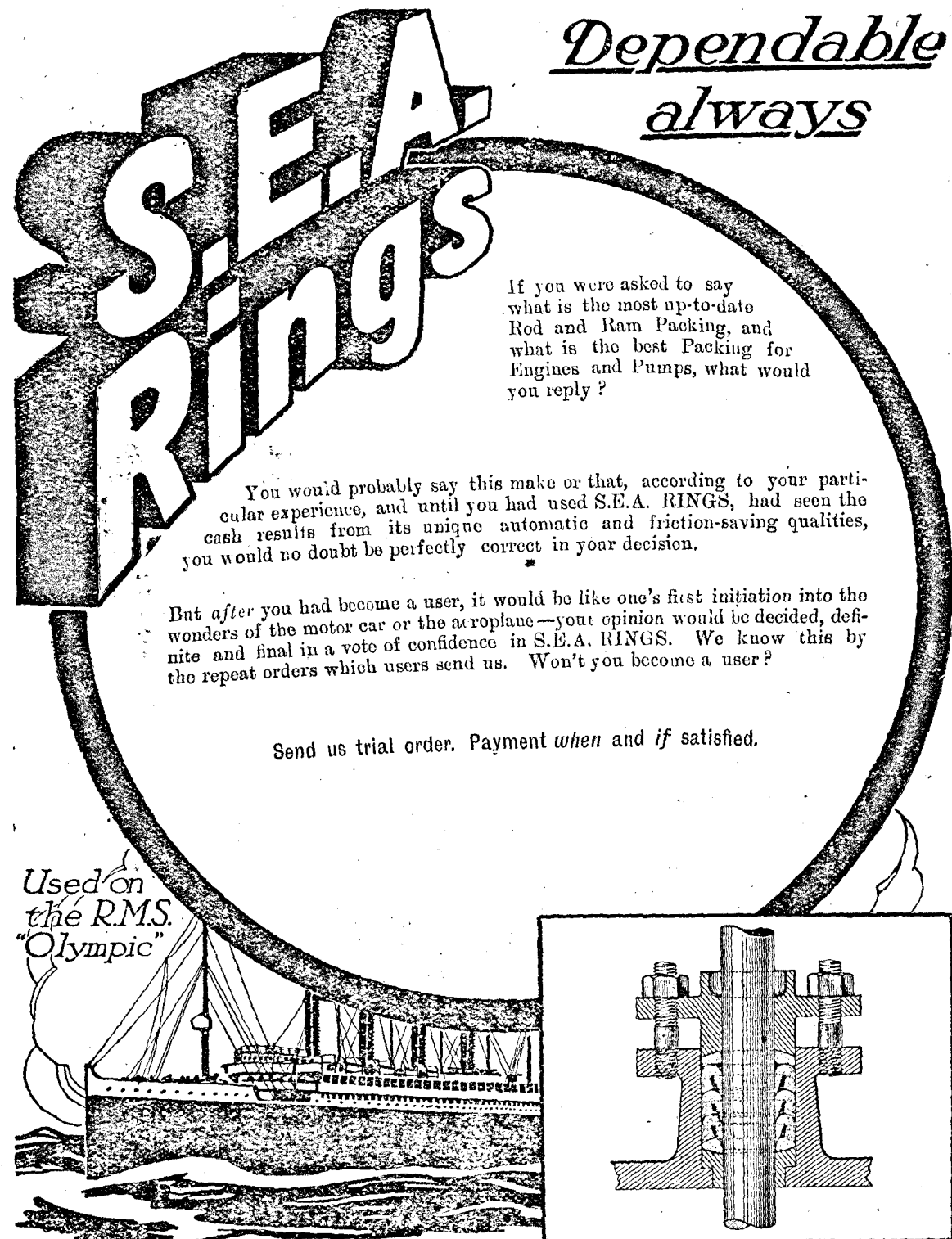
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PUBLISHED WEEKLY.



REGISTERED.

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*Issued by the Commercial Intelligence Department,
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CALCUTTA, THURSDAY, MARCH 7, 1912.

[ANNAS 4.]

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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	8 per cent. (Jan. 26).
	Bombay	7 per cent. (Feb. 22).
	Madras	8 per cent. (Jan. 29).
EXCHANGE	On demand	1-4 $\frac{1}{8}$
	Telegraphic	1-4 $\frac{3}{8}$
	Transfers	
	3 months	1-4 $\frac{5}{8}$
	6 months	1-4 $\frac{7}{8}$

GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.) Rs. 96.

The spot price of wheat at Karachi on the 29th February was Rs. 31-8-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 5th March was Re. 0-8-3 to Re. 0-9-0 per lb. and of cotton (Fully Good Oomras) ready goods, Rs. 265 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 6th instant were as under:—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 68 0 0
M. per 400 lbs.	60 0 0
Rice—Ballam No. 1 per B. md.	4 6 0 to 4 9 0
Moonghy	3 10 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold, Cawnpore, 4% per B. md.	Nil.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop.	Tracts comprised in the figures.	Percentage of average Indian crop represented by the tracts mentioned in col. 2.	Estimated Area.	Ratio of reported area to annual average for these tracts at corresponding date.	Estimated outturn.	Ratio of estimated outturn to annual average for these tracts at corresponding date.	Date of publication of the forecast in the Journal.
1	2	3	4	5	6	7	8
			Acres	Per cent.		Per cent.	
Indigo	Bengal, Madras, Punjab and United Provinces.	98.3	271,100	81	Cwts (dye) 48,700	101	Dec. 21st, 1911.
Wheat	Practically all wheat growing tracts.	90.8	25,570,000	117	Information not yet available.	...	Dec. 28th, 1911.
Rape and Mustard	U. P., Punjab, Bengal, E. B. and Assam, N.-W. Frontier, Bombay, Sind* and Hyderabad.	99.5	3,554,000	(a)	Do.	...	Do.
Linseed	U. P., C. P. and Berar, Bengal, Bombay, E. B. and Assam and Hyderabad.	96.6	3,371,600	(a)	Do.	...	Do.
Sesamum (til or jinji)	U. P., C. P. and Berar, Madras, Bombay, E. B. and Assam, Bengal, Punjab, Sind* and Hyderabad.	79.3	4,164,700	92	Tons 311,300	81	Jan. 18th, 1912.
Groundnut	Madras, Burma and Bombay.	(a)	1,200,000	121	542,200	120	Feb. 15th, 1912.
Cotton	All cotton growing tracts.	100	20,393,000	95	Bales 3,135,000	77	Do.
Rice	Bengal, E. B. and Assam, Madras and Lower Burma.	77.7	56,443,000	101	Cwts 521,902,000	113	Feb. 22nd, 1912.
Sugarcane	U. P., Bengal, Punjab, E. B. and Assam, Madras, Bombay* and N.-W. Frontier.	98.4	2,331,700	102	Tons 2,390,400	114	Do.

N. B.—The ratios in column 3 are calculated on the total acreage in all India in the case of wheat and cotton and on that in British India in the case of other crops.

* Including Native States.

(a) Data for calculation of ratio not available.

The following general memoranda on crops of the season 1911-12 will appear in the *Indian Trade Journal* of the 14th March, 1912:—

Wheat—Second General Memorandum.

Spring oilseeds—Second General Memorandum.

The gist of these in tabular form will be exhibited in the portico of the New Imperial Secretariat Buildings, No. 1, Council House Street, Calcutta, on the 13th instant at 4 P.M.

The quarterly *Journal* of the British Chamber of Commerce of Smyrna for January contains the following particulars of the crop results in that district:—The present tobacco crop, amounting to probably 8 million okes (oke=2.83 lbs.), has been the largest since 1903. The crop is of about the usual quality, being healthy and substantial, with a bright colour and delicate veinings; the top leaves—"Ontch" and "Ontch-alti"—have been damaged at Odemish ("Pastal" tobacco), but in the other districts everything has turned out satisfactorily with the exception perhaps of Moughla and Melissos ("stringed" tobacco), where the leaves are somewhat bright and light in weight. Buying started late, owing to the high prices asked by the planters, but prices have now dropped to a very low figure, taking into account the fact that the planting cost the growers very much this year owing to the great scarcity of labour; this will have a disastrous effect on next year's planting, and the new crop of 1912 is likely to be a very small one. The prices of manipulated tobacco ("basmas" and "caloups") will be about the same as last year, notwithstanding the low price of the raw material, owing to the great scarcity of labour; the market is prepared to see a serious strike among workers before Easter. After the unprecedentedly small crop of sultanias of 1910 (16,000 tons), this season's comparative failure has made the market still more difficult, and forward shippers suffered very considerably. The yield has proved barely 22,000 tons. Stocks now remaining in the country available for shipment are reduced to 1,200 or 1,400 tons, most of which will probably be utilised by the local distilleries. The fig crop has proved about 95,000 loads (190,000 sacks, or 21,000 tons), as against the record crop of 130,000 loads of 1910. Stocks are quite exhausted and business is over for the season. The campaign has not proved profitable, owing as much to high prices having checked consumption as to the general inferiority of the quality. Although Smyrna is bare of supplies, considerable stocks representing unsold consignments are lying both in the United Kingdom and on the Continent. The 1910-11 valonea crop yielded about 950,000 quintals (quintal=220.46 lbs.). Conditions have been so poor this season that the maximum estimate is fixed at 500,000 quintals, to which, however, must be added 300,000 quintals unsold from last season's crop, as against a stock on hand at the beginning of last season of 400,000 quintals. The quality is in general inferior to that of last season,

and it is especially the better qualities that are wanting. The cause of this deficiency is certainly the dry weather; for, as the fruit remained small, it had to be left longer on the tree, and thus reached a more than normal degree of maturity, in consequence of which it is lighter in quality and more resembling the wild fruit. The 1910 Smyrna cotton seed crop amounted to 9,600,000 okes, and the present crop is computed at 12,600,000 okes. Adana is expected to yield a crop of 25,200,000 okes. The cotton crop of the Smyrna district is estimated at 40,000 bales (of 500 lbs.). The quality is on the whole superior to that of last year, which in itself was good, but short in staple. The Adana crop is estimated at 70,000 bales.

The total approximate gross earnings of State and Guaranteed Railways from 1st April, 1911, to 17th February, 1912, show a gain of Rs. 3,55,49,921 as compared with the corresponding figures for 1910-11.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 6 weeks ended 8th February, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 8th Feb., 1912.	6 weeks ended 8th Feb., 1912.	Week ended 8th Feb., 1912.	6 weeks ended 8th Feb., 1912.
American	Bales. 81,366	Bales. 679,656	Bales. 5,124	Bales. 59,430
Brazilian	—	3,762	49	1,311
East Indian	644	1,820	4	596
Egyptian	8,871	126,339	15	22,892
Miscellaneous	52*	13,547†	316	1,496
TOTAL	91,423	825,124	5,508	85,725

* Including 20 bales British West Indian, and 23 bales British East African.

† Including 793 bales British West Indian, 77 bales British West African, and 3,977 bales British East African, and 396 bales foreign East African.

NOTE.—Cotton "in transit" or "for transhipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

At a meeting of the Board of the Manchester Chamber of Commerce on February 14th a long communication from the Delhi Piece-goods Association, written in reply to the letter from the Chamber of the 15th December last, on the proposed terms for business between Manchester merchants and Delhi and Cawnpore dealers, was placed before the Board. It may be remembered that the Chamber suggested a series of terms as a counter-suggestion to those then proposed by the Delhi Association. The Association, taking the Manchester terms as

their basis, now suggest a number of changes. The whole subject was remitted to the India Committee, who will shortly meet to consider the subject.

Messrs. Neill Brothers have issued a circular in which they reiterate their estimate of 15½ to 16 million bales for the American cotton crop, and explain that no conclusion can be drawn from the unexpectedly small January ginnings because of the bad weather in that month. With regard to distribution, they draw attention to the large takings of Japan, which is a very irregular customer for American cotton, and should follow up last season's very small total by the largest on record. They remark again on the comparatively small takings of English spinners. "But it must be remembered that their last year's takings in the first half of the season were exceptionally heavy." Messrs. Neill disclaim any intention to dogmatise about the season's consumption, but they submit the following preliminary estimate in comparison with the estimates of previous seasons:—

(In 1,000's)	1911-12	1910-11	1909-10	1908-09	1907-08	1906-07
Great Britain	3,350	3,175	2,750	2,950	3,150	3,200
Continent	4,650	4,325	4,375	4,650	4,400	4,250
U. S. and Canada	5,000	4,614	4,792	5,000	4,344	5,025
Japan, Mexico, etc.	500	156	115	260	233	275
Total	13,500	12,270	12,032	12,920	12,127	12,750

"The takings will no doubt exceed these figures." Adding visible supply and mill stocks together, Messrs. Neill calculate that on February 9th supplies were as follows:—

	1911-12	1910-11	1909-10	1908-09	1907-08	1906-07.
Great Britain	1,730	1,610	1,410	1,590	1,681	1,617
Continent	2,771	1,823	2,149	2,532	2,150	2,084
United States	2,558	2,259	2,340	2,611	1,794	2,649
Visible and mills	7,059	5,722	5,899	7,012	5,625	6,380

It appears, therefore, that the Continent is much better off for cotton than Great Britain, "its accumulation being much greater even than is shown above, by reason of its further and far-reaching supply of paper contracts." Messrs. Neill's reports of new crop prospects are fairly good, and they say that "few are now found to talk about any great reduction in acreage."

In their weekly report on the Shanghai piece-goods market, dated February 8th, Messrs. Neill Murray and Co., Ltd., say:—There has been no business worth noticing in Indian yarn and no one seems to have had advices of the Bombay position, which is no doubt without change, but cotton is firm there because of the anticipated further requirements of Japan. Owing to the approach of China New Year, the export of yarn from Japan to China fell off in January to 8,628 bales in all up to 23rd ultimo, which would be increased to 10,000 by the 31st, as compared with an average

season of 15,000 bales for the first month of the year. Under existing circumstances an export of 10,000 bales for the month was not considered by the *Jiji* newspaper to be a bad showing. The Yangtze valley markets are regarded as the ones most favourable for the consumption of the spinings from Dai Nippon. An advance has been recorded on the Osaka Bourse and prices there are now Yen 134.00 for February, Yen 133.80 for next month and Yen 132.50 for April. Eight hundred bales from second hands are reported as sold at lower prices, viz.:—Tails 102.00/111.00 for 16's and Tails 103.50/116.00 for 20's. Some contracts for local yarn have been made by the Native Mills for forward delivery after the New Year's holidays which begin on the 18th instant. The sales comprise 100 bales Clouded Dragon 14's at Tails 102.00, 500 bales Water and Moon 16's at Tails 107.50 and 200 bales Railway 16's at Tails 108.50. For bundles the prices are 5 Mace to 1 Tael cheaper. Cotton prices are about the same as last reported, but there are no sellers, everybody being inclined to hold back until the end of the present month, by which time more should be known about the political aspect and it is thought higher rates will be demanded by the farmers and holders.

The *Corn Trade News* gives the following summary of the world's crops as on the 13th ultimo:—*United States of America*—The Government bulletin issued a week ago reported favourably of winter wheat, but the "Modern Miller" again mentions complaints of weather damage, but adds same are unconfirmed and crop now mostly under snow. Receipts last week moderately less, but larger than year ago. *Canada*—Receipts at Winnipeg still large, although quantities moderately less last week. Grading now shows about half of the total below No. 5. Further large arrivals are predicted; well posted people still claim good wheat very scarce and probably insufficient for home needs. *Argentina*—Practically all reports claim new Wheat poor quality and Buenos Ayres reduced weight standard 1½ lbs. per bushel. Strike appears practically settled, although Rosario still granting certificates affirming strike. Crop movement still reported very small, but offerings larger at reduced prices; Buenos Ayres futures declined sharply. *Australia*—No change as regards harvest results. Exports continue moderate and much below year ago. *France*—Weather turned mild and some mention local damage but generally prospects quite favourable. Wheat offerings generally light but trade disinclined to force further advance. *Germany*—Weather mild after very severe frost, no complaints crop damage. Offerings native Wheat generally moderate whilst export demand continues. Mild weather restricts home consumption. *Russia*—Weather in the south generally mild and rainy but reports continue say crops all right. Arrivals at the ports keep generally very small although fair quantities Maize at Odessa and Barley at Novor-

ossisk. *Roumania*—Weather mild, crops reported satisfactory. Confirmed reports stocks small. *Hungary*—Weather turned mild and rainy. Where snow melted crops look well. *Italy*—Unseasonably wet weather reported lately, but generally agricultural outlook remains favourable. Native Wheat very firm, and offerings small in South. *Spain*—Heavy rains and floods reported. *Portugal*—Flood damage reported. Expected some Wheat imports in Spring. *United Kingdom*—Winter Wheat considered all right. Land now very wet.

The British Vice-Consul at Emden (Germany) reports that two companies at that place have undertaken to provide the port with grain elevators in the course of 1912. One company intend to establish two pneumatic elevators, of the same type as those in use at Hamburg and Rotterdam, with a maximum capacity of 200-220 tons per hour, at a total cost of 700,000 marks (about £34,150); and the other company two pneumatic elevators with a capacity of 150-180 tons per hour, to cost 650,000 marks (about £31,700). These elevators are to be ready for use in May or June next. They will all be floating structures worked by steam. It is claimed that, whereas the average time of unloading grain steamers at Emden amounts at present to a week or slightly under, the use of elevators will enable vessels to obtain the same despatch as at Hamburg, viz., about two days. The Vice-Consul adds that the four grain elevators are considered to be far in excess of the probable requirements of the port in the near future.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 10th February, 1912, were as follows:—Wheat, 34s. 0d.; barley, 33s. 2d.; and oats, 21s. 4d.

The *Bulletin* of the American Iron and Steel Association of 1st February publishes the following particulars of the production of pig iron in the United States in 1911, the figures for the two previous years being added for purposes of comparison:—

	1909.	1910.	1911.
Total	Tons. 25,795,471	Tons. 27,303,567	Tons. 23,649,344
Bessemer and low phosphorus	10,557,370	11,245,642	9,409,107
Basic	8,250,225	9,084,608	8,520,029
Charcoal	376,003	396,507	278,676
Ferro-manganese	82,209	71,376	74,482
Spiegel-iron	142,831	153,055	110,235
Foundry, Ferro-silicon, etc.	6,386,823	6,352,379	5,256,815

The total quantity and value of gold extracted from the Indian mines during the month of January, 1912, were 47,539 ozs. and Rs. 27,12,522. The output for the same month as compared with the corresponding months of 1911 and 1910 was as follows:—

		1912.	1911.	1910.
Mysore	{ Ozs. 46,151	47,730	45,484	
	{ Rs. 26,31,972	27,22,884	26,23,372	
Nizam's Territory	{ Ozs. 1,383	1,204	1,201	
	{ Rs. 80,550	69,750	68,530	

The following figures represent the quantity and value of gold and silver imported from and exported to foreign countries and from British India during the month of January, 1912:—The total imports of gold were 917,896 ozs. valued at Rs. 5,48,65,328; of these 159,295 ozs. priced Rs. 1,01,82,098 represented bullion, 752,372 ozs. worth Rs. 4,43,15,384 represented sovereigns and other British gold coin, and 6,229 ozs. valued at Rs. 3,67,846 represented other coined gold. The exports of gold totalled 52,072 ozs. in quantity and Rs. 30,11,308 in value, and of these 51,720 ozs. valued at Rs. 29,90,625 represented bullion, 37 ozs. worth Rs. 2,150 represented sovereigns and other British gold coin, and 315 ozs. valued at Rs. 18,533 represented other coined gold. The total imports of silver were 4,235,928 ozs. priced at Rs. 76,02,475; of these 3,930,237 ozs. valued at Rs. 67,89,155 represented bar, 303,557 ozs. worth Rs. 8,09,736 represented Government of India rupees, and 2,134 ozs. valued at Rs. 3,584 represented other coin. The total exports of silver were 3,656,254 ozs. valued at Rs. 61,00,361; of these 11,176 ozs. worth Rs. 26,519 represented bullion, 60,745 ozs. priced at Rs. 1,62,000 represented Government of India rupees, 3,534,257 ozs. valued at Rs. 58,05,281 represented British dollars, and 50,076 ozs. worth Rs. 1,06,561 represented other coin. The total imports of gold amounted to 548.6 lakhs, while those of silver to Rs. 15 lakhs (net).

In their review of the Mauritius sugar market, dated February 10th, Messrs. Blyth Brothers & Co. say:—When writing our last report we advised a dull market, owing to holders considering it probable that Bombay would buy freely later on, and it is satisfactory to report that their opinion proved correct as a large business has been done at high prices. Shortly after departure of our last, the market showed slight signs of improving. A few thousand bags were sold at Rs. 11.75 to Rs. 11.85, but it is estimated that no more than about 50,000 bags changed hands at these various prices. It was on the 3rd instant, however, that the market changed so rapidly, as on that day about 25,000 bags were sold at Rs. 12.00 followed on 5th and 6th instant by further heavy buying to the extent of some 180,000—200,000 bags at same price, whilst 15,000

bags of Grainy sorts fetched Rs. 12.50 and one way and another since our last report 300,000 bags of crystals must have changed hands. A curious feature in the purchases was that buyers made no difference in price between sugar packed in a single gunny or gunny vacoa although we understand Bombay will not accept the latter packing; consequently extra charges will have to be incurred for repacking. These sales have reduced considerably stocks unsold, and although it is difficult to estimate what is left we may be near the mark in putting it at 200,225,000 bags of which about 6,000 bags are Finest Whites for which there has been no demand. There has been a strong demand for dry white syrups and about 40,000 bags have been sold at prices ranging from Rs. 10.30 to Rs. 11.00 according to quality. For similar sugars but moist there is a large stock in hand, but prices asked by holders seem to be about Re. 1 above prices Bombay seem prepared to buy at for the present. Prices of low syrups have fluctuated considerably as after 30,000 bags had been sold at Rs. 7.10 or 10 f. o. b. a few days later the same sugar were resold at Rs. 7.50. Since then a certain quantity has been sold at an advance of 25c. but there is still a certain quantity on the market.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 5th instant was 61,832 bags while the stock in Bombay on the 1st idem amounted to 135,500 bags.

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

For the week ending 2nd March, 1912—

In the Calcutta market—

Behar opium—Rs. 5,500; 5,500; 5,450; 5,400; 5,350; 5,400; 5,400.

Benares opium—Rs. 5,550; 5,550; 5,500; 5,450; 5,400; 5,450; 5,450.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 3rd sale of 1912.

At Hongkong—(Exchange: Rs. 143½ to 145 per \$100.)

Behar opium—\$4,000; 4,000; 4,000; 4,000 and 3,950; 4,000 and 3,900; 4,000; 4,000.

Benares opium—No quotations received.

At Shanghai—(Exchange: Rs. 198½ per tael 100.)

Behar opium—No quotations received.

Benares opium—Tails 3,950; 3,900.

For the week ending 24th February, 1912—

In the Bombay market—

On the 18th and 19th ultimo (new, 1908-09) Rs. 4,530; (old, 1907-08) Rs. 4,600 to 4,650; from 20th to 24th ultimo (new, 1908-09) Rs. 4,900; (old, 1907-08) Rs. 5,175. The latest prices at Hongkong and Shanghai were (new) Rs. 5,075 and 5,335; (old) Rs. 5,220 and 5,529, respectively.

In their report on **London tea sales**, dated February 16th, Messrs. Gow, Wilson and Stanton, Ltd., say:—Importers of **Indian tea** brought forward 45,627 packages against 41,088 packages last week. There was a fairly good general demand at both auctions with more attention paid to medium and fine kinds, which though a little irregular often favoured sellers to a fractional extent. Quality here and there was preferable, and several invoices of useful autumnal character *Docars Teas* again made good averages. Common sorts were in rather less request, the larger proportion of red and stalky Teas included restricting competition and bringing about some lower quotations; fair black leaf *Pekoo Souchong*, however, was not obtainable under 7½d. per lb. *Travancore*s were in fairly full supply, and where quality was maintained sold without appreciable change in values. 11 final invoices have been printed to date as against 9 last year. 42,023 packages are catalogued for next week. Average for week 8.70d., against 8.65d. last sale. Week's average of Tea sold on *Garden Account*, Season 1911-12, 45,321 packages, average 8.70d. 1910-11, 34,754 packages, average 8.74d. Season 1911-12, to date 1,212,148 packages, average 9.16d. Season 1910-11 to date 1,124,033 packages, average 8.54d.

In their **rubber market** report, dated London, February 15th, Messrs. Gow, Wilson and Stanton, Ltd., write:—Since the last auction the market has assumed a rather quieter tone, but prices have only shown very slight variations. At the sale held this week, the amount advertised was about 120 tons less than a fortnight ago. In sympathy with the private market, the sales opened with rather quiet competition, but all through the auction the tone steadily improved, and while at the beginning quotations were 1d. to 1½d. below those of a fortnight ago, by the end of the sale the whole of this discount was made up, and rates, especially for *Crepe*, often marked a slight improvement on those of the end January sale. The highest figure was 5s. 4½d. for one parcel of *Highlands sheet*, 5s. 4½d. being frequently paid for light *Crepe* on the second day of the sale. The total exports of *Plantation Rubber* from the East during 1911 amount to nearly 14,000 tons.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 8th ultimo regarding the **Hull oil market** says:—**Linseed oil**: The market is steady, with spot at 37s.; March-April, 36s.; May-Aug., 32s. 10½d. The exports for the week amounted to 164 tons, of which America took 6, Holland 150, Turkey 1, and Norway 7 tons each. **Cotton oil**: This market is also steady, with refined cotton oil at 22s. spot; 23s. Feb.-April, 23s. 10½d. May-Aug. Crude oil 20s. 9½d. spot. The exports for the week amounted to 34 tons, of which Holland took 10, Italy 12, Norway 2, and Sweden 10 tons each. **Soy bean oil** 26s. spot. The ex-

ports for the week amounted to 526 tons, of which America took 52, Austria 31, Belgium 84, Denmark 15, Germany 75, Holland 206, Italy 46, Russia 14, and Sweden 3 tons each. **Cocoonut oil** quiet at £39 10s. to £40 10s. per ton for English in casks ex mill according to terms. Lard oil steady for best English refined at 49s. 6d. per cwt. ex store in barrels. **Colza oil** quiet, steady. East Indian refined 35s. per cwt. ex store in barrels. **Olive oil** steady at £41 10s. per tun for Spanish ex store. Forward firm but slow. **Palm oil** neglected, but without pressure to sell, and quotations practically unaltered. Softs nominally £29 5s., hards £27 5s., Benin £28 5s. to £28 2s. 6d. transit. *Layos* sold at £29 15s. Refined sorts continue dull and nominal. **Petroleum** firm at 7d. to 7½d. per gallon for Russian, and 6½d. to 8½d. for ordinary W. R. American. **Turpentine** quiet; prompt 36s. 3d., Feb.-April 36s. 9d. per cwt.

The extraction of oil from cotton seed is, says the *British Trade Journal*, an "important industry at Shanghai, there being 3 mills under foreign management and some half a dozen controlled by Chinese. All the seed is produced in the districts immediately surrounding Shanghai. Of the mills under foreign management the largest, which is controlled by a British firm, is capable of producing about seven tons of refined oil a day, but, owing to difficulties in obtaining regular supplies of seed and the impossibility of working during the hot weather, the total annual output is from 800 to 1,000 tons only. The native mills produce a crude oil, mainly used for local consumption.

The exports of wool from Australia and New Zealand up to the end of January, i.e., for the first seven months of the present wool year, is of unusual interest and importance, says the *Manchester Guardian*. From Australia the exports amounted to 1,507,000 bales. Although the exports from the Commonwealth during the month of January, 1911, were fairly heavy and amounted to 154,000 bales, last month they exceeded that figure by 25,000 bales, which brought the increase over the previous wool year from 50,000 bales (at which it stood on December 31st) to 75,000 bales. These figures must surprise those who thought that the shipments of wool from the Commonwealth this season would show a decrease or, at the most, no increase. During the months of February and March last year the exports were fairly heavy, but if the shipments during this month (February) and the next are equal to them, the present wool year may end with a considerable increase; for during the months of April, May, and June last year, the total exports only amounted to 192,000 bales. Much depends on the amount of early shearing in Queensland this season compared with last, but as probably more owners than before will adopt this practice we may expect exports from Australia amounting to some-

where about 2,100,000 bales. New Zealand exports are more disappointing to users. They only total 227,000 bales, or less by 45,000 bales than for the corresponding period of last season. It is possible that much of this falling-off is due to the scarcity of shipping and high freights; but if, as some assert, it is due to the change from *Lincolns*, *Shropshires*, and other breeds to *Romney Marshes* the change is going to cost sheep farmers dear, for a decline in wool shipments at this rate, month by month, up to the end of June will make a shortage of over 50,000 bales, or more than 10 per cent on last year, which already showed a decline.

The vexed question of the **United States duty on imported raw wool** has not been settled by the recommendation of the Tariff Board to impose a uniform duty of 20 cents per pound on all classes of raw wool irrespective of value. Such a basis, says the *Manchester Guardian*, would be more equitable than the existing one—viz., the weight of wool "in the grease," which works in favour of the worsted manufacturers through their use of light scouring wools. The chief sufferers under this system are the carded woollen manufacturers, who have persistently claimed an *ad valorem* duty. At the recent meeting of the Carded Woollen Manufacturers' Association adherence to the *ad valorem* principle was reaffirmed. In his criticism of the proposed system, Mr. Edward Moir, President of the Association, showed that in the London wool market—the chief market for American importers—prices vary from 7 cents to 70 cents per pound. On the lower figure a duty of 20 cents would equal an *ad valorem* rate of 285.7 per cent, and on the higher only 28 per cent. The result would be discrimination against the user of cheap material sufficient to drive him out of the market. In view of the popular outcry against the increased cost of living it is not easy to understand the recommendation of the Tariff Board, presumably an impartial body. The *Journal of Commerce* suggests that the influence of the third trade interest affected—viz., the wool growers—is apparent. The latter have always opposed an *ad valorem* basis.

The **tonnage of vessels** entered at ports in the United Kingdom from foreign countries and British possessions, with cargoes,* during January, 1912, amounted to 3,727,657 tons, and the tonnage cleared with cargoes* to 5,038,976 tons, as against 3,299,619 tons entered, and 4,518,272 tons cleared, during January, 1911. With regard to the coasting trade the tonnage entered with cargoes* during January, 1912, amounted to 2,791,599 tons, and the tonnage cleared with cargoes* to 2,783,889 tons as against 2,613,156 tons entered, and 2,569,893 tons cleared in January, 1911.

* Vessels landing or embarking bullion, specie, or mails have been included in the returns as vessels with cargoes since 1st January, 1912.

The **company registration returns** for 1911 fall considerably short of those for 1910, when the booms in rubber and oil enterprises added something like £60,000,000 to the capitalisation account. A comparison, however, with the returns for earlier years as given in the annual review of the *Investors' Guardian* shows that in the main registration continues to increase normally. The number of companies registered in England was 5,960, against 6,707 in 1910 and 5,833 in 1909, and the registered capital was £150,734,000, against £132,143,000 in 1909. (£205,146,000 in 1910, but in that year no less than £78,000,000, or 38 per cent of the whole, related exclusively to rubber and oil companies). Rubber registrations in 1911 (for £9,500,000) had only one-fifth the capital importance of those of 1910, the registrations of the second half of the year falling to the level of the period preceding the boom. Oil companies do not show so decided a reaction, the capital registered (£16,000,000) being just under one-half of that of 1910.

The *Report of the Indian Merchants' Chamber and Bureau*, which has just been issued, records the activities of the Chamber during the period from September 1st, 1910, to August 31st, 1911. The work done during the course of the year was of a varied character comprising several questions of importance to the commercial community. It is observed that the vernacular *Journal* issued by the Chamber "has made good progress both as regards advertisements and subscribers, and has begun to pay its own way."

It appears from the *Report of the Ceylon Chamber of Commerce* for the half-year ended 31st December, 1911, that the exports of both **Black and Green Tea** for 1911 aggregated 187,674,990 lbs., an increase of 5,992,173 lbs. compared with previous year's shipments and 4,185,069 lbs. less than the figures of the record year 1909:—

	1911.	1910.
Black Tea . . .	178,729,419 lbs.	175,103,457 lbs.
Green " . . .	8,945,571 "	6,579,360 "
	187,674,990 lbs.	181,682,817 lbs.

The increase is particularly noticeable in the shipments to United Kingdom, which exceed those for the corresponding period in 1910 by five million lbs. The exports to America and the Continent of Europe show an increase approximately of three and a half and a quarter million lbs., respectively, while those for "Other Countries" show a slight advance of 88,823 lbs. Russia has taken one and a half million lbs. less than last year and the shipments to Australia also shew a falling off of over one million lbs. The exports of cocoonut oil for the past year were approximately 100,000 cwts. below those of 1910, while cocoonut poonac, as a consequence, shewed

a proportionate falling off. Shipments of cocoanuts were roughly half a million short of the previous year. The quantity of copra exported was slightly in excess of 1910, while desiccated cocoanut shewed a substantial increase of over 5,000,000 lbs. On the whole the total quantity of **cocoanut products exported** during 1911, as represented by the equivalent in copra, was considerably short of the previous year, a result of drought which was again responsible for short crops in many of the cocoanut districts. The following were the shipments for 1911 compared with the previous years:—

	1911.	1910.
Cocoanut oil . cwt.	512,269	616,377
Copra	788,695	766,906
Desiccated Cocoanut lbs.	32,604,546	27,201,074
Cocoanut Poonac cwt.	213,982	309,589
Cocoanuts	15,589,189	16,114,088

The year's shipments of rubber show a large increase over those of 1910, viz., 3,567,804 lbs., the actual figures being 7,154,658 lbs. in 1911 against 3,586,854 lbs. in 1910.

It appears from the Report on the working of the Department of Agriculture, Central Provinces, for the year 1910-11 that the two most interesting features of the work on transplanted rice were the working of a **disintegrator** for grinding bones at Rajnandgaon, experiments on the farm having proved the excellence of **bonedust as a manure for rice**. It is, says the report, obviously more economical to grind bones at Raipur than to send them to Bombay or Calcutta to be ground, and then re-import the dust. Interesting results were obtained from the experiments in the optimum quantity of **water for irrigated wheat**. The results of previous years were fairly confirmed, and it was found that two (or three) waterings, applied one and two months after sowing, of from 10,000 to 12,000 cubic feet in all gave the best yields, even in the rainy cold weather of 1910-11. Manurial experiments in hay in view of the action now being taken by the Department to improve the fodder supply of cattle, were interesting, and the fact that sulphate of ammonia, especially in conjunction with superphosphates, prove the best manure, is noteworthy. The supply of this manure is likely to be increased and cheapened, if producer gas engines become more numerous in India, as seems likely. In the absence of information about the cost of the manures employed, it is, however, not possible to tell if the application of these manures was financially profitable. **Cotton** suffered very badly; in addition to the damage from excessive rainfall, *buri* was injured very seriously by frosts, a fact which seems to show that this type of cotton has its climatic limitations. Considerable attention was paid to **soy beans**. Pure white linseed and yellow *til* seed were grown, with a view to seed distribution, as the price for these varieties is a little higher than for the local

types, while the yield is at least as high. An interesting series of observations were made with reference to the very serious losses caused to the gram crop by caterpillars and the *ugra* or withering due to white-ants. Though the results of a single year cannot be considered as in any way conclusive, yet it would seem that the *malida* and *parbatia* varieties are much less susceptible to these kinds of damage than the local kinds.

The *Agricultural Statistics of India* for the years 1905-06 to 1909-10, Volume II (Native States), has just been published by the Commercial Intelligence Department, India. This volume presents statistics relating to total area, areas cultivated and uncultivated—culturable and unculturable, areas irrigated, areas under different crops, agricultural stock, incidence of land revenue assessment on area and population, transfers of proprietary and occupancy rights in land in certain States in India. Copies of the publication may be had from the Superintendent, Government Printing, India, No. 8, Hastings Street, Calcutta, the price being one rupee per copy (excluding postage).

Volume II of the *Annual Statement of the Seaborne Trade and Navigation of British India with the British Empire and Foreign Countries* for 1910-11 (45th issue), compiled in the office of the Director-General of Commercial Intelligence, has just been published by the Superintendent, Government Printing, No. 8, Hastings Street, Calcutta, the price is Rs. 3 or 4s. 6d.

The *Annual Statement of the Coasting Trade and Navigation of British India* for 1910-11 (45th issue), compiled in the office of the Director-General of Commercial Intelligence, has now been published by the Superintendent, Government Printing, India, 8, Hastings Street, Calcutta, the price being Rs. 3 or 4s. 6d. per copy.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 24th February, 1912:—T. Lennox—Shearing machines. J. B. Salmon and E. W. Roy—Improvements in and relating to pneumatic tyres. H. J. S. Gilbert-Stringer and P. W. Druitt—Improvements in apparatus for composing and casting type. P. W. Druitt—Improvements in moulds for typographic or type-founding apparatus. Crompton and Company, Ltd.—An improved thermantidote.

The weather conditions in India during the week ended Tuesday last were marked by the usual transition from the cold weather distribution of pressure to that characteristic of the hot weather. A shallow depression appeared at the head of the

Bay of Bengal causing local thunderstorms in Lower Bengal and Assam. A heat depression over Baluchistan and Sind, extending over the Punjab, has caused light precipitation in Kashmir. Light local rain has fallen in Eastern Bengal and Assam and the south of the Peninsula. In other parts of the country weather has been generally dry.

Wind motors for pumping, etc., are not unlikely to find a large field of usefulness in connection with the rubber estates and mining properties in Tenasserim. It is stated that in the maritime part of the province there is usually enough wind to actuate such appliances, and in many places the deficiency in the surface water supply is already being felt.

The Committee appointed to consider the **Budget Estimates of the Bombay Port Trust** for the year 1912-13 estimate the gross revenue under all heads at Rs. 86,93,754 as against estimates of Rs. 84,74,450 last year, showing an increase of Rs. 2,19,304. The expenditure on revenue account has been fully provided for and, allowing for increased interest and sinking fund charges on loans, amounts to Rs. 76,98,738, leaving a surplus of income over expenditure of Rs. 9,95,016 available for transfer to reserve. The Committee have framed the estimates under the pilotage account for a **surtax of 10 per cent on the pilotage fees** on vessels inward and outward. This is estimated to yield Rs. 21,000 per annum, and it is proposed to continue this surtax until the Schooners' Replacement Fund is considered to be in a satisfactory financial state. The pilotage scale of fees will remain unaltered and the surtax will be charged on all bills preferred for pilotage in and out. The estimates provide for a total expenditure under **capital account** of Rs. 1,42,88,100, as follows:—New Works (ordinary), Rs. 13,57,600, Alexandra Docks construction including interest, Rs. 90,25,000; and Mazagon-Sewri Reclamation and Railway construction including interest, Rs. 39,05,500. Allowing for capital balances in hand it is estimated that it will be sufficient to raise a further loan of Rs. 100 lakhs during the year 1912-13 which will provide sufficient funds for expenditure after 31st March, 1913, until a further loan is raised.

The demand for **agricultural labour** in the United Provinces is normal. The only unusual movement reported is an influx of labourers to railway construction works in Banda and Hamirpur. Railway construction works in Allahabad and Gorakhpur, and irrigation works in Hamirpur and Etah are also attracting some of the labour available. It is generally reported that with an abundant harvest in prospect, there is no likelihood of labour being available for recruitment. The only districts in which labourers are said to be obtainable for employment are Jaunpur and Partabgarh.

The United States Consul at Johannesburg, South Africa, discussing the cultivation and production of **ramie grass in South Africa** states on the authority of the Department of Agriculture of the Union of South Africa that "although ramie has been under cultivation in the Transvaal for the last seven years, it is not giving results sufficiently encouraging to warrant the establishment of an industry at present. It is possible that with the closer settlement of the warmer portions of this province the crop might be grown satisfactorily, but at present these parts are too sparsely settled by white people to make it practicable. In Natal, however, conditions are more favourable to the production of a heavy output of ramie, and a planter in Zululand is testing one of the new Faure ramie machines. Owing to the inadequacy of the **decortimating machines** on the market, there is no encouragement for the planter to establish more than very limited trial plots, and on this account there is no acreage worth speaking of in South Africa."

The *Manchester Guardian* in discussing the recent **reduction of the price of soda ash** by £1 per ton refers to the remarkable stability of price shown by this article for many years, and then gives an interesting summary of its principal uses and enumerates the cognate articles whose price is likely to be affected by the change announced. "In the first place," it says, "it is the raw material from which a large part of the **caustic soda** of commerce is made, and as the production of something slightly less than 80 tons of caustic soda requires 100 tons of ash, it is clear that the reduction in the price of ash will account for a diminution in the cost of caustic soda of £1 5s. per ton. To the general public the question of the cost of caustic soda might appear to be of as little interest as that of soda ash, but the diminished cost of caustic soda should affect the **price of soap**, which is merely a combination of fat with caustic soda. This again will in a small degree affect the price of **glycerine**, which is a by-product from the manufacture of soap. Caustic soda finds another application in the purification of the gasworks by-products **benzole and naphtha**, which are used as solvents for **rubber** as prepared for the production of **waterproof garments** and of many varieties of quick drying paints. Soda ash, again, forms the basis of the bulk of the **washing sodas** on the market. It is used as the base to combine with silica in the production of many sorts of **glass**, and is much the most expensive ingredient in the production of silicate of soda, better known to the general public under the name of **waterglass**, which has jumped into prominence of recent years for the preservation of eggs. The reduction in price has been announced at a period shortly after that at which the bulk of the contracts for the ensuing year for caustic soda have been placed, and as caustic soda forms one of the expensive ingredients necessarily made use of in the cleansing of **cotton fabrics** before their treatment by the bleacher and the printer it affects to

some extent the staple industry of this district. No attempt has been made, of course, to mention more than a few of the leading outlets for these important materials. Those companies which are engaged in the manufacture of soda compounds and chlorine by electrolytic processes from brine will have to look to some increase in the price of **bleaching powders** if the average value of their output is not to be sadly diminished. It is notable that the majority of the firms engaged in such electrolytic treatment of salt solution are looking more and more to the production of a varied range of chlorine compounds for the utilisation of their chlorine rather than to converting it into bleaching powder, the price of which, though at present somewhat above the minimum, seems to fluctuate with an everdownward tendency."

According to the *Manchester Guardian* the principal distributing ports for **china clay** to works in Lancashire and Yorkshire are Runcorn, Preston, and Manchester, and practically the whole of the supplies for the pottery district are imported to Runcorn and conveyed thence by water to their destination. The clay is shipped from Devon and Cornwall in small steamers and sailing vessels. In addition to the quantities shipped to Manchester in bulk for home consumption, clay packed in casks is brought here by coasting vessels for transshipment to the regular liners running to Canadian and North American ports. A large quantity of English china clay is used in the United States. Portland is one of the chief ports of entry, and is also one of the few ports with a regular all-the-year-round line of china clay steamers, a regular service having been established from Fowey to Portland, specially for the conveyance of the clay. This has naturally resulted in a diminution of the quantity that was formerly conveyed to Manchester and Liverpool for transshipment.

Mr. Henry Briggs, M.Sc., of the Heriot-Watt College, Edinburgh, in a paper read by him recently to the Royal Scottish Society of Arts, gave an account of his invention of a simple contrivance for **testing for fire damp in mines** which is capable of being attached to any safety lamp. By means of it, he said, a remarkably small percentage of fire-damp can be detected in mine air. He showed by charts and gave figures obtained from work in the laboratory, and from actual work underground bearing out the claim that the device is one of the most accurate and delicate ways of detecting gas. The attachment consists merely of a loop of copper wire supported on a vertical brass stalk, which extends through the oil vessel of the lamp. When it is required to make a test for gas the loop is moved into the flame, which then becomes non-luminous, allowing the gas-cap to be clearly seen if fire-damp is present. The loop obviates the necessity of drawing the flame down when looking

for gas, hence there is no risk of losing the light. Changing from a working to a testing flame, or *vice versa*, is practically an instantaneous operation. Any kind of oil or spirit and any shape of wick may be used. The loop does not interfere with the lighting power of the lamp, nor does it curtail the height of the flame when testing.

In the current issue of *Engineering* Mr. F. Fielden contributes an article on **suction gas producers for bituminous coal**, and gives a classification of coals according to the volatile matter present. This classification is as follows:—

	Volatile matter.
Anthracite	Up to 8 per cent.
Semi-anthracite	8 to 10 " "
Dry steam coal (navy)	10 to 14 " "
Semi-bituminous	14 to 20 " "
Bituminous	20 to 40 " "

The ash is almost as important as the volatile matter, but the ash is a most variable quantity and bears little or no relation to the character of the coal itself. Occasionally fuels contain up to 30 or 40 per cent of ash, and cannot then be profitably burnt under boilers, although such fuels have been gasified in producers. Bituminous coals may be of the caking (or coking) or the non-caking type. Mr. Fielden indicates some connection between the chemical composition and the caking properties of a fuel, but most authorities state that no relation exists. It is clear that fusible ash and a caking fuel make for difficulties in working, which have been more or less satisfactorily met by rotary gates, injection of excess steam, mechanical pokers, and care in proportioning the shaft of the producer. Even if these difficulties have been satisfactorily met there is still the tar problem. The old-established method of condensing and removing the tar outside the producer calls for no comment except that it adds a certain amount of complication, which is especially undesirable in the case of suction producers. The other method of passing the tarry vapours through a layer of incandescent fuel has not been entirely satisfactory in all cases, and Mr. Fielden suggests the reason. It is usual to blow into the producer a mixture of steam and air. If this mixture passes through the fresh fuel and the tar-destroying section the presence of the steam produces an undesirable cooling effect which increases the difficulties of tar destruction. Hence Mr. Fielden advocates blowing in air alone until tar destruction is complete, and then blowing steam in to mix with the gas and pass through a further layer of incandescent fuel in which the steam performs its appointed function of lowering the temperature of the gas by being decomposed in conjunction with the fuel into carbon monoxide and hydrogen with a small proportion of carbon dioxide.

NOTICES.

INDIAN CROP FORECASTS.

SEASON 1911-12.

Dates of Publication.

THE following are the dates on which the General Memoranda on crops of the season 1911-12 are expected to be (or were) published in the *Indian Trade Journal*:—

RICE—				
First memorandum	October	26,	1911	
Second "	December	21,	"	
Final "	February	22,	1912	
WHEAT—				
First memorandum	December	28,	1911	
Second "	March	14,	1912	
Final "	May	30,	"	
COTTON—				
First memorandum	August	17,	1911	
Second "	October	19,	"	
Third "	December	21,	"	
Final "	February	15,	1912	
LINSEED, RAPE AND MUSTARD (Spring oilseeds)—				
First memorandum	December	28,	1911	
Second "	March	14,	1912	
Final "	May	30,	"	
SESAMUM—				
First memorandum	August	31,	1911	
Second "	October	26,	"	
Final "	January	18,	1912	
Supplementary memorandum	April	25,	"	
GROUNDNUT—				
First memorandum	October	26,	1911	
Final "	February	15,	1912	
INDIGO—				
First memorandum	October	19,	1911	
Final "	December	21,	"	
SUGARCANE—				
First memorandum	August	24,	1911	
Second "	October	26,	"	
Final "	February	22,	1912	

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Mechanical Ploughs and Reapers.

(1351)—A correspondent in Burma desires to be placed in communication with firms who supply engines and machinery for ploughing and reaping in connection with the cultivation of grain crops, more particularly rice. Catalogues should be furnished.

Oilseeds.

(1352)—A correspondent in Trieste is desirous of being placed in communication with shippers of oilseeds who may desire to extend business in Austria.

Asbestos.

(1353)—A Government Office in Russia desires to be placed in communication with importers of asbestos.

Household Goods of Aluminium and Copper.

(1354)—A Stockholm firm wants to get in touch with importers of these articles.

Incandescent Oil Lamps.

(1355)—Swedish manufacturers in Stockholm wish to get in touch with a firm willing to take the sole agency of their patented lamps.

Match-boxes.

(1356)—Swedish manufacturers wish to communicate with buyers of empty match-boxes.

Safety Matches.

(1357)—Manufacturers in Sweden wish to get in touch with buyers of these goods.

Machinery.

(1358)—A firm in Madras desires to be placed in communication with manufacturers of gas and oil engines and dairy and knitting machines (suitable for small industries), who may be desirous of appointing agents in South India.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 13th March, 1912:—

Parliamentary Publications.

Accounts relating to the Trade and Commerce of certain Foreign Countries and British Possessions including figures received up to 31st January 1912. Colonial Reports—Annual No. 708—Uganda Report for 1910-11; No. 706—British Honduras, Report for 1910. Committee on the Export of Live Stock—Minutes of Evidence, etc.

Foreign and Colonial Publications.

Africa—Trade of the Union of South Africa, Southern and N.W. Rhodesia and British South Africa—December, 1911. Australia—Statistical Register of the State of Victoria—1910—Part VI—Vital Statistics, etc.; Part VII—Municipal Statistics; and Part VIII—Production. Austria-Hungary—Auswärtiger Handel des vertragszollgeviertes—XII—Dezember 1911. Canada—Monthly Report of the Department of Trade and Commerce—October, 1911; Weekly Report—January 29th, 1912. Egypt—Bulletin Mensuel du Commerce Extérieur de l'Egypte—No. 1—Janvier 1912. France—Documents Statistiques sur le Commerce de la France—Année 1911. Italy—Statistica del Commercio Speciale—Dicembre 1911. United States of America—Monthly Summary of Commerce and Finance of the United States—November, 1911; Crop Reporter—January, 1912—Vol. 14, No. 1.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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The Indian Trade Journal.

THURSDAY, MARCH 7, 1912.

PATENT SPECIFICATIONS.

[The following Article has been contributed by Mr. H. G. Graves, Controller of Patents and Designs.]

THE first printed specifications of inventions, which are sought to be patented under the new Indian Patents and Designs Act, have just been published and are now on sale at the Patent Office at the uniform price of eight annas per copy. The size is half foolscap, 13 inches by 8 inches, and most of the specifications have drawings attached.

The subjects dealt with in these specifications are of a very miscellaneous character as may well be expected. They include sterilizing water, heating and lighting railway vehicles, rubber tyres, parachutes, engines and pumps, railway sleepers, carding engines, iron and steel furnaces, gold recovery, fountains, etc.

The new Act only came into force on the 1st January this year, but it makes a considerable departure in the procedure. Under the old Act, which is now repealed after having been in force

since 1888, the title of the invention was published and it was open to anyone to see a copy of the description at the Patent Office. If there was any objection on the ground of non-novelty or otherwise, it had to be entered at this stage or it was too late to be effective. If there was no opposition, leave was granted to the applicant to file his specification as soon as the first description was considered to be satisfactory. Then the applicant had to file six copies of his specification. Two copies were retained at the Patent Office and the other four copies were sent to the record offices at Madras and Bombay, the office of the Revenue Secretary at Rangoon, and the office of the Director of Industries at Cawnpore in the United Provinces. These specifications were not printed, but were available for inspection on payment of a fee of one rupee.

Now that the specifications are printed, they will be much more readily accessible both for information and objection. The specifications are not open, as formerly, to inspection until they are considered to be in order. When they are formally correct, and provided they appear to disclose a new invention, they are accepted and the fact of their acceptance is published. Very shortly afterwards they are printed and then is the time for any member of the public to object to the grant of a patent if he is convinced that the invention does not properly belong to the would-be patentee. A period of three months after acceptance is allowed for entry of a notice of opposition. This is in strong contrast with the previous method, three months and a printed specification available all over India, in contradistinction with a single copy to be seen only at Calcutta for possibly a month only. If the objection is sustainable, and full provision is made by the Act for contesting the points raised, the patent will not be granted. Otherwise the inventor gets his patent and in any case the information given in the specification is available to everyone.

The new specifications will be distributed to Madras, Bombay, Rangoon and Cawnpore so as to carry on the series already existing at those places. They will also be available for inspection free of charge at the Patent Office, 1, Council House Street, Calcutta. The Director-General of Commercial Intelligence will also keep available for reference in his public room a set of the specifications during the three months in which opposition can be entered.

It is, however, hoped that arrangements will shortly be made to render these specifications still more widely available for inspection at various

centres throughout India. It is proposed to present a set to various public institutions on condition that the public shall, as far as possible, have free access to them daily for purposes of inspection and copying free of charge. Any application for a set on these conditions will be considered if sent to the Patent Office.

Meanwhile, single copies of any specification can be bought at the Patent Office, or will be supplied post free on receipt of a money order for eight annas. The money order should bear on the coupon at its foot the number of the specification desired and the name and address of the purchaser.

TARIFF, CHANGES AND CUSTOMS NOTIFICATIONS.

THE Board of Trade Journal, published on the 15th ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about:—

RUSSIA.—Proposed Admission of Basic Pig at reduced Rates of Duty.

ROUMANIA.—Proposed Modifications in Customs Tariff.

DOMINION OF CANADA.—Importation of Human Hair.

COMMONWEALTH OF AUSTRALIA.—Customs Tariff Amendments. Free Importation of Certain Minor Articles.

NEW SOUTH WALES.—Quarantine Station for Horses imported into the State.

UNION OF SOUTH AFRICA.—Regulations regarding Discharge of Cargoes, etc.

BRITISH SOUTH AFRICA.—Customs Decisions.

SIERRA LEONE.—Free Importation of Articles for Boy Scouts.

EGYPT.—Drawback on Piece Goods Re-exported after being dyed in Egypt. Revised Valuation Tariff for Cotton Tissues. Revised Valuation Tariff for Petroleum.

SWEDEN.—Re-importation of Swedish Manufactures, etc. Rules for Identification.

FRANCE.—Customs Duties on Formic and Lactic Acids, etc.

UNITED STATES OF AMERICA.—Free Entry of Products of American Fisheries.

MEXICO.—Importation of Arms Prohibited.

BRAZIL.—Budget Law for 1912.

URUGUAY.—Regulations Governing the Sale of Pharmaceutical Specialties.

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

ROUMANIA.

Customs Tariff—Proposed Modifications in.

The following is a statement showing the proposed new duties on some of the primary materials for

industry. The existing duties have been added for purposes of comparison:—

[1 lei (100 bani) = 96d.; 100 kilogs. = 220·46 lbs.]

Tariff No.	Tariff Classification	RATE OF DUTY.	
		Present.	Proposed.
	CEREALS AND PRODUCTS OF CEREALS.	Lei b.	Lei b.
177	Rice in the husk	Per 100 kilogs. 2 50	Per 100 kilogs. 1 00
	VEGETABLE TEXTILE MATERIALS.		
318	Jute, abaca, phormium tenax, limebark, raphia, and other vegetable textile materials, not specially mentioned—		
	(a) Raw	3 00	1
	(b) Combed	6 00	2 00
324	Single yarns of jute, abaca, phormium tenax, limebark, raphia, and other vegetable textile materials, not specially mentioned, unbleached, undyed, measuring to the kilogramme—		
	(a) Up to 4,000 metres	8 00*	4 00
	(b) Above 4,000, up to 7,500 metres.	12 00*	6 00
	(c) More than 7,500 metres.	25 00*	12 00
326	Yarns of the same textile materials, twisted of two or several strands, unbleached, undyed, measuring to the kilogramme—		
	(a) Up to 4,000 metres	15 00	8 00
	(b) Above 4,000, up to 7,500 metres.	20 00	12 00
	(c) More than 7,500 metres.	40 00	25 00
333	Cotton yarn, single, unbleached, undyed.	5 00*	3 00
334	The same, bleached	8 00*	5 00
335	The same, dyed or printed	18 00*	12 00
336	The same, mercerised	20 00*	14 00
337	Cotton yarn, of two or several threads, single twist.	Duty on the single yarns of which composed, with an addition of— Per 100 kilogs. Per 100 kilogs. 8 00* 6 00	
338	Cotton yarn, of four or more threads, multiple twist.	Duty on the single yarns of which composed, with an addition of— Per 100 kilogs. Per 100 kilogs. 16 00* 12 00	
341	Cotton yarn, twisted, on rollers, spindles, in warps, ready for the loom.	Duty on the yarns of which composed, with an addition of— Per 100 kilogs. Per 100 kilogs. 1 00 0 50	

* "Conventional" duty.

EGYPT.

Cotton Tissues—Revised Valuation Tariff for.

The Egyptian Journal Official for the 31st January contains the following revised Valuation Tariff for use in assessing import duties on cotton

manufactures. The Tariff was to come into force on the 1st February, and is to remain in operation until the 31st January 1913, or until denunciation:—

Articles.	Valuation per kilogramme.*	
	Former	New.
	Millièmes.†	Millièmes.†
White longcloths (soft or hard finish)	81	73
Victoria lawns, common qualities	80	76
Doriahs (hard finish)		
Grey T and longcloths and domestic	87	78
Grey shirtings; grey twills; grey	110	99
cambrics; grey tanjibs		
Arabian stripes and cotton serims	58	52
Fine Victoria lawns	212	191
Fine mulls	308	277
White tanjibs (soft finish); grey mulls	149	134
and grey lenos; white mulls; grey		
doriahs; white doriahs (soft finish);	133	120
white cambrics (soft finish)		
Crapes, dice checks, herring-bones,	119	111
sateen stripes, bleached or grey, all		
common qualities	168	156
White shirtings; white croydons;		
white twills [fine light shirtings	56	50
(batiste) are excluded]	149	134
Prints for dressing; prints for furni-		
ture; cretonne prints	159	143
Tanjibs (hard finish)	128	115
Fancy cloth, red, coloured or sateen	170	153
stripes (Bazin)	140	126
Sheetings		
Grey dhooties	181	163
White dhooties		
Cambrics, y. 12 and y. 24	85	76
Plain dyed cloths, sateens, black drills,	112	101
Turkey red common brocades (ex-		
cluding printed sateens, mercerised	96	86
sateens, jacanets, linings, and fine		
brocades)	149	134
Zephyrs		
Prints, "satiné," for furniture	122	110
Cambrics (hard finish)	140	134
Jaconets, crimps, crepons, heavy lap-		
pets, heavy lenos, common punjees,	122	110
and light print, plains, coloured or		
printed	140	134
Swiss checks, bleached or grey		
Drills, grand drills and cetaries	122	110
Cotton flannelettes and printed flan-		
nelettes	140	134
Oxfords, common qualities		
Fine brocades, plain figured or printed	122	110
Plain cotton crepon, white, black or		
coloured	140	134
Embroidery cambrics		
Nainsook and similar cloths, white,	276	248
black or coloured		

NOTE.—The tare allowance for bales is fixed at 3 per cent.
* Duty is leviable on these valuations at the rate of 8 per cent.
† 1,000 Millièmes = £E 1 = 17. 0s. 6d.

Petroleum—Revised Valuation Tariff for.

The same issue of the *Journal Officiel* contains the following Revised Valuation Tariff for use in asses-

sing import duties on petroleum, which came into force on the 1st February, and is to remain in operation for four months (i.e., until the 31st May) or until denunciation:—

Description.	Unit.	Valuation.*
		Millièmes.†
American petroleum	Per case of two cans	200†
Safety petroleum	Per can (not in case)	85‡
Russian petroleum	Per case of two cans	260†
Russian and American	Per case of two cans	180†
petroleum in bulk	Per can (not in case)	75‡
Roumanian petroleum	Per 1,000 kilogs.	3,100
in bulk	Per 1,000 kilogs.	2,400
Mazotte (liquid fuel)	Per 1,000 kilogs.	1,550
of any origin		

* Duty is leviable on these valuations at the rate of 4 per cent.
† 1,000 Millièmes = £E 1 = 17. 0s. 6d.

‡ Including 45 Millièmes for the cost of the two cans.
§ Including 22½ Millièmes for the cost of one can.

WEATHER AND CROP REPORTS. BENGAL.

Calcutta, March 5th.

DURING the week ending March 4th rain fell in Burdwan, Midnapore, Howrah, the 24-Parganas, Jessore, Khulna, Balasore, Hazaribagh, Singhbhum and parts of Hooghly and Purnea. There was no rain in the rest of the Province. The fall was light except in Howrah, the 24-Parganas, Khulna and Balasore where it amounted to above an inch. More rain is wanted in Murshidabad.

Preparation of lands for the next season's crops and pressing of sugarcane continue. Harvesting of early *rabi* crops has commenced. The standing crops are doing well.

The price of common rice has risen in Khulna, Gaya, Monghyr and Angul and has fallen in Murshidabad, Jessore, Patna and Saran.

Cattle-disease is reported from Midnapore, Hooghly, Nadia, Jessore, Angul, Pari and Palamau.

The supply of fodder and water is sufficient throughout the Province.

EASTERN BENGAL AND ASSAM.

Dacca, March 5th.

During the week ending March 4th heavy rain fell in the Chittagong Division and Cachar, and there were showers in most other parts, except the Rajshahi Division. The rain will facilitate early sowings of rice and jute.

Prospects of wheat are good.

Harvesting of pulses and late rape is proceeding. The outturns per unit of area are normal, but the acreage is less than usual.

The average price of common rice is nearly one per cent higher than last week.

Cattle disease is prevalent in Mymensingh and Sylhet.

UPPER INDIA CHAMBER OF COMMERCE.

The Sugar Industry.

THE Annual Meeting of the Upper India Chamber of Commerce was held at Cawnpore on the 27th ultimo, the Hon'ble Mr. W. G. Bevis presiding. In the course of his remarks the President said:—

When addressing you last year I drew attention to the apathy with which Government seemed to persist in regarding the deplorably backward state of the sugar industry in India and the absence of anything like a policy of reform, notwithstanding all the reiterated assurances of Government's desire to promote industrial development. I then made an appeal to the Government of India to face the situation promptly and energetically.

I am now glad to be able to say that the Government of these Provinces have at last decided to bestir themselves in the matter, and the Proceedings of the Board of Agriculture held at Pusa in November last may be taken as an earnest of what is intended to be done. This assemblage has recommended, amongst other things, that an expert sugar engineer should be appointed, whose duties will be to find a solution of the manifold problems surrounding the manufacture of raw and semi-refined sugars.

Amongst other things, it was urged that Provincial Governments should co-operate in the survey and testing of local varieties of cane, in the distribution of the best varieties, in demonstrations of improved mechanical methods, and in the study of questions of tillage, watering, manuring and drainage according to local conditions. In addition to the engineer, the botanists and chemists who are members of the Agricultural Board would also give assistance, and it would be for these scientists, in consultation with the representatives of the principal manufacturers in India who employ western methods, to advise Government as to the line of policy which they consider best suited to ensure the regeneration of the industry. Amongst many material points to be considered, is the question as to what tracts offer scope for increase of area, and whether this could be done economically.

It seems to me that the two great essentials to be aimed at are:—To raise the standard of production by substituting improved methods of manufacture, and to obtain the co-operation of foreign capital in the development of the industry. As to the possibilities of extension of area, it has been stated that a million acres in the United Provinces alone might be added to the area now under cane, including the 400,000 acres at present under poppy, a cultivation more than sufficient to produce all the sugar now being imported from abroad. When we consider that India's annual sugar bill amounts to no less than eight millions sterling, you will be able to realize what an economic gain would follow the production internally of the sugar which this vast sum represents and that the prize is worth fighting for. The need for prompt action has been exemplified and accentuated by the recent news that Great Britain was contemplating withdrawal from the Brussels

Sugar Convention. It is quite conceivable that such action might result in a complete disruption of the Convention, followed by a revival of the bounty system, and consequently a return of the Indian industry to the parlous state into which it fell immediately before the coming into force of the Convention. It must not be forgotten that the avowed object of the German and Austrian sugar kartels was nothing less than the ultimate extermination of the cane sugar industry, and thereafter the complete control of the sugar markets of the world. The danger may have been averted for the present, but the possibility of the Convention being denounced by one party or another; of its consequent collapse; and of a resuscitation of the bounty system, will constitute a permanent menace to the cane sugar industry in India so long as it is carried on under existing conditions and is unable to overcome foreign competition.

The Currency Question.

A few words on the Currency question may not be out of place, more especially the Gold question, which is attracting considerable attention now-a-days owing, largely, to the efforts of the Hon'ble Mr. M. de P. Webb of Karachi, who has made a special study of the subject. In currency problems, probably more than in all other matters, it is curiously enough, possible to formulate convincing arguments in support of diametrically opposite lines of policy. This is no more than saying that the question is one of exceptional complexity. The danger of too ready an acceptance of an apparently sound hypothesis is well exemplified in this case. Mr. Gillan, Comptroller-General of Paper Currency, has issued an elaborate survey of the fluctuations of the various forms of currency during the season 1910-11, the contents of which may well give pause to the enthusiastic advocates of the opening of the Indian Mints to the free coinage of gold. The agitation is based mainly on the assumption, and it is merely an assumption, that the demand for a gold currency among the masses of India has greatly increased. Mr. Gillan's memorandum shows:—

1st. That increased imports of gold are caused by the comparative cheapness, at any particular time, of that method of remittance and are not governed by the demand for that metal, purely as coin, in India itself. In other words, the imports are governed by the price of gold in the markets of the world.

2nd. That while the absorption of gold in India during the period under review was large the amounts paid back into Treasuries was also very large, indicating that the currency of the gold sovereign is still of short duration.

3rd. As a fair indication of the use of gold as currency the receipts of sovereigns by railways and post offices, so far from having increased, have fallen off.

4th. That there is good reason to believe that the balance of the gold, not paid into Treasuries, is either melted or hoarded, and that native jewellers find it more convenient to melt down a sovereign or two than to melt down bars of gold.

If these deductions, drawn from a most painstaking examination of the evidence, are correct the time seems hardly ripe for introducing the free mintage of gold. Mr. Webb is, I understand, to introduce a Bill for the consideration of the Imperial Legislative Council, and it is to be hoped that if nothing else results a very full discussion of this difficult and important problem will take place.

Cotton Cultivation.

This important subject has, as usual, received a good deal of attention during the past year. The Members of the Chamber of Commerce interested in the Cotton Industry have had a second meeting with Mr. Arnold Schmidt, the Secretary of the International Federation of Master Cotton Spinners, who had visited India for a second time in the hope of arousing and stimulating further interest on this subject—both amongst Government officials and amongst cotton users. Mr. Arnold Schmidt's opinion is that, particularly in Madras and the Berars, a considerable advance has been made in the extension and improvement of cotton cultivation, and that great benefits are resulting therefrom. In these Provinces, however, the question is not receiving the attention which it ought, and especially in Cawnpore, where at the Agricultural Farm a paltry two acres are devoted to demonstration work. In the Aligarh District—at the Government Farm there—conditions are much better, and great progress has been made, and I see no reason why similar efforts should not be made here also. From a pamphlet by Mr. Bernard Coventry, the officiating Inspector-General of Agriculture in India, issued during the last year, it is satisfactory to note that the representations by the deputation which waited on Lord Morley at the India Office in 1910 are bearing some fruit, and that the work on the part of the Indian Agricultural Department has been continuous and progressive.

There are, however, many points in Mr. Coventry's Note which I cannot quite agree with. It would be no doubt a good thing if the buying agencies he has in mind could be established, but I very much doubt whether this is possible, so long as the cultivator is the helpless individual the Fates have made him. There are so many hands through which cotton passes from the time it is plucked in the field till it reaches the Cotton Spinning Mill that any reform is most difficult. There is one point in Mr. Coventry's Note which none of us can accept, and this is his statement that there is no market in India for long staple cotton. With all deference to Mr. Coventry, I must deny this, though with a reservation. It seems that Mr. Coventry has drawn no distinction in his Note between 'cotton' and 'kapas,' and I fancy that when he says there are no buyers of long-staple cotton in India, he means that there are no buyers of long-staple *kapas*. To a certain extent he is correct if that is his meaning, as for instance in a market like Cawnpore, which is solely a market for Bengal cotton, the question of staple is taken no account of by the usual buyers of *kapas*. All that a buyer of Bengal *kapas* looks to is colour, cleanliness and freedom from damp, and he fixes his price almost

entirely upon these three qualifications, considering that where Bengal cotton, such as comes to the Cawnpore market, is concerned, the question of staple is of little importance, almost all Bengal cotton being equal—but Cawnpore is not the whole of India, and Mr. Coventry has said there are no buyers in India of long-staple stuff. Now in the Surat and Broach districts and in the various markets of the Central Provinces where staple is a most essential point, long-staple *kapas* invariably realises a higher price. If not why should we pay a higher price for it. It is not because it is whiter and cleaner, for in these qualities the fine Bengal cotton is hard to beat, but it is solely in consequence of its extra length of staple. I would ask Mr. Coventry also how it is if there is no market for long-staple cotton in India why during the past season tens of thousands of bales of American cotton have been imported into this country.

As a result of Mr. Schmidt's visit here last month, we drew up several resolutions which have been forwarded on to Government. Amongst them we recommended the establishment of more seed farms on the lines of those instituted in the Central Provinces. We suggested that where new canals were opened the new land watered by them should be leased to tenants with a stipulation that a certain proportion of each holding should be put down in cotton. We also drew attention to the fraudulent practice of artificially damping cotton and suggested that it should be made punishable by law, and we suggested that in each province an additional Deputy Director with practical agricultural experience should be appointed to specialise in cotton cultivation. It is to be hoped that Government will consider these proposals and continue their efforts for the increase of and the improvement in the cultivation in cotton.

Education.

With regard to industrial education, continued the President, the year under review shows distinct progress. A Conference on Industrial and other Education was held early in 1911 in Allahabad and opportunity was thus given for an interchange of views between educational experts, and others interested. Incidentally the question of the technical scholarships at present granted to Indian youths to enable them to proceed to Europe for special courses was discussed. The terms of these scholarships are extremely liberal, being £150 per annum, for three years, with travelling and subsistence allowances to enable the students to visit works on the Continent during the vacations. One would think that a man, after such a course, should have no difficulty in finding a place for his talents when the time came to return to India; yet the common complaint is that there is no opening for them. To some extent, no doubt, the difficulty arises from the Government getting hold of the wrong class of man. Too large a proportion of these scholars appear to have no interest in the mechanical part of the industry they are sent to study, they devote their time entirely to college work, and the result of theory without practice

is a product that no manufacturer cares to have. Probably the scholars do not find their way made easier by the inhospitable atmosphere of British factories and workshops towards them. The difficulty here lies not so much with the masters but with the men who refuse to work with Indian as not being trade unionists. This, of course, is quite in keeping with the spirit now so much in evidence at home. The Chamber has consistently expressed itself as opposed to the grant of these scholarships as being a waste of public money, and so far as it has been possible to gauge result that opposition has been justified. It is satisfactory to be able to say that it has, at last, been decided to proceed with the establishment of a Technological institute in Cawnpore, recommended by the Naini Tal Industrial Conference in 1907 though on a modified scale. It is earnestly to be hoped that, although the scope of the scheme has been considerably narrowed, there will be no temptation to destroy its usefulness by engaging professors on terms which will not secure the very best material.

INDIGO STANDARDS.

Dr. K. N. MacDonald writes to the *Journal* of the Royal Society of Arts:—My attention has been drawn to a paragraph in the *Journal of the Royal Society of Arts* to the effect that a "special committee was about to be formed with the Textile Institute to consider the question of fixing a recognised standard of indigo-blue dyes in cloth, etc."

As I have made a special study of indigo since 1897, when the "synthetic indigotin" was first placed upon the market, I should like, with your permission, to offer a few observations on the subject. The first objection I have to make is that some foreign commercial chemists and their co-adjutors declare that "synthetic indigotin" is indigo, which is an impossible absurdity, as it consists of indigotin only, whereas natural or plant indigo contains several ingredients, including indirubin, which do not exist in "synthetic indigotin," and are falsely called "impurities," as I shall explain presently. "Oh, but," someone may say, "indigotin is the sole colouring matter of indigo, and indigotin is therefore indigo pure." I say that it is not. Colour dyers will tell you, as they have told me, that they do not find much difference between "synthetic indigotin" and indigotin extracted from indigo, but they find a vast difference between "synthetic indigotin" and indigo. All practical dyers also admit that the other ingredients in indigo (made apparent by chemicals), add to the colour-producing power of indigo, and one of the most expert dyers in the country holds that the whole of a sample of indigo dyes blue, and that the chemicals only spoil it, as it is very sensitive to chemicals. One can understand that from its composition. They also say that changes take place in the vats which enhance the dyeing power of indigo. Prior to 1902, all the "synthetic indigotin" made from coal tar, imported into this country, was under the heading of "other coal tar dyes"; but since that

year, it appears on the Returns of the Board of Trade as "synthetic indigo." Now there is not such a thing in existence as "synthetic indigo"; at best it can only be "synthetic indigotin," neither is it "indigo pure," or "indigo rein." All these false descriptions should be absolutely prohibited by all scientific men, and independent journals in this country. Another aspect of these foreign dyes, which are imported into this country, is that many of them are passed off on the public as indigo. Faked mixtures of alizarine, aniline and logwood are topped with a minute quantity of indigo, and often none at all, and sold as "indigo dyed." But that is not the worst; dealers and consumers having been told that indigotin is the sole colouring matter of indigo, they now will not buy any except upon its "indigotin content" test, and here there is room for an unlimited amount of fraud, as the test applied—viz., the potassium permanganate titration test—is essentially a false test, hence the party testing with it has unlimited scope for depreciating a proprietor's indigo when he is not present; and when testing it for dealers and consumers the same objection exists. One of the most serious objections to this test is that the indigo is subjected to over seventy times its weight of fuming sulphuric acid, which utterly destroys its characteristic quality, its fastness, and the indigo having been converted into sulph-indigotic acid, it can never be recovered as the same indigo again. But this is not all; Mr. W. P. Bloxam, B.Sc., who carried out research work at the Clothworkers' department of the University of Leeds for the Government of India some years ago, declared that "at no amount of dilution whatever was 1 c.c. of $\frac{N}{50}$ permanganate solution equivalent to 0.0015 gram of indigotin." Besides the above, the potassium permanganate is a very unstable compound, and requires to be constantly standardised, and indigos that test by it below 60 per cent are often first-class vat indigos. The most extraordinary thing is that neither chemists, brokers, dealers, buyers, nor consumers, have ever recommended the only true test for indigo as for all dyes, viz., the *dye test*. They will not employ it, but go on with the titration test, as they know that by it they can cheat the owners, whereas by the dye test they could not, as all honestly made indigos dye very much alike, especially of the Bengal marks. I have got a lurking suspicion of the term "indigo blue." What is "indigo blue"? You can have a hundred shades of indigo blue, according to the percentage of indigo and rouses used on the cloth, and tradesmen call any blue they can sell, "indigo blue." Flour and sulphate of copper make a blue colour, which is often sold as a navy blue serge. "Synthetic indigotin" only dyes a sky blue, or china blue, and it is only when faked that it can approach natural indigo. I therefore hold that if "synthetic indigotin" is to be designated "indigo," and allowed to rank as a standard of indigo blue, it should be considered a gross injustice to the natural dye, and a great injury to hundreds of British subjects, who have been nearly ruined by these importations of fugitive and foreign dyes.

INDIAN JUTE MILLS' ASSOCIATION.

THE Annual General Meeting of the Indian Jute Mills' Association was held on the 21st ultimo, Mr. J. Robertson, Chairman, presiding. In the course of his remarks the President said:—

The New Factory Act.

It was a remarkable coincidence that on the same date on which the Governor-General gave his assent to a new Factory Act restricting working hours and thereby probably increasing cost of production, the mills here signed an agreement which is still in force, to run their concerns five days a week instead of six, on account of the unremunerative state the trade was then passing through. This restriction, drastic as it was, had not the desired effect and later on a further agreement was entered into curtailing the running time to four days a week. The latter agreement was not altogether unanimous, but I think we can now congratulate ourselves that such action was taken, as the result has proved it to have been the one thing necessary to bring our industry back to a reasonably paying level. The trade here has been reproached from time to time for not acting with unanimity in questions regulating supply and demand, but I think it would not be presumptuous to say that in recent times we have combined, on this point at least, to a much greater and more effective extent voluntarily than any other trade. These arrangements curtailing production while primarily for our own benefit have not been to the disadvantage of the large dealers in the manufactured article. The dates of commencement and termination of these agreements have always been adhered to and buyers were therefore in a position to frame their policy with full knowledge of the mills' intentions as regards output.

The Proposed Combination.

The past year has been a momentous, I might say an epoch-making, period in our trade, and I am very pleased to be in a position to congratulate the members of our Association that we are again working under moderately prosperous conditions and such as to warrant our shareholders expecting a reasonable return on their investments. Considering the critical stage which the trade has recently passed through, it is not to be wondered at that some of our members have thought it necessary to call in expert advice in order to see whether a permanent combination could not be arranged whereby supply and demand could be so regulated as to avert a similar crisis in future. This question is still under discussion and probably some workable scheme in the desired direction may be evolved.

Insurance Questions.

A new agreement has been entered into with the Carrying Companies for a further period of five years from 1st July last at the same rate of freight as the former agreement. The only point of difference in the new agreement is that we bind ourselves to insure our jute through the Tariff Officers. The object of this extra clause is to obviate the possibility

of complications between the Carrying Companies and the Insurance Companies as to liability in case of loss, a legal point on which there is evidently a difference of opinion which might cause the consignees to fall between two stools and probably have to go to court to establish their claim. Under the present agreement the owners of the jute are absolutely protected as the Insurance Company for the small extra premium accepts full responsibility for the loss. I might in passing also refer to another insurance question which arose over a fire in a jute godown at one of the mills, as it is a matter which individual members must adjust according to their own ideas. From our correspondence with the Insurance Association here it is quite apparent that the members of that Association are not in a position to insure at the rebuilding value of buildings or the reinstatement value of machinery; and as there would be, in the case of a big fire, a considerable difference between the two figures, the Committee thought it right that members should know exactly how matters stood in this connection. At any rate it seemed to the Committee that it was useless keeping our insured values higher than would be paid in case of a fire and as there are consequential policies obtainable to cover the entire risk, it is important that insurances be adjusted to meet the situation.

Arbitration.

Your Committee have as usual kept in close touch with the Fabric Shippers' Association and the various questions which have arisen have been periodically put before you by circular. The clause in relation to liability of mills in regard to the confiscation clause in the Commonwealth proclamation as to the importation of cornsacks, has protected mills from being unfairly involved under this proclamation and the suggestion made by Australian buyers that arbitrations held in Australia should be accepted by mills has not been entertained. The Arbitration Court of the Bengal Chamber of Commerce, composed as it is of experts in the trade, must be better able to decide as to what is a fair tender under a contract made in India than any expert handling goods only at port of destination.

The Suggested Jute Department.

Another point I wish to touch on, gentlemen, is the proposal which has been made to Government regarding the creation of a jute department. It has been said in some quarters that the jute mills like the spoilt child has gone to the paternal Government to ask help in order that they may be able to run their business at a profit instead of a loss. This, gentlemen, I need not say is a delusion. We have sufficient, might I say, conceit in our own knowledge of the trade to believe that we can do more in this way on our own behalf than any Government official could possibly be expected to do, but we do say that a trade which brings to India over Rs. 5,000 lakhs yearly is entitled to have reliable statistics put before it through the constituted Government sources. We are also

entitled to have more attention from the Agricultural and Commerce Departments in the way of helping to diffuse information to the native growers of jute as to its profitable nature to them. We have approved of the suggestion that this might be better done if a department were created for this purpose alone with a business man at its head. Government, however, may be able to assure us that their present machinery more efficiently conducted will attain this object but more money will be required to be set aside for the purpose and considering the revenue which must be got from this source we do not think we are asking anything unreasonable from Government.

Watering of Jute.

Some years ago Government were asked to bring in legislation to prevent the systematic watering of jute which was then carried on. Many of us were of opinion that something might have been done in that direction, but it was not found practicable to frame suitable legislation. Your Committee, however, after consulting with members, have given an indication of what might be taken as a fair basis of calculation when dealing with excessive moisture in jute deliveries. While it may be recognised that legislation to prevent watering of jute is impracticable, we do not hesitate to say that we expect Government to give us more reliable figures regarding acreage, etc., in the forecasts they issue. In recent times the figures put before us were so misleading and issued in such a form as to dislocate trade as well as open our markets to a serious and unhealthy form of gambling. Strong representations were made to Government to improve matters in this connection. The forms of forecasts issued in July and September last year were on the lines suggested by the joint Committee appointed to meet the Director of Agriculture, but I fear a good deal still remains to be done in order to get the forecasts nearer the actual outturn of the crop. A certain amount of guess work must be done in any forecast of acreage until a cadastral survey of Bengal has been completed and we were rather disappointed when we were informed that at the present rate of progress this work would not be completed for another 20 years. It is conditions such as these which make us indicate to Government that a department worked on business lines should be created and we trust some serious notice will be taken by Government of our suggestion.

The New Committee.

The New Committee consists of:—Chairman—Mr. J. Mackenzie. Members—Mr. D. P. McKenzie, Mr. D. H. W. Ritchie, Mr. J. C. Shorrocks, and Mr. J. B. Strain.

—According to a return published by Mr. H. C. Bose, Calcutta, the actual clearances of jute, rejections and cuttings from Calcutta and Chittagong to all places during the twelve months from 1st July, 1910, to 30th June, 1911, were 3,531,066 bales as against 4,009,373 bales during the corresponding period last season.

THE "CORNER" IN TIN.

WE take the remarks below from the *Economist*:—Even in the metal markets, which are notorious for their sharp fluctuations, it would be difficult to find one with so consistent a record for wide and swift changes in price as that for tin. These quick movements in price levels seem to be so engrained in the habits of the market that a difference of £30 per ton between the highest and lowest prices in any one year is taken by the trade to be quite normal. Market experts hardened to the oscillations have had, however, on more than one occasion within the past two or three years to express their surprise and bewilderment, for since the boom years of 1906 and 1907, when the yearly average price was £180 12s. 11d. per ton and £172 9s. per ton respectively, they have seen the price of tin fall to £123 9s. in January, 1908, and rise to and remain over £200 per ton in the autumn of 1911. It was in 1909 that a Continental syndicate was organised to secure control of the market. This group of foreign speculators seem to have pursued one line of action all along—namely, to restrict their attentions to the sources of supply. Whether they have rigidly adhered to this it is, of course, not easy to say; but, whatever plans they have adopted, they have met with undoubted success, for they have for a long time enjoyed unchecked control over the market. To assume as has often been done, that they alone have engineered the advance and regulated the price without regard to circumstances is, of course, fallacious. A syndicate organised to support the market in face of adverse conditions would have been broken long ago. The success of the group is due to the fact that the supply, even in the worst of years, has never been much in excess of the demand, and that even with a slowly expanding production the demand by the tin-consuming trades has expanded. The group have, therefore, accelerated the rise in the quotation. If the signs be true, there may be an opportunity soon of testing to what extent the market price is artificial.

The recent history of the market is instructive, for though the tendency of the price has been upward, there have been sharp set-backs, when the market seemed almost on the point of collapse. These relapses were, perhaps, part of the tactics resorted to by the bulls when putting the market through its evolutions for the purpose of securing better control. But these devices, while throwing the "shorts" into confusion, have also had the effect of driving out of the market the ordinary speculator, who dares not play so hazardous a game.

This helps to reveal in a way the most recent incident in the campaign. On December 31st last the quotation for spot closed at £205 per ton, the market view being that during the present month (January) there would be a bear squeeze and the poor, luckless "shorts" forced to pay a ransom price for their release. The unexpected happened. On January 2nd tin was lower at £201 per ton. Next day there was a sensational break of £10 to £191 per ton,

which was followed some days later by a relapse to £184. What interpretation should be placed upon this fall outsiders are still in doubt. The liquidation may have been dictated by the desire to force out cheap lines for forward delivery. Or, again, it may simply be due to the most prosaic of all reasons—the desire to secure a profit. There may be a great deal in the latter suggestion. The syndicate seemingly control the supply of Straits tin till the end of January, and as they have advertised the fact that they would never operate in the market for forward delivery they seem to have cut off their avenue of recovery. The methods of the group are not only inscrutable, but confusing, and it would be idle to argue about the reasons which can only be known to the inside circle. The main facts alone can be noted.

In emphasising the part which the syndicate have played in the market, it is not intended to suggest that the dissolution of the group would mean a great collapse of prices. There might be temporary disturbance if the campaign were abandoned, but the step would simply mean a freer market, which manufacturers have not enjoyed for some time. It must not be forgotten that the intrinsic position is essentially sound. The consideration of a few figures will bear this out. If we look first at the statistics of the world's consumption we find that year by year more tin passes annually into trade. In 1901 it was 86,600 tons, in 1905 the demand had increased to 100,300 tons, and the last available authentic statistics showed that in 1910 the world's consumption had risen to 117,900 tons, with slight fluctuations, due to the state of trade in the interval. During the same period production was growing but the pressure has been greater of recent years, and visible stocks have suffered diminution. For the year 1901 production was estimated at 89,200 tons; in 1905 96,800 tons, and in 1910 111,200 tons. It is too early yet to obtain authentic figures of production for 1911, but if the following figures, which it is possible to compile from available statistics, be near the mark they may explain the ease with which prices have risen:—

	1911.
Total shipment of Australian, Banca, and Billiton	Tons. 76,293
Chinese and Bolivian	25,022
Cornish South African, etc. (say)	13,500
	114,815

These figures are frankly provisional, and are probably an under-estimate of the world's production, but they are near enough to show that production increased during 1911. What consumption was during last year it is not possible at the moment to say. There is, however, evidence that the larger output was absorbed, making it easy for the group to carry out their plans. The tin market has always been susceptible to speculative manipulation, and

is likely to be, so long as supply and demand nearly balance. Failing the actual figures of consumption, there are fortunately ready to hand indications of the growing trade requirements for tin.

The most important consumer is the tinplate industry, in which 1911 has proved a record year in Wales. The exports of tinplate from Britain alone during the past three years have been 439,747 tons in 1909, 483,020 in 1910, and 484,355 in 1911. Wales, as we are informed in the report of Messrs. Sim and Coventry, now has 60 more mills than she had a year ago; which means that, after the heavy decrease in the trade with America, a great expansion of trade with other countries is necessary if orders are to be sufficient to keep them all working. Trade with Germany, France, and Belgium has revived slightly, and though Japanese prospects are not bright, the trade with China is likely to develop greatly when revolutionary troubles have subsided. The trade returns for the past few years give definite proof that the demand is growing, while, on the other hand, there is no evidence of the sources of supply being considerably extended. Bolivia may afford larger supplies, but during the past year the increase has easily been absorbed. Nigeria at present is a negligible factor, and the only other field of promise is South Africa. Bearing in mind the present state of trade and also the fact that there is not in sight any new and large producer, no permanent reduction in market values is anticipated by the market.

—In *Journ. d'Agric. Trop.* (1911, 11. 257) M. E. Baillaud, who has already given some attention to the utilisation of mangrove bark in French West Africa, points out that owing to the increasing demand for this bark it would be worth the while of merchants in French tropical colonies to investigate the commercial values of any mangrove barks that may be available. It is well known that there are enormous areas of mangroves in West Africa, but unfortunately they yield bark which is much poorer in tannin than the mangrove bark obtainable in British and Portuguese East Africa. Analyses of mangrove barks from Sierra Leone, Southern Nigeria and the Gambia at the Imperial Institute have shown that this is the case for these British Colonies, and Herr Hartert has shown recently that this is also true for the mangrove barks obtainable in Kamerun. It appears that if West African mangrove bark is to be utilised it will have to be converted into mangrove extract locally, as is already done in the East Indies, where mangrove barks relatively poor in tannin also occur. M. Baillaud points out that one of the difficulties connected with the utilisation of mangrove bark is that the cutting down of the trees may lead to serious destruction of the fore-shore, and this difficulty has already prevented the exploitation of mangroves in New Caledonia, where, in 1910, a proposal was mooted for the erection of a mangrove extract factory.

FOREIGN SEA-BORNE TRADE OF BRITISH INDIA IN JANUARY 1912.

THE trade returns for January 1912, when compared with those for the corresponding month of 1911, show considerable increases in the values of imports of private merchandise and re-exports of foreign merchandise but a great decline in the exports of Indian merchandise.

The value of merchandise imported in January 1912 was Rs. 14.4 crores (£9.6 millions) an increase of Rs. 2.51 crores (£1,673,000) and Rs. 3.2 crores (£2,137,000) over the corresponding figures for 1911 and 1910 respectively; whilst the total exports amounted to Rs. 19.14 crores (£12.76 millions), showing a decrease of Rs. 1.41 crores (£942,500) which is made of an increase of Rs. 10.8 lakhs (£72,000) under re-exports of foreign merchandise and a decrease of Rs. 1.52 crores (£1,014,500) under exports of Indian merchandise.

The following table shows the values of private merchandise, imported and exported in January 1912, and in the ten months ending January 1912, together with the increases (+) or decreases (—) and percentages thereof as compared with the corresponding periods of 1910-11.

	January, 1912.		
	Rs.	Rs.	Per cent.
Imports	14,40,32,618	+ 2,51,11,838	+ 21.1
Exports	18,60,45,111	— 1,52,18,159	— 7.5
Re-exports	53,95,436	+ 10,80,117	+ 25
Total	33,54,76,165	+ 1,09,73,796	+ 3.4

Ten months ending January, 1912.

Imports	1,16,87,31,192	+ 10,51,91,495	+ 9.9
Exports	1,75,78,88,894	+ 10,39,05,255	+ 6.3
Re-exports	4,85,47,891	+ 1,32,60,656	+ 37.6
Total	2,97,51,67,977	+ 22,23,57,406	+ 8.1

The grand total of imports and exports, including re-exports of private merchandise, amounted to Rs. 33.55 crores (£22.37 millions) in January 1912 and Rs. 297.52 crores (£198.35 millions) in the ten months ending January 1912, as against Rs. 32.45 crores (£21.63 millions) and Rs. 275.28 crores (£183.52 millions) respectively in the corresponding periods of 1910-11, the increases being Rs. 1.1 crores (£733,000) or 3.4 per cent and Rs. 22.24 crores (£14.83 millions) or 8.1 per cent.

In the following remarks the returns for January 1912 are compared with those for the same month of 1911:—

IMPORTS.

Animals, living.

The value of animals, living, showed an increase of Rs. 3.25 lakhs, due to the arrival of 485 horses more from Australia including New Zealand, and 203 horses more from Asiatic Turkey and other countries. The value of other animals also rose by Rs. 1.13 lakhs.

Articles of Food and Drink.

The total value of this class rose by Rs. 27.94

lakhs or 16.2 per cent to Rs. 200.34 lakhs, which represents 13.9 per cent of the total imports. Sugar showed an increase of Rs. 10.98 lakhs or 10.9 per cent, the total value being Rs. 111.64 lakhs. The import from Austria-Hungary was nil as against Rs. 13.42 lakhs in January 1911, while the imports from Java increased by Rs. 27.81 lakhs to Rs. 79.61 lakhs. China showed an increase of Rs. 1.13 lakhs, which was counterbalanced, by a decline of Rs. 1.38 lakhs under Mauritius sugar. There was a nominal import of 6 cwts. of unrefined sugar as against 43,129 cwts. in January 1911. The value of spices rose by Rs. 4.88 lakhs or 37.3 per cent to Rs. 17.99 lakhs, cloves alone, imported from British East Africa, contributing Rs. 4.54 lakhs to this increase. Provisions showed an increase of Rs. 7.05 lakhs, which is mainly contributed by Biscuits (Rs. 1.22 lakhs), canned and bottled provisions (Rs. 1.02 lakhs), dates (Rs. 2.87 lakhs), other fruits and vegetables (Rs. 87,840), and other sorts of provisions (Rs. 69,083). Salt improved by Rs. 2.01 lakhs to Rs. 9.18 lakhs. Spain sent in a consignment of 12,953 tons, valued at Rs. 2.08 lakhs, as against nil in January 1911. Imports from the United Kingdom and Aden increased by Rs. 1,66,018 and Rs. 53,104 to Rs. 2.91 lakhs and Rs. 2.12 lakhs, respectively, while Egypt is credited with no imports as against Rs. 1.95 lakhs in January 1911, and imports from Asiatic Turkey declined by Rs. 80,383 to Rs. 82,859. Liquors showed an increase of Rs. 2.8 lakhs, of which Rs. 1,13,108 under wines, Rs. 89,179 under spirit, and Rs. 75,920 under ale, beer, and porter.

Metals and Manufactures of Metals.

The value of this class increased by Rs. 21.53 lakhs or 7.8 per cent to Rs. 299.32 lakhs. This increase is made up of Rs. 9.55 lakhs under railway plant and rolling-stock, Rs. 7.64 lakhs under hardware and cutlery, Rs. 2.26 lakhs under metals, and Rs. 2.13 lakhs under machinery and millwork. There was a heavy decline of Rs. 5.43 lakhs under locomotives and nearly a lakh under carriages and trucks, while materials for railway construction increased by Rs. 15.96 lakhs to Rs. 35.66 lakhs. Noticeable increases under hardware and cutlery were Rs. 1.48 lakhs under enamelled iron ware and Rs. 5.6 lakhs under other sorts. Under metals copper declined heavily by Rs. 15.63 lakhs to Rs. 23.23 lakhs, the United Kingdom and Germany accounting for Rs. 9.59 lakhs and Rs. 5.84 lakhs, respectively. Iron and steel, on the other hand, almost fully made good that loss by an increase of Rs. 15.57 lakhs or 15.3 per cent to Rs. 116.93 lakhs. This increase was contributed by iron sheets and plates, galvanised, Rs. 11.39 lakhs, and steel plates and sheets, Rs. 4.44 lakhs. Iron bar fell by Rs. 1.25 lakhs and steel bars by Rs. 2.03 lakhs. Steel beams, pillars, girders and bridgework rose by Rs. 3.09 lakhs to Rs. 9.41 lakhs. Textile machinery accounts for an increase of Rs. 2.4 lakhs and steam engines and parts Rs. 51,186, with a set-back of Rs. 1.42 lakhs under electrical machinery.

Chemicals, Drugs, Medicines, etc.

This class showed a net increase of Rs. 7.43 lakhs, contributed by chemicals (Rs. 1.92 lakhs), drugs and medicines (Rs. 2.68 lakhs), tobacco and opium (Rs. 1.59 lakhs) and alizarine and aniline dyes (Rs. 1.66 lakhs). The value of sulphuric acid decreased from Rs. 90,403 to Rs. 35,849. That of quinine rose by Rs. 96,211 to Rs. 2.04 lakhs. Cigarettes also improved by Rs. 1.31 lakhs to Rs. 5.49 lakhs. There were also increases under camphor (Rs. 44,634), patent medicines (Rs. 81,989) and saffron (Rs. 30,660).

Oils.

The value of oils rose by Rs. 11.12 lakhs or 35 per cent to Rs. 42.97 lakhs. The increase under kerosene oil was Rs. 11.6 lakhs, the total value being Rs. 31.41 lakhs. There was no import from Russia or Sumatra. Imports from Borneo fell by 1,075,055 gallons or Rs. 1,87,685 to 375,300 gallons and Rs. 3.34 lakhs. Those from the United States of America rose considerably from 1,923,306 gallons and Rs. 7.56 lakhs to 6,773,295 gallons and Rs. 23.08 lakhs.

Raw materials and unmanufactured articles.

This class was valued at Rs. 89.32 lakhs, showing an increase of Rs. 51.95 lakhs or 139 per cent. This was mainly contributed by cotton (Rs. 41.36 lakhs), timber (Rs. 7.37 lakhs), coal (Rs. 1.51 lakhs) and precious stones and pearls, unset (Rs. 95,873). Ivory declined by Rs. 78,138 and silk, raw, imported from China, by Rs. 1.73 lakhs. There were slight increases under gums and resins, hides and skins, pitch, tar and dammer, tallow and wool.

Articles manufactured and partly manufactured.

The total value of this class amounted to Rs. 7.58 crores or 52.6 per cent. of the total imports, and showed an increase of Rs. 1.28 crores or 20.4 per cent. Cotton yarn and manufactures is the principal item, the value being Rs. 4.99 crores, which showed an increase of Rs. 77.98 lakhs, of which Rs. 35.46 lakhs were under grey piece goods, Rs. 23.83 lakhs under the whites, Rs. 15.86 lakhs under coloured goods, Rs. 2.15 lakhs under hosiery, Rs. 76,306 under handkerchiefs and Rs. 1.32 lakhs under other sorts. Cotton yarn declined in value by Rs. 1.25 lakhs, but rose in quantity by 397,910 lbs., the decline in specific value being 12.6 per cent. Apparel comes next with an increase of Rs. 7.61 lakhs, nearly a half of which was contributed by haberdashery and millinery, and about a lakh and a half under each of apparel and boots and shoes. Silk manufactures showed a net increase of Rs. 1.29 lakhs. Increases under silk piece goods (Rs. 2.95 lakhs) and silk yarn noils and warps (Rs. 69,000) were partly used up by a decline of Rs. 2.38 lakhs under mixed goods. Woollen piece goods, shawls, and carpets and rugs showed increases with a set-back under yarn and knitting wool—the net increase being

Rs. 64,100 only. Under carriages and carts, motor cars and motor cycles showed an increase of Rs. 2.34 lakhs. Glass and glassware rose by Rs. 2.44 lakhs, mostly under bangles. Earthenware and porcelain advanced by Rs. 1.46 lakhs. Under instruments, apparatus and appliances the total increase was Rs. 4.23 lakhs, of which Rs. 3.31 lakhs were contributed by the head, electrical. Jewellery rose by Rs. 3.68 lakhs to Rs. 4.29 lakhs. Paper and pasteboard also advanced by Rs. 2.2 lakhs. Soap improved by Rs. 2.58 lakhs and tea chests rose by Rs. 4.98 lakhs to Rs. 7.64 lakhs.

Treasure.

The imports of treasure on private account amounted to Rs. 6.25 crores, namely, Rs. 5.49 crores under gold and Rs. 76.02 lakhs under silver, the former showing an increase of Rs. 85.79 lakhs but the latter a nominal decrease of Rs. 25,000. The value of Sovereigns and other British gold coins rose by Rs. 79.72 lakhs to Rs. 443.15 lakhs and that of bullion by Rs. 5.21 lakhs to Rs. 101.82 lakhs. Silver bullion represents Rs. 67.89 lakhs and Government of India rupees Rs. 8.1 lakhs.

Government Stores.

The value of Government stores rose by Rs. 19.83 lakhs or 48.6 per cent. to Rs. 60.63 lakhs. The noticeable fluctuations are under arms, ammunition, etc. (—Rs. 90,412), books (+Rs. 90,836), chemicals (—Rs. 88,532), hardware and cutlery (+Rs. 1.11 lakhs), metals (+Rs. 2.03 lakhs), railway carriages and trucks (+Rs. 12.04 lakhs), locomotive engines (+Rs. 2.41 lakhs), railway materials (—Rs. 1.3 lakhs) and woollen goods (+Rs. 56,700).

EXPORTS OF INDIAN MERCHANDISE.**Articles of Food and Drink.**

The value of this class amounted to Rs. 5.83 crores or 31.35 per cent. of the total exports, and showed an increase of Rs. 1.51 crores or 34.8 per cent. The head grain and pulse is responsible for an increase of Rs. 1.64 crores or 54.1 per cent, which is made up as follows:—

	Rs. (lakhs).		Rs. (lakhs).
Rice . . .	+ 64.56	Gram . . .	+ 49.26
Wheat . . .	— 11.93	Pulse . . .	+ 13.9
" flour . . .	+ 2.59	Jawar & bajra . . .	— 1.8
Barley . . .	+ 28.77	Other sorts . . .	+ 16.63

The increase under rice not in the husk was Rs. 63.96 lakhs and was shared by Germany (Rs. 3.3 lakhs), Ceylon (Rs. 7.13 lakhs), the Straits (Rs. 16.07 lakhs), Java (Rs. 20.49 lakhs), and East Africa (Rs. 5.99 lakhs). Holland took rice worth Rs. 352 only in place of Rs. 14.47 lakhs in January 1911. Aden reduced her demands by Rs. 1.41 lakhs, Sumatra by Rs. 1.85 lakhs and Mauritius by Rs. 2.15 lakhs. The decline in wheat was due to less demands of the United Kingdom by Rs. 42.49 lakhs and of France by Rs. 24.55 lakhs. But these figures are subject to alteration as Egypt is credited

with Rs. 62.8 lakhs which is yet unadjusted. Under Provisions, fishmaws and sharkfins declined by Rs. 58,663, but fruits and vegetables rose by Rs. 63,663. There was a heavy decline of Rs. 2.54 lakhs under spices, which was contributed by ginger Rs. 1.85 lakhs and pepper Rs. 50,219. The decline under tea amounted to Rs. 12.03 lakhs, the United Kingdom accounting for Rs. 9.07 lakhs, Russia Rs. 2.97 lakhs, and China Rs. 4.17 lakhs. Canada increased her demands by Rs. 2.27 lakhs, the United States of America by Rs. 1.35 lakhs and Australia by Rs. 94,549. Coffee declined by Rs. 29,928 to Rs. 8.79 lakhs.

Metals and manufactures of metals.

This class showed an improvement, the value rising by Rs. 2.13 lakhs to Rs. 14.44 lakhs—all under other sorts. Manganese ore declined by Rs. 83,619 to Rs. 7.34 lakhs.

Chemicals, Drugs, etc.

The value of this class declined by Rs. 19.49 lakhs or 10 per cent. to Rs. 174.4 lakhs. Opium accounted for a decline of Rs. 15.05 lakhs and Indigo Rs. 4.1 lakhs. The Straits took opium worth Rs. 11.78 lakhs as against Rs. 13.74 lakhs, and Hong-kong Rs. 61.38 lakhs as against Rs. 83.41 lakhs, in January 1911. Java and China, on the other hand, took Rs. 2.4 lakhs and Rs. 2.08 lakhs respectively more than in January 1911. The decline under Indigo was shared by the United Kingdom (Rs. 47,627), Russia (Rs. 88,809), Asiatic Turkey (Rs. 1,08,446) and Egypt (Rs. 1,79,096), but Austria-Hungary raised her demands by Rs. 42,000 to Rs. 1.41 lakhs.

Oils.

The value is better by Rs. 1.67 lakhs, which is contributed by paraffin wax (Rs. 90,317) and coconut oil (Rs. 79,980). A small rise under linseed oil was balanced by a decline under castor oil. Essential oil declined by Rs. 20,224 to Rs. 1.36 lakhs.

Raw materials and unmanufactured articles.

This is the biggest class under Exports. Its value amounted to Rs. 8.03 crores showing a decline of Rs. 2.74 crores or 25.4 per cent. This decline is made up as follows:—

	Rs. (lakhs)		Rs. (lakhs)
Coal . . .	— 3.06	Jute . . .	+ 77.12
Cotton . . .	— 304.31	Seeds . . .	— 37.46
Fodder, etc. . .	+ 6.33	Silk . . .	— 1.29
Hides . . .	+ 3.39	Wool . . .	— 19.02
Skins . . .	— 1.27	Other articles . . .	+ 5.24

The value of cotton amounted to Rs. 2.29 crores as against Rs. 5.33 crores in January 1911, showing a decline of Rs. 3.04 crores or 57.1 per cent. This was shared by all the principal consuming countries as noted below:—

	Rs. (lakhs)		Rs. (lakhs)
United Kingdom . . .	— 21.53	Italy . . .	— 12.09
Germany . . .	— 46.38	Austria Hungary . . .	— 40.16
Belgium . . .	— 64.64	China . . .	— 4.57
France . . .	— 13.02	Japan . . .	— 50.7
Spain . . .	— 19.64		

The decline was shared by all the provinces except Burma—Bengal (Rs. 3.98 lakhs), Bombay (Rs. 184.62 lakhs), Sind (Rs. 111.1 lakhs), Madras (Rs. 5.74 lakhs). Burma raised her share by Rs. 1.13 lakhs to Rs. 6.43 lakhs. The value of jute increased by Rs. 77.12 lakhs or 48.5 per cent to Rs. 236.2 lakhs. This increase was distributed amongst the principal countries: the United Kingdom (Rs. 33.9 lakhs), France (Rs. 24.73 lakhs), Spain (Rs. 8.25 lakhs), Germany (Rs. 6.27 lakhs), Russia (Rs. 2.95 lakhs) and the United States of America (Rs. 1.46 lakhs). Italy reduced her demands by Rs. 1.4 lakhs to Rs. 9.38 lakhs. Seeds declined by Rs. 37.46 lakhs or 19.5 per cent to Rs. 154.46 lakhs. The heavy declines under Sesamum (Rs. 21.75 lakhs), groundnuts (Rs. 19 lakhs), rapeseed (Rs. 8.86 lakhs) and poppy (Rs. 3.96 lakhs) were partly compensated for by a rise under linseed (Rs. 14.47 lakhs) and cotton (Rs. 2.81 lakhs). Almost the whole lot of cotton seed goes to the United Kingdom. France took more than two-thirds of groundnuts exported. The United Kingdom raised her demands for linseed by Rs. 7.46 lakhs, Belgium by Rs. 3.51 lakhs and France by Rs. 2.12 lakhs. France is responsible for a decline under poppy to the extent of Rs. 3 lakhs. The United Kingdom, Germany, France and Austria-Hungary account for the reduction under rapeseed, though Belgium took much more than in January 1911. Under Sesamum, France reduced her demands from Rs. 30.38 lakhs to Rs. 3.77 lakhs only. Wool, raw, is another item which decreased by Rs. 19.02 lakhs or 43.2 per cent to Rs. 25 lakhs, the United Kingdom alone taking almost the whole amount. The increase under hides is shared by the United States of America, Spain, and Austria-Hungary, but Germany and Italy reduced their demands. The decline under skins is due to contracted exports to the United States of America and France. Rice-bran showed a marked rise by Rs. 4.98 lakhs to Rs. 9.06 lakhs, caoutchouc by Rs. 4.97 lakhs to Rs. 6.65 lakhs and animal bones by Rs. 1.93 lakhs to Rs. 6.51 lakhs. The decline under coal was due to less demands from Aden and Ceylon. The value of jade stone fell by Rs. 2.28 lakh to Rs. 42,250, of oilcake (manure) by Rs. 1.25 lakh to Rs. 3.87 lakhs, and of silk, raw, by Rs. 1.29 lakh to Rs. 4.68 lakhs.

Articles manufactured and partly manufactured.

The value of this class amounted to Rs. 270.49 lakhs or 14.5 per cent. of the total exports. This showed a decline of Rs. 13.36 lakhs or 4.7 per cent. The principal fluctuations are noted below:—

	Rs. (lakhs)		Rs. (lakhs)
Cotton yarn . . .	— 3.69	Hides . . .	+ 5.3
Cotton piece goods . . .	— 3.98	Skins . . .	— 6.46
Jute . . .	— 2.74	Coir . . .	+ 8.7

The value of cotton yarn amounted to Rs. 59.62 lakhs and of piece goods Rs. 17.66 lakhs. China has

well maintained her position in the export trade of cotton yarn, the decline being due to reduced demands from Asiatic Turkey and Egypt. The fall under cotton piece-goods comes under grey goods, Asiatic Turkey and Aden being responsible for this decline. The value of jute manufactures was Rs. 101.88 lakhs. The decline under gunny bags amounted to Rs. 8.23 lakhs, which was partly made up by a rise under gunny cloth, namely, Rs. 5.3 lakhs. The United Kingdom, China, Indo-China, Java and Australia reduced their demands for bags, while the United States of America raised her requirements of both bags and cloth. The United Kingdom alone accounts for the fluctuations under hides and skins, their values being Rs. 16.99 lakhs and Rs. 24.32 lakhs respectively. The value of lac amounted to Rs. 17.2 lakhs.

RE-EXPORTS OF FOREIGN MERCHANDISE.

The total value rose by Rs. 10.8 lakhs or 25 per cent to Rs. 53.95 lakhs. The value of sugar rose by Rs. 15.26 lakhs or 672.6 per cent to Rs. 17.53 lakhs; that of cotton manufactures and wool raw was reduced by Rs. 1.57 lakhs and Rs. 1.73 lakhs to Rs. 14.48 lakhs and Rs. 2.62 lakhs respectively. Bahrein Islands, Aden and Persia reduced their demands for cotton piece-goods, but East Africa took more than she usually does. Other noticeable fluctuations are under gums and resins (—Rs. 42,700), Ivory (—Rs. 48,180), Jewellery (—Rs. 48,462), and Provisions (+Rs. 40,163).

Treasure.

Exports of treasure on private account amounted to Rs. 90.95 lakhs, namely, Rs. 30.11 lakhs under gold and Rs. 60.84 lakhs under silver, the former showing an increase of Rs. 1.86 lakhs and the latter Rs. 47.68 lakhs. The value of gold bullion exported to the United Kingdom was Rs. 29.9 lakhs and of British dollars sent to China (Hongkong) Rs. 58.05 lakhs and of Government of India rupees Rs. 1.62 lakhs, of which Rs. 16,000 were exported to Persia on account of Government and the rest to the Straits, Federated Malay States, Persia, etc., on private account.

Duty.

The gross amount of import duty collected in January, 1912, amounted to Rs. 70.48 lakhs, excluding salt, which realised Rs. 13.84 lakhs. This shows an increase of Rs. 7.25 lakhs or 11 per cent as compared with the amount collected in the corresponding month of 1911. The principal items under which fluctuations occurred are cotton manufactures (+Rs. 2.33 lakhs), hardware and cutlery (+Rs. 39,300), liquors (+Rs. 1.12 lakhs), metals (—Rs. 2.72 lakhs), oils (+Rs. 3.16 lakhs), and sugar (—Rs. 72,500).

The export duty on rice amounted to Rs. 10.59 lakhs only.

DESICCATION OF POTATOES.

THE drying of potatoes is an industry that has been developed in the past five years in Germany, which country grows one-third of the world's potato crop. During the past year, under orders of the Secretary of Agriculture, an investigation has been made in Germany of the starch and dried potato industries, dealing especially with machinery and methods in use. Germany has potato drying plants with a combined yearly capacity of nearly twenty-five million bushels of potatoes, equal to more than 7 per cent of the average annual potato crop of the United States for the three years ending with 1911. The two general methods of manufacture are known as the roll system and the drum system, and are thus described by a Washington correspondent.

In the roll system the potatoes are steamed until softened, and then passed between large revolving cylinders which are heated by steam. The potato forms on the roll in a layer, which dries and is scraped off during a revolution of the roll. This product has the appearance of one of our breakfast foods known as "corn flakes," and is used as a general substitute for the fresh potato in the household, in addition to being ground to a flour and mixed with other flours for bread making and in the making of cereal foods.

The drum system makes a product at about half the manufacturing cost of the roll system, and for all purposes other than human food, the drum system is used. It consists, essentially, of an iron shell about two and one-half feet in diameter and eight times this length. Through this a heavy current of air is drawn by means of a fan, and the fire gases from a stove feed directly into it, the mixture of heated and cold air being such as to make a temperature of about 600 degrees Fahrenheit at the entrance. From a cutting machine, chipped potatoes are conveyed to the slowly revolving drum, which is provided with an interior construction that gives the potatoes the maximum exposure to the drying action of the hot air. The drying operation must be done on rather a large scale, as small drums are not nearly so efficient in proportion to size. The fuel requirements are about 300 pounds of coke, or its equivalent, for one ton of potatoes, and the labour requirements are small. The approximate cost of operation, including fuel, labour, interest on investment, taxes, wear, etc., is \$1.30 per ton of potatoes. Four tons of potatoes yield one ton of dried product. In Germany most of the product is used as feed for all kinds of animals, having about the equivalent value of corn for cattle, horses and swine. It is used, technically, in the manufacture of yeast, alcohol, etc. The product, being partially cooked, is not suitable for the manufacture of starch. One of the large manufacturers of machinery is now trying out a process for making a material that will be suitable for making into finished starch.

PIG-IRON PRICES AND MARKETS.

The Iron Market.

PIG-IRON is, commercially, of two main kinds—metallic and paper. The former is the iron which is manufactured and consumed; the latter, in the shape of "warrants," is the subject of speculation. The prices of the two kinds of iron are, naturally enough, interdependent, but to-day, paradoxically, the price of the real iron is governed by that of its paper representative.

The modes in which pig-iron passes into consumption are much the same as those in which other commodities are disposed of by their manufacturers. The ironmaster may either work up his iron himself into the more finished forms of steel, wrought iron, or foundry products, or he may sell his pig-iron to a merchant or direct to the consumer. The trade, in fact, is divided between the "pure" works, which make pig-iron only, and the "mixed" works, which make pig-iron, steel, rolled steel products, etc. The latter have considerable advantages over the former, both technically and commercially. A "mixed" works can make steel more economically than a "pure" steel works, because it can utilize all the advantages of large-scale and integrated production. For example, the latest plants, especially on the Continent, use the blast-furnace gases for driving the engines of the steel works. Commercially a "mixed" works has the advantages of entering the market at that stage of manufacture which happens at the moment to be most advantageous. If a works sells the bulk of its output in the shape of steel at good prices it need only sell the overplus in the shape of pig-iron, and, if necessary, can afford to cut the price of the pig-iron in order to secure a sale. This circumstance was a standing source of quarrel between the "pure" and the "mixed" works in the pig-iron syndicates of Germany, and led to the dissolution of three of them in the winter of 1907-08.

Sales of most things are made either by the seller soliciting orders through a traveller, agent, or sales manager, or by the customer approaching the manufacturer. In the case of pig-iron a maker may sell directly to consumers in his immediate neighbourhood or to consumers at a greater distance with whom he has had business-relations of long standing, and this is more likely to be the case if his iron is of well-known brands. Very much iron, however, is sold to merchants, who must not be looked upon as mere middlemen intercepting a useless profit between maker and consumer. The ironmaster has many problems to solve—the supply of his raw materials, the handling of his workpeople, the technical difficulties of his business, all absorb much time and energy. The function of the merchant is to anticipate the course of the markets and to discern the first glimmerings of increased demand or of the first warning of diminishing needs. Pig-iron is sold all over the world, and to gather the intelligence of all the demands and all the supplies is alone

a heavy task. Further, he relieves the ironmaster of the labour of finding out how the iron when sold can be got to its destination. Even so common an occurrence as the sale of Cleveland pig-iron to Glasgow requires the freighting of a ship to Grangemouth, barge transport by canal to Glasgow, and cartage through Glasgow to the works. There is an evident advantage in the division of labour between manufacture and distribution. Again, as merchants have not to keep an expensive plant at work or to pay out regularly large sums for raw materials and wages, they are able to undertake the financing of the industry and to carry the stocks that are necessary for the regularizing of transactions between maker and consumer. As regards the consumer, the functions of the merchant are equally plain, for the former is saved the trouble of hunting for the maker who makes the special kinds of iron he wants.

Both ironmasters and consumers profit by, and pay for, the merchant's capital and credit, for the merchants buy pig-iron from the makers, paying cash Mondays, and sell to consumers for payment on the 10th of the month following delivery or for four months' bills from the 10th of the month.

Organization of Trading Bodies.

For the convenience of the buyer and seller markets have been organized in all the chief centres of the trade at the respective Metal Exchanges. In Glasgow, the speculative headquarters of the pig-iron market, the market is held daily in two sittings, in the morning and afternoon. The Middlesbrough market meets on Tuesdays from 12 noon to 1 p.m., the Wolverhampton market on Wednesdays, the Birmingham market on Thursdays, and the Manchester market on Tuesdays. Of the latter group the Middlesbrough market is the most important for pig-iron; the Birmingham market is chiefly concerned with the more finished forms of iron. During the meeting of the Tuesday market at Middlesbrough the floor of the hall is occupied by a crowd of members gathered round the newsboards or assembled in groups, exchanging opinions, learning what is being done in other places, and so focussing together the various opinions which are held by different sections of the trade as to the market tendencies of the day. That is, in fact, the chief function of the market. Buying and selling may be done there, but it is more generally done in the offices of the various firms, where the information gleaned by their representatives is sifted and put to practical use. The closing prices of the warrant market at Glasgow, which are telegraphed at the end of the morning sitting (noon), give the tone to the day's proceedings. Ironmasters' representatives, iron merchants, ore merchants, coke merchants, representatives of foundries, shipping agents—all kinds of men connected with the trade are there. Orders may be placed, ore bought, shipping quotations ascertained, complaints are exchanged as to delays in delivery or quality of ore, etc.; but the main thing is that at

the end of the hour a general impression is obtained of the condition of the trade and the prospects of the immediate future.

The iron trade as a whole has undergone a considerable change over the last 50 or 60 years. Nowadays every one is kept well informed as to what is going on, not only through the public Press and through agents, but also through an abundant issue of price lists and merchants' reports and circulars. Messrs. Bolling and Lowe in their Report for 1883 said :—

With the present facilities for ordering goods by quick and frequent mails, and, if necessary by telegram, but few buyers are likely to order large quantities for immediate despatch; consequently manufacturers are becoming accustomed to look for a steady inflow of continued moderate orders rather than large lines at a time for prompt execution. Only a few years ago our trans-Atlantic, colonial, and even European buyers received the greater part of their bulky and heavy goods by sailing vessels, on account of lower freight as compared with the high rates charged by steamers. On an average, perhaps 10 per cent of our whole yearly export in iron was then always on boardship, and the uncertainty of arrival further caused buyers to keep considerable quantities in their stores; but every year, and even every month, changes the position, and now we calculate the quantities on the seas do not amount to 5 per cent of the total export. In fact, large stocks afloat and ashore are gradually becoming a thing of the past. As regards manufactured iron or steel ready for consumers' use, there are certainly no stocks of importance in makers' yards; but, on the other hand, as a consequence of extensions and new machinery introduced, most of them hold a large supply of latent force, i.e., readiness greatly to increase their output, thus fully compensating for any lack of stock.

Need for Long Contracts.

In those earlier days referred to, there were also quarterly markets at the different centres at which prices for the ensuing three months were fixed and quarterly contracts made, but they are now of no importance except the one at Birmingham for finished iron, and it is of less consequence now than formerly.

The nature of the demand for pig-iron has been influenced by these changes in the demand for more finished goods, but it is still the custom of the trade for makers to sell ahead on long contracts and periodical deliveries and to keep no stocks. This is obviously advantageous in a trade where so much capital is locked up in expensive plant, since it facilitates the steady running of the furnaces. To blow out a furnace except in cases of necessity means a considerable loss. Consequently, one of the aims of the Continental cartels is to regulate their production as far ahead as possible; for example, the contracts for the supply of pig-iron in Germany for 1912 were given out in October

1911. Still, Cleveland iron is now, as a rule, only sold ahead for six months or so instead of for 12 or 18 months as formerly.

Pig-iron, as may be seen by the price-lists in the trade papers, is sold according to grade and brand, but the standard grade according to which all other prices are determined (except those for hematite pig) is Cleveland No. 3, G. M. B., i.e., good merchantable brands of the grade of Cleveland foundry iron known as No. 3, containing 2·8 per cent of graphite, 5 per cent of combined carbon, and 2 per cent of silicon, and suitable for ordinary foundry work and heavy castings. Formerly this position was occupied by Scotch G. M. B. in mixed parcels of three-fifths No. 1 and two-fifths No. 3. Hematite pig is either quoted in "East Coast Hematite, mixed numbers," or "North West Coast Hematite, mixed numbers."

In studying the market quotations of Cleveland No. 3, G. M. B., several points must be borne in mind, for they do not correspond exactly with the prices realized by the makers. The quoted prices are "free on board" or "free on train," and as the maker has to bear the cost of transport from his works to the wharf or station, the price realized is about 6d. per ton less than the quoted price on shipments or about 4½d. per ton less on the average of all deliveries. Secondly, the quoted price is the seller's price, and, therefore, higher than the average price of contracts. Again, the quoted prices may be only for small parcels, while the bulk of pig iron changing hands under contracts made some time before, or a particularly high price may be made by a merchant in time of scarcity for a small lot of iron which he had bought at a lower price some time ago, and such a transaction, of course, means nothing to the maker. Fortunately, the net average realized price of No. 3 Cleveland iron is ascertained every quarter for the purpose of determining blast-furnacemen's wages, being confidentially extracted from the books of eight leading firms of pig-iron makers by two accountants representing the employers and their workpeople.

By comparing the realized and the quoted prices over a series of quarters, the effect of the long-period contract is seen in the lagging of the former behind the latter. Quoted prices are the first to give evidence of an upward or downward movement, and realized prices move later. For examples :—

	Average Quoted Price.	Average Realized Price.
1879—4th Qr.	44	42
1880—1st "	53	42
2nd "	40	42
3rd "	41	40
4th "	39	40
1881—1st "	39	40
2nd "	37	38
3rd "	37	36
4th "	42	38

On February 22nd, 1880, a quotation of 63s. was made.—*Times*.

THE ECONOMIC REVOLUTION IN INDIA.

THE following is the full text of the paper on "Some Recent Economic Developments of India" read by Sir Theodore Morison (Vice-President of the India Council) at a meeting of the London Chamber of Commerce on January 25th. A summary of the paper, together with the discussion which followed, was published in our issue of February 22nd (page 266) :—

In this paper I propose to try and describe the economic evolution which has been going on in India over a long series of years and seems now about to culminate in a revolution that will transform the country. The revolution to which I refer is the process, familiar to most countries of Europe, by which primitive methods of industry are supplanted by the more efficient methods practised in the Western world. This change, simple as it sounds, cannot be effected without a radical reconstruction of the whole industrial fabric, and that is why it has been justly described as a revolution. Let me briefly recall the way industry is still carried on over the greater part of India and then it will be more easy to realise the magnitude of the impending change.

Nine-tenths of the people of India live in villages; that is the first and cardinal point to observe; it is one which markedly differentiates India from England; for in this country 77 per cent of the people leave in urban areas. The land about the villages in which the Indian people live is parcelled out into small holdings, often no larger than what we should call allotments. Each holding is worked by a small farmer, either tenant or proprietor, who, with the help of his family, supplies all the labour that is employed upon his holding. The great majority of the population of a village are thus engaged in raising the crops which supply them with food. But as even the most primitive peasantry has some wants besides food, there are in every village subordinate industries which supply the needs of the purely agricultural class. There is, for instance, a carpenter who makes the plough, the wagon, and other simple implements of husbandry; there is a potter who makes earthenware vessels, and a weaver who weaves upon a rude loom the rough homespun worn in the village. Now these small craftsmen work, like the small farmer, each for himself, with only such help as their families can supply; they are small men on their own, not the employees, agents, or even the clients of a big manufacturing concern; they cannot command the resources or the information which a large wholesale house puts at the disposal of its customers. Each little village craftsman has to depend wholly upon himself; he conducts his industry with only so much knowledge as he has inherited from his father or has picked up for himself in his rustic surroundings. Capital he has practically none, for it would raise a smile in such an assembly as this to apply the term capital to the sorry little forge, or wheel, or loom which form all

the stock-in-trade of the village craftsman. The market which these industries supply is on as small a scale as everything else; it is usually confined to the village in which the craftsman lives, and if occasionally he finds an outlet for his wares further afield his customers will never be beyond walking distance.

Village Industries.

It may at first sight appear fanciful to apply the word *industries* to these petty crafts. To our mind the word conjures up the idea of large firms commanding vast resources in capital and technical knowledge, firms which employ hundreds of thousands of workmen, and which find markets for their goods all over the known world. But this connotation is not of the essence of the word industry, and no other word will so well make clear the economic function which these petty craftsmen discharge. Individually they are insignificant, but in the aggregate their importance is very great. These scattered craftsmen once supplied almost all the wants of India, and even at the present day they supply a very large proportion of them. They are numbered literally by the million. There are close on a million carpenters, over a million potters, and 2,670,000 cotton weavers working at hand looms; counting together the actual workers and their dependants (for the children might well be classed as assistants or apprentices), these three crafts alone support over 10 million souls.

Of course industry when carried on in this fashion is very inefficient. Each little craftsman must perforce work by himself, and must carry through to the end all the various stages of production; in industries so conducted there can be no division of labour, no grading of the workmen according to their strength or skill; there can be no concentration of capital, no use of elaborate or specialised machinery, and of course there can be no technical or scientific knowledge applied to production. The craftsman is himself capitalist, labourer and business manager, and all the knowledge he can bring to his work is that of an unlettered rustic.

Such, in brief outline, is the structure of Indian industry. Unfamiliar as it appears to us, there is nothing abnormal in it. The same primitive methods still prevail in many parts of Eastern Europe and over almost the whole of Asia; they prevailed even in our own country up to the middle of the eighteenth century. It is the form of industry which in primitive days was inevitable; it was conditioned and determined by the physical surroundings in which men then worked. When the means of communication were few and imperfect the village was practically cut off from the rest of the world; being isolated it had perforce to supply its own wants from within. It was only when inland carriage was developed that the village could supply its wants from the manufacturing town or the seaport. That is why the growth of large manufacturing industries was, in this country, contemporaneous with the development of means of transport. Our

great manufacturing centres grew up and expanded as first the turnpike roads, then the canals, and lastly the railways enabled them to reach their customers. And it is because India has, until comparatively recent times, been very poorly equipped with means of transport that the archaic system of industry has there survived so long.

Development of Manufacturing Centres.

But I do not think that it will survive much longer; the conditions which made the industrial revolution possible in England are beginning to exist in India. The building of metalled roads and the growth of railways have broken down the isolation of the Indian village and made possible the distribution of goods from manufacturing centres. The land-locked areas of the Indian sub-continent are now pierced through and through by over 30,000 miles of railway; metalled roads for wheeled vehicles everywhere link up the railway stations to the villages and carry an enormous traffic. With these increased facilities for transit the Post Office is every year increasing its activity; within the last decade alone the number of articles carried annually by the Post Office has increased by over 400 millions. Both goods and ideas are moving to and fro over India as they have never moved before in her history. The necessity for the *ancien régime* of industry has disappeared, and production on a large scale upon modern lines has become possible.

Now it was to be expected that the first to grasp the advantages offered to them by the improvements in communication would be the manufacturers of Europe, and especially of England. Manchester, Birmingham and Sheffield lost no time in pouring their goods into the markets which the railways had opened to them. But simultaneously, or almost simultaneously, manufacturing centres began to develop in India itself. Englishmen first, then Parsis, and afterwards Hindus and Mohammedans, in Bombay asked themselves why they should not spin and weave the cotton that grew at their very doors by the same efficient processes which had made the fortune of Lancashire. Scotchmen in Calcutta who had learned to spin and weave jute in Dundee asked themselves why they should not set up their mills on the banks of the Hooghly and save the cost of carriage over 6,000 miles of sea. Even far away from the sea factories have been erected, and the industrial processes with which we are familiar have been adapted or applied to Indian conditions, and as you draw near Cawnpore the tall chimneys and darkened air tell that you are in the neighbourhood of a large manufacturing city. And elsewhere, too, often in small and remote townlets, Indians are harnessing steam to their use, employing salaried labour, and setting up small factories.

As yet the output of these modern industries is relatively small, but the rapidity with which they have developed is evidence that the industrial organisation of Europe can be acclimatised in India. In the last quarter of a century India has quadrupled her capacity to spin and weave cotton by steam

power; her capacity to prepare jute has increased fivefold; although there is not a comparable demand for woollen goods in a hot climate, there has been a considerable increase in the spinning and weaving of wool; in quantity and value the manufacture of paper has increased almost fivefold; the output of coal which may serve as a barometer to indicate the adoption of Western processes in manufacture has in the last thirty years been multiplied no less than elevenfold. I do not wish to attach undue importance to the rate at which these industries have increased; the fallacy of percentages attaches to the growth of all new enterprises. I only claim that they demonstrate that manufacturing industries upon modern lines can be established in India.

It is not the establishment of a few factories, mainly, though by no means entirely, under European management, that makes me believe that India is on the eve of an industrial revolution. What to my mind is far more significant is that the thoughts of the educated classes of India are all turned that way. Numberless books and articles are appearing which, though approaching the subject from many different sides, converge upon this point that India must develop manufacturing industries. Some writers who realise, and deplore, that India is a very poor country—as indeed she must be as long as her industries are conducted upon such primitive lines—are urging the young men to enter upon industrial careers and develop the resources of their country as a patriotic duty. Others see that in the multiplication of new occupations is to be found the only radical cure of famine; others believe that the increase of town life will stimulate the intelligence of the people and facilitate the political and social reforms they have at heart. And the young men themselves are trying to get into industrial careers; even if they are not moved by altruistic patriotism, they have an ambition, which is perfectly proper and honourable, to get on in the world, to found a fortune if they can, and if not, to make a decent income and an independent career. They know that the greatness of England was made by trade, and they think it no shame to copy her; so nowadays they are showing less eagerness to enter Government service or the overcrowded law courts, and they are seeking to create for themselves openings in commerce and industry.

Effect of Industrial Revolution upon Commercial Relations with India.

I do not believe that all this striving will be in vain. I believe the educated classes will succeed in transforming the industries of India; blunders and failures there will, of course, be in plenty, but in the end I am confident that they will succeed. They are a very intelligent people, and the task before them is well within their capacity; they have but to follow the example which has already been set them by Englishmen and some of their own countrymen. In English they have a common language in which they can conduct business over all the sub-continent, and which gives them access to

the great commercial world outside India; in their knowledge of their own country they have a great advantage over foreign competitors, and the industry and honesty which so honourably distinguish educated Indians in the public service is a good omen for their success in commerce. My forecast then of the economic future of India is that the young men trained in Government schools and colleges will found factories, employ workmen, and direct industries upon modern lines, and that these capitalist industries will gradually supplant the petty craftsmen who have until a recent date supplied the daily needs of the Indian people.

This will be the economic revolution, and it will certainly deserve the name, for it will mean a fundamental change in the constitution of society. The independent craftsman will fall into the position of a wage earner; the population, now diffused over the country in myriads of villages, will be aggregated in large towns; wealth will, no doubt, be increased; education and intelligence will be stimulated, but at the same time there will come into existence a proletariat living in slums in conditions of which India had hitherto been happily ignorant.

But it is not upon this aspect of my subject, important as it is to India, that I wish to dwell. I want to consider a question that more nearly concerns ourselves. It is this. Supposing the probability of this industrial revolution is conceded, what will its effects be upon the relations of India and England, and in particular upon the commercial relations of the two countries? One result, unpleasant for ourselves, is fairly obvious. If India makes for herself most, or many, of the things which we now export to her we shall lose a large market in those particular goods. As against that loss, however, we may put the consideration that the industrial revolution will certainly bring an immense increase in the wealth of India, and therefore an immense increase in her purchasing capacity. She will not take so many of the cheaper goods which we now send her, but she will certainly want many of the dearer articles which she cannot at present afford. On the whole, I am inclined to think that though there may be a change in the quality of the trade, a rich India will prove a better customer than a poor India. France, Germany and the United States are among the best of England's customers, in spite of the fact that they are industrially well organised, and are further protected by tariff walls; and as per head of population these countries take more of our goods than India does, so it seems to me probable that India, when industrially developed, will be a better customer than she has been yet.

These, however, are speculations about a somewhat remote future; a considerable time must necessarily elapse before this transformation is carried to completion, and it is the more immediate future during which the change will be going on that must most interest the present generation. In the transitional period there must be an immense demand for manu-

facturing plant. This is already apparent; it is a symptom of the coming change. The *Indian Trade Journal* (December 14, 1911) said recently: "The movement towards manufactures and the use of machinery in India has become unmistakable; and India is now the largest single purchaser of machinery from England." Eventually the demand will be very large indeed, as India has to supply herself with the whole apparatus of modern industry. Now, how will this affect us? In the first place, the equipment of modern industries over so vast an area will be a very costly process, and it is one which India cannot possibly finance herself. To carry it through she will be obliged to have recourse to foreign capital, and that means that like every other developing country she will have to raise loans in the London Money Market. In the second place, the proceeds of these loans will be spent for the most part in the purchase of mechanical and other plant, and if we pursue a wise policy we may reasonably expect that the orders for that plant will be lodged with British firms.

Orders for British Manufacturers.

Whether we are going the right way to attract this future business to our shores is a question with which I will deal later. What I want to point out now is that the first effect of India's industrial revolution will be to open up very great possibilities of business to our financial and manufacturing houses. This would not be a novel experience for this country. England has supplied half the world with its industrial plant. We are most familiar with the process with regard to new countries like Australia, Argentina, South Africa or Canada; there new settlers have had first to tame the wild and then furnish the naked waste with the whole industrial apparatus of modern civilisation. But the process in the older countries, such as Japan, China, and Eastern Europe, in so far as it concerns ourselves, is essentially the same. The old instruments of production have to be scrapped and replaced by modern machinery. The ox-wagon has to give place to the railway, the canoe to the steamer, the spinning wheel and hand loom to spinning and weaving mills. Whether the country has been recently settled or has been peopled from immemorial antiquity, the purchase of new equipment is indispensable to industrial efficiency.

And now I must return to a question I have left unsettled. When once the industrial revolution is under way there is no reason, I imagine, to doubt that Indians will raise the capital they will require in London. But can we be so certain that they will invest the proceeds of those loans in orders to English manufacturers? They may conceivably lodge their orders in Germany or America, or possibly in Japan. The future is in our own hands; if we are wise the orders will come here; if we are unwise they will assuredly go abroad. And it is because we are at present, at least to my thinking, pursuing the unwise course that I venture

to invite your attention to this point. What do you think will most probably guide the Indian capitalist of the future in his choice of the firm with which to lodge his order? The high and dry doctrinaire will no doubt reply that he will take a wide survey of all possible sources of supply, and make his choice from among competing tenders. Perhaps that is what he ought to do, but in order to do it effectually he would have to be exceptionally well-informed, be able to read several different languages, and think in different gauges and different terms of notation, and at all stages be guided by the sole thought of his own interest. Whether so wide and impartial a survey of the industries of the world would always lead to his placing his orders in this country I am not competent to say. But I very much doubt whether the Indian will act with such inhuman perspicuity.

Men are not made that way; they are never perfectly well informed nor entirely without likes and dislikes. The Indian capitalist or the expert whom the capitalists consult will most probably act as you or I should. He will want the sort of machinery with which he is already familiar, he will want to adapt to India the processes of manufacture which he has studied abroad, and which he knows how to work. Even if the process he adopts is not ideally the best, he will, if a practical man, say that it is the best for him because he understands it better than any other. And, being human, he will probably go to the manufacturers with whom he has had personal relations before or with whom he can at least get into touch through mutual friends. In other words, the Indian will place his order among the people and in the country where he has had his training.

Now are we in England taking care that the future captains of Indian history are receiving their industrial training in this country? Certainly not. On the contrary, we are shutting the gates of all our workshops upon them and driving them against their will to get their apprenticeship abroad. This is the unwise course which I have thought it my duty to bring to the notice of this Chamber. I see a great many Indian students in this country, and I know how hard, how practically impossible, it is for them to get a practical training in industry here. At our technical colleges and our modern universities they learn a certain amount of scientific theory, but when they try to get experience of its practical application in a workshop, or mill, or tannery, which all business men say is indispensable, then all doors are shut against them here; the consequence is that they are beginning to look abroad, and are going for their training to Germany, Japan, and America.

There is no ground whatever for saying that our countrymen are governed by an unreasoning prejudice from which other men are free, but the point of view, the commercial policy, is different. English firms, not unnaturally, are jealous of their trade secrets, and they fear to train up men who may become their competitors in the future. Abroad,

manufacturers appear to believe that these dangers are counterbalanced by the probability that Indians trained in their works will send them business when they return to their own country. From the national point of view, theirs is the far-sighted policy, and the practice of English firms appears by contrast to be penny wise and pound foolish. A particular firm may possibly gain by it, but the effect of the English practice as a whole is disastrous, for it drives the Indian business of the future into the hands of England's commercial rivals. So as to be perfectly candid, I will add one more remark. I confess it was my sympathy with Indian students rather than my anxiety for the English commerce that first led me to consider this aspect of India's industrial revolution. It does seem to me very hard lines on these young fellows to be excluded from all opportunities of practical training; they cannot have them in their own country because none as yet exist there, and when they come here they are not allowed to learn. Though it is not the result of a deliberate policy, it is none the less a hardship, and one which I, at least, would like to remove. But even if you do not think as I do about Indian students, you will, I trust, recognise that there are dangers in driving them abroad which deserve the serious consideration of the London Chamber of Commerce.

THE USE OF ROSIN IN PAPER MAKING.

ROSIN which, by the way, is now being produced in the Punjab, is an indispensable article for paper making, and in view of its constantly increasing price and the fluctuating of the market, a substitute has long been sought which will give the same results in paper sizing. In Germany the large price of £5,000 has been offered for a solution of the problem, but so far no competitor has come forward.

The Union of Paper and Cellulose Chemists has studied the question, but without finding any satisfactory solution, and it is not likely that the problem will be solved soon.

Several reports were read to the meeting of chemists at Berlin, and those of Dr. Klemm and Professor Schwalbe were very informative, both on the subject of the research for new rosinous substances and on the question of economizing the quantities of rosin at present used. Both of these chemists suggested that the rosin should be helped out with other materials such as starch, casein and tanning size.

Resinous waste, a by-product in pulp making, has been tried in a paper mill in Sweden, but although this product, which has been called liquid rosin, has given fairly good results at this mill, its employment has not been generalized.

Dr. Klemm suggests, especially for printings, mineral sizing by means of combinations of salicic acid with alumina, barium or lime.

In the majority of printing papers the aim of sizing is not so much to make the paper impermeable

to water or ink as to serve to agglutinate the fibres in order to give more solidity and endurance to the paper. From this point of view mineral sizing should be even superior to rosin sizing, in so far as the fibres, the weighing materials, such as china clay, and the colours, are more closely combined, and, therefore, a better printing surface is obtained. Moreover, this method of sizing prevents the paper from turning yellow, which is an advantage in high-class printings.

The diminution of the use of rosin resulting from the adoption of these mineral sizes is not very large. Taking an average of 1½ per cent of rosin used for the 300,000 tons of printing paper made in Germany, the use of mineral sizes would save 4,500 tons of rosin, of a value of about £25,000. Dr. Klemm is confident that this mineral sizing will be adopted sooner or later in all paper mills making printings.

As for artificial rosin, the manufacture is an accomplished fact. Several chemists have produced a synthetic rosin by means of aldehydes and phenols, but this product is altogether too expensive, and the solution of the problem depends upon the question of price.

Professor Schwalbe reviewed the divers materials which might serve to size paper or to economize a part of the rosin. He divided these into two classes in organic colloids, such as salicic acid and the hydrates of alumina, and organic colloids. The question is whether after use these colloids preserve their agglutinant qualities.

The organic colloids are very numerous and may be classed under four heads: those which are soluble in water; those which swell up under the same influence; those which form emulsions, and substances soluble in alcohol. Gelatine belongs to the first group, and this is already used in paper making. Fish glue and several vegetable gums could be used more or less for sizing, but they are out of the question, as they are dearer than rosin.

The substances which swell up include starch, gum tragacanth, mucilages and seaweed preparations. These have been tried in paper making, but without any great success, either because of their high price or by reason of imperfect preparations. Viscose also belongs to this group; it gives a solid paper, but not always impermeable to ink.

Several preparations of cellulose might very well be experimented upon.

The third category includes substances insoluble in water and not susceptible to swelling—that is to say, rosin, fatty matters and waxes. In order to be used in sizing they must be able to form an emulsion which will remain unchanged while the paper is passing over the drying cylinder. Rosin itself is the type of this class; it forms an emulsion in the state of free rosin either by the aid of soap or by other well known methods.

There are certain exotic substances which might be tried in a state of emulsion, but their price will be an obstacle in paper mill use, even supposing that they are capable of replacing rosin.

As already stated, artificial rosin is too expensive. An American inventor, Mr. Backeland, produces

artificial rosin by using six molecules of phenol and seven molecules of formaldehyde, so that it is evident this would be much dearer than the natural product.

The fourth class of colloids consists of substances saponifiable with an alkali; these deposit an amorphous precipitate on the fibre. Soap itself might be used, but its high price is against it, and casein is in the same category, and this also costs too much. Already in the case of special papers colloid matters dearer than rosin have been used with it, but the problem to solve is, if not to supplant rosin, at least to find a cheaper substance to use with it.

Tannin size and silicate of soda seem to fulfil the conditions. A mixture of sulphate of alumina with sulphate of magnesium or with free sulphuric acid can replace the first of these products, and is much cheaper.

But this is a palliative only, not solution of the problem. Of the various substances mentioned only the inorganic colloids and the mucilaginous bodies are worth considering. The former may be used for printing papers, but it is feared that the latter will only partially fill the desired conditions.—*Oil and Colour Trades Journal*.

THE IRRIGATION OF MESOPOTAMIA.

MR. F. R. HULL writes to the *Times*:—With reference to the notice in the *Times* of January 22nd stating that tenders had been received for this scheme, involving a sum of £T15,000,000, the following figures, which have been extracted or summarized from Sir William Willcocks's book on "The Irrigation of Mesopotamia," may be of interest. All metrical units have been converted to British measures.

The estimated cost of the works, as shown in the report of Sir William Willcocks, is £T7,440,858, but to allow for interest on the money spent during the execution of the works and their subsequent development Sir W. Willcocks states that he considers it a safe rule to double the estimated cost of works to obtain the true cost of the irrigation works.

In the following summary this has been done for each project, and the total cost is thus increased to £T15,255,020, an addition of £T473,380 being made for an overflow and navigation works.

Name of System.	Cost of irrigation works. £T	Area commanded. Acres.	Quantities* Cu. Yds.	
			Masonry.	Earth-works.
Felujah-Hendieli . . .	5,084,580	1,360,000	280,000	68,000,000
Hai Cana . . .	2,757,980	625,000	170,000	33,000,000
Basra Reclamation . . .	1,996,960	220,000	75,000	27,000,000
Beled Barrage . . .	2,118,240	420,000	260,000	20,000,000
Nahrwan Canal . . .	1,817,120	500,000	3,000	23,000,000
East Tigris Tail . . .	1,006,760	250,000	4,000	12,000,000
Euphrates Overflow . . .	425,000	125,000	—	—
Navigation Works . . .	48,380	—	26,000	200,000
TOTAL . . .	15,255,020	3,500,000	818,000	182,200,000

*These quantities are approximate and are based on estimated cost.

The masonry works include cement and, lime masonry, brickwork, concrete, and pitching, and are not of a heavy character, but the amount of earth-work is enormous.

It was stated in the *Times* that the Turkish Government were considering the advisability of proceeding with only a third part of the scheme, involving an expenditure of £T5,000,000. This will refer to the Feluja-Hendieh project to reclaim 1,360,000 acres between Baghdad on the Tigris and Kufa on the Euphrates, and will include the Hendieh Barrage and Habbanieh Escape, which works are now being constructed by Sir John Jackson, Ltd. The figures referring to this project are:—

(1) Estimated cost of the projects . . .	£T2,542,290
(2) Approximate quantity of earth-work cu. yds. 63,000,000	
(3) Cost of the irrigation works . . .	£T5,084,580
(4) Cost of the agricultural works . . .	5,500,000
(5) Total cost of the irrigation and the agricultural works . . .	10,584,580
(6) Area commanded acres. 1,360,000	
(7) Net rents per annum	£T3,080,000
(8) Tithes per annum	770,000
(9) Total rental	3,850,000
(10) Approximate rental per acre . . .	3
(11) Maintenance per annum	165,000
(12) Tithes less maintenance per annum	605,000
(13) Value of land (14 years' purchase)	42,900,000
(14) Approximate value of land per acre	31
(15) Profit on the undertaking, calculated by the percentage of the net rents (7) on the total cost of the irrigation and the agricultural works (5)	29.0 per cent.
(16) Profit to the Government, calculated by the percentage of tithes less maintenance (12) on the cost of the irrigation works (3)	11.7 per cent.

To settle this area of 1,360,000 acres will require about one million people, and so it may be considered that the first real steps are now being taken to restore this ancient country.

With a ready market for the products of irrigation a fair interest can be obtained on the money invested, and it may be noted that in 1907 the entire irrigation system of India, productive and protective, earned a net income of 7½ per cent.

AMERICAN CROP REPORTING SYSTEM.

THE particulars below are taken from the Annual Report of the United States Bureau of Statistics for the Fiscal Year 1910-11:—

An important feature was added to the crop-reporting system of the Bureau, in accordance with the plan outlined in our report for last year, to wit, the quantitative interpretation of the figures indicating the condition of growing crops for which quantitative estimates are made at the close of each year. The significance of the condition figures from month to month of the growing crops involved has been shown by their translation or interpretation into figures indicating the yield of such crops as promised by the condition reports.

Before such official interpretations were made, the condition figures were subject, in past years, to many differing interpretations, both by private and commercial interests, some of which were undoubtedly made for speculative purposes, the idea being to influence improperly the course of prices. Since the official interpretations have been made, during the past year, the private interpretations have practically ceased, those emanating from this Bureau being accepted in practically all quarters as the fairest and most authentic figures possible to be based on the condition reports.

It should be said, in passing, that of the leading crops, for which quantitative interpretations of condition figures are made, all are included except the cotton crop. In the case of cotton it is impossible to interpret the condition figures because of the fact that an important element, necessary to such interpretation, is lacking, to wit, the abandoned acreage of cotton. This cannot be ascertained until the close of the season, and it has been found impracticable in its absence to translate, quantitatively, the figures showing the condition of the growing crop.

During the past year the chief of bureau was designated by the Honourable Secretary of State as a delegate to the General Assembly of the International Institute of Agriculture, which convened at Rome, Italy, on May 14th, 1911. The results of the General Assembly are set forth in the report to the Department of State by the American delegates, and it is therefore believed unnecessary to go into this matter at this time.

The Chief of Bureau was directed by the Secretary of Agriculture to visit various countries in Europe at the conclusion of its duties in Rome for the purpose of securing information which, it was believed, would be of value to our crop-reporting service.

The data gathered in the few countries visited before returning to Washington were of a negative character, but are fully as valuable as though they had been positive in their nature, inasmuch as they show, beyond doubt, that the crop-reporting systems of the European countries visited contained no features or covered no range better or broader than embraced by our system; in fact, it was found that, as far as the investigation extended, the system

prevailing in the Department of Agriculture of the United States, which has been in operation many years, is not surpassed by that of any other country.

THE WORLD'S GOLD OUTPUT.

THERE was again a considerable advance last year in the gold production from the world's mines, and the total output has attained record dimensions. Although the final figures are not yet available, the *New York Engineering and Mining Journal* makes an estimate of the output, which we give below, based upon the returns up till the end of November. It is stated, however, that the estimates for December have been made on a conservative basis, so that revisions later may slightly increase the total, but the difference will not be great. The figures for 1910 are the corrected estimate:—

Gold production of the World.

	1910. \$	1911. \$
Transvaal	155,730,260	170,487,900
United States	96,269,100	96,233,528
Australia	65,634,310	61,072,409
Russia	43,168,389	40,600,000
Mexico	21,073,100	19,500,000
Rhodesia	12,607,791	13,045,100
India	12,089,400	10,505,506
Canada	10,224,910	10,646,000
China	10,102,300	10,000,000
Japan, East Indies, etc.	10,522,437	10,600,000
West Africa	3,674,087	5,268,100
Madagascar	2,149,721	1,900,000
France	1,114,700	1,275,000
Central and South America	14,886,234	15,000,000
Other countries	7,118,811	7,250,000
Total	469,365,610	473,383,543

The Transvaal output is above that of 1910 by nearly \$15,000,000, which alone more than accounts for the increase in the world's production, Rhodesia, Canada, and West Africa also show fair gains upon 1910, while the United States production is about stationary. In Australia there is a considerable decline, owing partly to labour conditions, but mainly to the fact that in Western Australia and Victoria gold mines which gave good yields from the upper levels fail to maintain their quality with increasing depth. The Mexican output was affected by the revolutionary disturbances; drought interfered with Siberian placers; while the Kolar mines in India are stated to be still in a zone of lean ore. The relation of last year's gold output to the output of previous years is shown in the next table, which

gives the world's gold production in each of the past twenty years:—

	\$
1891	146,202,600
1893	158,437,551
1894	182,509,283
1895	198,995,741
1896	211,242,081
1897	237,833,984
1898	287,327,833
1899	311,505,947
1900	258,829,703
1901	260,877,429
1902	298,812,493
1903	329,475,401
1904	349,088,293
1905	378,411,054
1906	405,551,022
1907	411,294,458
1908	443,434,527
1909	459,927,482
1910	469,365,610
1911	473,383,543

The output has increased more than threefold in twenty years, mainly owing to the wide adoption of the cyanide process, which enables ores of a much lower grade to be treated more remuneratively than was formerly possible. The process was introduced in the early 90's, and the expansion in the gold production in the next few years was extremely rapid. In the past decade the rate of expansion was less rapid, though the absolute amount of the increase was greater than from 1892 to 1901. The figures supply no evidence of any diminution in the annual output of the world during the next few years.—*Economist*.

—At a recent meeting of the local Section of the Society of Chemical Industry at Liverpool University, Dr. J. Harger read a paper in the course of which he announced that he had made experiments which justified him in declaring that coal-dust explosions could be prevented. His experiments proved, he said, that a small reduction of oxygen and the addition of a little carbon dioxide was sufficient to render coal-dust ignition impossible. The reduction in oxygen necessarily varied with the different coal and with the method of working. In most mines a reduction of 1 per cent. in the oxygen and the addition of ½ per cent. carbon dioxide was sufficient. With others a reduction of nearly 2 per cent. in the oxygen and an addition of ¾ per cent. carbon dioxide was necessary to render them safe. If the reduction in oxygen was made to 17½ per cent., with ½ per cent. to 1 per cent. carbon dioxide, absolute safety was secured, not only from coal-dust explosions, but from firedamp explosions, also from fires of wood or coal in the roads, and from gob fires. For respiration such an atmosphere was as good as ordinary air, and for people with consumption it was better.

TRADE OF PRINCIPAL COUNTRIES.

THE following summary table has been prepared at the Board of Trade showing the total imports and exports of merchandise of the principal countries for which the particulars can be given up to November, 1911, inclusive, and referring in all cases to the same period, viz., the eleven months ended November. The corresponding figures for 1910 and 1909 are added for comparison:—

	Imports (see NOTE). Eleven Months ended November.			Exports (Domestic) (see NOTE). Eleven Months ended November.		
	1909.	1910.	1911.	1909.	1910.	1911.
	£	£	£	£	£	£
Russia *	76,106,000	91,707,000	99,039,000	132,015,000	133,903,000	144,529,000
Germany	380,066,000	396,382,000	425,823,000	291,136,000	332,333,000	360,089,000
Belgium †	126,022,000 ‡	141,023,000	150,209,000	94,115,000 ‡	114,217,000	121,325,000
France	224,806,000	253,468,000	293,828,000	204,908,000	225,183,000	229,693,000
Spain	34,386,000	35,371,000	38,888,000	32,436,000	34,305,000	34,174,000
Italy	111,922,000	115,997,000	121,741,000	67,849,000	75,313,000	78,258,000
Austria-Hungary	102,488,000	107,083,000	119,414,000	87,968,000	91,377,000	89,873,000
Egypt	20,596,000	21,693,000	25,571,000	22,276,000	24,285,000	24,700,000
United States	278,495,000	297,124,000	290,122,000	318,964,000	333,837,000	382,447,000
Japan §	36,829,000	42,727,000	48,450,000	37,475,000	42,242,000	41,200,000
British India	73,762,000	78,518,000	87,192,000	102,744,000	127,446,000	134,445,000
Canada	64,903,000	82,125,000	94,395,000	47,498,000	51,745,000	51,092,000
British South Africa ¶	25,540,000	34,475,000	35,183,000	45,320,000	50,049,000	52,661,000
United Kingdom	482,260,000	515,421,000	521,634,000	344,590,000	393,166,000	415,711,000

* European, Russo-Finnish and Black Sea Frontiers. † Value of principal articles only. ¶ Including bullion.

§ Exclusive of trade with Taiwan (Formosa) and, since September, 1910, of trade with Chosen (Corea).

‡ The figures for 1909 are not comparable with those for 1910 and 1911. Considerable quantities of wool declared for home consumption and afterwards re-exported, for which deductions used to be made, are now included in the figures for "special trade," as the bulk of the wool undergoes some process prior to re-exportation.

A comparison of the total figures for the year ended 31st December is possible for five countries as follows, viz. :—

	Imports (see NOTE). Year ended December.			Exports (Domestic) (see NOTE). Year ended December.		
	1909.	1910.	1911.	1909.	1910.	1911.
	£	£	£	£	£	£
Germany	419,240,000	439,057,000	469,285,000	324,222,000	367,504,000	398,339,000
Belgium *	139,545,000 ‡	157,651,000	165,639,000	105,929,000 ‡	128,814,000	135,387,000
France	249,845,000	286,933,000	326,427,000	228,722,000	249,352,000	246,883,000
United States	307,400,000	325,605,000	319,361,000	354,317,000	381,046,000	428,804,000
United Kingdom	533,360,000	574,496,000	577,638,000	378,180,000	430,385,000	454,282,000

* Value of principal articles only. ‡ See note ‡ above.

The latest figures available as regards other countries from which returns are received by the Board of Trade are as follow :—

	Imports (see NOTE).			Exports (Domestic) (see NOTE).		
	1909.	1910.	1911.	1909.	1910.	1911.
	£	£	£	£	£	£
Switzerland * (9 months)	46,205,000	50,951,000	52,649,000	31,763,000	34,712,000	36,599,000
Mexico † (10 months)	14,061,000	18,386,000	16,128,000	20,838,000	23,602,000	24,852,000
Australia † (10 months)	41,347,000	48,875,000	54,919,000	45,326,000	52,920,000	55,980,000

* Including bullion.

† Including bullion and specie.

NOTE.—The values stated for the latest year shown in the foregoing statements are provisional and subject to rectification. In some cases all the values are those declared by importers or exporters, as in the United Kingdom; in others they are based on an official schedule of values which is subjected to revision after the close of each year, the values used in the current returns being those fixed in the latest completed revision. In general, the values so fixed represent the level of prices in the preceding year. The countries adopting the system of official values annually revised are:—Austria-Hungary, Belgium, France, Italy, Spain, and (for imports) Germany and Switzerland. Exports from Switzerland and Germany are returned at "declared" values. Prior to April, 1909, however, all the exports from Germany, and from April, 1903, to the end of March, 1911, about one-third of the exports from that country were returned at official values. The figures in italic are based, wholly or mainly, on the prices of some earlier year than that under which they are shown.

In the case of Russia, Germany, Belgium, France, Switzerland, Italy, Austria-Hungary, Egypt, Japan, Canada, and the 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.

FOOD-GRAINS AND SALT.

Retail Prices of certain Food-grains and Salt at selected stations for the first half of February, 1912. (Prices are stated in annas and pies per seer of 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 11	...	...	...	...	...	...	1 2
Toungoo	1 7	...	...	...	...	...	...	1 2
EASTERN BENGAL AND ASSAM—								
Rangpur	1 5	...	...	...	...	...	...	0 11
Backerganj	1 4	...	...	...	...	...	...	1 0
BENGAL—								
Calcutta	2 0	1 9	...	...	...	...	...	0 11
Patna	1 3	1 2	0 10	...	...	...	...	0 10
UNITED PROVINCES—								
Cawnpore	...	1 5	1 0	0 11	1 1	...	0 11	0 9
Fyzabad	...	1 4	0 11	...	...	...	0 11	0 10
Meerut	...	1 4	1 1	...	1 1	...	1 0	0 9
PUNJAB—								
Delhi	...	1 5	1 2	1 2	1 3	...	0 11	0 9
Amritsar	...	1 3	1 1	1 2	1 3	...	0 11	0 7
Rawalpindi	...	1 5	1 1	...	1 4	...	1 0	0 7
SIND—								
Karachi	...	1 9	...	1 7	1 9	...	1 3	0 7
BOMBAY—								
Belgaum	...	1 9	...	1 4	1 5	...	...	0 10
Ahmadnagar	...	1 5	...	1 4	1 5	...	...	0 11
Bombay	...	2 3	...	1 6	1 6	...	...	0 10
Ahmadabad	...	1 6	...	1 4	1 6	...	...	0 7
CENTRAL PROVINCES—								
Jubbulpore	...	1 5	...	...	...	...	1 1	1 0
Nagpur	1 4	1 4	...	1 2	...	...	1 0	1 0
Raipur	1 5	1 3	...	...	...	...	0 11	1 0
MADRAS—								
Bellary	2 3	...	...	1 2	...	1 0	...	0 11
Madras	2 2	...	...	...	...	1 3	...	0 7
Salem	2 5	...	...	1 4	1 7	1 1	...	1 0

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1911-12.				SEASON 1910-11.			
	Sold in sale of 27th February.		Sold to 27th February.		Sold in sale of 24th February.		Sold to 24th February.	
	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	347	7 2·5	191,455	7 11	439	6 7·8	188,030	7 5
Cachar	679	6 7·7	149,590	6 1·3	1,563	6 0·5	146,718	6 3·7
Sylhet	270	5 5·8	119,845	6 11·5	439	5 5·4	103,855	6 4·8
Darjeeling	...	...	71,742	9 7·4	15	7 8·2	69,070	9 6·1
Dooars	...	...	205,350	7 4·1	...	...	202,357	6 11
Terai	...	...	23,435	7 1·2	...	...	23,298	6 7·1
Chittagong	9	4 0	8,411	6 11·2	156	5 9·8	8,850	6 3·4
Chota-Nagpore	...	...	1,719	7 5	44	4 5	1,613	7 3·7
Kumaon and Kangra	...	...	3,807	6 9·1	607	5 6·8	4,259	6 3·1
Madras	...	...	40	6 4	...	...	43	5 5·8
Dehra Dun	...	...	399	6 2·8	...	...	...	...
Nepal	...	...	605	6 10·8	...	...	687	6 5·3
All other places	...	...	162	6 7	...	...	76	6 11
TOTAL	1,305	6 6·4	776,560	7 6·5	3,263	5 11·1	748,856	7 0·8

(The above do not include second hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1911-12 Average price of 46,394 packages Dust* sold to 27th February 6a. 3·6p.

" 1910-11 " 50,710 " " 24th " 6a. 3p.

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

SEA-BORNE TRADE OF INDIA.

THE following is a summary of the accounts relating to the Sea-borne Trade and Navigation of British India for the month of January 1912, and for the ten months, 1st April, 1911, to 31st January, 1912, compared with the corresponding period of the years 1909-10 and 1910-11:—

	MONTH OF JANUARY			TEN MONTHS, 1ST APRIL TO 31ST JANUARY		
	1910	1911	1912	1909-10	1910-11	1911-12
IMPORTS—						
MERCHANDISE, PRIVATE—						
Bengal	Rs. 4,86,71,892	Rs. 4,32,14,883	Rs. 4,95,25,546	Rs. 39,29,00,991	Rs. 40,32,10,489	Rs. 44,00,23,214
Eastern Bengal and Assam	4,87,258	3,97,258	5,75,742	49,28,877	38,71,986	49,63,181
Bombay	3,74,20,113	4,32,50,587	5,41,28,178	33,02,80,161	38,73,82,726	41,60,85,568
Sind	75,18,323	87,68,425	1,55,59,390	8,38,14,874	9,45,23,062	11,26,37,632
Madras	87,78,376	1,21,75,085	1,23,58,843	8,04,74,571	8,67,31,004	9,75,18,594
Burma	90,97,970	1,11,15,042	1,18,84,919	8,92,72,258	8,77,20,430	9,75,00,003
TOTAL	11,19,73,932	11,89,20,780	14,40,32,618	98,16,71,732	1,06,35,39,697	1,16,87,31,192
DITTO, GOVERNMENT STORES	48,43,126	40,79,471	60,62,655	5,05,05,912	3,61,61,728	4,49,09,763
TOTAL MERCHANDISE	11,68,17,058	12,30,00,251	15,00,95,273	1,03,21,77,644	1,09,97,01,425	1,21,36,31,955
TREASURE, PRIVATE—						
Bengal	64,54,490	48,19,964	1,09,84,394	4,58,69,098	3,97,09,192	7,51,92,765
Eastern Bengal and Assam	15,366	30,695	1,61,302	1,61,302	1,53,261	1,68,957
Bombay	6,08,62,606	4,81,89,782	4,92,08,673	23,58,69,501	23,61,80,084	28,71,48,122
Sind	6,72,728	4,50,610	10,38,660	62,28,917	85,69,555	92,50,134
Madras	19,39,532	42,493	61,350	1,16,16,564	51,37,246	28,06,916
Burma	2,11,741	2,89,851	11,74,726	12,01,192	10,77,280	49,88,297
TOTAL	7,01,76,963	5,39,13,375	6,24,67,803	30,09,46,574	29,03,26,618	37,95,55,191
DITTO, GOVERNMENT	...	315	...	9,73,999	6,87,802	4,12,700
TOTAL TREASURE	7,01,76,963	5,39,13,690	6,24,67,803	30,19,20,573	29,15,14,420	37,99,67,891
GRAND TOTAL OF IMPORTS	18,69,94,021	17,69,13,941	21,25,63,076	1,33,40,98,217	1,39,12,15,845	1,59,35,99,846
EXPORTS—						
MERCHANDISE, PRIVATE—						
(Foreign Merchandise)—						
Bengal	1,07,087	2,42,329	14,66,489	13,65,581	21,67,628	89,38,065
Eastern Bengal and Assam	1,715	2,265	4,000	2,440	4,327	13,557
Bombay	27,64,559	30,30,564	30,55,352	2,42,55,260	2,71,51,752	2,91,91,790
Sind	2,60,380	8,08,522	6,23,158	31,34,217	38,66,174	80,06,165
Madras	3,32,163	1,48,047	1,30,418	12,84,254	15,39,643	18,96,376
Burma	59,784	83,592	1,14,019	4,06,083	5,57,711	5,01,938
TOTAL	35,25,688	43,15,319	53,95,436	2,74,47,835	3,52,87,235	4,85,47,891
(Indian Merchandise)—						
Bengal	5,75,50,180	6,30,55,616	6,58,96,318	59,31,72,980	65,67,87,093	70,96,68,484
Eastern Bengal and Assam	51,22,891	19,00,428	43,90,211	3,93,22,675	4,24,51,027	4,88,86,261
Bombay	8,59,55,226	7,11,55,611	5,23,48,522	38,21,38,354	48,01,90,766	47,57,63,161
Sind	2,20,45,806	3,03,97,651	2,43,53,622	17,01,48,057	17,32,33,870	17,73,00,058
Madras	1,97,14,092	2,17,97,727	1,98,64,761	15,51,82,473	17,14,55,839	18,19,26,553
Burma	1,01,67,362	1,29,59,237	1,91,94,677	9,79,89,215	12,98,65,044	16,43,44,377
TOTAL	20,05,75,557	20,12,66,270	18,69,48,111	1,43,79,53,754	1,65,39,83,639	1,75,78,88,894
Total Foreign and Indian Merchandise exported—						
Bengal	5,76,57,267	6,32,97,945	6,73,62,807	59,45,38,561	65,89,54,721	71,86,06,549
Eastern Bengal and Assam	51,24,606	19,02,693	43,94,211	3,93,25,115	4,24,55,354	4,88,99,818
Bombay	8,87,19,785	7,41,86,175	5,54,03,874	40,23,33,614	50,73,41,518	50,49,54,951
Sind	2,23,06,186	3,12,06,173	2,49,78,780	17,32,52,274	17,71,00,044	18,53,06,223
Madras	2,60,46,255	2,19,45,774	1,99,95,179	15,64,66,727	17,29,95,482	18,38,23,929
Burma	1,02,47,146	1,30,42,829	1,93,08,698	9,83,95,298	13,04,22,755	16,48,46,315
TOTAL	20,41,01,245	20,55,81,589	19,14,43,547	1,46,51,01,589	1,68,92,70,874	1,80,64,36,785
DITTO, GOVERNMENT STORES	73,277	30,592	1,02,305	7,10,036	7,21,090	11,63,646
TOTAL MERCHANDISE	20,41,74,522	20,56,12,181	19,15,45,852	1,46,61,11,625	1,68,99,91,964	1,80,76,00,431
TREASURE, PRIVATE—						
Bengal	27,421	1,10,504	1,29,027	15,57,920	43,14,816	7,72,166
Eastern Bengal and Assam	...	...	...	...	...	...
Bombay	44,81,294	38,80,602	88,92,388	4,29,92,667	4,65,68,409	8,27,18,596
Sind	2,80,050	1,08,350	45,814	27,57,901	37,52,520	32,36,839
Madras	5,11,116	12,831	17,440	70,32,587	63,71,404	42,49,597
Burma	...	29,087	11,000	73,250	2,47,087	2,42,730
TOTAL	52,99,881	41,41,374	90,95,669	5,44,14,325	6,17,54,236	9,12,20,228
DITTO, GOVERNMENT	30,000	...	16,000	45,100	49,345	33,450
TOTAL TREASURE	53,29,881	41,41,374	91,11,669	5,44,59,425	6,18,03,581	9,12,53,678
GRAND TOTAL OF EXPORTS	20,95,04,401	20,97,53,555	20,06,57,521	1,52,05,71,050	1,75,17,95,545	1,89,88,54,109
GROSS AMOUNT OF IMPORT DUTY COLLECTED, including Salt	64,77,744	74,81,079	84,32,877	6,07,76,941	7,68,58,311	7,75,15,981
DITTO, EXPORT DUTY COLLECTED	9,07,539	10,49,737	10,59,379	61,15,888	79,72,220	85,49,586

WEEKLY TRADE MOVEMENTS.

For the week ending 2nd March, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—Imports by sea into	Calcutta lbs.	193,194
	Bombay "	153,768
	Madras "	249,205
Indian—Exports by sea from	Calcutta "	22,580
	Bombay "	7,349,240
	Madras "	10,000

Grey Piece Goods.

Imports by sea from	Calcutta yds.	8,742,089
	Bombay "	1,525,759
	Karachi "	3,083,463
Foreign ports into	Calcutta "	1,803,344
	Madras "	321,831
	Rangoon "	...

White Piece Goods.

Imports by sea from	Calcutta yds.	3,877,428
	Bombay "	2,188,838
	Karachi "	10,831,791
Foreign ports into	Calcutta "	1,053,123
	Madras "	526,112
	Rangoon "	...

Other Piece Goods.

Imports by sea from	Calcutta yds.	1,626,573
	Bombay "	1,781,335
	Karachi "	6,658,630
Foreign ports into	Calcutta "	974,194
	Madras "	729,029
	Rangoon "	...

Piece Goods.

(Indian and Foreign.)	Calcutta cwt.	34,448
Despatches by rail from	Bombay "	9,071
	Karachi "	20,500
	Madras "	4,889

Raw Cotton.

Imports into Bombay	By sea cwt.	13,341
	Coastwise "	24,779
	By rail "	351,145
Imports into Karachi by rail	"	63,810
" " Calcutta by rail and river	"	23,051

JUTE.

Arrivals by all routes in	Calcutta	owt.	348,557
Exports by sea from	Calcutta	Gunny bags No.	7,127,390
	"	cloth yds.	29,585,670
	Chittagong—Jute	"	388,247
	"	"	28,307

COTTON SEEDS.

Exports by sea from Bombay	owt.	236,069
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OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river	owt.	8,209
	By sea "	"	...
	Coastwise "	"	1,646
	By rail "	"	51,737
	Karachi by rail and river	"	12
	Calcutta "	"	3,442
Exports by sea from	Bombay "	"	101,251
	Karachi "	"	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river	owt.	86,095
	By sea "	"	...
	Coastwise "	"	...
	By rail "	"	13,782
	Karachi by rail and river	"	171,510
	Calcutta "	"	81
Exports by sea from	Bombay "	"	20,003
	Karachi "	"	114,446

RICE.

Arrivals by all routes in	Calcutta	owt.	2,443,640
	Calcutta "	"	360,358
	Chittagong "	"	151,680
Exports by sea from	Bombay "	"	4,951
	Karachi "	"	3,930
	Madras "	"	398
	Rangoon "	"	724,545

TEA.

Arrivals by all routes in	Calcutta	lbs.	82,088
Exports by sea from	Calcutta "	"	1,056,099
	Chittagong "	"	237,402

WHEAT.

Imports into	Calcutta by rail and river	owt.	16,876
	Karachi by rail	"	572,430
	By sea "	"	7
	Coastwise "	"	48
	By rail "	"	76,568
	Calcutta "	"	72,791
Exports by sea from	Bombay "	"	36,501
	Karachi "	"	443,765

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,689,204	4,043,974	47,858	153,461	1,474	479	Not	reported.
Bombay	"	2,786,190	3,296,587	226,397	255,672	141,739	41,595	1,802,267	1,386,751
Karachi	"	19,959,023	2,218,322	29	...	1,133,480	453,727	Not	reported.

KEROSENE OIL, WEEK ENDING 2nd MARCH, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	...	...	...
Karachi	...	...	...	...
Madras	...	...	...	...
			Bengal	629,148
			E. B. & Assam	152,796
			Bombay	...
			Sind	...
			Madras	428,200
			Indian Ports, Non-Br.	...
			Foreign Ports	...

Exports by sea from Burma to

IMPORTS OF SUGAR, WEEK ENDING 2nd MARCH, 1912.

	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay	Karachi.	Madras.	Rangoon.	TOTAL.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	67	...	13	22	3	79	184
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...	...
Java	6,377	...	19	20,249	22,012	8	48,665
Mauritius	2,007	...	39,974	...	...	...	41,981
Other Non-European Countries	...	...	119	745	...	997	1,861
							Total refined 92,691
							Total unrefined 21
							Grand Total 92,712

RESULTS OF AUCTION TEA SALES IN CALCUTTA.

DISTRICTS.	SEASON 1911-12.				SEASON 1910-11.			
	Sold in sale of 1st March.		Sold to 1st March.		Sold in sale of 14th March.		Sold to 14th March.	
	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.	Packages.	Average price per lb.
	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.	A. P.
Assam	117	6 8	191,572	7 11	...	...	188,030	7 5
Cachar	528	6 3	150,118	6 11-3	...	...	146,718	6 3-7
Sylhet	...	...	119,845	6 11-5	...	...	103,855	6 4-8
Darjeeling	...	...	71,742	9 7-4	...	...	69,070	9 6-1
Dooars	...	...	205,350	7 4-1	...	...	202,357	6 11
Tera	...	...	23,435	7 1-2	...	...	23,298	6 7-1
Chittagong	...	...	8,411	6 11-2	10	4 2	8,860	6 3-4
Chota-Nagpore	...	...	1,719	7 1-5	...	...	1,613	7 3-7
Kumaon and Kangra	...	...	3,807	6 9-1	77	5 6-5	4,336	6 3
Madras	...	...	40	6 4	...	...	43	5 5-8
Dehra Dun	...	...	399	6 2-8	...	...	...	...
Nepal	...	...	605	6 10-8	223	6 5	910	6 5-2
All other places	...	...	162	6 7	...	...	76	5 11
TOTAL	645	6 4	777,205	7 6-5	310	6 1-5	749,166	7 0-8

(The above do not include second-hand Tea, damaged Tea and Dust from those concerns which sell only that grade on this market.)

Season 1911-12 Average price of 46,402 packages Dust* sold to 1st March 6s. 3-6p.

" 1910-11 " 50,768 " 14th " 6s. 3 p.

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

NEW REFERENCE BOOKS.

SELL'S DICTIONARY OF THE WORLD'S PRESS, 1912.

Sell's Advertising Agency, Ltd.

THE COMMERCIAL LAWS OF THE WORLD.

Consulting Editor, the Hon'ble SIR THOMAS EDWARD SCUTTON. General Editor, WILLIAM BOWSTEAD. Vol. II. Columbia. Sweet and Maxwell 42s. net.

THE MINING MANUAL FOR 1912.

By WALTER E. SKINNER 15s. net.

The *Journal* of the British Chamber of Commerce of Egypt for February, 1912, contains a review of Egyptian trade during 1911 from which we take the following. For rapid conversion £E.1 may be taken as the equivalent of £1 sterling. The figures given by the Customs Administration in their bulletin for December 1911 allow us to compare the volume of trade done throughout the whole of 1911 with the returns for the previous year. From the import merchant's point of view, the years 1911 was a distinctly good one so far as volume of sales was concerned. The total value of the merchandise which passed through the Customs from the 1st January to the 31st December 1911 amounted to £E. 27,227,000. These figures compare with £E. 23,553,000 for 1910, and £E. 22,230,000 for 1909. To show that the increased arrivals were spread over the general trade of the country, we may mention that only 21 categories, out of the total Customs divisions of 115, yielded decreases during 1911 when compared with 1910. There was only £E. 345,000 difference between the figures of the export trade for 1911 and those for 1910 though the difference was against the year under discussion. In 1911, the figures totalled £E. 28,599,000 against £E. 28,994,000 during the previous twelve months. There were one or two rather substantial fluctuations in the export figures for the year. The principal one was under cotton where the shipments totalled 6,638,000 cantars against 6,009,000 cantars (cantar=99.05 lbs). Whilst there was thus an increase of 629,000 cantars in quantity, there was a decrease in value of no less than £E. 1,253,000. For cotton seed the returns were 3,818,000 ardebs (ardeb=5½ bushels) valued at £E. 3,039,000, against 2,674,000 ardebs=£E. 2,166,000. Oilcakes at 85,000 tons were 23,000 tons to the good, whilst sugarcane with an export of 240,000 tons was 88,000 better than before. The onion shipments reached 94,000 tons=£E. 314,000 against only 91,000 tons valued at £E. 265,000 twelve months ago. On the other side of the account, there was a drop of £E. 57,000 in value of the dried beans sold, the returns having only reached 36,000 tons against 106,000 tons in 1910. The shipments of skins and hides showed a drop of £E. 59,000 in value during the year.

NOTICE.

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

COMMERCIAL GUIDE (MONTHLY).

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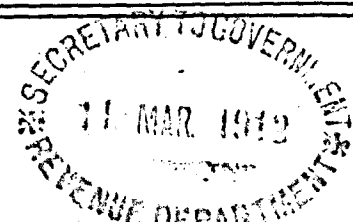
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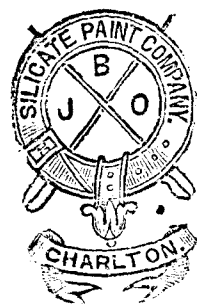
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[ANNAS 4.]

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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	7 per cent. (Mar. 7).
	Bombay	7 per cent. (Feb. 22).
	Madras	8 per cent. (Jan. 29).
EXCHANGE	On demand	1-4 $\frac{1}{8}$
	Telegraphic	1-4 $\frac{3}{8}$
	Transfers	
	3 months	1-4 $\frac{1}{8}$
	6 months	1-4 $\frac{1}{8}$

GOVERNMENT PAPER (3 $\frac{1}{2}$ per cent.) Rs. 95-15.

The spot price of wheat at Karachi on the 9th March was Rs. 31-11-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 12th March was Re. 0-8-3 to Re. 0-9-0 per lb. and of cotton (Fully Good Oomras) ready goods, Rs. 265 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 13th instant were as under:—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 65 0 0
M. per 400 lbs.	59 0 0
Rice—Ballam No. 1 per B. md.	4 6 6 to 4 8 0
Moonghy	3 12 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold,	
Cawnpore, 4% per B. md.	Nil.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop.	Tracts comprised in the figures.	Percentage of average Indian crop represented by the tracts mentioned in col. 2.	Estimated Area.	Ratio of reported area to annual average for these tracts at corresponding date.	Estimated outturn.	Ratio of estimated outturn to annual average for these tracts at corresponding date.	Date of publication of the forecast in the Journal.
1	2	3	4	5	6	7	8
			Acres	Per cent.		Per cent.	
Indigo	Bengal, Madras, Punjab and United Provinces.	98.3	271,100	81	Cwts (dye) 48,700	101	Dec. 21st, 1911.
Wheat	Practically all wheat growing tracts.	99.8	29,444,600	115	Information not yet available.	...	March 14th, 1912.
Rape and Mustard	U. P., Punjab, Bengal, E. B. and Assam, N.-W. Frontier, Bombay, Sind* and Hyderabad.	99.5	3,308,300	(a)	Do.	...	Do.
Linseed	U. P., C. P. and Berar, Bengal, Bombay, E. B. and Assam and Hyderabad.	99.6	3,464,800	(a)	Do.	...	Do.
Sesamum (oil or jinjili)	U. P., C. P. and Berar, Madras, Bombay, E. B. and Assam, Bengal, Punjab, Sind* and Hyderabad.	79.3	4,164,700	92	Tons 311,300	81	Jan. 18th, 1912.
Groundnut	Madras, Burma and Bombay.	(a)	1,200,000	121	542,200	120	Feb. 15th, 1912.
Cotton	All cotton growing tracts.	100	20,393,000	95	Bales 3,135,000	77	Do.
Rice	Bengal, E. B. and Assam, Madras and Lower Burma.	77.7	50,443,000	101	Cwts 521,992,000	113	Feb. 22nd, 1912.
Sugarcane	U. P., Bengal, Punjab, E. B. and Assam, Madras, Bombay* and N.-W. Frontier.	98.4	2,331,700	102	Tons 2,390,400	114	Do.

N. B.—The ratios in column 3 are calculated on the total acreage in all India in the case of wheat and cotton and on that in British India in the case of other crops.

* Including Native States.

(a) Data for calculation of ratio not available.

In another column will be found the **Second General Memoranda** on the wheat and spring oil seeds crops of the season 1911-12. In this connection the following particulars relative to these crops in other countries will be read with interest. In the case of wheat the figures are summarised below:—

	Yield in qrs. of 480 lbs. (estimates) 1911-12.	Yield in qrs. of 480 lbs. 1910-11.
United States of America	78,000,000	79,400,000
Russia	67,000,000	102,800,000
France	40,000,000	31,500,000
Italy	24,000,000	19,200,000
Hungary	24,000,000	22,700,000
Canada	24,000,000	18,700,000
Argentina	21,000,000	17,500,000
Spain	19,500,000	17,200,000
Germany	18,700,000	17,700,000
Roumania	11,500,000	13,400,000
Australasia	10,500,000	13,100,000

The American Linseed crop is estimated at 484,250 tons against 317,950 tons last season. The crop in Canada is estimated at 323,000 tons against only 95,050 tons last season. Latest estimates of the crop in Argentina indicate a yield of 638,000 tons against 595,000 tons during the past season. The harvest of soy beans in Manchuria, it is reported, is not likely to fall short of 1910, the damage by floods being compensated by the increased acreage.

Sanction has been accorded to the construction, on the 5 ft. 6 in. gauge, of a small extension, 1.96 miles in length, of the Bombay Harbour Branch of the Great Indian Peninsula Railway from Tank Bandar to Victoria Terminus by means of an overhead connection across the Wadi Bander goods yard. This project will be known as the **Bombay Harbour Branch extension**.

Sanction has been accorded to a survey being carried out by the agency of the North Western State Railway Administration for a line of railway on the 5 ft. 6 in. gauge, from Pathankot station on the North Western State Railway to Nurpur, a distance of about 16 miles. This survey will be known as the **Pathankot-Nurpur Railway Survey**.

The total approximate gross earnings of State and Guaranteed Railways from 1st April, 1911, to 24th February, 1912, show a gain of Rs. 3,64,77,106, as compared with the corresponding figures for 1910-11.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 7 weeks ended 15th February, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 15th Feb., 1912.	7 weeks ended 15th Feb., 1912.	Week ended 15th Feb., 1912.	7 weeks ended 15th Feb., 1912.
	Bales.	Bales.	Bales.	Bales.
American	182,522	863,594	10,656	70,086
Brazilian	15	3,777	108	1,419
East Indian	109	1,929	188	784
Egyptian	27,416	153,785	15,424	38,316
Miscellaneous	902*	14,449†	75	1,571
TOTAL	210,994	1,037,534	26,451	112,176

* Including 146 bales British West Indian, and 10 bales British East African.

† Including 939 bales British West Indian, 77 bales British West African, and 3,987 bales British East African, and 396 bales foreign East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

In the Rhenish-Westphalian cotton centres buyers of American yarns are now beginning to hold back more than for some time past. Fewer contracts are being booked, but spinners refuse to make concessions. Indian cops are in better demand, and it has been found possible to improve margins. From the woollen districts it is reported that there is a regular trade in tops and noils, chiefly for current requirements, the amount of speculative buying being small. Prices are well maintained. Spinners of worsted yarns are well occupied, but complaints are now being heard from producers of carded yarns. Woollen and half-woollen piece-goods are selling steadily. The silk trade is exceptionally quiet. There is a brisk demand for linen yarns, and manufacturers also are doing a good business at satisfactory prices. The activity in the jute industry continues and it is said that most members of the **German Jute Syndicate** have disposed of their entire output right up to the third quarter of the year. Spinners are complaining of the poor quality of raw material now coming forward, and are finding it necessary to purchase better marks than they expected in order to produce the required yarns.

In their weekly report on the **Shanghai piece-goods market**, dated February 15th, Messrs. Noel Murray and Co., Ltd., say:—The Bombay market is reported strong and improving and some more buying of Indian yarn has been done for the East within the past two weeks; we hear 2,000 bales in all. There have been no sales to speak of reported,

but there is a much better feeling all round and it is thought that some good lots will change hands after the holidays. Japanese spinnings have been freely bought of late in Japan and quite a large trade has been done, probably for home consumption. This has caused an advance on the Sampin to Yen 138.90 for this month, Yen 139.10 for March and Yen 137.50 for April. It is reported that 1,000 bales from second hands have been sold at advanced prices, viz., Taels 106.50/112.50 for No. 16's and Taels 105.50/109.00 for 20's. Local mills will be shortly closing for about a week for the New Year celebrations, in the meantime we cannot hear of any new business. The re-sales prices for bundles are rather higher, viz.:—Taels 94.75/97.25 for No. 10's, Taels 95.25/102.25 for No. 12's, Taels 97.75/105.25 for No. 14's and Taels 101.25/108.25 for No. 16's. Cotton prices for the various sorts are nominally Taels 24.00 for Tungechow, Taels 23.80 for Taichong, Taels 23.60 for 4 Chop, Taels 23.40 for Best Steam Ginned and Shanghai, Taels 23.00 for Ningpo, and \$12.00 for Seed, but we hear that Tungechow can hardly be bought at under Taels 26.00. Still there is nothing doing until after New Year.

At a meeting of the Manchester Bankers' Institute, Mr. H. W. Mears of Liverpool gave incidentally some account of the so-called **Cotton Bank** in the **Liverpool Cotton Exchange**. He said the term "Cotton Bank," was somewhat of a misnomer so far as the word "bank" is concerned. The institution retains deposits and makes no advances, thus creating no interference with the members' private banking arrangements. The cash and monetary effects received by the Cotton Bank cover practically all the transactions of the Exchange. Without the Cotton Bank all the many millions annually involved would have to be handed about the market in cash, whereas under present circumstances they take the shape mainly of cheques and drafts drawn or crossed in favour of the Bank of England, and met through the local banker's clearings with the minimum of risk. The Cotton Bank was established in 1877, and in the first instance was merely an experiment intended to facilitate the payments for transactions between the brokers buying and selling visible or spot cotton on the market. Up to that time the process of payment had been the passing of notes and gold from the buyer to the seller mainly by means of junior clerks and messengers, and losses and disputes, if not numerous, were, at any rate, always possible. The old methods of transmitting cash in payment for cotton used to be of a very peculiar nature. An office boy or junior clerk would appear at the window and offer to the cashier (say) £1,500 in notes, accompanied by a small slip of paper stating that the cash was on account of such-and-such a purchase of cotton. The cashier would take and count the money to see that it was right, and the messenger would then tell the cashier he would call again at three o'clock for the receipt. That

peared to be a very curious arrangement, and yet it was one that was constantly and regularly carried out. Moreover, one did not hear of many disputes or difficulties arising out of it. The Cotton Bank undertakes to receive cash from buying brokers and to collect drafts and cheques on Liverpool banks and to hold the amounts at the disposal of the depositors. The buying broker who receives remittances of drafts on Liverpool from his spinners or the Manchester agents, instead of going through the old process of collecting the amounts from the various banks and distributing them in notes and gold among the selling brokers from whom he has bought the cotton, is enabled to cross his drafts in favour of the Cotton Bank, deposit them there for collection, and then proceed to distribute among his sellers voucher credits, as they are called, for the amounts payable by him. The recipients of voucher credits then pay these in to their own accounts through the Cotton Bank, and utilise the credit thus obtained.

The *Corn Trade News* gives the following summary of the world's crops as on the 20th ultimo:—**United States of America**—There have been further complaints about winter wheat and yesterday the market turned very firm on fears that a frost will follow present mild weather, which is clearing away the snow. It is claimed autumn ploughing for spring crops small, which may cause delay to sowings. Receipts last week were large; visible supply decreased 1½ million bushels in spite of small outgoings. **Canada**—Receipts at Winnipeg are large, and grading last week distinctly better, but worse again yesterday. Continued liberal receipts expected, stocks are maintained. **Argentina**—Railway traffic partly resumed but loading at the ports continues very slow. Wheat offers have decreased. A fair increase in shipments expected this week but not large quantities. Harvester Co. cabled Saturday, Argentina unlikely to be important Wheat exporter this year. Linseed outturn reports better and Maize crop promises excellent results. **Australia**—Shipments last week liberal; the tonnage loading moderate but fair quantity chartered. Offerings become smaller. **Russia**—Weather is mild in south; the position of crops is favourable except some complaints Crimea. Wheat arrivals generally very small but exports larger last week. **Roumania**—Weather mild, and favourable. Area sown to Winter Wheat 5,041,000 acres compared with 4,800,000 last year. Exports are of good size and navigation expected reopen soon to Braila and Galatz. **Bulgaria**—Officially reported crops had good snow cover and outlook promising. **Hungary**—International Agricultural Bureau gives Wheat acreage 8,926,000 acres, which is 200,000 less than last year, whilst increase was expected. Crop prospects favourable. **France**—Farmers complain weedy fields otherwise agricultural prospects good. Supplies fair, prices easier. **Germany**—Weather mild and crops reported undamaged. Offerings been

more liberal, markets easier. Mild weather curtails consumption bread and feeding-stuffs. **Italy**—Weather generally favourable; crop conditions about normal. Native Wheat firmly held and scarce in south. **Turkey**—Latest crop news Asiatic and European provinces favourable. **North Africa**—Crop prospects now mostly favourable. **United Kingdom**—Crop conditions satisfactory.

The area sown to winter wheat is in **Hungary** (including Croatia and Slavonia) 8,926,000 acres, **Roumania** 5,041,000 acres, and **Japan** 1,196,000 acres; to winter rye in **Hungary** (including Croatia and Slavonia) 2,544,000 acres, **Roumania** 282,000 acres; to winter barley in **Hungary** (including Croatia and Slavonia) 160,000 acres, **Roumania** 91,000 acres, and **Japan** 3,000,000 acres.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns in the week ended 17th February, 1912, were as follows:—Wheat, 34s. 4d.; barley, 32s. 10d.; and oats, 21s. 7d.

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

For the week ending 9th March, 1912—
In the Calcutta market—

Behar opium—Rs. 5,500; 5,650; 5,310; 5,400; 5,500; 5,500; 5,500.

Benares opium—Rs. 5,550; 5,650; 5,100; 5,300; 5,400; 5,400; 5,400.

No quotations received in regard to the prices in the time bargains of the Behar opium of the 3rd and 4th sales of 1912.

At Hongkong—(Exchange: Rs. 142 per \$100.)
Behar opium—\$4,000; 4,000; 4,000; 4,000; 4,000; 4,000; 4,000.

Benares opium—No quotations received.

At Shanghai—(Exchange: no quotations received.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 1st March, 1912—

In the Bombay market—

(New, 1908-09) Rs. 4,900; (old, 1907-08) Rs. 5,175. The latest prices at Hongkong and Shanghai were (new) Rs. 5,022 and 5,572; (old) Rs. 5,166 and 5,771, respectively.

Writing on February 17th the *Manchester Guardian* says:—There has been a decidedly better feeling in the Milan silk market during the past week, though the amount of actual business has not been great. There is not so good a selection of stock marks, for the short time and stoppages at the filatures are naturally having their effect. It is stated that the reduction in output so caused will be

about 25 per cent. Throwsters are certainly firmer in quotations, and are encouraged by the position of Japanese qualities. The stocks in Yokohama are given as 11,000 bales, against 9,000 bales last year (when they were abnormally low owing to the floods), 15,000 bales in 1910, and 17,000 bales in 1909. They are therefore between 5,000 and 6,000 bales below the average. The opinion is growing that Japanese exports will this year fall below those of the previous twelve months, a striking change from the early estimates of an increase of 20,000 bales. China marks are firm; the high price of silver has resulted in higher prices being demanded for silk, but it is proving a decided obstacle to the placing of large contracts. At the present rates Italian marks are certainly cheaper than those of the Far East, and this should not fail to stimulate demand for them. More interest is being shown in cocoons, but no improvement in prices has been found possible. Trade in waste is restricted.

The *Manchester Guardian* of February 19th says:—The wool situation in the West Riding is at present dominated by fears of a coal strike. It is only natural that spinners and manufacturers should make the most of these fears in order to beat down the prices of tops to the lowest possible point. Users, of course, know that top-makers are almost daily receiving large quantities of wool direct, purchased in over-sea markets. During the short time that has elapsed since the lists were closed for the last auctions the arrivals in London up to last Thursday (15th) amounted to 302,500 bales, of which 194,000 bales were forwarded direct from ship to consumer. Users believe that some top-makers who are receiving large direct shipments will be compelled to do business in order to finance these arrivals. But as money is fairly cheap and consumption large, it is just possible that users of tops may be overacting their unwillingness to buy, for it is noticed that immediately a weak top-maker comes down even a farthing in price all he has to offer is immediately bought up. But for the threatened coal strike many think the market would soon become firm. On February 26th the lists close for the next series of London auctions, beginning on March 5th, when the offerings will be very moderate compared with those catalogued at the corresponding sales a year ago. Most of this season's clip of merino wool has already passed into the hands of users. Reports from Boston state that the wool market there is firm and that stocks of domestic wool are very small. A strong contingent of buyers from the United States will, it is said, attend the next London sales.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 12th instant was 95,536 bags, while the stock in Bombay on the 8th idem amounted to 114,300 bags.

In their report on London tea sales, dated February 23rd, Messrs. Gow, Wilson and Stanton, Ltd., say:—Demand for Indian tea has ruled on much the same lines as last week, the rather smaller amount of 41,968 packages coming to a fairly active market for medium to fine kinds. Good flavoured autumnal Teas with thick cup met with strong support, several satisfactory averages being realised. Amongst Assam kinds, broken with bright tip were also well enquired for, buyers doubtless recognising that the supply of this class in the near future must be on a very limited scale. Commonest and red Teas, however, again met with a poor reception and fractional declines had often to be accepted by sellers in order to effect sales. To date, 18 last of season invoices have now been disposed of, against 17 for corresponding period last year. 46,343 packages are advertised for sale next week. Average for week 8'76d., against 8'70d. last sale. Week's average of Tea sold on Garden Account, Season 1911-12, 41,554 packages, average 8'76d. 1910-11, 33,535 packages, average 8'90d. Season 1911-12 to date 1,253,702 packages, average 9'14d. Season 1910-11 to date 1,157,568 packages, average 8'56d.

A circular has been sent to shareholders of the "Shell" Transport and Trading Co. stating that arrangements have been made by which the company has acquired from Messrs. De Rothschild Freres, of Paris, in conjunction with the Royal Dutch Co., 80 per cent of the share capital in the Société Caspienne et de la Mer Noire and the Société de Mazut. The payment for the shares will be made in shares of the purchasing companies, Messrs. De Rothschild Freres having undertaken not to dispose of the "Shell" shares which they will receive in payment before January 1914. The profits of the business will be received by the purchasers as from January 1st, 1912. The "Shell" shares issued in satisfaction of the properties acquired will not carry the dividend earned in the year 1911. The number of "Shell" shares required to discharge the company's portion of the acquisition will amount to about 240,000 shares. It is stated that in consequence of the increasing production in the Dutch Indies and elsewhere, and possible further developments in the direction, the exercising of late of several options over new oilfields, and the vast extension of the liquid fuel business, entailing rapid and enormous increase in producing, transport, storage, and distributing facilities, the directors propose to issue to the shareholders about 510,000 shares, being the balance of 3,500,000 ordinary shares of the capital already authorised. The terms of this issue will give to each ordinary shareholder a *pro rata* participation, the price of issue being 65s. per share, the new shares ranking *pari passu* with the ordinary shares already issued as from January 1st, 1912, but they will not participate in the final distribution of profits for 1911.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 15th ultimo regarding the **Hull oil market** says:—**Linseed oil**: This market is flat, with spot at 36s. 1½d., 35s. 6d. March-April, 31s. 10½d. May-Aug. The exports for the week amounted to 32 tons, of which Holland took 9, India 18, Norway 5 tons each. **Cotton oil**: This market is also flat, with refined cotton oil at 22s. 6d. spot, 23s. Feb.-April, 24s. May-Aug. Crude oil, 21s. spot. The exports for the week amounted to 84 tons, of which Australia took 5, Denmark 1, France 4, Germany 4, Holland 4½, Sweden 11, and Turkey 18 tons each. **Soy bean oil**, 25s. 4½d. spot. The exports for the week amounted to 318 tons, of which Belgium took 27, Denmark 3, France 63, Germany 55, Holland 139, Italy 4, Norway 4, and Sweden 23 tons each. **Rape oils**: Ravison, 27s. 6d.; brown East Indian, 30s. 3d. **Cocconut oil**, quiet and easier, English, £39 to £40 per ton, ex-mill.; **Castor oil** dull on spot, with Calcutta on quay quoted at 3½d. to 3¾d. per lb., and forward unchanged at 3½d. per lb. **Colza oil**, quiet and easier. East Indian refined, ex-store, 34s. 6d. per cwt., in barrels. Stetting, 33s. 6d. per cwt. Lard oil steady but quiet for best English refined at 49s. 6d. per cwt., ex-mill, in barrels. **Olive oil** continues steady, but quiet at £41 10s. per tun for Spanish, ex-store. **Palm oil** dull, and only a quiet business done, including March-April softs at £28 15s. and May-June at £28 10s. transit. Refined sorts dull, unchanged. **Petroleum** continues very firm. Russian, 7d. to 7½d. and American 7½d. to 8½d. per gal. **Turpentine** firmer. Spot, 35s. 3d.; Feb.-April, 35s. 6d. per cwt.

The following statement shows the weight of **tin** (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 years 1910 and 1911:—

State.	1910.			1911.		
	Tin.	Tin contained in Tin Ore.	Total.	Tin.	Tin contained in Tin Ore.	Total.
Perak . . .	109,867	311,469	421,336	97,835	339,504	437,339
Selangor . .	43,397	196,795	240,192	54,215	176,960	231,175
Negri Sembilan .	121	34,576	34,697	90	29,140	29,230
Pahang . . .	12,930	27,744	40,674	15,281	28,673	43,954
Total . . .	166,315	570,583	736,898	167,421	574,277	741,698

Pikul=133½ lbs.

Messrs. H. A. Watson & Co., Metal and Mineral Brokers, in their **Metal Report**, Liverpool, February 16th, say:—The market **Standard Copper** during the early part of the month was quiet, and Cash bars fell

to £61 on the 6th inst., afterwards improving to £62 18s. 9d. on the 9th, and after falling to £62 7s. 6d. on the 14th advanced to £62 17s. 6d. yesterday, closing to-day at £63 3s. 9d. Cash and £63 17s. 6d. Three Months. The position, so far as the consumptive demand is concerned, is as strong as ever, and stocks here and on the Continent show good decreases. The American figures, as given below, also show a marked decrease on that side, although they do not reflect any improvement in home consumption. The statistics for the past fortnight show decreases of 2,432 tons in the Visible Supply, and 884 tons in the Liverpool and Swansea Stocks. The arrivals from America at Liverpool and Swansea during the past fortnight amount to 2,074 tons, making 6,408 tons 1st January to date, against 7,845 tons same time last year. The present prices for Manufactured Copper are as follow:—Strong Sheets £79, B. S. £66 15s. to £67 5s., Tough £66 15s. to £67 5s., Electrolytic Feb. £66, Mar. £66 5s., April £66 10s., India Sheets £76 to £77, and Yellow Metal 6½d. to 6¾d. per lb. **Tin**.—Standard: The market has been firm since our last, and on the 14th inst. up to £198 10s. Cash was reached with £192 15s. Three Months, closing easier to-day at £195 10s. Cash and £191 15s. Three Months. There has been a scarcity of spot Tin recently which caused the advance, but the immediate pressure to buy being withdrawn the price receded. The market continues in a very strong position, the demand being almost unprecedented. **Bolivian**.—We quote £160 to £181 per ton, according to quality. **English**.—Ingots: £197 to £198 per ton. **Antimony**.—English Regulus, £25 10s. to £26 10s. net per ton; Antimony Ore, we quote nominally £6, basis 50 per cent. **Bismuth**.—7s. 6d. per lb. **Iron**.—The Cleveland market has been quiet and down to 48s. 10d. Cash has been done, closing rather firmer to-day at 49s. 3d. Cash, 49s. 6d. One Month, and 50s. Three Months. **Lead**.—Firm; English Pig, £16 to £16 2s. 6d.; Soft Spanish, Sellers, £15 13s. 9d.; Buyers, £15 12s. 6d. **Nickel**.—£167 to £171 per ton. **Quicksilver**.—First £8 7s. 6d.; Seconds £8 6s. 6d. per bottle. **Spelter**.—Quiet; Silesian, Ordinary Brands, February-March, £26 15s.; April, £26 5s.; Specials, £27. **Sulphate of Copper**.—Prompt £23, March-April £22 15s. **Wolfram**.—Market easier, 30½ to 30¾ marks. **Bar Silver**.—Spot, 26½d.; Two Months, 26½d.

In the Forest Report of the North-West Frontier Province mention is made of a successful experiment that promises valuable results. It was suggested that the ends of spruce and silver fir sleepers should be tarred to save them from being water logged and lost in transit down the river. The result of the experiment was remarkable. Of 223 tarred sleepers launched into the river 219 reached the depot, the loss being only 1·8 per cent; of 331 untarred sleepers launched at the same time no less than 39·8 per cent were lost. It is held that the greater part of the latter loss must have been

due to water logging, as fir is little liable to theft on the river. The sleepers used for the experiment were dry.

In the *Philippine Journal of Science* (1911, A, 61·1) Mr. A. J. Cox gives an account of the **fuel value of timbers** commonly used in the Philippines for firewood. The annual consumption of firewood is at least 200,000 cubic metres, and of this quantity the larger part is obtained from the mangrove swamps fringing the coasts and estuaries. The most important factors influencing the value of a wood for fuel are moisture content, percentage of ash, and specific gravity. These factors have been determined for a large number of local woods, with the result that the class for timbers of the highest fuel value is formed exclusively of Rhizophoraceae, with a specific gravity of 0·90 or more, the timbers of *Bruguiera gymnorhiza*, *Bruguiera* sp., *Rhizophora mucronata*, *Ceriops*, tagal and *C. roxburghiana* being specially mentioned. A disadvantage of the use of mangrove timber as fuel in closed furnaces is the tendency to form a "clinker" as the result of the condensation of the abundant volatile constituents of the wood. The author gives a formula for the estimation of the calorific value of any timber when the moisture and ash contents are known, assuming that the heating value of the combustible matter of wood (i.e., wood less water and ash) is constant and equal to 4,418 calories.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 2nd March, 1912:—H. A. Wanklyn—Improvements in puncture sealing material, and in methods of inserting same into pneumatic tyres or tubes. Genossenschaft für Textilpatente—Improvements in pirns or bobbins for looms with spool-changing mechanism. W. Bracewell—A device for threading a weaver's shuttle. M. Binnes, H. Beswick and R. Billington—Improvements in or relating to the wheels and tyres of motor road vehicles, velocipedes and the like. S. C. Davidson—Improvements in or relating to tea leaf rolling machines. H. W. Gabbett-Fairfax—Improvements in decorticating machines. T. P. Jordonson and Co.—Refrigerating machine combined with an ice cupboard. C. A. Macpherson—The Lily sights. W. G. Wheatley, Saxby and Farmer, Ltd., and Saxby and Farmer (India) Ltd.—Improvements in light and arm repeaters for railway signals. M. B. G. Kadir and Bros.—A lock. J. Symington—Hercycle. C. F. Wilkins—A module.

An apparatus for ascertaining the quantity of **moisture in wood pulp**, etc., has just been patented in England. It consists of a cylindrical drying chamber heated by a gas firing, a thermometer being fitted at the top to indicate the temperature and enable it to be regulated as required. A sensitive pair

of scales is fixed on the apparatus in such a manner that one end of the beam lies exactly over the centre of the oven, from which the cage containing the sample of wood pulp can be suspended. The other end of the beam carries an ordinary scale pan which exactly counterbalances the cage so that any weights placed in the pan give the actual weight of pulp directly. The sample to be tested is placed in the cage, which is then suspended in the oven from the end of the beam. Weights are placed in the scale pan to ascertain the wet weight of sample taken. The apparatus is examined periodically, and the amount of absolute dry pulp found by altering the weights in the scale pan.

A new commercial magazine has been started in Madras under the title of the *Wealth of India*. It is a creditable production and deals briefly with a wide range of subjects such as agriculture, commerce, industries, economics, banking, insurance, technical education, openings for business, and so forth. The subscription rate is Rs. 3 per annum, post free; and the publishers are Messrs. G. A. Vaidyaraman and Co., Madras.

We are informed that the Government of Madras have sanctioned the proposals of the local Port Trust Board to forego the collection of **dues on ships' provisions**.

The **weather conditions in India** for the week ended Tuesday last were marked by a slight disturbance along the Western Himalayas and light precipitation in the extreme north. In Kashmir weather remains slightly unsettled. In deltaic Bengal and Assam conditions are becoming favourable for thunderstorms. Light falls of rain are reported from north Burma.

The **increase of trade by the Nushki route** in December last was Rs. 2,29,130 while during the first nine months of the present official year it has been Rs. 8,39,676.

In reply to a query from the Director-General of Commercial Intelligence asking for information regarding the type of **bags or sacks used in Korea for packing rice**, Mr. Henry Bonar, British Consul General at Seoul, writes:—"The only kind of sack used at present for this purpose in Korea is one of straw, of the very roughest make. The size and shape differ considerably in different parts of the country. Since the advent of the Japanese, the usual type of sack used in Japan—also of straw—is employed for exporting Korean rice to Japan. These are of a fixed size, being 3 ft. square, weight 5 lbs., and capacity 4 to about 2 bushels."

In its issue of February 14th the *Leather Trades' Review* says:—East India kips are causing undoubted anxiety to tanners and curriers. Supplies are exceedingly short, and advices from India do not indicate any signs of increase in the shipments for some months to come. Prices are steadily advancing, and it is quite impossible to book business for forward shipment unless increased prices are paid. The result of the public sales of tanned hides on February 9th fully confirms this statement. Of 58,510 Madras, Ceylon, and Bombays—which included fully 30,000 calf skins offered, 39,000 were sold, competition was keen, and prices rose by $\frac{1}{4}$ d. to $\frac{1}{2}$ d. per lb., the latter fraction for low grades of good tannages, which were badly wanted.

A dinner of the London Chamber of Commerce, followed by a discussion on India, was held at the Trocadero Restaurant on February 20th with Lord Desborough, the President, in the chair. The company included Sir James LaTouche, Sir Felix Schuster, Sir Theodore Morison, Sir Krishna Gupta, and Mr. Ali Abbas Baig, members of the Council of India; Sir Thomas Holderness, Sir Patrick Playfair, Sir J. D. Rees, Sir Charles J. Owens, Sir Montagu Turner, and Sir George Framp-ton. The President said he believed that they were on the verge of an economic revolution in India, which would transfer a large proportion of villagers from the land to smoky, steamy factories. They might well reflect on what the effect of this would be, not only on the people of India, but also upon India's trade with the United Kingdom, which now stood third in order of importance. In the ordinary way the development of Indian requirements should mean a more effective demand for those goods which they still believed they could turn out as well as any country in the world. Sir Theodore Morison urged the importance of giving young Indians the facilities for practical training they sought in England rather than allow them to go to other countries. He admitted the existence of difficulties, but from examples which had come to his notice he did not think they were insuperable. Sir Felix Schuster said he looked forward to an immense and rapid development in India in all directions—agricultural as well as industrial. It was surprising that English capital was not more freely sent to India, and that Indian Government securities were not so popular as they ought to be. He believed that this was due partly to old prejudices which should have vanished with the disappearance of the fluctuating rupee. It was not sufficiently appreciated in England that there was practically no debt in India, since the interest in good years was met from the receipts of railways and other productive public works.

At a meeting of merchants and others interested in the trade with India held at the London Chamber of Commerce on March 9th, Mr. Campbell Moleod presiding, it was resolved to request the

Council of the Chamber to sanction the formation of an East Indian section of the Chamber to deal with matters relating to India and Ceylon. Sir Felix Schuster, in seconding the resolution, said he thought the section should devote its attention to commercial matters, and not subjects trenching on political and social affairs. It was resolved to establish the section. Mr. Campbell Moleod was elected chairman, and Mr. J. M. Dick, Deputy Chairman.

The glass-making industry in the Punjab, which has so far had a rather chequered career, has, says a Lahore paper, begun to show some signs of improvement. There are only two factories equipped on modern lines in the Province. One of these is at Ambala and has been in existence for several years, whilst the other has only recently been started at Panipat in the Karnal District. For several years the Ambala Factory failed to pay, and twice it changed owners. But since 1904 it is reported to have paid fairly well. The management had several years ago an idea to specialise in glass-blowing, but it had to be given up for want of skilled labour. The generous and well-directed help which the company has now received from His Honour Sir Louis Dane has encouraged the owners to try the experiment. The Punjab Government will make a grant of Rs. 5,000 to Rs. 7,500 a year, for five years, on the conditions that a practical chemist and blower is employed, and arrangements are made for the training of five to ten apprentices at a time. It has been further stipulated that three of these apprentices shall have a university qualification in science. Much depends upon the success of this experiment, as the lack of skilled-blowers has so far been the greatest obstacle in the way of the successful management of glass factories in the Punjab. Mr. Latifi points out in his *Industrial Punjab* that "foreign workmen, Austrian as well as Japanese, were tried and found wanting: the *maniar*, or indigenous glass-blower, proved no less a failure on account of his inordinate vanity and conservatism." The remedy that remains to be tried is the training up of young educated Punjabis under expert assistance. It is expected that the scheme will attract suitable young men, because in a short time any person with physical strength and a little education can earn easily one hundred rupees a month or more. Austrian glass-blower, who are ordinary men of the working class, are reported to be earning Rs. 250 a month or more in India. Some time ago the Ambala Glass Factory advertised for two educated apprentices and received 500 applications. Thus there should be no difficulty in getting recruits for training. It may be noted that the Madras Government has also accepted the policy of encouraging infant industries by well-regulated subsidies. The Madras Glass Works Co., Ltd., have been given the right to collect half the wood used by them for two years, subject to a maximum of 7,200 tons, free of all royalty, from the Government Forests.

NOTICES.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Fish Oil and Guano.

*(1359)—A firm in Cochin manufacturing fish oil and fish guano desires to be placed in communication with producers.

Kapok.

(1360)—A concern in London is desirous of being placed in communication with exporters of kapok.

Sporting Goods.

(1361)—A London firm manufacturing athletic goods desires to be placed in communication with importers.

Essential Oils and Mica.

(1362)—A London firm of commission merchants desires to get into touch with manufacturers of all kinds of essential oils and also with miners of mica.

Rice, Tea, Yarns, and Bags.

*(1363)—A firm in Constantinople desires to be placed in communication with shippers of rice, tea, yarns, and bags.

Stamped Metal Ceilings.

(1364)—A firm in London desires to be placed in communication with importers of stamped zinc ceilings, which are claimed to be exactly suited for use in hot, damp climates.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 20th March, 1912:—

Parliamentary Publications.

Agricultural Statistics, 1911—Vol. XLVI—Part II—Returns of Produce of crops in Great Britain with Summaries for the United Kingdom. Account

of Deposits in Naval Savings Banks, and the Payments thereof and interest thereon; etc.

Foreign and Colonial Publications.

Australia—Trade, Shipping, Migration, and Finance of the Commonwealth of Australia for the month of November, 1911—Bulletin No. 59; Census Bulletin No. 3—Ages; Population and Vital Statistics—Bulletin No. 28, Belgium—Bulletin Mensuel du Commerce, Special de la Belgique avec les pays étrangers, en ce qui concerne les Principales Marchandises—Janvier 1912. Canada—Reports, Returns and Statistics of the Inland Revenues of the Dominion of Canada—Part III—Adulteration of Food. Germany—Auswärtigen Handel—Jannar 1912. Mexico—Resumen de la Importación y de la Exportación—Noviembre de 1911. Netherlands—Statistiek van den in- en uit-voer—Januari 1912. Switzerland—Tableau Provisoire du Commerce Spécial de la Suisse en 1911. United States of America—Bureau of Statistics—Report of 1911; Circular No. 17 (Revised)—Government Crop Reports: Their Value, Scope, and Preparation; No. 27—Tobacco Crop, 1911, By Types and Districts; Bulletin 84—Russian Cereal Crop; Bulletin 85—Seedtime and Harvest: Cereal, Flax, Cotton, and Tobacco; Bulletin 89—Marketing Grain and Live Stock in the Pacific Coast Region; No. 90—Imports of Farm and Forest Products, 1908-1910; No. 91—Exports of Farm and Forest Products, 1908-1910; Forest Service—Bulletin 99—Uses of Commercial Woods of the United States. II. Pines; Circular 187—Manufacture and Utilization of Hickory, 1911; No. 188—Volatilization of Various Fractions of Creosote After their Injection into wood; No. 190—A Visual Method for Determining the Penetration of Inorganic Salts in Treated Wood; Porto Rico Agricultural Experiment Station—Circular No. 13—Bee Keeping in Porto Rico; Bureau of Entomology—Bulletin No. 96, Part IV—Carbon Tetrachlorid as a Substitute for Carbon Bisulphid in Fumigation against Insects; Bureau of Chemistry—Bulletin No. 144—Wood Turpentine: Its Production, Refining, Properties, and Uses; Press Bulletin No. 31—Brief Instructions for Farm Butter Makers; Office of Experiment Stations—Circular No. 112—The Transportation Companies as Factors in Agricultural Extension; Bulletin 243—Land Drainage by Means of Pumps; U. S. Department of Agriculture—Report No. 94—Influence of Saccharin on the Nutrition and Health of Man; Bureau of Plant Industry—Circular No. 88—The Picking and Handling of Peanuts; Bulletin 128—The Influence of Type and of Age upon the Utilization of Feed by Cattle; Report of the Secretary of Agriculture—1911. Canada—Commission of Conservation, Canada—Water-Powers of Canada—1911.

Indian Publications.

Census of India, 1911—Volume XVI—Baroda—Part I—Report of; and Volume XVI-A—Part II—Tables.

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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, MARCH 14, 1912.

SEA-BORNE TRADE OF CALCUTTA IN FEBRUARY.

The month of February, 1912, has the advantage over its predecessor of falling in Leap Year and consequently has obtained to its credit one more working day: in addition to this in February, 1911, there was one holiday which did not obtain last month; consequently the past month has the advantage of two extra working days over the same month last year. Yet, these facts aside, February must be considered as an eminently successful month and is another indication of the continued and gratifying prosperity of the port of Calcutta. The aggregate value of the foreign sea-borne trade was Rs. 12.57 crores, an increase of Rs. 2.21 crores or 21.35 per cent on the same month last year: in January the percentage of increase was 15.10 per cent. The contributions from both imports and exports rose in value by approximately the same ratio: imports valued at Rs. 4.91 crores improving by 83.66 lakhs or 20.47 per cent, and exports being better by 21.9 per cent or Rs. 1.37

crores, rose to Rs. 7.66 crores; exports have now regained their position which had somewhat receded in the immediate future, owing to the great preponderance of imports. In spite of a continued defection under sugar, and owing to the sustained demand under the metal group, mineral oil and cotton goods, imports of merchandise were much greater in value, increasing by Rs. 57.65 lakhs or 15.99 per cent to Rs. 4.18 crores: but there was also a large augmentation in the receipts of the precious metals, the value advancing from Rs. 47.22 to Rs. 73.22 lakhs or by 55 per cent: gold absorbed Rs. 55.3 lakhs, of which Rs. 48.81 consisted of sovereigns. It may be stated that in February silver rose on the 13th to 27½d. per oz. as a result of the speculative position, but by the 16th it had receded to 26½d. per oz.: the previous quotation is the highest since November, 1907. Movements of treasure from Calcutta were of no account and the figures given above practically represent the value of merchandise shipped, favourably influenced by the large despatches of raw jute with grain and pulse, and in spite of another large drop in the value of opium. The 11 months that have now passed have given to Calcutta's sea-borne trade a total value of Rs. 135.81 crores, being an expansion of Rs. 15.18 crores or 12.58 per cent: last month the ratio of progress at the close of 10 months was 11.77 per cent: and at the close of 9 months it was 11.39 per cent. Imports have increased to Rs. 56.47 crores by Rs. 8.10 crores or 16.75 per cent: exports advanced by Rs. 7.08 crores or 9.78 per cent to Rs. 79.34 crores. Merchandise imported was valued at Rs. 48.22 crores, an expansion of 9.78 per cent: but gold and silver rose from Rs. 4.44 to Rs. 8.25 crores, and of the latter gold absorbed Rs. 6.31 crores. Exports of treasure fell from Rs. 44.07 lakhs to only Rs. 9.29 lakhs: merchandise accounted for Rs. 79.24 crores, an improvement of 10.34 per cent.

If the month of October last year be excluded, when as a result of the reaction from the August strikes at home and the resumption of business after the Doorga Poojah holidays, it is necessary to go back to September, 1902, to arrive at imported duty collections greater than those realised in the past month: and even then it must be remembered that in 1902 the duty on salt was at a much higher ratio than it is now (Rs. 2.8 per maund) as against Re. 1 only per maund. But, as remarked above, the past month had 2 more working days than in February, 1912. As it is the total duty received in Febru-

ary 1912 was (inclusive of Tea Cess Rs. 13,420, and the Jute Tax Rs. 1,43,762) Rs. 42.13 lakhs, an increase of Rs. 11.71 lakhs or 38.49 per cent. Of this, Rs. 36.63 lakhs appertained to Import collections aggregating an advance of Rs. 8.20 lakhs or 28.85 per cent; rice export duty was remarkable, being Rs. 3.92 lakhs or an improvement of Rs. 2.03 lakhs and equal to 107.75 per cent increase; in fact, rice has never previously in any month contributed so much to the Exchequer, the nearest approach being Rs. 3.38 lakhs in January, 1906. Sugar continues the one disappointing item, collections being only Rs. 56.272 or a fall of Rs. 1.17 lakhs: there was also a decrease of Rs. 44,697 under silver probably due to higher prices, and a slight defect of Rs. 1,666 under silk. But under all other headings, payments were greater, that under oil rising by Rs. 2.28 lakhs. Under the influence of possible enhancement in the incident of taxation on the introduction of the Budget on the 1st March, liquors and salt both made larger contributions than usual, the former accounting for an increase of Rs. 1.47 lakhs, and the latter, of Rs. 4.50 lakhs. As usual the actual revenue received for salt does not disclose the correct movements of this commodity: the former gives Rs. 13.67 lakhs for the month, but clearances were only 11.24 lakhs of maunds: the latter was made up of 6.05 lakhs of cash paid salt and of 5.19 lakhs of maunds of credit salt: therefore the amount of credit salt adjusted in the month was Rs. 7.62 lakhs. As compared with February last year the increased demand was equivalent to 3.15 lakhs of maunds. At the close of the month, the amount of unadjusted credits for salt was Rs. 23.83 lakhs. The accounts for the year so far (11 months) denote considerable prosperity: total collections have aggregated 3.85 crores, an increase of Rs. 51.92 lakhs or 15.57 per cent: these figures include Rs. 2.38 lakhs under Tea Cess and Rs. 2.87 lakhs under the Jute Tax. Import revenue has attained to Rs. 3.59 crores or an improvement of Rs. 44.10 lakhs or 13.98 per cent: export duties have risen by Rs. 4.95 lakhs or 31.87 per cent to Rs. 20.49 lakhs. It may be interesting to note that already our import revenue for the current year is greater than the total for last year by nearly 8 lakhs, and salt payments are also larger by over 4 lakhs. So far sugar, tobacco, and silk are the defaulting heads for the year, their deficits being Rs. 5.31 lakhs, Rs. 2.23 lakhs and Rs. 35,177 respectively. On the other hand, salt has increased its contributions by Rs. 21.08 lakhs; oils by Rs. 9.76 lakhs: cotton goods by Rs. 8.62 lakhs; liquors by Rs. 3.87 lakhs and silver by Rs. 3.15 lakhs.

Imports of Government Stores continue to improve and in the past month the total value rose by Rs. 3.59 lakhs to Rs. 19.32 lakhs or by 22.83 per cent. Arms and ammunition, with copper and railway materials, have contributed chiefly to the advance: books and printed matter fell by over two lakhs. But in the eleven months now passed, imports on behalf of the State have only aggregated Rs. 1.70 crores, a decrease on the previous year of Rs. 21.53 lakhs or 11.23 per cent. There was a large increase under copper of Rs. 14.52 lakhs: under cement of nearly Rs. 2 lakhs, and woollen goods of Rs. 4.89 lakhs. Railway figures have been disappointing and have only amounted to Rs. 71.48 lakhs, a decrease of 28.29 per cent or Rs. 28.20 lakhs: carriages and trucks have risen by Rs. 12.61 lakhs, but locomotives have fallen by Rs. 19.38 lakhs and materials by Rs. 21.42 lakhs. Yet it may be pointed out that on private account, imports of railway materials have this year risen by Rs. 22.17 lakhs, being valued at Rs. 1.21 crores. The increase in cement above quoted is due to the great demand from the Sara Bridge works: a steamer quite recently arrived bringing on that account, 3,051 casks cement and 495 packages of Caisson works.

Imports in February were quite prosperous: the demand was good and arrivals not too great, the only unsatisfactory feature being the continued defect in imports of sugar. These were on a very small scale, only 250,417 cwts. as compared with 500,522 cwts. and carrying a value smaller by Rs. 18.37 lakhs: only 77,232 cwts. of this consisted of refined sugar, there was no unrefined, the balance being made up of molasses. So far this year the shortage in refined sugar has amounted to 986,839 cwts. and Rs. 60.40 lakhs: embracing all descriptions the loss in value was Rs. 81.89 lakhs. Receipts in the port during February were only 31,026 bags of sugar from Java and 4,429 bags from Mauritius: on the 5th instant the stocks of sugar in the local market approximated 140,000 bags: at the Docks on the 7th March there were 67,619 bags: the latest reports describe the market as dull and prices drooping, while dealers refuse to offer for forward business. As many as 100,815 bags were re-exported in the past month. It is interesting to remark that quite recently there was an importation of Japanese or Formosan sugar: it was only 1,000 bags, but the possibilities of this trade are great. What it is customary in these articles to describe as the Metal Groups exhibited a considerable enhancement of business in the past month:

the total value rose from Rs. 72.53 to Rs. 99.21 lakhs, to which metals contributed Rs. 19.77 lakhs, machinery Rs. 3.85 lakhs, hardware Rs. 2.06 lakhs and railway materials over Rs. 1 lakh; in the year the group has expanded in value by Rs. 61.39 lakhs. With the exception of a very small decrease in copper all metals were in much greater request, the value for iron rising from Rs. 17.42 to Rs. 30.44 lakhs, and emphasising the statement made last month that the demand for iron was expanding at the expense of steel. There was again a marked expansion in imports of mineral oil: the total quantity received was 5.87 million gallons or an increase of 5.11 million gallons; of the receipts 3.62 million gallons consisted of kerosine oil: in the year, foreign countries have sent 30.18 million gallons of kerosine oil, an increase of 14.56 millions, while from Burma receipts have been only 41.62 millions, a contraction of 3.25 million gallons. A new competitor has now entered the arena in the kerosine oil trade competition and the Texas Company have imported a cargo of Texas oil, from Port Arthur, the sea-port of Houston in Texas (United States of America). Cotton goods continue their successful course and in the past month the value was augmented by Rs. 13.44 lakhs to Rs. 1.79 crores, while for the year the improvement is Rs. 2.72 crores and the total value Rs. 20.94 crores. Piece goods to the value of Rs. 1.65 crores with a yardage of 100 millions reached the port: in the year, 1,137 million yards have been imported or 127 million yards greater than last year. The local market at time of writing is described as quiet: the price of cotton continues on a higher range and while on the 1st February the price of Mid-American at Liverpool was 5.57d. per lb. it rose steadily until on the 22nd idem it stood at 5.94d. per lb., but by the 29th of the same month it had receded to 5.88d. per lb.: since then on the 9th March it had again jumped to 5.99d. per lb. and is now quoted at 6.06d. per lb. Imports of cotton goods by sea from Indian ports rose from Rs. 10.32 to Rs. 20.16 lakhs (cotton twist Rs. 9.15 lakhs), although for the year there is a decrease in total value (Rs. 1.76 crores) of Rs. 12.61 lakhs. By rail and river imports into the Calcutta block for the 9 months ending with December, 1911, were 129,643 mds. (10,667,767 lbs.) of cotton twist and yarn and Rs. 1.34 crores worth of Indian cotton piece goods. Our salt trade in the past 11 months was valued at Rs. 60 lakhs and covered 11.65 million maunds, an increase of 1.5 million maunds;

from Indian ports the receipts were 798,895 maunds, an increase of 52,166 maunds. In February another country was added to the list of those supplying Calcutta with salt: a steamer arrived with 6,000 tons from Tunis. The combine was not too effective in the month and, with a further fall in price, speculators bought largely. Freight rates are higher and stocks of all descriptions of salt are low. The movements of the numerous items grouped under the euphonious term of "all other articles" are a fairly good index of the prosperity or otherwise of the port: these imported in the past month gave an increase in value of Rs. 10.64 lakhs and for the year of Rs. 76.02 lakhs.

The uniform improvement in last month's export trade was only marred by the continued decline in the value of our opium shipments: only 891 chests were shipped as against 2,865 chests last year, while in the 11 months 22,467 chests have gone forward or a reduction of 10,509 chests: the total value has declined to Rs. 6.16 crores, representing a loss of Rs. 3.19 crores. There were 1,770 chests sold at the last auction held, at an average price of Rs. 3,164 per chest, the total realisations reaching Rs. 56 lakhs: it is stated that the last poppy crop gave a very thin yield and a relatively poor consistency to the opium. Raw jute was the most important of our exports in the past month, the quantity shipped continuing to be abnormal in comparison with last year: in the month 1.66 million cwts. (465,888 bales) were exported, an increase of 713,674 cwts. or 199,828 bales: while in the year 13.77 million cwts. or 3,857,300 bales have gone forward, an advance of 2.91 million cwts. or 816,471 bales: the total value at the same time rose to Rs. 18.64 crores or by 6.10 crores which is nearly double the loss in shipments on opium. From Chittagong 34,992 bales went forward, or a total of 1,377,860 cwts. or 385,801 bales this year. If we take receipts of jute by Eastern Bengal State Railway and East Indian Railway up to and inclusive of the 5th March we find that so far this season (from 1st July) 21.46 million maunds or 4,414,637 bales have come into Calcutta and the mill stations, an increase of 4.44 million maunds or 911,588 bales. Yet prices continue on the upward path and are now in the neighbourhood of Rs. 60, while as much as Rs. 63.4-0 has been heard of: at home also prices continue higher and have touched £25, while for May-June shipments £26.5 is quoted. The United Kingdom took the largest proportion of the raw jute shipped, 604,359 cwts. or 166,720 bales

then Germany with 426,636 cwts. (119,458 bales); the United States 212,491 cwts. (59,467 bales) and France 101,703 cwts. (28,477 bales). There was a slight set back in exports of jute manufactures: the value receding for the month from Rs. 1.09 to Rs. 1.05 crores: and in the 11 months from Rs. 15.71 to Rs. 14.44 crores. But this does not by any means represent a suspended demand: on the contrary, the demand is greater than ever with prices stronger and still advancing: it is more than probable that stocks are exhausted and supply cannot keep pace with enquiry and the shortage of tonnage is also detrimental to a larger business. How strong prices are may be realised when it is stated that some qualities of bags which in September last stood at Rs. 32 are now rated at Rs. 39: others which stood at Rs. 21-8 are now up to Rs. 27: while Hessian cloth once at Rs. 11-6 are quoted now at Rs. 13-12. In the month gunny bags fell off by 10 million bags and cloth rose by 6 million yards: in the year bags have dropped from 332 to 257 million in number, while cloth has also fallen by 886 million to 799 million yards. Of the cloth sent away last month the United States took to the value of Rs. 45 lakhs, and the United Kingdom Rs. 7.47 lakhs, and Canada Rs. 3.58 lakhs: of gunny bags Rs. 6.99 lakhs went to the United Kingdom, and Rs. 4.04 lakhs to Australia. To Indian ports the value of shipments in the month rose by Rs. 2.98 lakhs to Rs. 33.17 lakhs, but in the 11 months the value has gone back by Rs. 9.84 lakhs to Rs. 1.78 crores. By rail and river the number of gunny bags sent in the first 9 months of the year were 33.94 million. Although the local mills have had a bad time in recent months, business has not altogether been done at a dead loss: "Capital" has recently issued a statement in which the net profits in the past three years have been given as Rs. 70.44, Rs. 76.41, and Rs. 49.48 lakhs respectively: of the mills quoted (31 mills) 6 worked at a loss. Calcutta's trade in the past month in grain and pulse was again abnormal. Total exports rose by 1.06 million cwts. to 2.58 millions valued at Rs. 1.33 crores or an increase of Rs. 47.13 lakhs: in the 11 months shipments have aggregated 18.7 million cwts. or a rise of 7.64 million cwts., the value rising by Rs. 3.02 crores to Rs. 9.22 crores. Wheat alone discloses a smaller trade, the quantity falling from 356,526 to 184,818 cwts., although for the year exports are greater than in 1910-11. The price of wheat at home in February was rising, as weekly shipments for some time had been below

requirements: in the Argentine the quality is bad and exports have been delayed: the prospects of the Indian harvest when it moves should be good. But rice has again expanded from 1.02 to 1.3 million cwts., and in the year from 5.90 to 7.88 million cwts., giving values larger by Rs. 26.03 lakhs and Rs. 1.28 crores respectively. Locally there is a wonderful supply of rice this year and in 1911 imports into Calcutta by rail and river rose from 9.61 to 12.58 million cwts., chiefly from Bengal and Eastern Bengal and Assam, and with these large supplies the demand is still strong: for the world's yield is strangely short in nearly every country and prices have consequently ruled very high. The great floods in China washed away large rice crops in the Yangtse Valley: the Siam crop is a failure and Saigon has suffered badly from drought. Formosa also has a shortage and the Japanese yield will be contracted. While the far East is suffering from a shortage of rice, Europe is still indenting largely for supplies to replace her shortage from the drought of last summer: it is even stated that owing to famine the Argentine is indenting on India for food grains and pulses, but so far there is no record of any trade from Calcutta. Still the Western demand is creating great prosperity and trade in various grains in and from India, similar to the Eastern demand for rice. As a consequence the shipments of pulses and barley continue great and a marked demand has now sprung up for maize: barley shipments are now 1,566,204 cwts. valued at Rs. 54.66 lakhs as compared with only 1,073 cwts. last year — pulses (dal and peas but chiefly the latter) in the past 11 months, have advanced from 1.48 to 4.27 million cwts. valued at Rs. 1.46 crores or an expansion of Rs. 90.19 lakhs: and maize which last year was only sent away to the extent of 47,843 cwts. has, in the past 11 months, reached 988,402 cwts. valued at Rs. 31.23 lakhs, nearly all of which went away in the past 4 months. The demand from Indian ports is also great: last month the value of shipments rose by Rs. 12.41 lakhs to Rs. 25.34 lakhs and in the year to Rs. 1.39 crores by Rs. 33.41 lakhs. Tea exports from Calcutta are on the wane, but in the past month amounted to 9.29 million lbs., an unusually high figure for the month of February: in the 11 months this port has now sent away 183 million lbs., an increase of 4.56 million lbs. on the previous year: the value has aggregated Rs. 8.74 crores or a rise due largely to higher prices, of Rs. 42.32 lakhs. From Chittagong exports in February were 2,634,095 lbs. and for the year 55,318,323 lbs., an

increase of 2,752,640 lbs. Turning to the Association's figures for the whole of India they shew that for the year up to the 6th March the total shipments of tea from British India amounted to 244.07 million pounds, an increase of 6.25 million pounds: from Southern India despatches to end of January were 16.61 million lbs. or greater by 603,139 lbs.: to the United Kingdom there has been an increase of 11.01 million lbs., while Australasia, Batoum and Bombay and other countries have all taken more; but Russia has reduced her takings by 6.85 million lbs., and Hankow by 3.96 million lbs. To the 4th March Ceylon has shipped in 1912 24.90 million lbs., a decrease of .26 million lbs.: for yields in the island have been adversely affected by wet and cold weather: the United Kingdom and Russia have both taken less. The Java figures for 1911 have now come to hand and shew that the Dutch island has increased her exports from 40.63 to 50.36 million lbs.; of this Holland has taken 22.64, England 15.5, and Australia 5.57 million lbs. Our local sales are now, over, the final one (No. 35) being held on the 1st March: only 645 chests were offered and they reached an average of 6 as. 4 pies per lb.: for the season 777,205 chests have been disposed of at an average of 7 as. 6.5 pies per lb., this is 5.7 pies per lb. better than last year. At the London sales prices are well maintained for all fine qualities, good medium teas are also wanted, but common teas are up to 25d. per lb. less on previous quotations. At the end of February London stocks of Indian and Ceylon teas were 93.68 million lbs., a slight decrease of 1.44 million lbs. on last year: stocks in the United Kingdom of all teas on the 31st January were 135.64 million lbs., an increase of 9.32 million lbs. The coal trade was in a difficult position throughout the month, but export figures were on the whole better, to both foreign and Indian ports; shipments rose by 48,123 tons to 262,989 tons, there being a gain of 16,412 tons to foreign ports, and of 31,712 tons to Indian ports: yet in the 11 months there has been a shrinkage of 293,721 tons, our despatches by sea having fallen by that quantity to 2.63 million tons: of this shortage 248,491 tons was to Indian ports. On the 1st March the great national strike of miners in the United Kingdom commenced; but this has had no effect upon Indian coal beyond sending up the price of English coal in Bombay from a normal rate of Rs. 17 to one of Rs. 27 per ton and even Rs. 30 has been paid; the quantity of English coal imported is very small, only 168,148

tons in the first 10 months of the year, and this figure is much below those for the previous two years. Also steamers now leaving Calcutta for British ports are taking more bunker coal from here; in fact, loading up as much as they can stow. In February for bunker coal 84,595 tons were shipped or an increase of 25,934 on the same month last year: in the 11 months the increase is only 35,522 tons. The Indian trade has been suffering from a scarcity of coal and a shortage of shipping tonnage: the position is now accentuated by a deficiency of railway wagons. How serious the position is may be gauged from the fact that the Bengal Chamber of Commerce called a special meeting on the 9th instant to consider the state of affairs: many of the jute mills and other industries holding very small stocks of coal. The scarcity of tonnage has caused a great strain on available space by railway, but the wagon shortage has intensified the position and contracted this relief: the E. I. R. railway carried 124,000 tons less in January and in Bombay prices for Bengal coal have risen from a normal of Rs. 13 at end of December to Rs. 23 at end of January and even now it is Rs. 18-20 per ton. When we learn that in the latter end of February no less than 250 steamers were held up in Argentine ports waiting for wheat, it is possible to appreciate the extent of the shortage in tonnage here. There was a large demand for hides and skins which in the month rose in value from Rs. 88.75 lakhs to Rs. 1.01 crores: for the year the rise has been by Rs. 39.61 lakhs to Rs. 6.43 crores. It is stated there are large exports from Karachi from the famine districts which has depressed the market generally: the European demand is also said to be restricted, but Calcutta's trade apparently refutes these statements. The exports trade in oilseeds is just now on the ebb tide, but this and wagon shortage has not prevented a larger volume of business: it consisted largely of linseed and valued at Rs. 7.27 lakhs has risen by Rs. 2.99 lakhs. Cotton twist and yarn has this year fallen by 978,000 lbs. in the foreign trade and by 1.33 million lbs. in exports to Indian ports: but this is not surprising when in the 9 months ending December, the Bengal mills have only turned out 23.31 million lbs., a decrease of 5.7 million lbs. In the past 11 months exports of manganese ore have fallen from 76,290 to 45,504 tons: but the quantity of pig iron sent to foreign countries has risen from 6,304 to 17,872 tons, mainly due to a demand from Japan which has recently sprung up: to Indian ports the demand for pig iron has accounted for shipments of 2,041

tons. In closing this article it would not be out of place to refer to the chief event of the past month in shipping circles: the purchase by the B. I. S. N. Co., Ltd., of Messrs Apar & Co.'s line of steamers: the fleet consists of 5 steamers and adds a tonnage of 21,105 tons to the purchasing fleet. Messrs. Apar & Co.'s fleet came into being in 1819 consisting at first of sailing vessels and trading to Mauritius as well as to China: their first steamer was built in 1861 and the line was one of those which in the earlier years of the 19th century carried cotton at £11 per ton and opium at Rs. 35 per chest.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE *Board of Trade Journal*, published on the 22nd ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about:—

ROUMANIA.—Proposed Modifications in Customs Tariff.

COMMONWEALTH OF AUSTRALIA.—Decision respecting Importation of Piece Goods for Manufacture of Handkerchiefs, etc.

NEW SOUTH WALES.—Pure Food Act: Amended Regulations.

VICTORIA.—Prohibiting Importation of Certain Explosives.

SOUTHERN NIGERIA.—Customs Decision respecting Pewter Articles.

TRINIDAD AND TOBAGO.—Customs Tariff Amendments.

ST. LUCIA.—Amended Forms of Entry. Amended Import and Export Lists.

EGYPT.—Revised Valuation Tariff for Rice.

NETHERLANDS.—Duty-Free Admission of Chloroform for Use in Chemical Cleaning.

ALGERIA.—Temporary Prohibition of Exportation, etc., of Ewes.

PORTUGAL.—Customs Duty on Aeroplanes.

ITALIAN SOMALILAND.—Customs Tariff.

UNITED STATES OF AMERICA (PHILIPPINE ISLANDS).—Lower Rates of Duty on Rice Temporarily Continued in force.

MEXICO.—Exceptions to General Prohibition of Importation of Arms and Ammunition. Temporary Reduction of Customs Duty on Wheat.

BRAZIL.—Budget Law for 1912.

CHILE.—Forthcoming Tariff Alterations.

CROP FORECASTS.

WHEAT.

Second General Memorandum on the WHEAT crop of the season 1911-12

The provinces dealt with in this memorandum contain on an average some 99.8 per cent of the total reported area under wheat in India.

No estimates of outturn are yet available although some provinces report, in percentages of the normal, what the yield per acre is expected to be.

The total area sown is now reported to be 29,444,000 acres which is to be compared with 29,556,000 acres (revised figure) of last year and with the 27,085,000 acres representing the average of the five years ending 1909-10. There is thus a decrease of 112,000 acres or 0.4 per cent as compared with last year, but an increase of 2,359,000 acres or 8.7 per cent as compared with the average.

The present condition of the crop is reported to be good except in Bombay where the crop has suffered from deficient water-supply. A development of rust is, however, apprehended in the United Provinces.

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.

Punjab (34%). Ratio of irrigated to total wheat acreage=52.6%.—The revised estimate of the area sown in British districts now comes to 8,173,000 acres as compared with 8,282,000 acres reported at this date last year and 8,244,000 acres finally returned that year. Native States report a total area of 1,102,000 acres as compared with 1,081,000 acres at this date last year—an increase of nearly 2 per cent. The combined area of British and Native territory shows a net decrease of 54,000 acres or 0.6 per cent. Good rain fell throughout the province during the second and third weeks of January, benefiting the standing crops and permitting further sowings to be made. Since the end of December the weather has been warmer than usual, and no damage from frost has been reported. The season has so far been favourable, and the condition and prospects of the crop are good.

United Provinces (22.2%). Ratio of irrigated to total wheat acreage=57.3 per cent.—Figures of acreage actually sown are not yet available. In the December forecast the total area sown was roughly estimated at about 8,250,000 acres which is some 12 per cent more than last year's area, and this figure remains unchanged. December was practically rainless; but in consequence of the general rain which fell in November irrigation was resorted to on a smaller scale than usual. In the second week of January good rain fell over nearly the whole of the provinces and was highly beneficial to the crop. Prospects are uniformly favourable at present, and if the crop escapes serious damage

from rust which has appeared in places, there is a promise of an excellent harvest.

Central Provinces and Berar (12%). Ratio of irrigated to total wheat acreage=1.4 per cent in the Central Provinces and 3.3 per cent in Berar.—The total area sown is now estimated at 3,700,000 acres (3,378,000 in the Central Provinces and 322,000 in Berar) which is 3.6 per cent more than last year's area. The climatic conditions were generally favourable; but rain accompanied by hail in the first fortnight of February did some damage to the crop in parts of several districts. The crop also suffered somewhat from cloudy weather and from insects. Nevertheless the average outturn per acre is expected to be 107 per cent of normal. [Normal=597 lbs. per acre.] The area under wheat in the Native State of Khairagarh is estimated to be 8 per cent larger than in 1910-11 while in Nandgaon it remains practically the same as last year.

Bombay and Sind (8.1%). Ratio of irrigated to total wheat acreage=13.2 per cent in Bombay and 79.9 per cent in Sind.—According to the latest reports the total area comes to 1,295,000 acres (947,000 in British districts and 348,000 in Native States) which is 46.3 per cent below last year's area, the decrease being attributed to absence of late rains in Gujarat, to their deficiency elsewhere, and to devotion of larger area to fodder crops. The crop suffered from deficiency of moisture everywhere from the commencement and had to be helped by irrigation wherever possible. Water-supply, however, has been deficient in many places and the condition of the crop is only fair. Rain at the end of November somewhat benefited the earlier crop particularly in North and East Deccan; but that sown after this rain failed for want of sufficient moisture, except in favoured situations. The Sind crop is doing fairly well.

Bengal (4.7%). Ratio of irrigated to total wheat acreage=14.3%.—The total area sown is reported to be 1,340,000 acres as compared with 1,382,000 acres last year, a decrease of 3 per cent. The season has been favourable, and prospects of the crop are reported to be good. The outturn, according to District Officers' estimates, works out to 97 per cent of normal, but the Provincial Director is of opinion that it will be not less than 100 per cent. [Normal=958 lbs. per acre.]

North West Frontier Province (3.8%). Ratio of irrigated to total wheat acreage=24%.—The total area sown up to the end of January is estimated at 1,103,000 acres (irrigated 280,000 acres) as against 970,000 acres estimated at this date last year—an increase of 13.7 per cent. The scanty rainfall of December was succeeded by good and general rains in January, and considerable further sowings were effected. The prospects of the harvest are on the whole fair; but more rain is wanted all over the province to improve the condition of unirrigated crop.

Eastern Bengal and Assam (0.4%).—The total area sown is estimated at 72,000 acres as against 73,000 acres last year—a decrease of 1.4 per cent. According to district estimates the average outturn for the province is 90 per cent of the normal; but the Provincial Director is of opinion that owing to the considerable amount of moisture left in the soil from the late rains the crop has grown well and the actual outturn per acre will be at least 100 per cent of normal. [Normal=784 lbs. per acre.]

Central India (7.6%).—Reports are somewhat incomplete owing to returns not having been received from certain small States. The total area, so far as reported, comes to about 2,500,000 acres as compared with 2,332,000 acres reported at this date last year—an increase of about 7 per cent. The condition of crop is reported to be good.

Hyderabad (3.8%).—The area sown is reported to be 996,000 acres as against 1,161,000 acres last year—a decrease of 14.2 per cent attributed to want of timely rain. The condition of the crop is reported to be generally fair. The expected outturn is estimated at 63 per cent of normal. [Normal=320 lbs. per acre.]

Rajputana (3%).—Reports have not yet been received from two States containing on an average 71,000 acres under wheat. The area sown in the remaining States is estimated at 910,000 acres as compared with 1,004,000 acres reported at this date last year—a decrease of 9.4 per cent. The crop is reported to be generally in fair to good condition.

Mysore (0.01%). reports 3,500 acres as compared with 2,500 acres last year—an increase of 40 per cent. The condition of the crop is reported to be generally from fair to good.

FREDERICK NOËL-PATON,

Director-General of Commercial Intelligence.

SPRING OILSEEDS

Second General Memorandum on the crop of SPRING OILSEEDS (Rape and Mustard and Linseed) in the season 1911-12

The United Provinces do not at this season furnish any estimate of the acreage sown with the "mixed" crop (that is, oilseeds sown interspersed with other crops) which ordinarily represents about 35.6 per cent of the total crop of British India in the case of rape and mustard and 19.8 per cent in the case of linseed. The Native State of Hyderabad furnishes estimates for both crops. The oilseeds areas of the Native States in Bombay and Sind are included in the figures for those provinces. Native States in other provinces do not report.

For each crop summaries of the provincial reports are given below. The figures in brackets, following the name of each province, indicate what percentage

of the total reported area under the respective crop in British India is ordinarily cultivated in that province.

Rape and Mustard.

On the average of the five years ending 1909-10 the areas under Rape and Mustard in those provinces to which this memorandum relates represented some 99.5 per cent. of the total reported area under that crop in British India. In the same period the average acreage (excluding Hyderabad and the "mixed" crop of the United Provinces) was 3,766,600 acres. Last year the figure for the same tracts and crops was 3,910,300 acres (revised figure). This year it is 3,301,800 acres. There is thus an estimated net contraction of 608,500 acres or 15.6 per cent on the figures of last year, and a contraction of 464,800 acres or 12.3 per cent as compared with the average of the five years ending 1909-10. Including Hyderabad the total acreage reported up to the present time comes to 3,308,300 acres as compared with 3,919,600 acres last year, the net decrease being 611,300 acres or 15.6 per cent. The condition of the crop is reported to be generally good.

United Provinces (38.1%).—The total area sown with the *unmixed* crop was roughly estimated in the December forecast to be about 160,800 acres which is some 10 per cent more than last year's area. This figure holds good in the present report. No estimate of the area under rapeseed grown in combination with other crops (chiefly for home consumption, is available at present. The rainfall in November gave the crop a good start. December was rainless, but general rain fell over nearly the whole of the provinces in the second week of January and greatly benefited the crop. Prospects are at present very good everywhere except in parts of the eastern districts where injury by insects has been reported.

Punjab (20.1%).—The area sown is reported to be 873,700 acres as compared with 1,339,100 acres reported at this date last year and 1,079,200 acres finally reported that year. The estimated area is much below average. The season has been favourable both as regards rainfall and temperature; and the condition of the crop is from average to good. The yield of *toria* (an early variety of rapeseed) in the Lyallpur district has been good.

Eastern Bengal and Assam (24.9%).—The total area sown is reported to be 1,200,000 acres as compared with 1,517,000 acres last year—a decrease of nearly 21 per cent attributed to the unusual prolongation of the rains which delayed and restricted sowings. During December and January there was practically no rainfall; but owing to the large amount of moisture left in the soil, the crop got on very well without rain. Insect pests did some damage to the crop, but the extent of injury was probably less than usual. According to District Officers' estimates the average outturn per acre comes to 82 per cent of

normal, but the Provincial Director raises it to 100 per cent and on this basis computes the total yield at about 240,000 tons which is 10 per cent less than last year.

Bengal (12.4%).—The area sown is reported to be 933,100 acres as compared with 937,300 acres last year—a decrease of 4.5 per cent. The rainfall in September, October, and November was general over the province, but that in January was below normal in almost all districts. Prospects are generally reported to be good. According to District Officers' estimates the average outturn per acre comes to 86 per cent of the normal, the same as last year, but in view of the favourable weather conditions the Provincial Director is of opinion that the outturn will not be less than 100 per cent. [Normal=494 lbs. per acre.]

North-West Frontier (2.5%).—No change has been made in the estimate as reported in the December forecast: namely, 63,900 acres as compared with 70,800 acres at this date last year—a decrease of 9.7 per cent. The prospects of the crop are generally fair so far, and an average outturn may be expected.

Bombay and Sind (1.46%).—The total area reported is 70,300 acres (10,100 acres in Native States) which is 56 per cent below last year's area and 45 per cent below the average of the preceding ten years, the contraction in area being ascribed to failure of late rains in Gujarat and deficiency of water-supply and scanty rains in Sind. The crop was helped by irrigation and is reported to be doing fairly.

Hyderabad reports 6,500 acres under Mustard as compared with 9,300 acres last year—a decrease of about 30 per cent, attributed to a prolonged break in the monsoon at the sowing time. The outturn is estimated at 100 tons as against 200 tons last year.

Linseed.

On the average of the five years ending 1909-10 the areas under Linseed in those provinces to which this memorandum relates represented some 96.6 per cent of the total reported area under that crop in British India. In the same period the average acreage (excluding Hyderabad and the "mixed" crop of the United Provinces) was 1,992,800 acres. Last year the figure for the same tracts and crop was 2,470,200 acres (revised figure). This year it is 2,861,300 acres. There is thus an estimated expansion of 391,100 acres or 15.8 per cent on the figures of last year, and an expansion of 868,500 acres or 43.5 per cent as compared with the five years' average. The total acreage (including Hyderabad) reported up to the present time comes to 3,464,800 acres as compared with 3,101,500 acres last year—an increase of 363,300 acres or 11.7 per cent. The present condition of the crop is reported to be generally good except in parts of Bombay.

United Provinces (28.5%).—The area under the unmixed crop was roughly estimated in the December forecast to be 567,300 acres which is some 20 per cent more than last year's area. The figure remains unchanged. Climatic conditions have been favourable and prospects are at present very good everywhere except in parts of the eastern districts where injury by rust has been reported. It is not possible at present to estimate the extent of the damage done.

Central Provinces and Berar (34.5%).—The total area sown is reported to be 1,410,700 acres (1,279,600 in the Central Provinces and 131,100 in Berar) as compared with 1,082,100 acres last year—an increase of 30.4 per cent. The expansion is mainly attributable to favourable weather conditions at sowing time, the high prices realized last year, and replacement of spoilt cotton by linseed. The winter showers did much good to the crop, though cloudy weather, excessive rain, hail-storms, and insect pests slightly damaged the crop in certain districts. The average outturn is at present estimated at 88 per cent of normal. [Normal=226 lbs. per acre.]

Bengal (23.4%).—The total area sown is reported to be 663,300 acres as compared with 621,000 acres last year—an increase of 6.8 per cent. Prospects are generally reported to be good. According to district officers' estimates the average outturn per acre comes to 97 per cent of normal, but in view of the favourable weather conditions the Provincial Director is inclined to raise it to 100 per cent. [Normal=494 lbs. per acre.]

Bombay (5.6%).—The total area sown is reported to be 121,700 acres (12,500 being in Native States) which is 37 per cent below last year's area and 46 per cent below the decennial average. The crop suffered from deficiency of moisture everywhere and has entirely failed in places in East Decan and Karnatak. The surviving crop in North and West Decan is estimated to yield from 50 to 80 per cent of normal and from 10 to 25 per cent elsewhere. [Normal=360 lbs. per acre.]

Eastern Bengal and Assam (4.6%).—The area sown is reported to be 98,300 acres as compared with 101,100 acres last year—a decrease of nearly 3 per cent. During December and January there was practically no rainfall, but owing to the large amount of moisture left in the soil by the heavy rain of October the crop got on very well without rain. The total outturn is estimated at 15,900 tons which is practically the same as last year.

Hyderabad now reports 603,500 acres under linseed as against 631,300 acres last year—a decrease of 4.4 per cent. The total yield is estimated at 26,800 tons as against 30,400 tons last year—a decrease of 11.8 per cent.

FREDERICK NOËL-PATON,

Director General of Commercial Intelligence

CHAMBERS OF COMMERCE. KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce held on 20th February, 1912, the following among other matters received attention:—

Commercial Examinations.

Read letter No. 9096, dated 3rd February, 1912, from the Acting Educational Inspector in Sind, stating with reference to this Chamber's representation of 16th January 1912, to the Director of Public Instruction, Poona, that Karachi has been made a centre for the London Chamber of Commerce Examinations for this year.

Resolution.—To be acknowledged, circulated and recorded.

Scarcity of Rolling Stock.

Read telegram, dated 12th February, 1912, from the Manager, N.-W. Railway, Lahore, stating in reply to the Chamber's telegram of 6th, that everything is being done to meet the present exceptional traffic and that Major Cameron, Deputy Traffic Superintendent, had left for Karachi and would explain the position to merchants.

Also read Note, dated 12th February, 1912, by Vice-Chairman, stating that Major Cameron called on him and explained the position as regards the shortage of waggons for transport of produce accumulated at up-country stations and said that the situation at present was—(a) An abnormal traffic was offering for famine districts which must have the precedence. (b) That the East Indian Railway were short of stock and could not supply waggons for the N.-W. Railway coal, with the result, that many depôts were short of coal and the North-Western Railway to prevent stoppage were obliged to despatch 100 waggons a day to the Jheria coal fields to fill stocks. The saving position for Karachi appeared to be that both the Great Indian Peninsula and Bombay, Baroda and Central India had wired to the North-Western Railway saying that they could not take any transfer bookings for their lines, and so the waggons normally engaged in taking produce for these lines would be available for Karachi; that he impressed on the Chamber that the Railway were fully alive to the situation and were doing all that was possible to meet the Karachi shippers.

Also read a further telegram, dated 17th February from the Chamber to the Manager, North-Western Railway, pointing out that export houses were still greatly inconvenienced owing to insufficiency of rolling stock, especially in the Lyallpur, Sarghoda, Lahore and Ferozepore districts, that no improvement was yet perceptible and the position was becoming very serious, steamers were arriving and produce was urgently required for shipment.

Read telegram, dated 19th February, from the Manager, North-Western Railway, stating, in reply to the above telegram, that everything possible was being done to supply waggons and that loading for

Karachi in the Lyallpur district had gone up from 9 waggons on 17th to 102 on the 18th instant, and that the matter is receiving close attention generally.

Resolution.—To be circulated and recorded.

Stoppage of Trade via Bunder Abbas.

Read Note by the Chairman, dated 14th February, 1912, stating that he spent a few days in Bunder Abbas and personally looked into the matter of the stoppage of trade via Bunder Abbas, explaining the various difficulties of the dealers engaged in Persian trade and adding that he is of the opinion that if armed escorts are provided the caravans would pass safely between Bunder Abbas and the interior.

Also read the following telegram despatched on the 15th February, 1912, to the Government of India, Foreign Department:—

"Reference to this Chamber's telegram fifth ultimo, Chamber urge the provision of small armed escort of Indian troops for each caravan leaving Bunder Abbas for Kirman and vice versa, also if possible for caravans beyond Kirman. This temporary measure would, the Chamber think, help materially towards protection of British trade interests via Bunder Abbas till such time as Persian Government re-establish order on trade routes of Southern Persia."

Resolution.—To be recorded.

Improper use of the Royal Arms and Prince of Wales' Feathers in India.

Read letter No. 1296, dated 6th February, 1912, from the Under Secretary to Government, Revenue Department, Bombay, forwarding copy of a letter No. 400-414-45, dated 12th January, 1912, from the Government of India and its accompaniments, on the subject of legislation with a view to prevent the improper use of the Royal Arms and Prince of Wales' Feathers in India, and requesting the Chamber to furnish Government with its opinion in the matter.

Resolution.—The Committee concur that steps might be taken to protect the Royal Warrant holders. The legislation indicated in the conclusion of paragraph 5 of the Government of India (Department of Commerce and Industry's) letter of 12th January would appear to meet the case.

Draft Rules for the Carriage by Rail of Offensive and Dangerous Goods.

Read letters, dated 19th February, 1912, from the Karachi Agents of the Asiatic Petroleum Company (India) Ltd., and The Standard Oil Company of New York, respectively, forwarding copies of letters which they have addressed to the Secretary, Railway Board, in connection with the new draft rules in so far as they refer to the carriage by rail of petroleum and its products, and asking the Chamber's support to the points raised by them.

Resolution.—The representation to be supported.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on 5th March, 1912, the following among other items came up for consideration:—

Stoppage of Trade via Bunder Abbas.

Read telegram, dated 23rd February, 1912, from the Government of India, Foreign Department, stating in reply to the Chamber's telegram of 15th February, that proposals similar to those put forward by this Chamber have already been considered and that His Majesty's Government do not think it desirable to send small armed escorts of Indian troops to accompany caravans, but that other measures for safeguarding the trade routes are under consideration.

Resolution.—To be circulated and recorded.

Stapling System for Telegram Envelopes.

Read letter, dated 20th February, 1912, from the Director-General of Telegraphs, stating that the system of sending out messages for delivery in gummed envelopes not having proved altogether satisfactory the experiment has been tried at one office for a few months of using special shaped covers and closing them with staples, that this has been found to be a rapid method and apparently a secure one, and submitting a sample of a stapled cover and requesting the Chamber to express its opinion regarding it.

Resolution.—The Committee think that the stapling system might be given a trial. The Committee consider that the envelopes should have a flap, and that the colour might with advantage be changed to a pale yellow (similar to that of the sample submitted) in order that addresses might be more easily read.

Stowing of Cereals shipped to Antwerp.

Read letter, dated 6th February, 1912, from the Antwerp Chamber of Commerce pointing out that shipments of cereals from Karachi to Antwerp get mixed and cause great difficulties and loss of time in unloading, and asking this Chamber to impress upon shippers the necessity of so loading vessels that each consignment can be kept separate in the steamer and when discharging.

Resolution.—To be circulated to grain exporters and steam ships agents, and the Antwerp Chamber to be informed accordingly.

UPPER INDIA.

We take the particulars below from the abstract of the proceedings of the Upper India Chamber of Commerce for January 1902:—

Technology at Roorkee.

Copies of a communication from the Principal of the Thomason College, Roorkee, drawing attention to the opening of the Higher Division of Technology at the College and to a circular containing a syllabus of the studies, the regulations for admis-

sion, etc., have been circulated to all members of the Chamber. The Higher Division comprises two sections (i) Textile and (ii) Electrical and Mechanical Engineering, and it is specially intended that capitalists and manufacturers should take advantage of the opportunity afforded them to enter relatives or youths in whom they are interested, who, after undergoing the necessary practical training will be able to acquire sufficient knowledge of the technical side as would qualify them to take up the business management of mills, factories of engineering concerns. The electrical and mechanical engineering section is also arranged to prepare students for employment in other than the above capacity on electrical and other power installations. These after they have acquired the requisite experience would be competent to take charge of electrical plant; to contract for the supply of electrical plant and material; and to take charge of sections of large electrical supply companies.

Customs duty on component parts of Machinery.

The question of the abolition of the restrictions which now interfere with the carrying out of the policy of Government to allow free entry to component parts of machinery was again brought up by Messrs. Cooper Allen and Co., Ltd., who suggested that the other Chambers of Commerce should be invited to co-operate in a further representation to Government on the subject.

The Committee in addressing other Chambers of Commerce have pointed out that the test at present applied, as to whether such component parts could be used for purposes other than in connection with the machines to which they belong, does not operate fairly and it is considered that a further test should be applied as to whether the price of such component parts permit of their use for other purposes more economically than those for which they are obviously intended as compared with prices of ordinary material.

Eighth Congress of Chambers of Commerce of the Empire.

With reference to the resolution which it has been determined to present on the subject of the competition of jail manufactures with private enterprise, the Committee consider that this is so wide in its scope as to make it impossible to amend it so as to specially include the conditions which have arisen more recently in India, and it has therefore been decided that the resolution should go up in the form in which it was presented to the Congress in 1909 but that the peculiar conditions which now surround the problem in India should be specially dealt with by the Chamber's delegates. The Committee have also finally decided to present a resolution dealing with "the Excise duty on cotton cloth manufactured by Indian power looms."

Terminal Tax on common Sago.

The Chairman of the Municipal Board has informed the Committee that under the Terminal Tax

rules recently published, common or unmanufactured sago will be classified in accordance with the representation made by the Chamber, i.e. as "common seeds" instead of "provisions" as formerly.

Chamber's Representative on the Imperial Legislative Council.

The General Administration Department of the United Provinces Government has been addressed on the subject of the Chamber's claims to direct representation on the Imperial Legislative Council. Reference has been made in the Committee's communication to the previous representation submitted in January, 1908, and it has again been urged that the important interests connected with the trade and industries of Northern India cannot be considered as adequately represented by the Chambers of Commerce of Calcutta and Bombay. The Committee think it even conceivable that matters might be presented for consideration by the Council in which the interests of the seaports might come into direct conflict with those of internal Upper India trade. Moreover, with the change of the main seat of the Government from Calcutta to Delhi, the interests represented by the Upper India and Punjab Chambers of Commerce have become increasingly important and the Committee hope that His Honour the Lieutenant Governor will be good enough to lay the proposal once more before the Government of India with a recommendation for its favourable consideration.

Indian Cotton.

At a meeting between the Secretary to the International Federation of Master Cotton Spinners' and Manufacturers' Associations and Cotton Millowners, held in the Chamber's hall on 15th January, 1912, the following resolutions were passed:—

(1).—Whilst recognising the usefulness of the botanical research work at Cawnpore, this meeting of Cotton Millowners is of opinion that the Department of Agriculture in the United Provinces should establish seed farms on the lines of those instituted by the Central Provinces Department of Agriculture, which have been an unqualified success, as it is of opinion that only by such a system of seed farms distributed all over the Provinces can suitable strains of cotton be kept pure. That such seed farms are in addition most valuable for purposes of practical demonstration, and can be worked, if properly managed, free of cost to Government.

(2).—This meeting is in accord with the suggestion that new lands in any Province along new irrigation canals should only be let to tenants with a stipulation that a certain proportion of each holding should be put down in cotton

to be grown under the direction of the different Agricultural Departments.

(3).—This meeting desires to call attention to the system in force in the United States of America for a statistical return of the number of bales of cotton pressed, the desirability of which was approved by the Sixth International Cotton Congress at Brussels and which was urged upon the Secretary of State by a deputation of Millowners from India and England. In the opinion of this meeting the Member for Commerce and Industry should be urged to institute a statistical return on similar lines in India.

(4).—This meeting desires to draw attention to the fraudulent practice on the part of cotton dealers and ginners of artificially damping cotton for the purpose of increasing the weight. In the opinion of this meeting this practice should be made punishable by law.

(5).—This meeting is strongly of opinion that in addition to the two Deputy Directors of Agriculture employed at present in each province, an additional European Deputy Director, with practical agricultural experience, and assisted by an adequate staff should be appointed, and that one of three Deputy Directors in each Province should then specialise on cotton.

(6).—This meeting refutes the allegation of the Offg. Inspector General of Agriculture that Indian Millowners do not buy long staple cotton, and in evidence thereof calls attention to the fact that more than 200,000 bales of American cotton have this season been imported into India, and that the Members present have frequently in past years themselves bought long stapled Indian grown cotton at above the market price of the day in Liverpool in order to encourage its cultivation.

Copies have been circulated to all members of the Chamber and to Government Departments concerned.

Competition of the Army Clothing Department with Private Enterprise.

The attention of the Department of Commerce and Industry has been drawn to the fact that the Army Clothing Department, Alipore, had recently tendered to the North Western Railway in October for the supply of cotton and woollen goods, this making the second occasion on which the Department has entered into competition with private manufacturers. The Committee considered it in the last degree undesirable that a purchasing

Department of Government should be permitted to compete with private enterprise in such a way. Information was asked for as to whether the goods in question were imported from England or of Indian manufacture.

Inland Trade.

The opinion of the Committee has been called for on a proposed re-arrangement of the blocks for which inland trade is registered. The proposal being to make such changes in the names of the blocks as to make them coincide as far as possible with the new revenue divisions, except that a new block would be formed for Bundelkhand. Up to the present time a separate record has been unnecessary as a large proportion of the Lower Doab trade comes by road from Bundelkhand. On the opening of the Cawnpore-Banda line, however, much of this traffic will be placed on the railway in Bundelkhand, and it will then be desirable to have the Bundelkhand figure separate from those of the Lower Doab. It was proposed to bring the change into effect from 1st April, 1912.

The Committee have intimated their approval of the proposed re-arrangement, which has since been ratified by Government.

Railway Matters.

The members of the Upper India Chamber of Commerce had a meeting on February 9th with Sir Frederick R. Upcott, Chairman, and Sir William Dring, Agent of the East Indian Railway, and among the items discussed were the following:—

Daltonganj Coalfield Railway Extension.

With regard to the Chamber's desire that the construction of the Railway Extensions tapping the Daltonganj Coalfield area should be expedited, Sir Frederick Upcott stated that a beginning had already been made and that further extensions would be carried out as and when funds permitted. He pointed out that mining operations had not yet commenced in a considerable portion of the area in question owing to certain pending disputes. Sir Frederick Upcott was informed that the interests of up-country industrial concerns in the matter lay in the fact that the fields from which certain concerns drew their supplies would probably be exhausted in five or six years. Sir William Dring kindly undertook to furnish the Chamber with a plan showing how the new route would compare in point of distance with the existing line.

Simplification of the Railway Goods Tariff.

With regard to the proposed simplification of tariffs Sir Frederick Upcott said he could not say he was pleased with what had been effected but the position had been made more difficult for the Committee owing to the fact that after they had com-

mented their labours, external pressure had been brought to bear for a re-classification of goods in addition to the simplification of tariffs. Sir William Dring stated that the East Indian Railway were preparing for publication a station to station tariff which he thought would be of assistance. It was explained that the position the Chamber had taken up in the matter had been that, as the question was one closely concerning commercial interests, an opportunity should have been given and should still be given, for a declaration of their views upon the subject. The Chamber had written to the Railway Board in April 1911 suggesting that the Simplification Committee should meet commercial representatives at various centres in order to discuss the matter. Sir William Dring thought that as in the course of their enquiries the Committee met at different large centres having regard to the locality of the lines they represented, they might be able in the early future to select Cawnpore as a place of meeting, when they would no doubt be most pleased to take the views of commercial representatives.

Thefts of Goods in Course of Transit by Rail.

Considerable discussion then took place regarding the occurrence of thefts of goods from packages entrusted to railways for transmission. Various members of the Chamber gave particulars of their experiences, the general conclusion being that while it could not be established that there had recently been any general increase, the matter was still one of most serious moment to industrial concerns. It was thought that greater supervision was required at junctions, that locked accommodation for packages should be more extensively provided and that the handling of packages should, if possible, be minimised. The opinion was expressed that cases of theft were more numerous in Bengal and Eastern Bengal than in stations like Lahore. Sir William Dring stated that the East Indian Railway were doing all in their power to cope with the evil. He thought the introduction of a Parcels Express through to Moghal Sarai had brought about an improvement, but that this had not yet been extended as far as Cawnpore. He pointed out further that the question of paying compensation became very much more difficult where more than one Railway Administration was affected. He was then asked whether the East Indian Railway would be prepared to pay compensation in cases where concerns of repute could produce certificates of shortage from Regiments and Government Departments. He stated that the East Indian Railway would be prepared to do so experimentally and promised to give consideration to the further suggestion that claims for compensation should be against the Railway Administration receiving goods for transmission thus avoiding the complication of inter-railway claims. Finally it was pointed out to Sir William Dring that the extent of the trouble could not be gauged by the aggregate of the claims submitted, since in many cases, specially where the amounts were not large, the difficulty of

obtaining compensation resulted in claims not being submitted.

Opening of Tenders for the Supply of Stores.

The President stated that concerns in Cawnpore objected to the refusal of railway companies to allow tenderers for the supply of stores to be present at the opening of the tenders, the procedure in the case of the Army Clothing Department, the Supply and Transport and the Ordnance Departments being to read out in presence of tenderers the names of the tenderers and the rates offered, Sir Frederick Upcott understood that certain contractors objected to any deviation from the present system followed by railways. After some further discussion the matter dropped.

Short Supply of Coal Wagons.

The important question of the shortage of coal supplies for Northern India was next discussed with special reference to the orders just issued by the Railway Board directing collieries to despatch no coal to other parties until the locomotive requirements of the several railways had been satisfied. It was pointed out that this placed the industrial concerns and especially licensed Electric Supply Companies in a most serious position. Sir William Dring pointed out that the orders in question had been issued by the Railway Board to collieries direct and he could only deal with the question of the alleged shortage of wagons. He pointed out that the allotment of wagons for coal had been put on an entirely different footing from those intended for the carriage of goods, the allotment being made by a District Traffic Superintendent and a daily return being received by the Railway of the sidings into which wagons had been put. He would be glad to demonstrate the system to any representative of the Chamber who might be able to visit the collieries. Cases were then cited where Colliery Companies had expressed their inability to supply coal owing to a shortage of wagons, while nevertheless supplies had immediately been received from the same collieries through Indian contractors but at a higher price. Sir William Dring said he would be glad to enquire into any recent cases of this sort which might have occurred. With regard to the question of Railway Companies being compelled to maintain a sufficient reserve of coal to guard against such a situation as now existed, Sir William Dring said that he was about to place before a meeting of the Mining Association a proposal that collieries should replenish railway companies reserves from June to September, a comparatively slack period for traffic generally. Speaking generally he thought it must be admitted that the supply of wagons was very little, if at all, below the raisings of coal.

Unification of Indian Weights and Measures.

With regard to the unification of Indian weights and measures, Sir Frederick Upcott stated that when

he first came to India, more than 40 years ago, a metric system had been introduced but that it had had no general effect and had gradually died out. He thought they could hardly discuss the matter usefully on the present occasion.

Delay in Transit of Goods.

The question of undue delay in the handling of goods on the Port Commissioners' Railway was brought up and Sir William Dring informed the meeting that a Sub-Committee had been appointed by the Port Commissioners to enquire into this and other matters connected with the working of that administration.

PUNJAB.

At a Committee meeting of the Punjab Chamber of Commerce held on 6th February, 1912, the following among other matters came up for consideration:—

The Sugar Convention.

Read letters dated Cawnpore, 19th and 25th January, 1912, respectively, and enclosures from the Managing Agents of the Cawnpore Sugar Works, Ltd., regarding the reported intention of the British Government to withdraw from the Brussels Sugar Convention.

Resolution.—The Managing Agents of the Cawnpore Sugar Works, Ltd., to be thanked for their letters and enclosures and be asked to furnish this Chamber with a copy of the reply they receive from the India Office.

The Delhi Scheme.

It having been brought to the notice of the Chamber that Government were acquiring houses in the Civil Lines of Delhi which had hitherto been occupied by non-official residents and members of the mercantile community, it was resolved that a telegram followed by a letter be addressed to the Government of India pointing out that if all the bungalows in the Civil Lines are commandeered by Government a great hardship and much inconvenience will be inflicted on non-official residents who are compelled to live in Delhi. Government, it is submitted, should make suitable provision for their temporary requirements on a scale sufficient to accommodate all their officials and their subordinate staff. The following telegram was sent to the Chief Secretary, Government of India, Public Works Department, Calcutta:—

"Chamber protests strongly against the action of Government in acquiring bungalows in the Civil Lines of Delhi as a great hardship will be inflicted on non-official residents compelled to live in Delhi. Government should make provision in the temporary new city they propose to build sufficient to accommodate all their officials and their subordinate staff."

COTTON FIRES AND INSURANCE.

In its issue of February 23rd, the *Times* says:—The news of a heavy loss of cotton at Houston, Texas, follows quickly on the report of destruction and damage to cotton at Bombay amounting to £250,000. Whereas in the case of the outbreak at Bombay fire companies are expected to be concerned almost entirely as regards insurance, the loss at Houston is likely to fall upon marine companies, which, as pointed out yesterday, often insure the commodity from the plantations while it is undergoing the various processes previous to shipping, on board ship, and until delivery in this country or the Continent. It is reported that 55,000 bales of cotton, worth about £10 a bale, were destroyed in the fire on Wednesday at Houston, of which a considerable proportion were in the compresses, the remainder being in warehouses.

Large Stocks at Savannah.

Disquieting news has been received in London that there are now vast accumulations of cotton supplies at the American centres of distribution, that at Savannah there are no fewer than 170,000 bales in storage, and that of this supply cotton worth well over £1,000,000 is stored in one warehouse alone. The causes for these large accumulations appear to be the magnitude of the present crop, estimated at 16,000,000 bales, the low prices ruling for the staple, and the exceptionally high level of freights. In a special article from an American Correspondent, which appeared in the *Times* of January 22nd, it was stated that the yield was believed to be fully 2,000,000 bales more than the spinners could possibly use before another crop was available. In these circumstances buyers appear to be confining their purchases to their absolute requirements.

Small Shipments.

It has been noticed lately that several steamers which might have been expected to have been carrying 15,000 or 20,000 bales of cotton have brought comparatively little. Thus, the *Ashmore*, a vessel of 2,519 tons, which was lately considered overdue on the voyage from Mobile to Bremen, had only 7,522 bales on board; the *Augustus*, a vessel of 4,708 tons, which passed the Lizard on Wednesday (21st) bound for Hamburg, after a very slow voyage from Savannah, had a mere 900 bales; and the Italian steamer *Delphine*, a vessel of 5,271 tons, concerning whose safety some uneasiness is now being shown, is carrying only about 8,000 bales. In some quarters the smallness of some of the cargoes was construed as a sign that the shipping season was dying, but as a matter of fact the season is expected to be continued this year much later than usual, and in the meantime the insurance risk on the accumulated stocks will not improve.

THE SHANGHAI PIECE-GOODS MARKET.

Effects of the Revolution.

A SHANGHAI correspondent, writing to the *Manchester Guardian* on February 3rd, says:—

The condition of the piece-goods market in Shanghai at the time of writing is, to begin with, best explained by reference to the following figures, given, as far as the left-hand column is concerned, in round numbers:—

	Stock in Shanghai to-day.	Stock in Shanghai on January 26th, 1911.
	Pieces.	Pieces.
Grey shirtings .	1,740,000	412,975
White shirtings .	1,610,000	418,799
Jeans .	365,000	123,000
Black Italians .	657,000	38,000

The excess of this year's figures over those of last year is due to the revolution, which has affected Shanghai trade in the following ways. In the first place it has deranged the financial system on which the piece-goods trade is conducted. The first news of trouble on the Yangtse reached Shanghai on Wednesday, October 11th, and within a few days fourteen out of the thirty-six native banks then transacting business here had closed their doors. The prospect of fighting caused a demand for silver. A "run" started which the native banks, with no cash reserves to speak of and already in debt to foreign banks to the tune of Taels 9,000,000, were unable to meet. Native orders became useless; they remain, for the most part, useless still. In the second place, the revolution has upset all the trade routes. The Yangtse Valley takes 60 per cent of Shanghai's piece-goods. Chinkiang, Nanking, Wuhu, and Kiukiang are moderate consumers; at Hankow, the distributing centre for Szechuan Province and for Changsha, consumption is largest. The northern ports—Tsingtau, Tientsin, Newchang, and Korea—take 20 per cent of the trade; local ports in Chekiang and Kiangsu take the remaining 20 per cent. The whole of this area, with the exception of Korea and, to a lesser extent, of Tsingtau, has been affected. The figures, not yet published, of the duties collected during November by the Maritime Customs show a very large decrease when compared with those of the same month last year. They are interesting as showing how quickly the export trade of China was influenced by the outbreak of hostilities. Of the December and January figures, which will show the effect of revolution on the import trade, I cannot speak with certainty, but there can be little doubt imports have suffered severely. Trade for the time being is practically at a standstill. Disorder has spread throughout the country to such an extent that native dealers will not take the risk for moving cargo from one point to another. The local newspapers are full of stories of robbery.

It is not surprising, therefore, if the stock of piece-goods at present in Shanghai is very much larger than it was this time last year. The expected off-take has been stopped. To get at the reasons

which led merchants to expect a good off-take it is necessary to review the history of the trade since June, 1910. In that month prospects were good. There was a plentiful silk crop and cheap rice, and the large native dealers had very considerable financial resources. These circumstances, combined with the shortage of American cotton, would have induced merchants to send large yet sound orders home. But Shanghai was completely upset by the settlement following on the rubber boom and by the failure of the Ching Yue banks. The piece-goods trade came out of the muddle, on the whole, satisfactorily, because all Ching Yue's cargo was put on the market and bought up at low prices. Stocks became low and good orders were placed during the months of October to December. The spring trade of 1911 was, therefore, very satisfactory. Good prospects were, however, again interfered with this time by floods. The country between Hankow and Ichang became a lake. All round Wuhu, for a hundred miles, rice fields were swamped. I was in Pekin at the time and remember how, as a party of us struggled over slippery, sodden fields, conversation dealt with the reports that were daily coming up from the Yangtse and the probable consequences of ruin on a gigantic scale. The piece-goods market was for the time being considerably hampered, but latter good business was done, and in spite of high price of American cotton merchants bought in quantity for the autumn trade, and a number of them carried their operations as far as March, April, and May shipment of the present year. That they had good reasons for being optimistic is shown by the following figures. From January 1st, 1911, to September 7th the actual off-take by the trade, in spite of the checks and disappointments outlined above, was—

	Pieces.
Grey shirtings	2,520,000
White shirtings	2,160,000
Jeans	672,000
Black Italians	730,000

On September 7th the stocks in Shanghai were—

	Pieces.
Grey shirtings	800,000
White shirtings	505,000
Jeans	267,000
Black Italians	377,000

Merchants had, therefore, the right to suppose that business during the remainder of the year would be good. The revolution upset their calculations.

In regard to the prospects of the trade, the opinion of a well-known merchant here was given to me in the following words: "Even if things are settled, manufacturers in Lancashire must not expect any orders of any importance for many months to come, as it can hardly be expected that China's off-take will reach normal figures until quite a year has passed." Behind this opinion are the following considerations—first, that there are now only ten native banks operating in Shanghai; second, that the disorder in the country will take months to disappear; third, that the political situation, even if abdication takes place immediately, is likely to remain unstable for a considerable time. In another quarter the

following answer was given to my queries: "I can venture on no opinion at all. If I could see my way ahead for a week I should be glad." These are gloomy views. There are others, more optimistic, which look forward to good business as soon as over a settlement is arrived at in Pekin. "After China New Year," it is said, "things will brighten." One fact is certain,—namely, that the Shanghai market is nothing if not resilient, and in this quality I, personally, put great faith.

SOY BEAN CULTIVATION IN SOUTH AFRICA.

As a subject of considerable discussion, says the *Monthly Magazine* of the Liverpool Chamber of Commerce, the soy bean has occupied a good deal of attention in very widely extended circles, and the more it has been studied the more it seems to impress itself as one of the coming crops of the future. During the years 1910-11 there were imported into the United Kingdom 644,000 tons, valued at £4,700,000, the sources of supply being practically limited to Manchuria, Japan and Russia.

Attempts in the cultivation of the soy bean are now being made in many British Colonies, including South Africa. In view of the great strides made in connection with the maize industry, it has become evident if South African farmers are to reap the full benefit of their labours, the need of a staple legume as a restorative crop, to be grown in rotation with maize, is essential. The soy bean is an excellent soil restorative, being a leguminous plant, and can be grown satisfactorily in conjunction with maize. This need for a staple legume, the recent general adoption of soy bean oil for numerous industrial purposes, and the establishment of soap, candle, and explosive factories in South Africa, has stimulated much interest in the soy bean, especially as the plant finds favourable conditions for development in the climate and soils in Natal, Transvaal, the Free State and the Cape. It was consequently determined last season to engage the interest of as many farmers as possible in field experiments as a prior step to the establishment of the crop as a new staple.

The scheme enjoyed the hearty support of the Agricultural Union, the Maize Growers' Co-operative Association, and Messrs. Lever Brothers, Ltd., by whose assistance seed for the planting of three to five acre plots was distributed to over three hundred farmers in all parts of the Union, together with printed report forms, and descriptive bulletins. The experiments were conducted to a large extent under the supervision of Mr. A. Greenville Turner (member of the Liverpool Corn Trade Association, Ltd.), on behalf of Messrs. Lever Brothers. One factor has been proved, and it is the capability of the plant to resist a long sustained drought, and to grow under conditions that would probably in many instances be too severe for even maize.

In Natal phenomenal conditions were encountered. The drought was the worst experienced for a period of about forty years, while in the North hail storms

decimated the crops and when the rains did come, owing to the dryness of the land, wash-outs were numerous, and crops suffered severely all over the province. Yet on the whole, the experiments were successful. Beans from Umtwalumi, on the South Coast, give 22.19 per cent of oil, or 2.19 per cent more than the average oil content of the whole soy bean crop of Natal. It is also noteworthy that the oil content from beans grown at altitudes such as Winterton is as high as 20.65 per cent. Mr. Turner explains that heat favours oil formation, therefore the continuous and brilliant sunshine of the South African climate contributes to a high percentage of oil; the contrast is even more striking owing to the fact that the crops were raised from imported Manchurian seed, the average oil content of the Manchurian soy bean crop being 17 to 18 per cent. The percentage of oil from beans grown at Sierra Leone (West Africa) is put at 23.20 per cent, the highest yet recorded, and Umtwalumi, with 22.19 per cent comes next, while the resultant analysis of oil in beans of the "Southern" variety raised in the Transvaal was determined at 20 per cent. On this basis the position of South Africa is a very promising one.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, March 12th.

During the week ending March 11th rain fell in Hooghly, Howrah, the 24-Parganas, Khulna, Balasore and parts of Jessore and Nadia. There was no rain in the rest of the Province. The fall was light except in parts of Hooghly and the 24-Parganas, where it amounted to more than one inch. More is wanted in Murshidabad.

Preparation of land for the next season's crop and pressing of sugarcane continue.

Harvesting of rabi crops has commenced.

The standing crops are doing well.

The price of common rice has risen in Bankura, Murshidabad, Jessore, Shahabad, Bhagalpur, Angul, and Manbhum and has fallen in Khulna.

Cattle-disease is reported from Midnapore, Jessore, Monghyr, Bhagalpur, Angul, Puri, Sambalpur and Palamanu.

The supply of fodder and water is sufficient throughout the Province except parts of Midnapore.

EASTERN BENGAL AND ASSAM.

Dacca, March 12th.

During the week ending March 11th, except the Rajshahi Division and Lower Assam, most parts of the province had showers. Rain is urgently needed in the Rajshahi Division for ploughing and the sowing of rice and jute.

Harvesting of tobacco has commenced and the outturn per acre is expected to be about normal.

The average retail price of common rice is slightly less than last week.

Cattle-disease is prevalent in Mymensingh, Malda and Sylhet.

THE WHEAT POSITION.

J. E. Beerhom's *Evening Corn Trade List* of February 23rd writes:—With continued mild weather and the probability that at last the Argentine would commence to export somewhat freely, the market has been very quiet, there being hardly any demand, although all descriptions are obtainable at less money; White Wheats have declined 3d. to 6d. Plate 1s. to 1s. 6d. and other sorts 6d. to 1s. Both Plate and Indian Wheats have been offered freely, a proof, so far as the latter description is concerned, that the crop outlook is a favourable one.

Shipments last week, notwithstanding the small export from the Argentine, and also from North America, were larger than for some weeks past, mainly owing to an increase in the quantities from Russia and the Danube. Imports into the United Kingdom were also more liberal, and only slightly below the requirements. In the near future, with only moderate quantities from other countries, exports from the Argentine will probably be more than sufficiently large to bring the weekly totals up to the estimated requirements. With small imports on the Continent and only a moderate import into the United Kingdom, the quantity afloat experienced the sharp increase of 380,000 qrs., and further augmentations must now be expected.

The Continental demand is still described as disappointing, but when the increased production of importing countries in 1911 is taken into account, it will be found that the imports have been fully up to the requirements. For instance, the net imports into Belgium in the first half of this season were 3,825,000 qrs., against 3,682,000 qrs. last year; in Germany 4,720,000 qrs., against 4,920,000 qrs. In Holland they amounted to only 548,000 qrs., against 772,000 qrs. France imported 1,600,000 qrs. in six months or quite half of the 3,000,000 qrs. estimated earlier in the season as the import requirements for the year. Italy imported 1,767,000 qrs. in the five months August to December, against 3,238,000 qrs. in 1910-11. The estimated year's requirements for Italy were 4,000,000 qrs., and up to December they had been at the rate of 4,200,000 qrs. It will be seen by these figures that all countries, with the exception of Holland, have so far imported either fully equal to, or above, their estimated requirements. In the case of Germany, whose crop was 1,000,000 qrs. larger than in 1910, the imports have been at an appreciably higher rate than required, and the same remark applies to Belgium, which country produced 250,000 qrs. more native wheat than in 1910, and has, in addition, imported 145,000 qrs. more. The crop of Holland was 150,000 qrs. larger than in 1910, and this increase almost makes up for the smaller imports. It is true that the quantity afloat is now 1,250,000 qrs. smaller than last year at this time, but this is entirely owing to the shortage in the Argentine shipments, caused not by a smaller surplus, but the late harvest and the labour troubles, and this wheat has still to be shipped. As against any increase in

consumption, caused by the shortage in Potatoes, etc., may be placed the extra weight and better quality the European crop of 1911, compared with the previous year.

So far as the United Kingdom is concerned the net imports to date are about 750,000 qrs. less than in the previous season, but against this decrease must be placed the increased home production of nearly 1,000 qrs. These remarks are not made to show that there is any superabundance this year, but simply that there is no indication of any scarcity. When it is remembered that the crops of 1909, 1910 and 1911 exceeded the totals of the three previous years by 135,000,000 qrs., it is impossible to think otherwise than that the invisible reserves are still fairly liberal, even after allowing for the seasonal increase in consumption, and for some increase over the normal, owing to the shortage in other crops. At the same time there is no getting away from the fact that there is a great scarcity of good, strong wheats. The present level of prices is a fairly high one, and ought to be attractive enough to bring all the wheat required, until some definite idea can be formed as to the prospects of the growing crops. All that can be said at present is that in most countries present conditions are fully up to the average, and that in France, Hungary and Roumania, the acreage sown is larger than last year. India is expecting a yield equal to last year's large outturn and will therefore probably continue to export freely, whilst any decrease in Italy, Germany, etc., may be at least partly made up by an increased yield in France, where the area sown is distinctly larger than last year. Russia had such a very bad crop last year that, with quite ordinary agricultural conditions this year, the yield may easily be very much larger. In America the present condition of winter wheat, taken as a whole, is about up to the average.

NEW REFERENCE BOOKS.

SELL'S DICTIONARY OF THE WORLD'S PRESS AND ADVERTISERS' REFERENCE BOOK, 1911 AND 1912.
10 x 6½, 447 pp.

Sell.
(Articles on journalism as a career by SIR HENRY LUCY, DR. C. G. RUSSELL, and MR. ALEXANDER MACKINTOSH. World's Press Survey by Mr. E. PORRITT).

PERRY'S DIRECTORY OF GREAT BRITAIN AND IRELAND AND CONTINENTAL AND COLONIAL MERCANTILE GUIDE, 1912.
11 x 7, 3,197 pp. 30s.

Perry.
THE INSTITUTE OF BANKERS.
List of Members. 8½ x 5½, 150 pp.
Blades, East, and Blades.

STANDARD BOOKS.
An Annotated and Classified Guide to the Best Books in all Departments of Literature. In four volumes. Vol. III. 10½ x 7½, 747 pp.

Nelson.
DIESEL ENGINES FOR LAND AND MARINE WORK.
By A. P. CHALKLEY, B.Sc., etc. With an Introductory Chapter by DR. RUDOLF DIESEL.
8½ x 5½, 226 pp. 8s. 6d. net.
Constable.

JOINT STOCK COMPANIES.

Number and particulars of Joint Stock Companies registered in each province in British India and in the State of Mysore in the month of January, 1912.

No.	Class and Name.	Situation of Registered Office.	Objects.	Nominal Capital.
	I.—BANKING, LOAN AND INSURANCE.			Rs.
	(a) Banking and Loan.			
1	Malda Banking Company	Malda, Eastern Bengal and Assam	Banking and loan	1,00,000
2	Crown Bank of India	Shikarpur (Sind., Bombay)	" "	1,00,000
3	Jain Bank	Ahmedabad, Bombay	" "	5,00,000
4	Dhaliyur Lakshmi Vilasa Jana Sagaya Nidhi	Coimbatore, Madras	Money-lending (mutual)	1,00,000
	Total, Banking and Loan . . . . .	.....	.....	8,00,000
	(b) Insurance.			
5	Astamongala Paraspar Sahajya Bhandar	Chittagong, Eastern Bengal and Assam	Marriage insurance	20,000
6	Chattala Arya Benefit Fund	" "	Life and marriage insurance	20,000
7	Union Assurance Company	Bengal	General insurance	1,00,000
8	United Bengal Provident Fund	" "	Life insurance	10,000
9	Prudential Insurance Company of India	Calcutta, Bengal	" "	20,000
10	Sone Sukesar General Business Company	Manshera, Punjab	General insurance	50,000
11	Public Vauhar Business Company	Buchhalkhurd, Punjab	" "	50,000
12	Sarb Satharan Sahaita Bhandar	Ferozepore "	" "	20,000
	Total, Insurance . . . . .	.....	.....	2,90,000
	Total, Banking, Loan and Insurance . . . . .	.....	.....	10,90,000
	II.—TRADING.			
	(a) Navigation.			
13	Karnafuli River Steam Navigation Company	Chittagong, Eastern Bengal and Assam	Carrying on business of inland navigation	20,000
	(b) Railways and Tramways.			
14	Ganjam Road Train Company	Gopalpur, Madras	Public carriers	1,00,000
	(c) Co-operative Associations.			
15	Lakshmi Nivasam Co-operative Stores	Rangoon, Burma	Starting co-operative stores	20,000
16	Bandikui Railway Co-operative Association	Rewari, Punjab	" "	55,940
	Total, Co-operative Association . . . . .	.....	.....	75,940

JOINT STOCK COMPANIES—continued.

No.	Class and Name.	Situation of Registered Office.	Objects.	Nominal Capital.
				Rs.
II.—TRADING—contd.				
<i>(d) Others.</i>				
17	Naren and Banerji	Bengal	Merchants, agents	50,000
18	F. F. Chrestien and Company	Koderma, Bengal	Manufacturing wall papers, etc.	3,75,000
19	Industrial Friends	Bengal	General traders	25,000
20	United Medical Stores	"	Dealing in medicines, drugs, etc.	20,000
21	Occidental and Oriental Commercial Syndicate	"	General trade	20,000
22	Balrampur Rice and Cotton Mills Company	Pachparwa, United Provinces	Dealing in rice, cloths, etc.	1,00,000
23	Beawar Company	Etawah	General Trade	61,000
24	Gujrat Syndicate	Ahmedabad, Bombay	General trade and agents	19,200
25	Motor Service Company	Shenupet, Madras	Hire of motor vehicles	20,000
26	Mysore Industrial and Commercial Association	Bangalore, Mysore State	General trading and agency	1,00,000
	Total Others	.....	.....	7,90,200
	Total Trading	.....	.....	9,86,140
III.—MILLS AND PRESSES.				
<i>(a) Rice Mills.</i>				
27	Srivarada Lakshmi Ginuing Mills	Idigarai, Madras	Milling rice, etc.	20,000
<i>(b) Saw and Timber Mills.</i>				
28	Naharkatiya	Calcutta, Bengal	Starting saw mills, trading, etc.	4,00,000
	Total, Mills and Presses	.....	.....	4,20,000
IV.—MINING AND QUARRYING.				
29	Salin Oil Company	Rangoon, Burma	Mining and dealing in oils, coal, etc.	5,00,000
	GRAND TOTAL	.....	.....	29,96,140

ABSTRACT TABLE OF COMPANIES REGISTERED IN THE MONTH OF JANUARY, 1912.

	Rs.
4 Banking and Loan Companies	8,00,000
8 Insurance Companies	2,90,000
1 Navigation Companies	20,000
1 Railway Company	1,00,000
2 Co-operative Associations	75,940
10 Trading Companies (other than those specified above)	7,90,200
1 Rice Mills Company	20,000
1 Saw and Timber Mills Company	4,00,000
1 Oil Mining Company	5,00,000
29 GRAND TOTAL	29,96,140

INDIAN CUSTOMS REVENUE.

Total Gross Indian Sea and Land Customs Revenue (excluding Salt Revenue) in thousands of rupees :—

	IN THE ELEVEN MONTHS, APRIL TO FEBRUARY, OF									
	1902-03	1903-04	1904-05	1905-06	1906-07	1907-08	1908-09	1909-10	1910-11	1911 12
SEA CUSTOMS.										
IMPORTS.										
<i>Special Import Duties.</i>										
Arms, ammunition, and military stores	3.28	3.17	3.81	3.77	4.09	5.12	4.81	4.54	4.58	4.70
Liquore—										
Ale, beer, porter, cider and other fermented liquors	2.19	2.30	2.60	2.77	2.80	3.39	4.76	4.86	7.27	7.31
Spirits and liqueurs	63.20	68.21	69.24	84.35	70.66	84.16	86.18	85.77	96.93	1,02.01
Wines	3.60	3.46	3.37	3.61	3.49	3.61	3.61	3.58	5.16	5.26
Opium and its alkaloids	3	3	3	3	3	4	3	3	7	6
Petroleum	49.13	39.41	42.00	33.94	33.89	41.55	47.49	41.46	52.52	71.75
Silver, bullion and coin	34.76	35.01	38.42	25.96	37.76	46.26	60.75	50.79	1,54.21	94.99
Sugar (countervailing duties, 1899)	16.85	2.11	12	1	1	...	...	1	1	...
Sugar (countervailing duties, 1902)	3.26	19	9	1	...	...	...	...	1	...
Tobacco	1.83	2.03	2.29	2.74	2.77	3.44	3.19	4.04	26.26	23.23
<i>General Import Duties.</i>										
Articles of food and drink (excluding sugar)	13.26	14.21	16.53	17.62	18.09	22.66	24.21	22.29	23.55	25.49
Sugar (ordinary duties)	12.05	26.83	29.88	33.95	41.56	41.00	48.15	51.60	57.95	48.73
Chemicals, drugs, medicines and narcotics (excluding opium and its alkaloids and tobacco), and dyeing and tanning materials	9.01	10.52	10.50	10.37	11.04	13.42	12.10	13.27	15.13	15.17
Cotton manufactures—										
Piece-goods, grey	47.36	41.02	51.14	58.60	58.91	61.54	47.30	55.69	53.45	61.90
" white	15.17	18.38	25.17	26.33	22.66	36.12	25.05	23.69	29.38	34.53
" coloured	20.34	25.10	28.74	30.15	30.31	34.56	31.22	27.69	36.69	39.87
Other goods	2.13	3.38	4.65	5.18	5.55	5.77	5.42	5.78	7.23	7.65
Metals (excluding silver, bullion and coin) and manufactures thereof	27.29	30.37	32.21	28.15	31.47	40.38	43.19	41.53	47.68	47.22
Oils (excluding petroleum)	1.29	84	89	1.16	1.74	2.49	1.24	1.13	1.27	1.04
Manufactured articles	55.22	64.25	74.89	75.19	76.91	89.87	87.59	85.21	1,04.73	1,14.43
Raw materials and unmanufactured articles	8.11	8.47	9.21	10.90	10.41	13.40	14.87	13.53	13.21	13.90
TOTAL IMPORTS	4,00.26	3,99.29	4,45.48	4,54.79	4,64.15	5,48.78	5,51.07	5,36.49	7,37.32	7,19.24
EXCISE DUTY ON COTTON GOODS	16.34	18.40	20.44	23.89	24.69	28.42	30.12	31.35	33.94	41.72
EXPORT DUTIES—										
Rice, husked or unhusked, including rice-flour	1,03.47	99.84	1,07.91	97.11	83.94	81.65	62.17	73.51	1,00.61	1,06.08
LAND CUSTOMS AND MISCELLANEOUS	7.77	8.44	8.81	8.03	8.70	9.38	8.01	9.23	9.34	10.92
GRAND TOTAL	5,27.84	5,25.97	5,82.64	5,83.87	5,81.48	6,68.23	6,51.37	6,55.58	8,81.21	8,77.96

—Although the past year has not been a good one for industries in Italy, it has been better than its predecessor. There have not been many new undertakings formed, as investors have not recovered confidence after the disappointments previously experienced, and in view of the amount of capital which has been lost owing to the keen depression, particularly in the automobile, cotton, and chemical industries. During 1911 dividends have generally been small, and in the cotton trade profits have been quite out of the question.

Various attempts have been made to form a cartel to regulate production and prices of cotton goods, but so far without success. At the general meeting of the Cotonificio Veneziano, held in Venice, recently it was decided to reduce the capital of the company from 9,600,000 lire to 4,200,000 lire, in order to meet the heavy losses due to the depression in the cotton trade. Another important Italian cotton company, the Cotonificio Vincenzo, Catania, has decided to go into liquidation. There is said to be a deficit of about 2,000,000 lire.

No. 1.—Abstract Statement of the Quantity (in pounds) of Yarn Spun.

(a) Mill closed since October, 1909 (c) Including the production of one mill only from April, 1909
(b) Figures included since April 1911

[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 and coloured piece-goods]

(a) From the month of August, 1910 (b) Including the production of one mill only from April, 1909

Imports into Bombay	{ By sea	cwt.	24,78
	{ Coastwise	"	18,14
	{ By rail	"	27,12
Imports into Karachi by rail	"	"	60,00
" " Calcutta by rail and river	"	"	25,71

	Calcutta by rail and river	owt.	96,503
	Karachi by rail	"	624,686
Imports into	Bombay	By sea	112
		Coastwise	37,444
		By rail	23,462
		Calcutta	36,063
Exports by sea from	Bombay	"	333,316
	Karachi	"	

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,719,870	4,067,436	119,984	195,658	1,514	488	Not	reported.
Bombay	"	2,888,323	3,332,652	456,260	276,255	171,518	44,113	1,096,673	1,554,486
Karachi	"	20,346,029	2,556,638	29	...	1,244,872	611,790	Not	reported.

KEROSENE OIL, WEEK ENDING 9th MARCH, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	420,586	420,586
Bombay	...	7,188	...	7,188
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
		Bengal	1,808	
		E. B. & Assam	950,276	
		Bombay	...	
		Sind	...	
		Madras	...	
		Indian Ports, Non-Br.	...	
		Foreign Ports	...	

IMPORTS OF SUGAR, WEEK ENDING 9th MARCH, 1912.

	REFINED SUGAR IMPORTED INTO						TOTAL.
	Calcutta.	Chittagong.	Bombay	Karachi.	Madras.	Rangoon.	
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	6	...	10	31	15	1	63
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	213	...	...	213
Other European Countries	...	...	1	...	...	...	1
Java	121,374	...	10	108	...	24,996	146,488
Mauritius	1,233	...	84,156	...	...	...	85,389
Other Non-European Countries	2,000	...	298	192	...	7,921	10,411
Total refined							242,565
Total unrefined							5,999
Grand Total							248,564

—Messrs. W. R. Dunstan and J. R. Hill, in a recent communication to the Chemical Society, come to the definite conclusions "that the presence of carbonic acid or of any acid is not essential to the rusting of iron, for which only dissolved oxygen and iron are the necessary conditions," and that all agents which prevent rusting render iron passive, and that the inhibition of rusting is the direct result of the passive condition of the iron. The tests of passivity used were (a) a solution of nitric acid of the relative density 1.2, (b) a solution of 0.5 per cent. of sulphate of copper; or the iron was immersed in distilled water and the time noted which elapsed before rusting began. Not only alkalis but a variety of salts, such as potassium chromates, potassium iodide, permanganate and ferrocyanide, as well as hydrogen peroxide, prevent rusting. After the iron has been exposed to the action of the agent it must be washed with distilled water and not touched with the hands

or shaken too violently or its passivity is destroyed. Whereas ordinary iron is at once attacked by diluted nitric acid iron which has been rendered passive remains bright and unaffected by the acid during times varying from a few seconds to several hours; if it is touched with a piece of active iron or scratched with a sharp glass rod, action at once sets in, spreading from the point touched over the whole surface. When active iron is introduced into a dilute solution of sulphate of copper a film of copper is at once deposited; passive iron may remain hours in the solution unaffected and bright, but if touched or scratched, copper is at once deposited, the film spreading gradually from the point touched over the whole surface. The results are, says a contemporary, regarded as clear proof that in all cases the passivity is due to the formation of a film of oxide on the surface of the metal, but there is no novelty in the conclusion.

RUBBER EXPERIMENTS.

WE take the following particulars from the *Bulletin of the Imperial Institute* :—

R. H. Lock records in *Circs. and Agric. Journ.*, *Roy. Bot. Gard., Ceylon* (1911, 5-231), the results of experiments carried out on old Hevea trees at Heneratgoda during a period of over three years. The effects of various conditions on the response to tapping, yield of rubber, percentage of rubber in latex, growth and renewal of bark, are considered. The tapping was done with the Bowman-Northway paring knife, followed by the sharp-pointed pricker. The area tapped at one time extended half-way round the trunk, and was occupied by three vertical wide V-shaped cuts one foot apart. Four areas were tapped in the following order: (1) on the west side at the base of the tree; (2) east side at the base; (3) west side above area No. 1; (4) east side above area No. 2. When area No. 4 was exhausted tapping was recommenced on the renewed bark of area No. 1.

The following conclusions are given as being applicable to old trees which have rested for a considerable period: (1) The yield per tapping increases with the interval between successive tappings up to an interval of four days, and remains high up to an interval of nine days. The increase, however, is not sufficiently great to make it desirable to tap less frequently than once a day where labour is available; (2) there is a slight but definite seasonal variation in yield which rises to a maximum about December, and falls to a minimum about May; (3) the percentage of rubber in the latex varies in the same way and to a somewhat more marked degree; (4) although climatic conditions exert some effect on yield, there is no closer relation between rainfall and yield.

In the same *Journal* (1911, 5-301), M. K. Bamber and J. A. Holmes give the result of tapping experiments at Peradeniya during 1910-11, with Hevea trees four to five years old. Some of the trees were tapped on the full herring-bone system with the knife and pricker, others on the half spiral system left to right half-way round the tree, and a third set was tapped on the spiral system right to left. In another set of experiments, incision methods of tapping were adopted in order to avoid removal of bark. It is stated that the chief drawback to this system is the large proportion of scrap formed, and the dark colour of the rubber. Accounts of other tapping experiments are also included, e.g., tapping on the half herring-bone system, quarter-section tapping, third-section tapping. In all cases the monthly yields are recorded. Analyses of soils from the Rubber Experimental Plots at Peradeniya are quoted.

In a subsequent circular of the same series (1911, 5-317) R. H. Lock and M. K. Bamber quote the results of tapping experiments on a tree raised from one of the seedlings sent out to Ceylon from Kew in 1876. The tree had a girth 8 feet 6 inches at 3 feet from the ground. Three wide V-cuts covering

half the circumference of the trunk one above the other and a foot apart were made. When the bark on one-half of the tree was exhausted, the other side was treated similarly; the period required for the total removal of bark from the four areas formed was rather over two years. This necessitated 500 tappings, at an average interval of 1.3 days, 1-15 of an inch of bark being removed at each operation. The Bowman-Northway knife and pricker were used. In 1909 the yield of dry rubber was 76 lbs., and in 1910, 84 lbs., or 4.15 ozs. and 5.04 ozs. per tapping respectively. The total yield for the 600 tappings was 162.5 liters of latex, giving 26½ lbs. scrap and 147½ lbs. biscuit rubber in a little more than 25 months, being an average of nearly 7 lbs. per month. The average proportion of dry rubber in the latex was 41 per cent.

NOTICE.

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

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CALCUTTA, THURSDAY, MARCH 21, 1912.

[ANNAS 4.]

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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	7 per cent. (Mar. 7).
	Bombay	7 per cent. (Feb. 22).
	Madras	8 per cent. (Jan. 29).
EXCHANGE	On demand	1-4½
	Telegraphic	1-4¾
	Transfers	
	3 months	1-4½
	6 months	1-4¾

GOVERNMENT PAPER (3½ per cent.) Rs. 95-15.

The spot price of wheat at Karachi on the 16th March was Rs. 32-0-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 19th March was Re. 0-8-3 to Re. 0-9-0 per lb. and of cotton (Fully Good Oomras) ready goods, Rs. 266 per candy of 784 lbs.

His Majesty's Commercial Attaché at Yokohama (Mr. E. F. Crowe) reports that the actual crop of rice in Japan in 1911 was 51,638,221 koku (koku = 4·96 bushels) as compared with 46,633,376 koku in 1910, and 52,437,662 koku in 1909. Although considerably less than the estimates, the 1911 crop was 10·7 per cent above the 1910 crop and 5·2 per cent better than a normal crop.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop.	Tracts comprised in the figures.	Percentage of average Indian crop represented by the tracts mentioned in col. 2.	Estimated Area.	Ratio of reported area to annual average for these tracts at corresponding date.	Estimated outturn.	Ratio of estimated outturn to annual average for these tracts at corresponding date.	Date of publication of the forecast in the Journal.
1	2	3	4	5	6	7	8
Indigo	Bengal, Madras, Punjab and United Provinces.	98.3	Acres 271,100	Per cent. 81	Cwts (dye) 48,700	Per cent. 101	Dec. 21st, 1911.
Wheat	Practically all wheat growing tracts.	99.8	29,444,000	115	Information not yet available.	...	March 14th, 1912.
Rape and Mustard	U. P., Punjab, Bengal, E. B. and Assam, N.-W. Frontier, Bombay, Sind* and Hyderabad.	99.5	3,309,300	(a)	Do.	...	Do.
Linseed	U. P., C. P. and Berar, Bengal, Bombay, E. B. and Assam and Hyderabad.	98.6	3,464,800	(a)	Do.	...	Do.
Sesamum (oil or jinjili)	U. P., C. P. and Berar, Madras, Bombay, E. B. and Assam, Bengal, Punjab, Sind* and Hyderabad.	79.3	4,164,700	92	Tons 311,900	81	Jan. 18th, 1912.
Groundnut	Madras, Burma and Bombay.	(a)	1,200,900	121	542,200	120	Feb. 16th, 1912.
Cotton	All cotton growing tracts.	100	20,393,000	95	Bales 3,135,000	77	Do.
Rice	Bengal, E. B. and Assam, Madras and Lower Burma.	77.7	56,443,000	101	Cwts 521,992,000	113	Feb. 22nd, 1912.
Sugarcane	U. P., Bengal, Punjab, E. B. and Assam, Madras, Bombay* and N.-W. Frontier.	98.4	2,331,700	102	Tons 2,390,400	114	Do.

N. B.—The ratios in column 3 are calculated on the total acreage in all India in the case of wheat and cotton and on that in British India in the case of other crops.

* Including Native States.

(a) Data for calculation of ratio not available.

The total approximate gross earnings of, State and Guaranteed Railways from 1st April, 1911, to 2nd March, 1912, show a gain of Rs. 3,87,71,901 as compared with the corresponding figures for 1910-1911.

Sanction has been accorded to the construction by Messrs. Killick, Nixon and Company of a line of railway on the 2' 6" gauge from Godhra on the Bombay, Baroda and Central India Railway to Lunavada, a distance of 25.42 miles. The project will be known as the Godhra Lunavada Railway.

During the quarter ended the 31st December, 1911, the following additional locomotives and coaching and goods vehicles were placed on the several Indian Railways, viz.:—Broad (5' 6") gauge.—Locomotive 15; coaching vehicles 233, and goods vehicles 685. Metre gauge.—Locomotives 2; coaching vehicles 41, and goods vehicles 286. Narrow (2' 6") gauge 2 coaching and 18 goods vehicles.

The export of cotton yarn from Japan in January amounted to 12,457 piculs (picul = 133½ lbs.) showing a decrease of 8,597 piculs as compared with January last year and a decrease of 11,086 piculs as compared with the preceding month. The figures for the several ports of export are as follows:—

	Thick. Piculs.	Middle. Piculs.	Fine. Piculs.
Osaka	3,337½	394½	92½
Kobe	6,982½	94	91½
Moji	1,360	—	—
Yokkaichi	30	5	—
Yokohama	—	60	20

As January is near to the commencement of the Chinese New Year the export generally declines somewhat, but this year the whole trade was, of course, seriously affected by the civil war. The trade at Kawaguchi, near to Kobe, came to a complete standstill, and it was impossible to get merchants to take up the goods which they had previously ordered. The principal ports of destination were as follows:—Shanghai, 5,387 piculs; Tientsin, 365 piculs; Chafoc 577 piculs; Newchang, 1,250 piculs; Dairen, 711 piculs; Hong-Kong, 1,583 piculs; Korea, 2,17½ piculs. It is believed that on the settlement of the Chinese trouble the trade will soon improve. The price of silver in China has shown a marked rise and although it will naturally take a long time for the money market in that country to right itself there is a much more optimistic feeling. The general movement of Japanese financiers to interest themselves in Chinese undertakings is regarded as a sign that their Government has inspired them with the advisability of getting in early. Already the great banking house of Okura and Co. has supplied three million yen to the Shanghai-Ningpo Railway Company.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 8 weeks ended 22nd February, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 22nd Feb., 1912.	8 weeks ended 22nd Feb., 1912.	Week ended 22nd Feb., 1912.	8 weeks ended 22nd Feb., 1912.
	Bales.	Bales.	Bales.	Bales.
American	90,130	953,724	9,858	79,914
Brazilian	6,117	9,894	135	1,554
East Indian	2,479	4,408	100	884
Egyptian	22,305	176,090	1,112	39,428
Miscellaneous	888*	15,337†	206	1,777
TOTAL	121,919	1,159,453	11,411	123,587

* Including 338 bales British West Indian, and 272 bales British East African.

† Including 1,277 bales British West Indian, 77 bales British West African, and 4,259 bales British East African, and 396 bales foreign East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The statement below shows the quantity of Indian yarn (cotton) exported to China and the Further East in each month since April 1911:—

	China.	FURTHER EAST.					
		Straits Settlements.	Siam.	Java.	Philippines.	Japan.	Total.
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
April 1911	9,897,600	357,610	3,200	170,110	2,000	28	532,978
May 1911	8,982,800	233,500	8,400	157,900	...	...	300,800
June 1911	9,064,400	169,360	1,000	120,230	...	...	291,190
July 1911	14,068,800	427,050	10,400	81,500	...	...	518,950
August 1911	5,973,600	254,000	4,000	85,100	...	10	343,110
September 1911	16,913,450	678,580	9,200	...	...	...	687,780
October 1911	14,672,000	134,400	10,800	78,300	3,000	...	226,500
November 1911	6,252,400	448,300	6,800	13,700	3,000	...	471,800
December 1911	4,615,770	424,350	6,400	83,150	5,000	...	518,900
January 1912	10,514,000	321,200	...	...	...	...	321,200
February 1912	10,572,836	545,666	31,600	62,470	4,000	...	613,736

The *Manchester Guardian* writing of the boom in the cotton trade says:—The Alma Spinning Mill (Oldham) which has been closed for 18

months, has been taken over by a syndicate from Messrs. Peter Schofield, Ltd. The mill, which contains 64,000 spindles, is expected to re-start spinning as soon as possible. In Blackburn several new sheds are contemplated. The Parkside Mill Company are about to build a mill to accommodate 1,000 looms; another is to be built in the Livesey district to accommodate 700 looms; a third, near the cemetery, is reaching completion, the owners being the Blackburn Mill Company, and a fourth is to be planned in Didsbury-street. In Great Harwood, Mr. Arthur Birtwistle, of the firm of Messrs. Birtwistle and Fielding, is about to build a large shed. In Darwen two or three large sheds are to be built this year, and in Rishton, a site has been obtained for another new mill. Church, Accrington, Brinscall, and other neighbourhoods are also to have new sheds in the near future.

The *Corn Trade News* gives the following summary of the world's crops as on the 27th ultimo:—*United States of America*.—Still some complaints about Soft Winter Wheat crop but Hard Wheat favourable. Arrivals continue come forward freely but decrease yesterday; stocks maintained with small outgoings. *Canada*.—Arrivals at Winnipeg continue large and further large quantities predicted. Recent improvement grading maintained. Stocks increased. *Argentina*.—Mail advices just to hand confirm that wheat threshing results have been disappointing and below official indications. Expectations for Linseed and Oats about as recently whilst Maize prospects continue Excellent. Still complaints about railway disorganisation, but exports last week totalled 650,000 qrs. which fair. *Australia*.—Our agent reduced his estimate for New South Wales 2—3,000,000 bushels and he thinks season will be short, the bulk of Wheat crop being got away before end of March. Present export movement good size. *Russia*.—Weather reasonable and position of winter crops mostly favourable, although some complaints from Don territory. Arrivals at ports very small, stocks, further decreased. Volga regions continue take Wheat other parts and indications point very small Wheat shipments in spring. *Roumania*.—Weather fine, mild and favourable, crop conditions satisfactory. Danubian navigation expected re-open soon. *Hungary*.—Weather reasonable, crop news favourable. Supplies of wheat about normal. *France*.—Weather mild, vegetation progressing rapidly. Some districts complain scarcity of Wheat, but supplies in big growing regions plentiful. *Germany*.—Some complaints about crops, but not considered serious; weather changeable, with occasional sharp frost. Offerings native grain moderate, but trade in foreign sorts very dull. *Italy*.—Weather not very seasonable, but no complaints about crops. Native Wheat generally firm, but offerings a trifle larger. *United Kingdom*.—Winter wheat looks well. Dry weather wanted for Spring seeding.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns, in the week ended 24th February, 1912, were as follows:—Wheat, 34s. 6d.; barley, 32s. 8d.; and oats, 21s. 9d.

Lord Strathcona, High Commissioner in London for Canada, has been informed by cablegram from the Minister of the Interior at Ottawa, that grain inspections at Winnipeg during the week ended 14th February, covered 3,131 carloads, of which 2,384 were wheat, 538 oats, 99 barley, 110 flax. The advance guard of American farmers who will enter Western Canada this spring will bring with them approximately a \$1,000,000 in goods and money. The Grand Trunk Pacific Railway is about to build at Fort William, Ontario, an elevator which will hold 30,000,000 bushels of grain, and will be twice as large as the biggest elevator at present in existence. Alberta wheat is being sold for the Mexican markets, and this will greatly benefit the port of Vancouver. The manager of the Public Elevator Company, Calgary, Alberta, states that there will be no grain spoiled there, owing to lack of transportation facilities. Cars may not arrive as rapidly as might be wished, but the entire crop will be moved in good time.

The *Bulletin of Agricultural Statistics* for February, 1912, published by the International Institute of Agriculture, Rome, contains preliminary returns of the wheat and oats harvests in the Southern Hemisphere. The outturn of wheat is estimated in Argentina at 46,420,000 quintals; Chili 10,500,000 quintals; Australia 20,508,000; New Zealand 1,765,662; or, expressed in percentages of last year's production in the individual countries, these figures work out at 125.1; 106.9; 79.2, 78.4 respectively. If to these figures be added the wheat production of the Northern Hemisphere in 1911 as published in last month's *Bulletin* (see *Indian Trade Journal* of February 22nd, 1912, page 250) for the following countries: Germany, Austria, Belgium, Bulgaria, Denmark, Spain, France, Great Britain and Ireland, Hungary, Italy, Luxemburg, Norway, Netherlands, Roumania, Russian Empire, Sweden, Switzerland; Canada, United States; India, Japan; Algeria, Egypt, Tunis, a total wheat production of 937,671, 220 quintals is obtained, which is 99.5 per cent of the production in 1910. The production of maize in Argentina is estimated at 70,000,000 quintals as against 7,000,000 quintals last year, when an abnormally low yield was obtained owing to the drought. The area sown to wheat during the autumn of 1911 in Belgium, France, Great Britain, Hungary, Roumania and Japan is greater than that sown during the corresponding period of 1910, but is less than that sown in the autumn of 1910 in Spain, Canada, United States and India. The condition of the winter cereal crops in the Northern Hemisphere is good.

The *Bulletin* also contains figures of the last livestock census in the United States, which was taken on April 15th, 1910. Several communications from various governments are given among which those from Portugal, Brazil and Chili referring to the establishment of bureaus of agricultural statistics in these countries are of special interest. (Quintal = 220.46 lbs)

The *Union Gazette* of 19th January publishes the following figures showing the number of bags (of 200 lbs. net) of maize exported overseas from British South Africa in the year 1911, the figures for 1910 being added for purposes of comparison:—

	1910.	1911.
	Bags.	Bags.
Transvaal	759,830	654,441
Orange Free State	794,266	314,731
Natal	192,026	41,566
Cape Province	2,758	7,892
Bechuanaland	3,445	...
Basutoland	7,883	...
Total	1,760,208	1,018,630

The Government of the Punjab draws attention to the marked improvement of irrigation and the prosperity of the colonists at Lyallpur. The colonists have hastened to acquire proprietary rights in their holdings on very favourable terms offered by Government and, besides spending 20 lakhs in land purchase, remitted 22 lakhs by Money Order alone to other districts. This, says the Resolution on the Report on the Punjab Canal Colonies, is a startling testimony not only to their prosperity but also to the effect of colonies on the agricultural and economic conditions of the entire province. In these tracts, as in the times of Solomon, silver is of no account, and ordinary headmen present "Nazara" of several sovereigns, and the absorption of gold is so large as to cause apprehension in some quarters. With regard to the agitation against the law of primogeniture prevalent in certain colonies, the Lieutenant-Governor of the Punjab observes that nothing should encourage the idea that agitation will lead to abrogation of primogeniture. The continuance of horse-breeding depends upon the maintenance of large holdings which is possible only under primogeniture, and Sir Louis Dane thinks the colonists must learn to appreciate the stability of contract whose fulfilment was a main condition of their getting land at all.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 19th instant was 98,468 bags, while the stock in Bombay on the 15th idem amounted to 70,000 bags.

The following information regarding the recent difficulties in the Manchurian bean trade has been furnished, under date 7th February, by the British Acting Consul at Dairen (Mr. H. Horne):—Something like a deadlock has recently been experienced in the bean export trade of Manchuria as a consequence of over-trading and speculation on forward contracts. The radical cause of the trouble is the non-existence of any custom which demands earnest money from buyer or seller at the time of transacting forward business. Moreover, gambling transactions received a stimulus from a recent assertion of the local Japanese authorities that such transactions could not be viewed by the Courts as subjects of litigation. The consequences of speculation are, of course, felt in some measure in all normal years, but they were much more pronounced this year, for the reason that prices did not fall towards the approach of the Chinese New Year, as is usually the case. Increased prosperity has enabled the Chinese farmer, who is still mindful of the high prices ruling at the close of the last two seasons, to hold up his stocks. As a result of this action high prices ruled, and the smaller dealers, who speculated on normal conditions, were not able to fulfil their forward contracts with the market against them. Speculation was not confined to bean dealers alone; the local oil and cake millers acted on similar lines. As a remedy for the disturbance three measures were proposed, two of which are indeed already in operation. The first was the suspension of all forward contracts; the second, a compulsory deposit, upon definite terms, of guarantee money ranging from 10 per cent. to 50 per cent. from buyer and seller. These measures were proposed by a Committee of the Staple Produce Dealers' Association. The third measure was a proposal for the settlement of prices on forward contracts then falling due by a committee composed of the Civil Administrator of Dairen, and representatives of the Yokohama Specie Bank and the Mitsui Bussan Kaisha. Up to the end of January the exports of beans to South China showed a decrease of 65 per cent on the figures for the corresponding period of last year; exports to Japan maintained their position; Europe has taken about 15,500 tons.

The Hull correspondent of the *Oil and Colour Trades Journal* writing on the 22nd ultimo regarding the Hull oil market says.—Rape oils: Ravison, 27s. 6d. to 27s. 9d.; brown East Indian, 30s. 3d. to 30s. 6d. Linseed oil: The market is steady, with spot at 35s.; March-April, 33s. 9d.; May-August, 31s. 1½d. The exports for the week amounted to 47 tons, of which America took 11, Denmark 2, Egypt 22, Norway 10, and Portugal 2 tons each. Cotton oil: This market is steady, with refined cotton oil at 22s. 1½d. spot; 22s. 9d. February-April; 24s. May-August. Grade oil 20s. 6d. spot. The exports for the week amounted to 63 tons, of which Belgium took 1, Denmark 5, Germany 19,

Holland 31, Italy 5, and Sweden 2 tons each. Soy bean oil, 24s. spot; 24s. 6d. crushed. The exports for the week amounted to 310 tons, of which Africa took 2, America 66, Belgium 10, Germany 72, Holland 143, Norway 1, and Sweden 16 tons each. Coconut oil quiet. English in casks £39 to £40 per ton ex mill. Castor oil quiet. Spot unchanged. Calcutta forward 3½d. per lb. quay terms. Colza oil quiet. East Indian refined 34s. 6d. and Stettin 36s. 6d. per cwt. Lard oil quiet, but steady at 48s. 6d. per cwt. for best English refined. Olive oil quiet. Spot Spanish £41 to £41 10s. per tun ex store. Palm oil flat and continues easy. Near Benin at £27, Lagos at £28 15s., and forward softs at £28 transit. Refined sorts continue dull, unchanged. Petroleum very firm at 7½d. per gallon for American ordinary 8½d. for R. D. and 9½d. for W. R. Turpentine quiet, steady at 35s. per cwt. for spot; 35s. 3d. March-April, and 35s. 6d. for May-June.

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

For the week ending 16th March, 1912—

In the Calcutta market—

Behar opium—Rs. 5,500; 5,450; 5,350; 5,500; 5,600; 5,600; 5,600.

Benares opium—Rs. 5,400; 5,350; 5,300; 5,450; 5,500; 5,500; 5,500.

No quotations received in regard to the prices in the time bargains for the Behar opium of the 4th sale of 1912.

At Hongkong—(Exchange: Rs. 142 per \$100.)

Behar opium—\$4,100 and 4,150.

Benares opium—\$4,150.

At Shanghai—(Exchange: no quotations received.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 9th March, 1912—

In the Bombay market—

(New, 1909-10) Rs. 4,900; (old, 1908-09) Rs. 5,175. The latest prices at Hongkong and Shanghai were (new) Rs. 5,022 and 5,417; (old) Rs. 5,166 and 5,516, respectively.

The *Cyprus Gazette* of 2nd February notifies that alternative tenders are invited by the Government of Cyprus for a weekly or fortnightly mail steamship service between Limassol and Paphos. The service is to be performed by vessels classed equal to A¹ at Lloyds and having first-class accommodation for at least 10 passengers. The contractor will be required to start the service not later than 1st June. The contract may be for a period of three years. Tenders will be received by the President of the Tender Board, Chief Secretary's Office, Nicosia, up to 30th March.

It is stated that M. Ostromislensky, Professor of Chemistry at the Imperial Technical School, Moscow, has solved the problem of making **artificial rubber**. When studying the properties of benzol he found a substance, the structure of which closely resembled rubber. Acting upon that discovery, he has synthetically produced what is said to be a perfect substitute for natural rubber. Ultra-violet rays play a considerable part in the process. The elasticity and resilience of the new substance are described as equal to rubber, and the price is 23 roubles (£2 6s.) per pood. (pood = 33.113 lbs.)

In their **rubber market** report, dated London, February 29th, Messrs. Gow, Wilson and Stanton, Ltd., write:—The chief feature of the market since the last auction has been its continued steadiness and the narrow fluctuation in prices. The offerings at this week's sale amounted to the record total of 850 tons. The sales opened with good general competition, prices being much on the basis of those ruling a fortnight ago and a steady improvement in the tone was noticeable as the sale proceeded. The best demand was for medium and dark Crepes and in many cases these showed an advance of up to about 1d. per lb. on previous rates, while for contract qualities the quotations range from 5s. 3d. to 5s. 4d. per lb. Almost the whole of the offerings were very rapidly absorbed, only the star lots remaining for disposal on the third day. In view of the large quantities of rubber which have come on the market since the beginning of the year, it is interesting to note that there has been a fluctuation of only 1d. per lb. in the averages of the last four auctions. This is a striking indication of the steadiness of the demand in face of the increased supplies. The Planters' Association of Ceylon estimate the crop of Ceylon rubber for 1912 at 5,500 tons, an increase of 2,300 tons on last year's actual output.

In their report on **London tea sales**, dated March 1st, Messrs. Gow, Wilson and Stanton, Ltd., say:—The larger quantity of 46,038 packages brought forward proved to be in excess of present trade requirements. At both auctions demand was quiet, as with country trade slack, many buyers were only prepared to operate where a distinct concession in price was made; the bulk of the offerings too were unattractive, many parcels having red and stalky leaf with thin liquors, which accounted for some lower quotations being recorded than for many months past. The best liquoring invoices from Assam, Doorga, and Darjeeling, met with fairly good competition at about late values, but for all other descriptions much irregularity with often fractional declines took place. The market closes for the week with common and mediums mostly a full 1d. per lb. cheaper. 39 final invoices have been printed to date against 29 last year. 37,127 packages are printed

for next week, a considerable reduction on recent offerings. Average for week 8.74d., against 8.76d. last sale. Week's average of tea sold on Garden Account, Season 1911-12, 44,530 packages, average 8.74d. 1910-11, 32,182 packages, average 8.97d. Season 1911-12, to date 1,298,232 packages, average 9.14d. Season 1910-11 to date 1,190,050 packages, average 8.57d.

It appears from the Report of Forest Administration in **Eastern Bengal and Assam** for 1910-11 that the causes which have up to date militated against the exploitation of major forest produce in the Eastern Circle are: (1) the lack of definite knowledge of the forest resources through lack of working plans, the latter having been largely delayed by lack of maps; (2) the lack of main export roads and consequent inaccessibility of the reserves; (3) the lack of an established market for **Assam timbers** in Calcutta and elsewhere outside the Province. There are, says the Report, signs now of a certain interest in Assam timbers in outside markets, and if this can be developed by business firms with a personal interest in the matter, there should be a great future for our forests. Careful enquiries were made during the year as to the **tea box industry** in the Surma Valley. This was said to be in a languishing condition owing to the impossibility of competing with outside firms, both provincial and foreign. Owing to the local conditions it was thought inadvisable to introduce the box royalty system which is in force in Assam, but as some steps seem necessary a reduction royalty on timbers used mainly for boxes will, it is stated, probably be tentatively introduced. Tapping was carried out over 336 acres in the Charduar rubber plantation and 66 acres at Kulsi. The yield at Kulsi was 3,420 lbs., giving an average of 52 lbs. per acre, a marked improvement on the results of previous years. At Charduar constant rain interfered with the tapping and damaged the rubber collected. The total outturn fell from 12,971 lbs. in 1909-1910 to 9,087 lbs., and the average yield from 37 lbs. an acre to 27 lbs. The cost of extraction rose from 6 annas 3 pies a pound to 6 annas 11 pies at Kulsi, and from 6 annas 2 pies to 7 annas 4 pies a pound at Charduar. In view of the uncertain state of the market it was decided to send the rubber for sale in England. From the reports of the sales of the first consignments it would appear that an average price of Rs. 2.9 per lb. may be expected as compared with Rs. 3.0-1, the price obtained in India in 1909-1910. The Charduar plantation was offered for sale during the year under review but failed to attract tenders. Experiments in connection with **lac** at Buxa, and with *Catalpa speciosa* and *Cereu* rubber in Kamrup are reported to have failed. The cultivation of lac on arhar in Sylhet is also reported to have been a failure after some years' trial and has been given up.

The Mexican Eagle Company, one of the biggest of its kind, says the *Manchester Guardian*, was formed in August 1908, and the following year acquired from Messrs. C. Pearson and Son, Ltd., their oil concessions, oil properties, and **oil interests in Mexico** so far as they related to or were situated in the area north and west of a straight line drawn from the city of Vera Cruz to Puerto Angel on the Pacific Coast. The Company owns five concessions under which it has the exclusive right—except in the case of the State lands of Tamaulipas—to exploit for oil all national and vacant lands belonging to the Federal Government. The leasehold properties represent 300 square miles of specially selected oil lands held under numerous leases either directly or indirectly. The Company also holds freehold property in Mexico city, freehold land in Vera Cruz, Tampico, Taxpam, and numerous installations throughout the Republic, the assets of the Mexican Eagle Steamship Company, and a narrow-gauge railway and pipe line. It was estimated last year that a new pipe line, then in course of construction, would raise the capacity 40,000 barrels per day. The Company has secured about 40 per cent of the whole of the retail trade of Mexico in spirit and illuminating oils and has a contract for supplying all the oil fuel required by the Mexican Railway Company. Last year it was reported that the Gates interests, acting on behalf of the Standard Oil group, were negotiating for the purchase of the property, but probably the death of Mr. W. Gates caused the abandonment of the scheme. The Company's capital is 30,000,000 (Mexican), in 2,150,000 ordinary shares and 850,000 preferred ordinary of \$10 each. It is now announced that a company has been formed called the Eagle Oil Transport Company, Ltd., with a capital of £1,000,000 for the purpose of building **tank steamers** to carry the product of the oil company from Mexico to the various **markets of the world**. Contracts have been given out for a fleet of nearly 20 tank steamers, having a capacity of nearly 250,000 tons, the whole being fitted for the consumption of oil fuel. It is said that the size of the largest steamer will be greater than any existing tank steamer, and the capacity of the fleet will enable it to convey to distant markets well over 1,000,000 tons a year of the Company's product. The directors of the new concern are Lord Cowdray, Mr. Thomas B. Bowring, Major W. A. Adam, the Hon. B. Clive Pearson, Mr. Clive Bowring, and Mr. John Purdy.

Applications in respect of the following **new inventions** were filed in the Patent Office, Calcutta, during the week ending 9th March, 1912:—F. Shuman—Improvements in utilising solar heat. G. Nordenholt—Improvements in decorticating machines. J. C. Chisholm—Process of refining crude cotton-seed oil. R. M. Hughes—A spring wire bag to be used for the purpose of picking up and dropping the balls of Neale's Block instrument. A. Shaw—Improvements in washers for bolts and

nuts. I. S. McDougall, I. McDougall and S. McDougall—Improvements relating to insecticides, sheep dip, vermifuges and the like. J. A. Hill—Improvements in and relating to furnace grates for locomotive and like boilers and other purposes. J. A. Cameron—Moving picture machine. Sir W. G. Armstrong, Whitworth and Company, Limited—Improved means for handling coal. J. Anderson—Improvements in feathering wind sails or propellers, applicable for wind mills, air ships and other purposes. W. N. Dennison—Improvements relating to talking machines. A. Shaw—A bolt and nut fastener for use in connection with fish-plate and the like. A. D. Smith—Improvements in automatic couplings for railway, tramway and other similar vehicles. The Consolidated Brake and Engineering Company, Limited, and E. S. Luard—Improvements in or connected with brake mechanism for railway and like vehicles. H. A. Humphrey and W. J. Rasdell—Improvements in apparatus for raising or forcing liquids. A. R. Angus—Improvements in or relating to railway safe running devices, "EE." F. Annett—Improvements in fish-plates or rail joining means for railways and tramways.

Rules to control the preparation, possession and sale of denatured spirits in the Madras Presidency are published in the *Fort St. George Gazette* of the 12th instant and will come into force from August 1st next.

In the *Burma Gazette* of the 9th instant are published **draft rules** under section 37 of the **Indian Factories Act**. These will be taken into consideration on or after 15th May, 1912, together with any criticisms that may be offered.

The **weather conditions in India** for the week ended Tuesday last were marked by unusually dry westerly winds over northern India, with the exception of Kashmir where there has been a tendency towards precipitation. In the southern-half of North-East India numerous thunderstorms with very light rain occurred. In west and north of Baluchistan unsettled conditions prevail. In parts of Lower Burma skies are cloudy, while in Central India and the Peninsula the air is somewhat drier than usual.

The American Court of Customs Appeals has now decided that the accepted **bushel measurement in the United States** is the English "Winchester Struck Bushel" of 2,150.42 cubic inches, equal to .959 of the English bushel, which has heretofore been the recognised measurement of the American Commercial bushel, but when applied to apples and pears it should be heaped up so as to contain 2,747.715 cubic inches.

The table below, which is abstracted from the *Indian Forester*, shows at a glance the general statistical conditions of forests in the various Provinces :—

The figures given are the average of five years ending 1908-09.

PROVINCE.	Expenditure under all heads per square mile.	Percentage of expenditure to gross revenue.	Net revenue realised per square mile of forests.	Value of forest produce supplied to right holders and granted free.	Total of columns 4 and 5.	Percentage of expenditure to gross revenue including value of forest produce supplied free.
1	2	3	4	5	6	7
Bengal	Rs. 76	56.2	Rs. 60	Rs. 23	Rs. 83	48.0
United Provinces	313	54.7	259	52	211	50.1
Punjab	119	61.8	56	89	144	45.2
Burma	28	39.0	45	2	47	37.7
Eastern Bengal and Assam	25	57.2	19	17	36	41.0
Central Provinces and Berar	68	65.1	35	0	44	59.6
Coorg	186	41.5	262	0.8	262.8	41.4
North-West Frontier Province	369	58.8	393	82	480	50.4
Almer	118	81.0	28	29	157	43.0
Baluchistan	79	127.5	...	44	44	74.3
Andamans	142	60.1	94	8	102	59.0
Madras	127	73.7	45	5	50	71.4
Bombay	142	58.4	101	113	214	39.9

N.B.—The figures refer to areas under the control of the Forest Department. Coorg.—The high return is due to the great value of its principal timber, sandalwood. North-Western Frontier Province.—The area is small, 236 miles only, and the timber, doodar, is valuable.

A feature of the tobacco trade is, says the *Glasgow Herald*, the continued strength of tobacco leaf. The prices ruling practically constitute a record for dearness, and, notwithstanding the temptation which those would seem to hold out to growers to increase the acreage, there is very little prospect of any immediate expansion of the production. This is attributable to the increased cost of production, and particularly of labour. In the United States, where the bulk of our tobacco supplies still come from, the increase in this respect has been very substantial. Then for several years past cotton has been offering superior inducements to the grower, with the result that considerable areas previously devoted to tobacco are now planted with cotton. Last year's severe drought, which was practically world-wide, also had an inimical effect on the supply as well as on the quality, while at the other end of the industry the con-

sumption continues to increase in practically every quarter of the globe. Even in Great Britain, where the increase of 8d. per lb. in the duty in 1909 dealt the demand a staggering blow, there are distinct indications of a recovery. In 1911 the consumption of unmanufactured tobacco improved to 101,110,000 lbs. as compared with 96,184,000 lbs. in 1910 and 94,557,000 lbs. in 1909. The current year has not made such a promising start, as the consumption of unmanufactured tobacco for January is 480,000 lbs. down at 7,933,000 lbs.

The following statistics showing the total value of the imports of merchandise into Egypt in the year 1911, as compared with the preceding year, distinguishing the principal countries whence imported, are taken from the official trade returns of that country :—

From	1910.	Percentage of Total Imports.	1911.	Percentage of Total Imports.
	£ E.		£ E.	
United Kingdom	7,311,000	31.0	8,557,000	31.4
France	2,652,000	11.3	2,780,000	10.2
Turkey	2,905,000	12.3	2,809,000	10.3
Austria-Hungary	1,647,000	7.0	1,989,000	7.3
Germany	1,263,000	5.4	1,501,000	5.5
Italy	1,163,000	5.0	1,462,000	5.4
Belgium	871,000	3.7	960,000	3.6
Other countries	5,735,000	24.3	7,169,000	26.3
Total Imports of merchandise	23,553,000	100.0	27,227,000	100.0

The returns show large increases in the imports of textiles of all kinds, flour, machinery, sugar, chemical manures, iron and steel goods, coal, and coffee, in 1911, as compared with 1910. The value of the total exports of merchandise in 1911 amounted to £E28,599,000, as compared with £E28,944,000 in 1910. There was a large increase in the exports of cotton seed; and a moderate increase in the quantity, combined with a decrease in the value, of raw cotton exported.

£E = £10s. 6½d.

According to the *Electrical Review*, the statistics relating to copper during 1911 have been compiled so as to form the basis of an able and exhaustive article appearing in the number of the Chicago "Mining and Engineering World" for 27th January. The world's output for the year is given as 886,640 (English) tons, of which the United States produced over one-half, Mexico, Spain, Portugal and Japan about 1/10th each, and Australasia nearly as much, followed by Chile, and Peru, Russia, Germany and Canada, the last four nearly equal, with 25,700 to 27,000 tons. The percentage output of the United States to the whole production for 30 years is given in another table, from which we note that this was at its lowest (so far as recorded) in 1880, when it was

16.2, and at its highest in 1906, when it was 58.1. For 1910 it was 54.2, and for 1911, 54.8. The curtailment agreement, says the writer, first entered into in 1910, was supposedly for only a period of a few months, but from developments during the past year it appears the agreement was subject to an extension. The productions of the various States are led by Arizona, followed closely by Montana and Michigan, and then by Utah, with about half the production of the first-named. The production by months shows a decided decrease only for August and September, occurring again in November and December, but apparently depending more on trade circumstances than concerted action. The total deliveries give an idea of the state of trade. These were highest in December and lowest in January. Stocks were highest in June and lowest in December. The domestic consumption rises fairly well throughout the year as also does export, while production, which averages 119,300,000 lb., is at its highest, at 130 million lb. in March, and lowest, at 109 millions in February. Imports of copper (including old copper) into United States are given at 108,000 tons, and would appear to fully equal (if not exceed) those for 1910. Prices have been flat, only showing a tendency to rise at the end of the year. Among the opinions quoted on the position is that of Mr. James McLean, Vice-President of Phelps, Dodge and Co. According to his figures, the world's production has increased 73 per cent since 1900, but consumption has increased 77 per cent. Together with other experts, he infers that the limit of production (until new fields are opened up) is in sight, but consumption may still go up. The production for January given by the United States Copper Producers' Association is 58,270 tons, a decrease of 1,544 tons from December. The deliveries to domestic consumers have decreased by about the same amount. The deliveries for export have, however, largely increased. Naturally the stocks have borne the remainder of the consumption.

NOTICES.

CALL FOR TENDERS.

Woollen and Cotton Sweepings.

Offers (by letter) are invited by the Superintendent, Army Clothing Factory, Alipore, for the purchase during the official year 1912-13 of unsorted woollen and cotton sweepings from the Army Clothing Factory, Alipore. Quotations (price per lb. ex-godown) will be received up to the 28th instant. The successful tenderer will be required to execute a formal contract and lodge a security deposit of Rs. 500. All covers to be marked "Purchase of Sweepings."

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.
An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Wood for Boxes.

(1365)—A firm in London desires to be placed in communication with importers of shooks of wood for box manufacture.

Pumping and Turbine Installations.

(1366)—A London firm wishes to be placed in communication with firms interested in pumping and turbine installations.

Cotton.

(1367)—A firm in Smyrna desires to get into touch with buyers in India of raw cotton produced in the neighbourhood of Smyrna.

Hardware.

(1368)—A Sheffield firm of manufacturers of saws, files, machine knives, etc., desires to be placed in communication with firms in a position to take up agency business.

BOOKS OF REFERENCE.

The following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 27th March, 1912 :—

Parliamentary Publications.

Colonial Reports—Annual—No. 707—Tongan Islands Protectorate—Report for 1910. Treasury Chest Fund, 1910-11—Accounts of. Return of the Deaths of Seamen and Fishermen—June, 1911.

Foreign and Colonial Publications.

Belgium—Inde Britannique—Le Commerce de l'Inde britannique pendant l'Année Fiscale 1909-10. Bulgaria—Resultats Generaux du Recensement des Batiments dans le Royaume de Bulgarie au 31 Decembre 1905. Canada—Census and Statistics Monthly—December 1911; Report of the Department of Trade and Commerce for the Fiscal year ended March 31st, 1911—Part IV—Miscellaneous Information. Ceylon—Customs Returns—January, 1912. Egypt—Sudan Government—Central Economic Board—Monthly Report—Vol. VI—No. I—January 1912. Java—Statistiek van den Handel en de in en Uitvoerrecht in Nederlandsch—Indie over het Jaar—1910—Deel I. Spaiu—Resumenes Mensuales de la Estadística del Comercio Exterior de España—Diciembre de los años 1909, 1910 y 1911; Aranceles de Aduanas para la Peninsula e Islas Baleares—Edición Oficial. Sweden—V. Byggnader Och Bostäder år 1910. United States of America—Twenty-seventh Annual Report of the Bureau of Animal Industry—1910.

Indian Publications.

Report on the Operations of the Department of Land Records, Punjab, for the year ending 30th September 1911.

BUSINESS NOTICE.

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

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

Retail trade advertisements cannot be accepted.

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

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

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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. Natesan & Co., and Kalyanarama Iyer & Co., Madras; Thacker, Spink & Co., Simla; Rai Sahib M. Gulab Singh & Sons, Lahore; and A. M. & J. Ferguson, Ceylon.

The Indian Trade Journal.

THURSDAY, MARCH 21, 1912.

MARINE FISH-FARMING FOR INDIA.

ATTENTION has from time to time been drawn in these pages to the work done by the Madras Fisheries Bureau, under the guidance of Sir Frederick Nicholson, in the direction of improvements in the methods of catching, curing and preserving fish. In a *Bulletin* (Vol. II, No. 6) just issued by that Bureau, Mr. James Hornell, F.L.S., the Marine Assistant, describes the fish farming methods practised in Arcachon (France) and in Comacchio (Italy), the only two places where the industry is said to be carried on upon a large scale, and proceeds to consider how far, and with what modifications, the principles underlying these systems may be adapted to Indian conditions in order to increase the food supplies derivable from backwaters, estuarine creeks and sea-ponds along the coast.

The fish farms at Arcachon, Mr. Hornell explains, consist of large shallow ponds and broad waterways

occupying the site of former salt pans and marshes. There is no regularity or settled usage as to shape or area; the configuration of the old marshes and the size of the proprietor's farm are the determining factors. The principal ponds in each farm are however as broad as possible and a usual size is from 300 to 600 yards long by 80 to 120 yards in width, but there is no rule and some extend to twice and even three times a greater area. Several ponds are found on each farm connected by canals and separated by stretches of low land which furnish scanty pasturage for cattle. Each fish farm is separated from the basin by a protective dyke or bund of height and strength sufficient to prevent flooding during high tides and storms. One or more sluices in this embankment provide the means of establishing connection at will between the ponds within and the sea water of the basin without. These sluices and their proper management are the pivots upon which the system depends for its success. Through the careful manipulation of the sluice gates at the right season, outflowing currents are set up which attract the shoals of fry required annually to repopulate the ponds. Another important duty devolving upon the sluices is to keep the water of the ponds in a wholesome and well aerated condition during the period the imprisoned fry are growing to the adult stage. This process of freshening consists of two operations called respectively *faire boire* and *faire déboire*. The former allows the entry of the well oxygenated sea-water of the basin, charged too with quantities of minute life welcome to the smaller creatures within the ponds, the younger fry as well as the minute animals on which the fry feed. By the converse operation, *faire déboire*, is expelled a proportionate amount of pond water more or less contaminated with decomposition products arising from the dejecta of the fish and from decaying vegetation; this water is also less well charged with oxygen than the compensation water admitted from the sea.

The principles governing the system of fry capture and fish-rearing practised at Comacchio are essentially the same as those forming the basis of the Arcachon system; in both the aim is to utilize the natural instincts of certain species of fish in such manner as both to stock enclosed ponds automatically with an ample supply of fry at one season of the year and at another season to trap in quantity such fishes as have attained maturity and whom instinct leads to attempt to pass to the sea for spawning purposes. The differences and modifications between the two systems are, it is explained, due in the main

to the larger field of operations which is involved; the one deals with ponds of restricted area, the other with sections of an inland sea. Apart from the matter of relative size, one of the most important divergences seen at Comacchio is the provision of separate openings in the encircling embankments of each pond for the entry of the fry during ascent and for the construction of pounds or labyrinth traps for the capture of the adult fish.

In the third and concluding chapter of the work Mr. Hornell discusses the scope for marine fish-farming in India. This enquiry, he explains, requires consideration under three heads, namely:—(a) the species of suitable fish available in the Madras Presidency; (b) the waters available and suitable—their characters and extent; and (c) the procedure considered most likely to prove successful as being adapted to local conditions. From an examination of the available data Mr. Hornell comes to the conclusion that the Madras Presidency is particularly favourably situated for the inception of large schemes for the natural cultivation of sea-fish on the Venetian system. So many places are so perfectly adapted for it, that it is difficult, says he, to point to one as being notably superior. All circumstances considered, Mr. Hornell is inclined to think that whereas Dugarazapattanam backwater may be equalled, it cannot readily be excelled as the site of a lagoon fish farm. "The area available is ample in acreage, the depth is of the requisite shallowness, a sufficiency of fresh water is available during the rains to reduce salinity and induce a strong run of fry whereof multitudes belonging to suitable species swarm in from the sea on the annual opening of the bar; finally, prescriptive fishing rights are non-existent in the backwater, the fishing population being most meagre, their operations virtually limited to the open sea." In such circumstances the initiation of a fish-farming industry at this centre would, in his opinion, come as a boon to a population living under conditions of marked poverty.

The Bulletin, which is profusely illustrated, is priced at Rs. 1-4-0 and can be had of the Superintendent, Government Press, Madras.

—It is stated on good authority that the Russian Minister of Commerce and Industry has drawn up a plan for the erection of a large number of grain elevators and granaries throughout Russia, at various ports, on railways, at landing wharves, and in the more important agricultural centres.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

THE Board of Trade Journal, published on the 29th ultimo, relating to Tariff Changes and Customs Regulations, gives particulars about:—

SWEDEN.—Duty-free Admission of Iron Plates coated with Lead—Proposed.

UNITED STATES OF AMERICA.—Bill for Revision of the Duties on Metals and Metal Manufactures—Proposed.

PAPUA.—Customs Tariff Amendments.

EAST AFRICA PROTECTORATE.—Opening of Packages at the Customs.

RUSSIA.—Duty-free admission of certain articles until 1917. Duty leviable on Bisulphide of Carbon. Tariff Classifications.

SWEDEN.—Importation of Articles of Food containing Poisonous Substances.

FRANCE.—Marking of certain Accessories for Jewellery no longer Required. Tariff Decision respecting Crushed Stones for Macadamising Roads. Denaturation of Egg Yolks. Admission of Certain Meat in Detached Pieces.

FRENCH WEST AFRICAN COLONIES.—Definition of Guinea-bloths.

SERBIA.—Marking of the Numbers of Imported Cotton Yarns.

UNITED STATES OF AMERICA.—Decision respecting certain Wood Pulp, etc., imported from Canada. Cases arising under the Food and Drugs Act. Customs Decisions.

COSTA RICA.—Revised Customs Tariff.

VENEZUELA.—Customs Classification of Melted Lard.

PERU.—Method of Payment of Export Duty on Rubber in Loreto.

BRAZIL.—Budget Law for 1912. Suspension of New Consular Invoice Regulations.

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

EAST AFRICA PROTECTORATE.

Packages at the Customs—Opening of.

The *Official Gazette* of the East Africa Protectorate for 15th January last contains a Customs Notice, dated 8th January, stating that, in consequence of a complaint having reached the Customs Department of damage done to contents of packages when being opened at the customs, the public are notified that no packages are ever opened by Customs officials. The practice is for the Customs Authorities to request, when necessary, the importer or his agent to open packages for purposes of inspection, and the responsibility for damage, therefore, does not rest with the Customs officials but with the importer or his agent.

SERVIA.

Imported Cotton Yarns—Marking of the Numbers of.

A Circular which the Servian Minister of Finance has addressed to all Servian Customs houses, instructs Customs officers to take the English system of numbering as the basis for all cotton yarns, to verify carefully the numbers marked on imported yarns, and not to permit the introduction of any yarn bearing a number which does not correspond in every respect with the English system of numbering.

In accordance with the Austro-Servian Commercial Treaty of 1910, however, the division of cotton yarns and thread included in Nos. 274-276 of the Servian Tariff into skeins of 60 threads, as is customary in the trade between Austria-Hungary and Servia, is permitted, if this manner of putting up is marked in print on the covering of packets.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, March 19th.

DURING the week ending March 18th light showers fell in Patna, Monghyr and Bhagalpur. There was no rain in the rest of the Province. More rain is wanted in Murshidabad for cultivation.

Preparation of land for the next season's crops and pressing of sugarcane continue.

Harvesting of *rabi* crops is in progress.

Planting of sugarcane has commenced in some districts.

The standing crops are doing well.

The price of common rice has risen in Burdwan, Nadia, Murshidabad, Khulna, Patna, Saran, Champaran, Monghyr, Purnea, the Southal parganas, Balasore, Hazaribagh and Singhbhum and has fallen in Bankura only.

Cattle disease is reported from Midnapore, Jessore, Khulna, Bhagalpur, Purnea, Angul and Puri.

The supply of fodder and water is sufficient throughout the province except in Burdwan, where fodder is reported to be getting dear.

EASTERN BENGAL AND ASSAM.

Dacca, March 19th.

During the week ending March 18th there has been no rain and its absence is greatly retarding the sowing of rice and jute.

The burning of *ghums* is proceeding briskly in hill districts.

Harvesting of wheat has commenced.

The average retail price of common rice has risen about one per cent. owing apparently to large purchases for export.

Rinderpest is widely prevalent.

CHAMBERS OF COMMERCE.

BENGAL.

THE abstract of the proceedings of the Bengal Chamber of Commerce for the month of February, 1912, contains the following among other items:—

Bengal Smoke Nuisances Act III of 1905.

The Committee referred in the November abstract to certain changes that the Bengal Smoke Nuisances Commission proposed to make in rule 23 which provides that it is an offence:—

- (a) To emit smoke of scale 6—i. e. of the blackest density—for longer periods than are allowed in the table of limits prescribed by the rule; and
- (b) To emit smoke of scales 6, 5 and 4 beyond the periods rateably reduced as noted in the explanation attached to the rule.

The Smoke Nuisances Commission suggested that the rule should be so revised that its practical effect would be:—

- (a) To allow no period for the emission of smoke of the greatest density, viz., scale 6 of rule 21; and,
- (b) Consequently, to reduce the period for which smoke of scales 5 and 4 rateably reduced may be emitted; and,
- (c) To make it an offence to emit smoke of scale 5 for longer periods.

The Committee of the Chamber consulted the Indian Jute Mills Association concerning these proposals, and subsequently expressed their disapproval of them. The jute mill owners whose mills would be affected by the change are strongly opposed to any curtailment of the time limits, as, so far as they are concerned, there is nothing to show that need exists for greater stringency. In November last the Government of Bengal placed before the Committee a further communication on the subject from the Bengal Smoke Nuisances Commission, in which the objections taken by the Chamber and the Indian jute Mills Association were discussed. The Commission stated that the smoke nuisance is now most keenly felt in the north of Calcutta, where the oil mills and other small industries are located; and that the object of the contemplated reduction of limits was to check the nuisance in this quarter. The Commission also further explained their proposals in detail, and elaborated them. After further consultation with the Indian Jute Mills Association, the Committee of the Chamber have again represented their views to Government. It is admitted by the Commission that smoke of the blackest density is seldom emitted from jute mills, and this being the case it cannot be urged that there is reason for making the rules more stringent as against the mills. Both the Chamber and the Association agree with the Commission as to the necessity for dealing with the smoke

nuisance in the north of Calcutta; but their point is that the law ought not to be made more severe as against jute mills owners, who have more than complied with its requirements, because the owners of other factories have failed to do the same. The position is admittedly difficult, but it seems to the Committee that possibly the Commission may be able to reduce the nuisance in the case of the smaller factories without modification of the rules. The jute mills already work well within the rules, as the Commission have shown, and there would seem to be no reason why other factories should not also be induced to do likewise.

Clause 25 of the rules framed by the Government of Bengal under the Smoke Nuisances Act reads as follows:—"The furnaces of the main boilers of ocean-going steamers shall not be held to be furnaces within the meaning of the Bengal Smoke Nuisances Act for a period of two hours previous to leaving moorings." Rule 25 gives effect to sections 3 (i) (ii) and 10 (2) (f) of the Act, which empower the local Government to prescribe a period of exemption for ocean-going steamers. In December 1910 the Government of Bengal informed the Chamber that the Smoke Nuisances Commission proposed to withdraw the exemption as being no longer required. It would be sufficient, the Commission thought, for steamers to be brought within the table of limits prescribed by rule 23. The Committee of the Chamber took exception to this proposal. They pointed out that the exemption was originally inserted on their suggestion, and they emphasised the need for it. In February the Government of Bengal brought up the question again for discussion, stating that the Smoke Nuisances Commission now recommended that double the time allowed by the ordinary scale for the emission of smoke should be allowed to steamers during the two hours prior to leaving moorings. This revision of the proposal did not, however, commend itself to the Committee who consulted the Liners Conference with respect to it. An exemption period of two hours is considered by steamer agents to be essential, and the Committee agree with them that this is so. Any modification of the rule is greatly to be deprecated, and the Committee have accordingly urged that it should be allowed to remain as it stands at present.

Use of the Royal Arms.

At their meeting on the 23rd February, the Committee had before them a communication from the Government of Bengal on the subject of the prevention of the improper use in India of the Royal Arms and Prince of Wales Feathers. It appears that the Royal Warrant-holders Association have approached the Secretary of State in this connection. They have asked that legislation should be undertaken in order to enable Royal Warrant-holders in India to take action against any firm making an unauthorised use of the Royal Arms. The English law on the subject is contained in section 20 of the

English Merchandise Marks Act, 1887, which provides for a penalty of £20 in case of a false representation, by any person, that any goods are made by a person holding a Royal Warrant, or for the service of His Majesty, or any of the Royal family, or any Government department. The unauthorised assumption of Royal Arms is dealt with by section 90 (2) of the English Patents and Designs Act, 1907, which provides for a fine not exceeding £20 for the use, by any person, in connection with any trade, business, calling, or profession, without the authority of His Majesty, of the Royal Arms—or Arms so nearly resembling them as to be calculated to deceive—in such a manner as to be calculated to lead to the belief that he is duly authorised to use them. The provisions of this section are supplemented by those of section 68 of the Trade Marks Act, 1905, which provides for a civil remedy by injunction applicable not only to the misuse of the Royal Arms, but also to the use of any device, emblem, or title in such manner as to be calculated to lead to the belief that the person using the same is employed by, or supplies goods to His Majesty, or to a member of the Royal family.

The Government of India are of opinion that penalisation on the lines of section 90 (2) of the English Patents and Designs Act is neither necessary nor desirable in the present conditions of trade in India. And they consider that, if legislation is undertaken in India, it might take the form of an enactment somewhat similar to section 68 of the English Trade Marks Act, 1905, combined with a penal clause on the lines of section 20 of the English Merchandise Marks Act, 1887. With this view the Committee of the Chamber have expressed their agreement, as have also the Committee of the Calcutta Trades Association.

Calcutta Daily Weather Report.

In September last the Committee published correspondence with the Government of Bengal in regard to the Calcutta Daily Weather Report. The following proposals were made by the Government of India, namely:—

- (a) That seventeen of the stations that now report daily to the Calcutta Meteorological Office should be reduced in class;
- (b) That the Bengal Chamber of Commerce should contribute Rs. 9,600 annually, or alternatively, Rs. 6,000 to the cost of the daily weather report; and
- (c) That the Calcutta Port Trust should contribute Rs. 6,000 annually for the storm warnings.

There was under the consideration of Government a project for the development of the Meteorological Department, and for the establishment of a station for the investigation of the upper air. To provide for the additional cost of these measures it was deemed to be necessary to obtain payment by outside

bodies for services already rendered, or to make retrenchments elsewhere. The Government of India said that the provincial daily reports were of no use to the Meteorological Department, or to the majority of Government officers, and might be abolished, except that commercial opinion was understood to attach importance to them. The Committee of the Chamber took strong exception to the proposals, and protested against their adoption. The orders of Government were communicated in February, and from them it appears that the proposals will not be proceeded with further at present.

Certificates of origin.

The Committee have lately approached the members of the Chamber with reference to certificates of origin. Their attention was drawn to the action of certain of the principal British Chambers of Commerce in this connection. The London, Manchester, Birmingham and Liverpool Chambers require exporters, who submit certificates of origin for signature, to sign an undertaking indemnifying the Chamber against any claims or demands that may at any time be made against it by reason of the issue of the certificate. A large number of certificates of origin are issued in the course of the year by the Bengal Chamber, and the Committee feel that a similar measure of protection might be adopted with advantage. They have accordingly decided to require both members and non-members, who desire to have certificates of origin signed, to furnish them with a letter of indemnity.

The Committee have also decided to revise the fees charged for signing certificates of origin. These are at present Re. 1 for members and Rs. 2 for non-members, for each certificate. As from the 1st April 1912 the fees will be, for members of the Chamber Rs. 2 for each certificate, and for non-members Rs. 4 for each certificate.

Calcutta Improvement Scheme.

During the month the Committee had correspondence with the Collector of Customs with reference to the collection of Export duty on raw and manufactured jute. Complaints were made by a firm, members of the Chamber, that delays occurred in completing adjustments in connection with the tax. A deposit account system is in force and the deposit account is debited, when the goods are passed out, with the amount of the tax in round figures; and adjustments are made subsequently. The Collector of Customs gave immediate attention to the matter, and it is believed there will be no further ground for complaint.

Weekly List of Manifests.

Five years ago a proposal was made to the Calcutta Customs that the list of steamers manifests which is published weekly should be discontinued, and that a separate manifest for each vessel should be substituted for it. The proposal was not proceeded with at the time, as exception was taken to

it by certain of the subscribers to the publication in question. Recently, however, the Committee again brought it before the notice of the Collector of Customs, and urged that it should be re-submitted to the subscribers for further consideration.

The Collector of Customs accepted this suggestion and consulted the subscribers again. He has, however, found that there is still considerable opposition to the proposal, and he does not, therefore, contemplate further action at the moment. But he is, considering another proposal affecting the weekly list of manifests and the daily lists of exports and in regard to this he will consult the Chamber shortly.

Delays in Foreign Telegrams.

On the 12th February the Committee published correspondence between the Director General of Telegraphs and themselves in this connection. On the 20th January they had pointed out to the department, in continuation of previous correspondence, that merchants and bankers in Calcutta were still complaining of serious delays in the transmission of messages. These delays were of daily occurrence, and appeared to be more or less general. The Director General stated in reply that frequent interruptions on the Indo route, on account of the disturbed state of Persia, were mainly responsible for the delays. These interruptions necessitate the diversion of an abnormal amount of traffic to the Eastern route, which consequently becomes congested.

Telegram Envelopes.

The question of the use, by the Telegraph Department, of gummed envelopes has been frequently referred to in the abstracts of proceedings. Since the introduction of the gummed envelope four years ago the Committee have on numerous occasions brought its defects to the notice of the authorities. It has never been satisfactory, and no improvement in regard to it appears to be possible. In the September abstract the Committee stated that the department was experimenting with stapling machines, with a view to a reversion to the former method of fastening. During February a sample of a staple-fastened cover was forwarded to the Chamber by the Telegraph department, and the views of the Committee upon it were invited. The cover was a wallet shaped envelope, fastened by a metal staple but without a flap. The Committee considered it to be a very great improvement upon the gummed envelope, but they thought that it should be provided with a flap, like an ordinary wallet envelope, and that the staple should be passed through the flap as well as through the envelope itself. They communicated this view to the Director-General.

Weevilled Rice.

The question of the presence of weevil in rice shipped from India, or Burma, has been lately brought to the attention of the Committee by the

Government of Bengal. Shipments of rice to Mozambique have been found to be infested with this pest, and the Mozambique Agricultural Department has asked if action cannot be taken in India. Maize is the staple crop of the territory in question, and, as the rice weevil attacks this grain, the question is of some consequence.

The Committee consulted the Calcutta Wheat and Seed Trade Association, who stated that if Government could undertake experiments in connection with the question, the trade would be glad. Rice is generally believed to be liable to attack by weevils during the voyage to destination, but, on the other hand, weevils in wheat and other grain die during the voyage to the United Kingdom and elsewhere. The question is understood to be engaging the attention of Government.

Eighth Congress of Chambers of Commerce of the Empire.

On the 23rd January, 1912, the Committee published for the information of members a letter from the British Imperial Council of Commerce with reference to this Congress, which is to be held in London during the week commencing 10th June 1912. They have since considered the question of the representation of the Chamber at the Congress, and they have invited Sir Ernest Cable (Messrs. Bird and Co.), Mr. T. McMorran (Messrs. Walter, Duncan and Co.) and the Hon'ble Mr. F. H. Stewart (Messrs. Gladstone, Wyllie and Co.) to be the delegates of the Chamber.

So far as the Committee are aware, the only resolutions that the Indian Chambers have yet decided to bring before the Congress relate to (1) the question of jail manufactures, and (2) the question of the excise duty on Indian cottons. These resolutions will be proposed by the Upper India Chamber of Commerce.

Legal Tender.

In reply to an enquiry from the Punjab Chamber of Commerce the Committee have pointed out that a definition of what constitutes legal tender in India is contained in sections 11, 12, 13, 14, and 15 of the Indian Coinage Act III of 1906, and of section 15 of the Indian Paper Currency Act II of 1910.

Tribunal of Arbitration.

At a special general meeting of the Chamber held on the 16th January 1912 it was resolved to adopt the revised rules of the Tribunal of Arbitration, which had been prepared by the Committee, and submitted to members for approval. At a second special general meeting held on the 27th February this resolution was confirmed, and the revised rules have now come into operation. Copies of them, together with copies of the scale of fees, and applications for piece-goods arbitrations, have been published for the information of members.

CEYLON TEA INDUSTRY.

The completed statistics compiled by the Colombo Chamber of Commerce showing the dimensions and distribution of Ceylon's tea crop during 1911 have been received by mail dated January 18th. They confirm the information given in our Review of the Tea Trade on January 22nd, that the good increase of 6,000,000 lbs. in the total output, as compared with the previous year, had been secured notwithstanding the severe drought during the middle months of the season. In conjunction with the addition of $\frac{1}{2}$ d. per lb. to the average value of the 69,000,000 lbs. sold in the Colombo market, the increase of $\frac{3}{4}$ d. in the average price realized for the 100,000,000 lbs. sold in London, and the higher value of the green tea crops that were sold by private contract, the total gross revenue received by the growers from their tea crops during the year can be estimated at about £600,000 increase upon their receipts in 1910.

Details of the exports are as follows:—

To—	1911. lbs.	1910. lbs.
United Kingdom . . .	113,084,000	108,118,000
Australasia	22,216,000	23,312,000
Russia	20,483,000	22,035,000
America	19,011,000	15,598,000
China	5,720,000	6,186,000
The Continent	2,383,000	2,162,000
Other Countries . . .	4,776,000	4,222,000
	187,673,000	181,683,000

Included in these exports were 8,946,000 lbs. of green tea last year, compared with only 6,579,000 lbs. in 1910. About 7,000,000 lbs. of it was consigned direct to Russia and North America, where the consumption of this variety is extensive and the character of the type of green tea made in Ceylon is liked. A development of this promising branch of trade is deemed probable; forward sales at paying prices are being made, and upon some of the gardens that usually make their leaf into black tea the manufacture of it into green instead is announced.

This year's operations, according to latest advices, may be slightly affected at the outset by the extreme climatic variations lately experienced. In some of the districts there was excessive rain in December, while in part of the high elevations the tea bushes were exposed to frost last month. The shipments show a slight falling off since January 31st from last year's quantity, and estimates of a moderate export for February were cabled to England. Prices so far obtained this year in London and Colombo are a small fraction under the value current a year ago, attributable to much tea of poor quality having been sent to market, an unsatisfactory feature that may be changed if cold and dry weather has the customary effect of reducing the weight of leaf plucked and improving its quality and flavour.—*Times.*

BARODA INDUSTRIES.

WE take the following particulars from the Baroda Administration Report for 1910-11 :—

According to the programme fixed beforehand the work of **Sericulture** was conducted at Baroda and Naosari. Mulberry was planted on 3 acres of land in 12 plots on the Dastur Wadi grounds at Naosari.

The result was however very poor as the worms died of flechery due to excessive heat. Almost all the worms died of pebrine, a fatal disease probably imported with eggs from Bangalore. A small crop of one thousands eggs of eri silk-worms was successfully taken and the leaves obtained from the Rabi Castor Crop were utilised.

An expert reeler imported from Bengal has been engaged on Rs. 15 per mensem. He reeled all the cocoons produced during the year. The average time taken by him to reel one tola of silk was about 2½ hours. He exhibited his work at the Amreli and Naosari Exhibitions as well as at the Baroda Agri-Horticultural Show.

The Baroda Sericultural Station is mainly intended to carry on experiments with eri silk-worms. 20 bighas of land near the Baroda Model Farm was kept for the purpose of lease at Rs. 120 a year.

Different plots were put under Karif and Rabi Castor, but the severe frost of January, 1911, destroyed all the castor plants, and only one experimental eri silk crop could be taken in November and December. In all 9 eri silk crops were taken during the year, of which the third and the fourth were good crops, the first was pretty good, while the rest were very poor. 2 Mulberry silk crops were also taken, of which only the first was good.

Spinning of eri silk was done throughout the year with the aid of the Pusa double machine. The total quantity of yarn obtained during the year from 20 lbs. of cocoons, the weight of which was reduced to 10 lbs. and 19 tolas after boiling, was 4 lb. and 10 tolas. A piece of cloth of about 3½ lbs. of eri silk was woven in Shree Indiraraja Silk Weaving Factory. It was excellent in finish and texture.

Half of the old Ice Factory building near the old Baroda Station was repaired and is being utilized for rearing silk worms. One rearing room and quarters for servants were built in the compound of the factory. 18 Manchās (Stands) and 325 Dalas of the improved pattern were prepared at a cost of a thousand rupees for taking large crops.

Out of 72 ozs. (1,163,800) of eggs of eri silk-worms produced during the year, 9 ozs. were reared at the Baroda Sericultural station, 25 ozs. were sent outside, and 8 ozs. were destroyed for want of timely demand.

Among the outside bodies to whom the eggs were supplied the most prominent were the Imperial Entomologist at Pusa, the Salvation Army at

Muradabad, and the Native States of Mangrol, Junaghadh, Gondal and Hyderabad.

Notifications inviting people to come and learn Sericulture were issued but none came forward to learn the industry. A good many people however came and saw the work going on. The Inspector-General of Agriculture in India, the Principal of the Agricultural College, Poona, the Deputy Director of Agriculture, Bombay Presidency, Professor Knight of the Poona Agricultural College, with his students and delegates of the Mahratha Conference visited the Sericultural Station.

One crop was taken by the Superintendent of the Jagudan Farm with fair success. One rearer from here was sent to the Mangrol State for rearing eri silk-worms.

A Mulberry crop of 80 layings of moths was successfully taken by Mrs. Sitole at her own residence producing 12 lbs. of green cocoon.

Four new **Joint Stock Companies** were organised during the year with capital as noted below :—

	Rs.
The Baroda Glass Works Co., Ltd.	1,00,000
The Baroda Brush Factory, Ltd.	50,000
Ornithological and Experimental Farm, Ltd., Billimora	50,000
The Sarawati Oil Mill Co., Ltd.	50,000

Of these the Baroda Glass Works Company, Ltd., has been able to secure the services of an Indian expert, trained in Japan in glass-manufacture. The company has already purchased a piece of land near the site of the old Railway Station. It is expected that the factory will shortly start working. The sand found at Pedhamli in the Vijapur Taluka of the Kadi Division will be used for the manufacture of glass. Government have granted valuable concession to the concern.

The Baroda Brush Factory, Ltd., has started work and turns out various kinds of brushes. It is interesting to note that brush-making is worked as a cottage industry. Back of brushes and bunches of hair and fibres are provided to a number of women, who work in their own homes and return the finished brushes. They are paid on the piece work system.

An Agricultural and Industrial Exhibition was held at Naosari in April, 1911, under the patronage of Their Highnesses the Maharaja and Maharani Sahébs. A special feature of the exhibition was the practical demonstration of a number of industrial and agricultural processes. The expert Manager of the Baroda Glass Works demonstrated the process of glass manufacture with sand obtained in Baroda State. The enamelling process was demonstrated by Mr. Baoker of the Baroda Enamel Work. Similarly, the processes of nib-making, matches, and pencil manufacture, as also the refining of jaggery and sugar from the juice of sugar-cane and palm juice were demonstrated. The manufacture

EAST AFRICAN TRADE.

WE take the following particulars from the Colonial Report on the trade of the East Africa Protectorate :—

Imports.

The principal articles of the import trade are stated below, together with their value in pounds sterling :—

	£
Cotton goods	261,141
All other sorts	164,206
Provisions	77,351
Sugar	33,332
Building materials	27,905
Grain, including rice, flour, and wheat	80,654
Agricultural implements	29,265
Bags and sacks	13,691
Sandries	312,801
Total	£1,000,346

The total increase in the value of trade merchandise during the year under review amounted to £225,100, or 29 per cent over the previous year. The more noticeable advances are in cotton goods, brass and copper wares, building materials, provisions, sugar and "all other sorts."

The largest item of imports is that of **cotton goods**, which represents 26 per cent of the total value. The quantitative increase over the preceding year is one of 10 per cent, while the rise in specific value is 14 per cent. The share in the imports of cotton goods contributed by the United Kingdom, which heads the list with 24 per cent, is followed by the United States and Holland, each with 20 per cent. [In this connection it is to be regretted that Bombay, with its improved calico printing equipment, has not found time to attack the East African market effectively.] With the opening of new districts, improved means of communication, and the increasing confidence of the natives in the Administration, the demand for cotton goods is likely to assume large dimensions.

There was a diminution in the **imports of sugar** during 1909-10 amounting to £9,746, but this trade revived, and has now assumed its former position. The total import amounted to £33,332, of which Austria-Hungary contributed 60 per cent. The importation of **grain, rice, wheat and flour**, shows an increase of £5,774 over the preceding year, but a decrease of £18,819 as compared with 1908-09. There is also an increasing demand for locally-grown food-stuffs. The continued increase in the importations of **agricultural implements, bags and sacks** for produce, motor cars for transport, machinery, and iron and steelwares, is indicative of the steady development of the agricultural resources of the country.

The trade for the year 1910-11 marks in almost every respect an advance upon its predecessor, and the future prospects for the trade of the Protectorate are very bright. With the exception of cotton goods, kerosene oil, sugar, and tobacco, the share of the United Kingdom in the various articles imported

of charcoal and tar from wood by dry distillation was also exhibited. Ericulture and sericulture which are suited as cottage industries were similarly demonstrated.

Investigation of Special Subjects.

The Gaekwad Sugar Works of Gandevi could not show satisfactory working during the year. Prices of foreign sugar went down, and the factory could not stand competition. Moreover, the factory could not manufacture sugar from palm juice at remunerative prices on account of heavy initial expenses. The local workmen need training, and some time must elapse before the industry can work on profitable lines.

The **chocolate factory** could not continue for want of working capital. The concern will be soon wound up and change hands. It is unfortunate that such a concern should die for want of funds. During the year Mr. J. H. Benton, an American expert, was entrusted with the work of making investigations regarding the possibilities of the oil industry and the manufacture of soap-solvents and other products. His report is awaited with interest.

With regard to **China clay**, experiments are being made by a private firm with a view to see if pottery works could be started with success.

The Bank of Baroda is doing good work. It has now got working capital exceeding 80 lakhs of rupees. It has proved to be a valuable agency to finance trade and industries in the Raj.

A factory is being set up at Billimora to manufacture **sterine and glycerine**. It will be the first of its kind in India and will also manufacture sterine candles.

During the year the list of factories using steam-power shows an increase of nine ginning-factories, one cotton press, three water pumps and one cigarette factory.

There were 61 co-operative credit societies at the commencement of the year, consisting of 1 urban and 16 rural. During the year 1 urban and 18 rural societies were newly organised and 1 was closed, leaving 79 at the end of the year.

The total membership of the societies increased from 1,321 at the beginning to 1,805 at the end of the year. The total working capital similarly increased from Rs. 97,040-0-3 to Rs. 1,26,567-1-11. The increase was 35 per cent in members and 30 per cent in capital. It is interesting to note that the deposits from members increased from Rs. 683 to Rs. 4,329-6-6. The Co-operative movement is obviously making steady progress in the Raj.

Two new **Agricultural Banks** were organised during the year, one at Amreli with a nominal capital of Rs. 50,000 and another at Bhadran with Rs. 1,00,000. There are thus five Agricultural Banks in the Raj.

during the year under review is larger than that of all foreign countries combined.

Re-Exports.

A small portion (about 7 per cent) of the total foreign imports declared for home consumption was re-exported to neighbouring countries, and mostly overland to German East Africa by the Uganda Railway. The value of these re-exports rose from £33,600 to £70,002 in 1910-11—an increase of 108 per cent.

Exports.

The total value of exports during 1910-11 of British East African produce (exclusive of Uganda, German East Africa, the Congo Free State, and the Sudan), amounted to £276,480, as against £190,668 in the preceding year, the advance being one of £85,812, or 45 per cent.

The principal articles of exports are enumerated in the appended list with their values in sterling.

Copra	30,608
Grain	59,156
Hides and skins	62,258
Ivory	21,975
Rubber	31,963
Domestic produce	276,480

The noticeable increases over the previous year in the value of the principal articles of export are under grain, hides and skins, copra, rubber, wool, wax, mangrove bark, cotton and coffee.

The largest single item of export is that of **hides and skins**, which forms 22 per cent of the total export of the East African produce. The increase in quantity is one of 30 per cent, and in value 46 per cent over the previous year, the difference between these two percentages marking a rise of 16 per cent in specific value. The trade received a temporary set-back in 1908-09 due to the paralysing effect of the financial crisis in the United States of America at the end of 1907. It has, however, more than recovered its normal dimensions, and appears capable of further expansion. The hide and skin trade is essentially international in character. The passing of the Payne-Aldrich Tariff in August, 1909, which removed the 15 per cent *ad valorem* duty on raw hide entering the United States greatly stimulated competition and, in consequence of the increasing external demand, prices rose to unprecedented figures. The principal buyers of hides are the United Kingdom and France, and whereas shipments of skins, with insignificant exceptions, go to the United States.

Grain is the next item of importance, the exports of which form 21 per cent of the total exports. The value showed a rise of 110 per cent, while the quantitative expansion was as much as 225 per cent.

Sim sim (Sesamum Seed) valued at £23,537 was shipped to France for the production of edible oils. The exports of maize amounted to £21,297, a rise of 237 per cent in quantity, and 272 per cent in value. The abnormal increase is largely due to the effects of the Administration, aided by the

Agricultural Department, to improve the quality of this cereal and extend the area under cultivation.

The exports of **rubber** have beaten all previous records, and amounted to £30,903 (1,672 cwt.) as compared with £22,544 (1,582 cwt.) in 1909-10. The quantitative expansion of 6 per cent in conjunction with a 35 per cent rise in value, means an increase of 29 per cent rise in specific value. Here, as elsewhere, the cultivation of rubber continues to excite a good deal of attention. The principal purchasers of rubber are the United Kingdom (£18,128), and Germany (£9,703).

After two lean years there was an appreciable increase in the exports of **copra** (the dried kernel of the cocoanut). The increase in quantity is 77 per cent, and in value 90 per cent, which means that the average price in 1910-11 hardened by 13 per cent over the preceding year. The high price maintained has encouraged the natives to prepare larger quantities for export. Copra has steadily risen in price owing to the increasing demand for cocoa butter and to the shortage of animal fats of all kinds. The area under cultivation has increased steadily during recent years, and there is every prospect of there being a steady yearly improvement in this respect.

The trade in **mangrove bark** has recovered, the increase in quantity being one of 70 per cent. The outlook for wattle planting is very promising. The first shipment of ten tons of wattle bark has been made to the United Kingdom, and the quality is well reported on.

The exports of **coffee** amounted to £2,995, an increase of £1,927 over the last year. The increased local consumption of coffee has ousted the foreign imports, and the exportable surplus of this product will be greatly increased during 1911-12.

There is an increase of £3,680 in the value of **beeswax** exported. The increase of £6,754 and £3,037 in wool and cotton, respectively, is satisfactory. The production of wool in British East Africa is confidently expected to increase.

The other increases amounting to £7,339 which occur in sea shells, ostrich feathers, horns, live stock, and fine woods, are of minor importance.

The aggregate decrease in the value of exports of East Africa produce amounts to £11,550, as against a total increase of £97,362 during the same period. The principal decrease is in ivory.

The export figures of British East African **ivory** during the past nine years tend to show that after six consecutive years of diminution the exports took an upward turn in 1908-09, showed a further rise in 1909-10, and receded again in 1910-11. The shrinkage in the export is due to steps taken for the preservation of the elephant. Cow ivory and tusks weighing less than 30 lbs. each may not be exported.

The exports of **fibre** receded from £6,312, to £3,727, and from 11,403 cwt. to 6,388 cwt. This was due to the low prices obtained from Sansevieria, which brought about a partial cessation of production. The cultivation of **sisal and cocoanuts** will be

the basis of agricultural prosperity in the coast regions.

Reviewing the foreign export trade, the exports from the **Uganda Protectorate** show an excess of £96,033 over those of British East Africa, and consists principally of cotton, ivory, rubber hides, skins, chillies, and grain. Uganda's position as a cotton producing country is particularly noticeable. The export of cotton amounted to £203,426, or 55 per cent of the total trade. Five years ago it was £5,214 only.

Rubber valued at £23,963, hides and skins at £50,329, ivory at £49,533, cotton seed at £10,268, and other products at £371,513, were exported from Uganda, showing an increase of 80 per cent over the previous year.

The exports of produce from **German East Africa** through British East Africa amounted to £285,538, an increase of 70 per cent over the previous year. The principal items of exports are hides and skins, rubber, grain and oil seeds, coffee, and gold.

The exports of **ivory** from the **Congo Free State** amounted to £27,349 during the year under review.

The import trade in 1909-10 seemed to have remained stationary, although the export trade was one of recovery. The healthy signs of revival in the import trade of 1910-11 did not appear until the third quarter, while the export trade was active throughout the year, as is evidenced by the regularity of shipments.

The increase in the imports of trade merchandise in the year under review is one of 28 per cent, and that of exports 45 per cent over the previous year.

The financial status of trade in East Africa suffers periodically from the effects of **overtrading**. Petty merchants are tempted with long credit to increase the volume of their business beyond the margin of safety. This, of course, leads to bankruptcies, but with the elimination of this weakness everything would point to increasing confidence in the potentialities of the country, and greater activity in the next year's trade.

The opening of new branch lines as feeders to the Uganda Railway, improved means of transport and shipping facilities, the making of new roads to outlying districts rich in produce, and the establishment of the soda industry, are bound to increase the volume of the import trade.

The good prices at present obtainable for nearly all products stimulate the natives to sustained exertions. The export trade would, however, receive greater impetus should there be a reduction in the direct freight rates, thus enabling produce of low value to be exported.

Advantage had been taken of the improved shipping facilities now offered by the new working arrangement of the Kilindini wharves and sheds, which has already relieved the congestion of the Mombassa godowns, and has rendered it possible to turn out cargo more satisfactorily. The reduced handling of the goods appears to be appreciated by the mercantile community.

MANUFACTURE OF TOILET SOAPS.

The article below is reproduced from the *Oil and Colour Trades Journal* :—

In these days of keen competition quality has to be considered as well as price, and a moderately cheap toilet soap of first class quality will stand a better chance of continued sale than a cheaper soap of inferior quality. It is possible to produce good quality soaps with very little increase in the manufacturing charges if careful attention is paid to details during the course of manufacture. To the rising generation of soap-makers a few notes on some of the details which should be observed will, no doubt, prove welcome.

It is very important that a toilet soap should not develop rancidity, for if it does the likelihood of complaints arising due to skin irritation, and also to bad odour when in use is very great. One of the chief causes of rancidity is incomplete saponification. In the process of boiling the soap base it is absolutely necessary to thoroughly saponify the fats and oils before the "fitting" operation is reached. In fact, the primary object of the soap-maker should be to secure almost complete saponification by the time the "washing change" is finished, leaving little for the "strengthening change" to do. This latter operation should be considered more or less a factor of safety in the soap boiling process, and not so much as the operation in which an incomplete saponification is to be finished off.

Another cause of rancidity in soap is the use of oils and fats which are already in that state. Every care should be employed to secure the best tallows and vegetable oils; those which contain the minimum of free acid, and in which all but traces of albuminous matter and oxidised glycerides are absent. Particular care should be taken in this connection if it is desired to use cocoanut oil or olive oil.

The writer has found another cause of rancid odour, contributors to which are cocoanut oil and some essential oils. He finds that soaps made from a pan charge of tallows and vegetable oils among which was cocoanut oil, developed a rancid odour shortly after being put into use. This odour became more evident if the soap was allowed to remain in a soap dish, which was not properly drained and where the soap was always more or less moist. A large number of experiments were made, and it was found that soaps in which cocoanut oil had entered into the manufacture of, and which were perfumed with essential oils containing a large proportion of terpenes, developed a rancid odour very rapidly and in a very marked form, while those soaps which did not contain cocoanut oil and yet were perfumed with the same kind of essential oils, did not develop a rancid odour in any marked degree when kept under similar conditions. In such soaps as Eau de Cologne toilet soap, the liability to become rancid is very great, and the points just mentioned should be carefully observed when making this class of soaps.

Another matter which requires careful consideration is that of the prevention of brittleness, not only in the finished article, but in the base from which the tablets are made. To prevent brittleness in the base the amount of soft to hard fats must be carefully proportioned. Brittleness is due to the presence of large proportion of the soaps of the easily crystallisable fatty acids, such as stearic and palmitic; to the fact that the soap has been framed too hot, and then not crutched in the frames, when the harder soaps have crystallised out in places producing a granular state; or to the presence of an excess of common salt. This latter condition can be prevented by taking care that the "washing change" is very thorough. More than very small quantities will produce brittleness and also prevent the soap base from binding during the plodding operation; the bad effect increasing as the proportion of common salt increases. Brittleness in the finished tablets may be produced by any of the just mentioned conditions, and also if the soap base has been over-dried, before milling. Any amount of milling in the case of over-dried soap base will not yield a material which will properly "knit" or bind together in the plodder.

Smooth texture in a toilet soap is another important matter. In order to produce this it is necessary to avoid using too much of the hard fats in the pan charge when making the base. A certain amount of hard or mutton tallow is necessary to give the soap sufficient body or stiffness, but a proportion of soft or beef tallow should be used in all cases. It will assist to an extent in producing the emollient properties which are as necessary as smooth texture, and at the same time prevent the hard fat from producing too crystalline a soap with a coarse texture, without unduly weakening the body of the same as would a large quantity of vegetable oils. A certain quantity of vegetable oils should be used in the pan charge, but the amount need not be so great if some beef tallow is employed. As a guide to the proportion of beef to mutton tallow the following will be useful. To every 100 cwts. of mutton tallow use 20 cwts. of beef tallow.

It has just been mentioned that a portion of the pan charge should consist of vegetable oils. This is necessary, not only to produce a smooth texture but to render the finished soap emollient. Two of the best oils to use for these purposes are castor and olive. It is very necessary to thoroughly saponify both these oils, as small quantities of the free oil in the soap, especially under conditions of use, very rapidly turn rancid and destroy all the good qualities the article possesses. Olive oil is more prone to produce rancidity than castor oil. Only the first quality oils of each kind should be used and it is advisable to have them examined in the laboratory before putting them into the pan. Castor oil, in particular, also gives the finished soap a beautiful glossy semi-transparent appearance. The proportion of each of these oils used in the pan charge will vary according to circumstances, but as guide to the beginner 5 cwts. of olive oil and 8

cwts. of castor oil per 100 cwts. of pan charge may be used. If preferred, and it is very advisable if it is desired to produce a perfectly white soap, castor oil alone can be used, and in the following proportion: 15 cwts. per 100 cwts. of pan charge. Olive oil has a tendency to produce a soap with a slight greenish tinge.

It is quite possible to turn out a coarse textured tablet of toilet soap even when the base is of first quality. This undesirable state is produced by allowing the soap chips to overdry in the stove before milling, or allowing the correctly milled soap to stand too long in exposed positions. The former state can be prevented by carefully regulating the temperature at which the soap is stove and the time it remains in the stove. The latter condition can be prevented by covering the boxes containing the milled soap with damp cloths.

In regard to the occasional irritating action which toilet soaps produce on the skin when in use it is very difficult to locate the cause of various complaints made by users. There are cases in which the same soap does not always produce irritation of the skin in the same individual, the trouble occurring only at certain times. In these cases the cause is to be found in the state of health of the person affected, although more often than not the soap is blamed. To a large number of people a cocoanut oil soap is very objectionable to use, not so much on account of odour as to the amount of skin irritation it produces. To the soap-maker, cocoanut oil is a very useful article in producing a soap which gives a good lather, especially with hard water, and it is generally advisable to introduce a small quantity into the pan charge even in the manufacture of first class toilet soaps. Care must be taken, however, to see that the oil is free from rancidity, that it is sweet smelling, and that it is properly saponified when making the soap from it. It is certainly not advisable to use large quantities in the pan charge; about 10 to 15 cwts. per 100 cwts. of charge will give excellent results. The presence of free alkali is also likely to produce skin irritation, and every endeavour should be made to turn out a soap in which the free alkali content is reduced to a minimum.

Analysis of Soaps. (Lant Carpenter.)

	PRIMROSE SOAP.		Cold Water Soap.	Natural Curd.	Oil Soap. Oleic Acid.
	Genuine Rosin Soap South of England.	Watered and Silicated North of England.			
Fatty acids.	62.3	42.66	70.2	67.9	68.66
Combined soda Na ₂ O	6.7	5.41	7.3	7.0	7.88
Free alkali Na ₂ O	...	1.21	1.8	NH	1.0
Silica	...	0.94	1.6	...	...
Neutral salts	0.2	0.55	0.4	0.2	1.0
Water	32.8	50.40	22.0	28.0	21.0

TRADE OF THE PUNJAB.

THE Report on the Administration of the Punjab and its dependencies for 1910-11 contains several commercial items of interest, a selection of which is printed below:—

The year 1910-11 was, from the farmer's point of view, almost completely successful. Prices were, however, generally lower than in the preceding year. Raw cotton was an exception, the price being (for cleaned cotton) some Rs. 6 to Rs. 7 a maund higher owing to the shortage in the American and Egyptian crops.

Exports amounted to 50,299,736 maunds, representing a money value of Rs. 25,43,82,426, and imports to 42,340,721 maunds, worth Rs. 26,62,99,310.

The imports are the largest on record. The exports are recovering; but in weight they do not approach the figures of the two great years 1906-08, when the exports of wheat were so unusually large. The fall in prices is reflected in the smallness of the rise in the value of exports as compared with their rise in weight. Excluding gold coin, the principal items of increase under imports were piece-goods, Foreign (+33 lakhs of rupees) and Indian (+37 lakhs), and "other iron manufactures including hardware and cutlery" (+29 lakhs), and refined sugar (+37 lakhs). All these increases may be ascribed to the prosperity of the people of the province.

The import of gold coin went up by 204 lakhs of rupees, while the imports of silver coin and bullion dropped by 124 lakhs of rupees. There were 280 lakhs of rupees in gold coin, 142 lakhs of rupees in silver bullion and 4 lakhs of rupees in silver coin more in the Punjab at the close of the year than there were at the beginning.

The exports of wheat are greater in weight than last year by 23 lakhs of maunds, but less in value by 126½ lakhs of rupees. From April till July 1910 exports were small, and both cultivators and dealers were holding up their stocks in anticipation of a rise in prices. The price then rose and exports became brisk and remained so for the rest of the year.

Imports from Southern and Western Afghanistan show a substantial increase of over Rs. 70,000 in value. This is nearly all in fruits, vegetables and ghi, and may be attributed to high prices in the Punjab and Baluchistan. Exports show an increase of Rs. 25,000. This is visible mainly on European piece-goods, rice, sugar and manufactured leather articles, and seems to point to a higher standard of living among the tribesmen. Imports from Ladakh, though they decreased in weight, show an increase in value of Rs. 32,000. Exports have risen by half a lakh. Indian tea has increased by over Rs. 11,000, owing, it is said, to a rise in prices in Tibet. While imports into Chinese Tibet show little variation, exports are better by Rs. 48,000. More than

half of the increase is in silver. It would be more satisfactory if tea took its place.

With a net increase of 13 the number of companies has risen to 149. The total nominal capital is 580 lakhs, and the total paid up capital 185 lakhs. The number of new benefit societies of the kind hitherto most plentiful in Madras, a monthly contribution to which secures a lump payment at marriage or death, and the stability of which is more than questionable, is probably an anticipation of expected legislation, and shows the urgency of safeguarding the interests of those who insure in such companies.

EXTRACTION OF LATEX.

Invention to Secure Better Yield by Suction.

MR. WILLIAM CLARKSON, Friar's Park, Lesmahagow, Scotland, has taken out a patent for an invention which relates to a method of and means for extracting latex from trees, and has for its object to obtain a better yield by means of suction.

The present methods entail considerable loss by reason of the latex coagulating or oxidizing by the action of the air. Not only is there very considerable scrap rubber, but by the process of coagulation and oxidization in theappings leading to the channels, the natural flow of the latex is prevented because theappings become sealed, and further the flow of the latex in the first instance is retarded by the atmospheric pressure thereon. The new method consists in extracting by suction in any convenient manner rubber and other latex from the tree without any outside influence—that is to say, without the atmospheric action or the oxidization of the latex. The latex is conducted from the tree directly to a suitably covered receptacle, and it may be collected from the said receptacle, and vulcanized and treated in any desired manner, such as by loading, etc.

A length of tubing is placed around a tree in spiral fashion, with plug valves inserted within the back of the tree and leading to the tube. The tube may be provided with flanged sleeves to accommodate the plug valves and to prevent the collapsing of the tube by suction. The plug valves may be provided with a central port, which may have at the extremity of the valve four cutaway ports and leading from the central port may be right angle ports. The depth of each plug inserted in the bark of the tree may be determined by adjusting the cap which is screwed on to one end of the plug valve, and so that by unscrewing or screwing the cap the length of the plug is determined. The end of the tube leading towards the upper portion of the tree is preferably provided with a water cup containing porous stone and also a float indicating arrangement for the purpose of indicating the amount of water in the cup. To prevent coagulation within the interior of the tube, water from the cup may be caused to trickle through the tube by the small suction set up in the tube. The water thus flows

from the cup, and somewhat thins the latex and causes it to flow freely to the pump.

To the lower or other end of the tube there is connected a simple pump, for choice a single barrel type, capable of being operated by means of the employment of a fulcrumed lever, that is to say, by the action of moving the lever up and down, the plunger of the pump is also operated. The pump is provided at its lower portion with an inlet and an outlet; the inlet in one instance being connected to the latex tube and the outlet being provided with a branch leading to the latex receptacle. Each is provided with ball valves operating in opposite directions, that is to say, when suction is created in the latex tube, the ball valve of the inlet portion is pulled off its seat against a stop. Simultaneously the ball valve of the outlet is pulled against its seat, and after the downward stroke of the plunger the ball valve of the inlet is seated and the ball valve of the outlet unseated. With this arrangement of ball valves, it becomes possible to disconnect the latex tube from the inlet and connect it with the outlet for the purpose of irrigating the tree after the whole of the latex has been extracted therefrom. In this case the outlet becomes the suction by the simple process of unscrewing the ball valve connections and reversing them.

It has been found in actual practice that it is of great importance that the rubber trees should be irrigated after the latex has been extracted therefrom, and, further, it is also of great value to return the unrecoverable caoutchouc globules.

Preparatory to inserting the plug valves in the tree, a portion may be punched out of the bark of the tree, that is to say, a disc-portion, by means of a separate punch; or the plug valve itself may be provided with a knife edge for punching the bark of the tree. All punchings from the bark of the tree should be saved and restored within the tappings.

—The Registrar of Imports and Exports at Singapore (Mr. A. Stuart) furnishes the following figures of the imports of coal into Singapore (exclusive of inter-port trade) in the year 1911, as compared with the previous year:—

From	1910.	1911.
	Tons.	Tons.
United Kingdom	11,942	25,182
India (Bengal)	140,414	127,256
Australia	96,458	113,595
South Africa (Natal)	...	17,144
Sarawak	1,071	...
Japan	312,165	346,481
French Indo-China	5,846	5,200
China	12,195	22
Dutch Borneo	38,843	22,345
Sumatra	2,130	1,070
Total	621,064	658,295

COTTON GROWING IN EGYPT.

In a long Report, Mr. Arno Schmidt, Secretary of the International Cotton Federation, gives the results of his investigations in Egypt as to its possibilities as a cotton growing country. In the course of his Report Mr. Schmidt says:—Leaving out of account the unsuitable land which was improperly pressed into service of cotton growing owing to the abnormal demand and the high price, the fact remains that in the case of first class land in Egypt the fertility has decreased and also the quality. The well-known Afifi cotton, which may be called the "bread and cheese" quality of Egypt, seems likely to fall in quality to the level of American middling, and if this should come about the reduction in the financial return to the Egyptian farmers has been estimated at £6,000,000 to £8,000,000. Adding the reduction caused by the undoubted falling off in the yield per acre there would be a total decline in the value of the Egyptian cotton crop of £10,000,000 a year. All available means should be used to remedy the evils which exist. Cotton is the staple product of Egypt; it can at any time be converted into ready cash; and the danger which threatens it is sufficient to justify the Egyptian Government in spending large sums of money in combating the dangerous which beset it.

Four Causes of Deterioration.

"The causes of the deterioration of quality are four:—(1) Careless seed selection, (2) over cropping, (3) insect pests, especially the cotton worm and the boll worm, and (4) water-logging of the soil. It has lately been proved beyond doubt that the raising of the sub-soil water is the most important cause in the falling off of the yield. The careless seed selection is probably responsible for the deterioration of the quality." In some years the damage done to the crop by the cotton worm has amounted to £1,000,000. "Lord Kitchener told me," continues Mr. Schmidt, that "he is anxious to find a poison which would check the worm without doing harm to grazing cattle. Even worse than the cotton worm is the boll worm (which must not be confused with the American boll weevil). This pest has in a season done damage estimated at from £1,500,000 to £2,000,000."

Hopeful Prospects.

For the future the outlook is decidedly hopeful. The shortage of the crop in 1909-10 has caused everyone connected with industry to realise the dangerous position of affairs, and efforts for solving the various problems are being made in all directions. Several schemes are under consideration for extending the area of agricultural land. Lord Kitchener mentioned to me that by a scheme which would begin in January he hoped to be able to get in years to come a million acres under cultivation, of which a third or a half would produce cotton. Other land reclamation schemes are spoken of, and we may

expect to see every year a slightly larger area under cotton. The recently established Agricultural Department will no doubt deal energetically with seed distribution, pests, and errors of cultivation, and in conclusion it may be added that although the Afifi cotton has degenerated there are signs of a new and improved quality taking its place.

COTTON COLOURS.

Reasons Why Patterns "Run."

DR. KNECHT, Professor of Chemistry at the Manchester School of Technology, lectured on February 12th at the Manchester University on "Fast and loose colours." He described an apparatus by means of which the fastness of colours to light can be tested in a comparatively short space of time and during the lecture a demonstration of its use was carried out. The apparatus consists of a cabinet containing a mercury arc light, but a tube of quartz is substituted for the ordinary glass tube because glass stops the ultra-violet rays which are essential for the success of the experiment. A forty minutes' exposure of specimen fabrics to this light was sufficient for the lecturer's purpose.

Dr. Knecht began by saying he must limit his lecture to a discussion of the permanence of colours on dyed and printed fabrics, and he proceeded to point out that colours might be fast or loose to different influences. The most important common influences which affected dyed or printed colours were light, washing, ironing, rubbing, sea water, perspiration, and road mud. The brighter the light the greater of course was the effect on colour. Household washing was done in very many ways—sometimes rationally and sometimes irrationally. He was afraid very few laundries washed rationally, and in some Manchester laundries he had discovered that bleaching powder was used along with soda. This was appalling, but the public seemed satisfied with the result, and instead of blaming the laundry they found fault with the manufacturer. Not very many colours were altered by the flat-iron, but turkey-red, for one, turned brown for a time after ironing, but resumed its normal condition if exposed to the air. Some colours, like indigo blue, would not stand rubbing and others would not stand the salt in sea water. The effect of perspiration depended on the idiosyncrasy of the individual, because perspiration might be acid or alkaline. The effect of road mud depended upon the locality. In Derbyshire the presence of limestone gave the mud the action of an alkali. All these facts were interesting to the general public, but there were others which the manufacturer alone had to take into consideration. The manufacturer wanted colours which would stand the processes of bleaching, stoving, carbonising, milling, and hot pressing. In this connection Dr. Knecht said it was a pity that no definite standards were generally acknowledged for the fastness of colours. It was, in his opinion, the duty

of an international committee, or the committee of an international textile congress, to establish such standards. Unfortunately there was as yet no international textile congress. A Textile Institute was established in Manchester last year, and other countries might copy Manchester's example, and in time an international congress might be formed. Then by agreement between textile manufacturers and dyers and printers a uniform standard of fastness in colours could be set up.

Old and New Dyes.

Fastness to individual influences, Dr. Knecht continued, did not guarantee fastness to all. A colour might not be affected by light or by acids but it might be absolutely loose to washing. Prussian blue, as soon as it was subjected to the action of soap, turned a dirty brown. It was erroneously assumed by many that the good old-fashioned dyes which were used before the introduction of "anilines" (so-called) were all fast, and that the introduction of coal-tar colours was not an advantage. As a matter of fact a very limited number of the old dyes could be called really fast, and it must also be remembered that with the enormously increased output of textiles natural dyes would not meet the demand. Unfortunately the first coal-tar colours were loose, especially to light. It was a case of a bad name sticking to a dog. Having referred to the colour discoveries of modern times, Dr. Knecht went on to say that a new era was opening out. It was uncertain whether the impulse had come from the demands of the public or from the German and Swiss colour manufacturers, but he was inclined to think it came from the colour manufacturers. The public were very slow to move, and readily accepted the statement of a shopman that a particular colour could not be obtained in a fast dye. The more the public were made aware of the fact that fast colours were obtainable in nearly every shade, the better it would be for the dyeing and printing industries, for the public confidence in dyed and printed goods would thereby be gradually restored. Fast colours were still relatively expensive, but in a blouse length, for instance, which contained coloured threads to the extent of 5 per cent of the total cotton, the extra price to the manufacturer for absolutely fast as against loose colour would not exceed a halfpenny. Fastness to all influences was not always necessary. Thus under-wear need not be fast to light, while carpet yarns need not be fast to light, while carpet yarns need not be fast to washing with soap: billiard cloth need not stand sea water.

Technological Research Work.

In conclusion, Dr. Knecht gave a short statement of the result of research work which has been in progress for some time in the School of Technology laboratories. The theory generally held about the action of light on colours was, he said, that of oxidation through the formation of ozone or

hydrogen peroxide from atmospheric oxygen. This theory was applied indiscriminately to all colours, but it did not explain the bleaching by light of the large and important class of azodyes on cotton. Experiments undertaken with the mercury arc lamp showed conclusively that these colours, which were known to stand the action of oxidising agents very well, but were easily destroyed by reducing agents, when dyed on cotton and exposed to light were destroyed by reduction and not oxidation, the cellulose of the fibre acting as the reducing agent, and being thereby converted into oxycellulose. Basic dyestuffs and such dyestuffs as indigo were not readily acted upon by reducing agents, but were easily destroyed by oxidising agents. When these were acted upon by the light the destruction was due to oxidation.

ARTIFICIAL TULLE.

THE production of artificial tulle constitutes a new industry that has only recently become commercially possible. The possibilities and the present position of the industry were recently disclosed by Mr. Auty in a paper read last month before members of the West Riding Section of the Society of Dyers and Colourists. (See *Indian Trade Journal* of February 8th, page 206.) It was stated that the French Company for the Application of Cellulose has ceded all its foreign patents to the International Company of Foreign Patents, relating to artificial tulle and artificial fabrics, which has been specially formed for this purpose.

The French Company for the Application of Cellulose, which has reserved to itself the French patents, which it exploits in its factory at Fresnoy-le-Grand (Aisne), has produced a sufficient amount of the material to supply the demands of France and the French colonies. This organisation is able to produce 25,000 metres of artificial tulle per day continuously. The principle of manufacture of this product, which is known as "ondine" tulle, is based upon the substitution of a continuous moulding operation for the weaving process. The process of manufacture is described in the paper. It consists (a) in the preparation of a stiff paste of cellulose, (b) moulding of the paste and its solidification, and (c) finishing of the tulle: washing, dyeing, drying, and finishing.

For the paste, any plastic material may be employed which is susceptible of giving a bright thread of sufficient strength after solidification and drying. In particular all solutions of cellulose (nitro-cellulose, acetate, formate, xanthate of cellulose, etc.) which are used in the production of artificial silk give good results. The factory at Fresnoy employs a cupro-ammonium solution of cellulose, but this is not the same as what is used in the manufacture of crinol and artificial silk; it is made to comply with the particular requirements of the process, viz., high content of cellulose, maximum of viscosity, and rapidity of solidification in the mould. It is prepared from cotton waste, a very cheap source of cellulose.

The moulding of the paste and its solidification after moulding rest on mechanical means which are described in the paper. With regard to finishing the tulle, the operations vary according to the nature of the plastic material employed, and may consist either of washing with pure water, acidulated water, etc., to remove all trace of copper (cupro-ammoniacal process), or of operations intended to desulphurise the cellulose (viscose) or to denitrate it (collodion). All these processes are carried out in baths furnished with carrying rollers. At the end of these processes the fabric is ready to be dyed which is carried out in machines such as pads and jiggers. The drying of the fabric is effected continuously on a horizontal or circular series of rods by means of hot air. The final finishing operations, which are exclusively physical and mechanical, consist of different treatments, such as steaming, calendering, etc., according to the nature of the fabric and the finish required.

The ordinary widths which are at present made are 70 cm. for plain tulle and 105 cm. for fancy tulles. So far as concerns the future of this industry, the materials produced at the present time are voilette and lace for millinery, and these two novelties have gained some importance. Small sheets of the most varied designs suitable for introducing a new kind of plait for the manufacture of ladies' hats have also been produced. Before long incandescent mantles made from moulded cellulose by this process will be on the market, and such are stronger and cheaper than those woven from artificial silk or ramie. It may further be pointed out that there are some designs that are technically impossible to weave on the loom, but which will be quite feasible by this process, it being merely a question of engraving.—*Textile Mercury*.

TRADE OF TURKEY.

THE following information is from the Report by H. M. Consul at Constantinople (Mr. A. T. Waugh) on the trade of that district in 1910-11, which will shortly be issued:—

In the autumn of 1911, after the declaration of war by Italy, the foreign banks established in Constantinople received orders to stop credit. One local Greek bank stopped payment, and alarming reports of the situation in Constantinople were sent to the United Kingdom and published in London. A scarcity of gold, due chiefly to payments to the provinces, coincided with and increased the pessimistic rumours. It was expected that many failures would take place. This, however, has not been the case, in fact there have been fewer bankruptcies than usual and payments have been up to the average.

It is true that the war is stopping business, but it is probable that when peace is declared a revival of trade will immediately follow. If the war lasts, it must be expected to affect trade. On the other hand, there are signs of increasing prosperity in the country, to which the Minister of Finance drew attention in his Budget speech. The steady increase

in the Turkish custom-house receipts is no doubt largely due to improved methods of collection, but at the same time the foreign trade returns show that Turkey is buying more all round. The railways in Turkey are increasing their earnings. The Minister of Finance remarked that, in spite of the fact that no new taxes had been created and that the old taxes had not been increased, indeed certain of them had been abolished, still the yield to the treasury had steadily increased year by year; he also pointed to the increased cost of living, to the rise in wages and rents, and to the absorption in the interior of the circulating coinage as signs of the growing prosperity.

The rise in the price of skilled labour in Constantinople during the last two years has amounted to 50 per cent, and the lowest kind of unskilled labour cannot now be obtained for less than 15 to 20 pias. (2s. 8d. to 3s. 7d.) per day.

The increase shown in 1910 in the general export trade of the United Kingdom to Turkey must be attributed largely to the greater activity of home firms. It is satisfactory to note that more business men from home visit Constantinople than was the case a year or two ago.

The War Office expenditure amounts to about £10,000,000 out of the total Turkish Budget of £30,000,000, and Turkey is probably the only country with a large standing army which has to place all its orders for military equipment abroad.

The United Kingdom did very well during the past year in securing orders for various classes of goods. It is practically impossible for manufacturers at home to tender directly without a competent representative on the spot.

The orders are put up to public adjudication, and certain local firms frequently underbid the manufacturers, in the hope of being able to place the orders somewhere in Europe with a fraction of profit. They often over-reach themselves, but then they wriggle out of the business. The military authorities are beginning to see that they do not obtain the goods they require from such contractors and are glad to see serious competitors at the adjudications; but the competition of the irresponsible native has to be faced. Manufacturers at home would serve their own interests if they refused to deal with some of these men when they try to place their orders.

The War Office payments have been fairly regular except in a few instances where orders were placed by the War Office for which no provision had been made in the Budget. The money will be forthcoming, no doubt, but the delay in payment in these cases has not enhanced the Turkish Government credit abroad.

Considerable assistance has been afforded to foreign business in Turkey by the foreign banks established in the country. Since the establishment in Constantinople of the National Bank of Turkey—an Anglo-Turkish bank with British capital and management—the disadvantage under which British enterprise in Turkey laboured from the absence of a

British bank has been removed. The bank in question is prepared to work with British firms of good standing in promoting British trade in Turkey. Combination between bankers and manufacturers is of the greatest value in doing business in countries like Turkey, and especially in the case of Government contracts of all kinds.

A COPPER MARKET AT HAVRE.

FOLLOWING in the footsteps of Hamburg, Havre is about to establish a market for copper, though whether the French town is destined to cut a more important figure in the world's dealings in the metal than has so far been achieved by the German city may be questioned. No doubt the growth of metallurgical industry justifies the creation of new centres of trading, but for the success of an enterprise of the kind referred to much depends upon considerations of which it is difficult to ascertain the direct influences in advance. One of the essentials for the successful conduct of a market, in no matter what class of produce, is the existence of an ample stock of the commodity dealt in, and to show to what extent Havre fulfils this requirement, we quote below the statistics showing the stocks of copper in public warehouses in the port on December 31st of the past ten years:—

	Tons.		Tons.
1902	1,721	1907	2,922
1903	686	1908	3,299
1904	1,975	1909	3,517
1905	120	1910	4,562
1906	757	1911	3,340

It will be seen that the stock fluctuates widely, and although during the last five years it has averaged about 3,500 tons, even this is a very small quantity when it comes to starting a recognised trading-centre. How insignificant, indeed, is shown by the fact that the world's output which was 486,000 tons in 1900, and had risen to 682,000 tons in 1905, amounted to not less than 839,000 tons in 1910. But even compared with the quantities of copper which are placed upon the European markets alone, the Havre stocks are insignificant, as the following figures show:—

	Total European supplies.	Average monthly European supplies.
	Tons.	Tons.
1895	141,129	11,760
1900	280,377	23,364
1905	304,400	25,366
1910	446,344	37,195

Apart from these considerations, however, it is questionable how far the mere multiplication of exchanges for the transaction of business in an article such as copper, the price of which is virtually established by two or three producers in the United States, can be of general commercial benefit. A multiplicity of markets may be necessary in such an article as, say, wheat; but the circumstances which govern the copper market are very different from these. A wonderful future was prophesied for the Hamburg copper market when it was established

some years ago, but nowadays no importance whatever is attached to it in international trade circles, almost all the London firms who have given it a trial having abandoned it owing to the narrowness of the dealings, and to what are regarded as the cumbersome and troublesome regulations.

Whether Havre will succeed where Hamburg has failed remains to be seen, but the proposed rules for the conduct of business in the French port are not likely to recommend themselves to London merchants. The draft rules are a mixture of the London, Hamburg, and New York regulations, but in view of the fact that of these three places London alone counts as a copper market, the promoters would have been wise had they worked on lines parallel to those on which business is carried on in the only market worth any consideration at all. In Havre there are to be two "calls" daily, at 9-30 A.M. and at 3-45 P.M. The first, of course, anticipates the London opening at noon, but London prices will be available for the afternoon call, when, however, the second London market is again in session. The Havre brokerage is to be $\frac{1}{2}$ per cent "in" and $\frac{1}{8}$ per cent "out," while the Clearing House will make a charge of 10d. a ton, to be divided equally between the seller, the buyer, the selling broker, and the buying broker, in addition to which an additional charge of 25 centimes per contract is to be made by the Clearing House to cover the cost of "official telegrams." This paltry twopenny-halfpenny impost appears to us to be merely vexatious. Further, a margin of 100 fr. (say £4) per ton is to be put up against every contract, and additional margins are to be called up whenever a loss of 1 fr. per 100 kilos., or say 8s. a ton, is shown.

Elaborate regulations have been drawn up for "spot" transactions, and those for dealings in "futures" are more elaborate still. Under the speculative contract, copper of the standard type, as recognised by the London Metal Exchange, is to be dealt in, the unit being 25 tons. Standard copper is defined as "refined or electrolytic copper running not less than 99 per cent and no more than 99.30 per cent." For refined copper running more than 99.30 per cent and not more than 99.80 per cent and for cakes of good merchant quality and fit for rolling, the seller will receive a premium of 1.25 fr. per 100 kilos., and for refined copper running over 99.80 per cent a premium of 2.50 fr. per 100 kilos. For raw copper the seller will in every case make a rebate of 3.75 fr. per 100 kilos. without any other reduction, if the copper runs at least 97 per cent, but he will not be entitled to any premium for higher grade material. Further, if the copper runs less than 97 per cent but more than 96 per cent the seller will make an allowance equivalent to the difference in the prices as shown by the official quotations. If the copper runs from 96 to 94 per cent the seller will allow a discount equal to twice the difference as shown by the official quotations; while copper running less than 94 per cent will not be good delivery. Refined or electrolytic copper in the shape of wire

bars, cakes or ingot bars will command a premium of 0.625 fr. per 100 kilos.

Copper in warehouse in London may be delivered under certain conditions if notice is given before the 25th of the delivery month. The principal conditions are the following: The seller pays to the buyer 250 fr. fine for each 25 tons, besides 250 fr. to cover the cost of taking the copper from England to Havre, and a sum of 900 fr. to defray the surtax of 36 fr. a ton charged by the French Government upon copper of foreign origin which enters France other than directly from the country of production. A penalty of 1,400 fr. per warrant, equal to about 2l. 4s. a ton, is hardly likely under ordinary circumstances to encourage dealings, speculative or otherwise. Apparently with the intention of showing consideration for the "bears," it is provided that the seller has the right to postpone delivery by complying with a number of formalities. Thus he may postpone delivery for a month by paying the buyer 10 fr. per 100 kilos. (say 4l. a ton); double that amount will secure a further month's grace, but delivery cannot be deferred for more than three months. Minute regulation have also been drawn up favouring the seller in the event of strikes, lockouts, fire, damage, and so on.

Altogether the proposed rules and regulations of the Havre copper market compare very unfavourably with the simple rules in vogue in London. Possibly they may suit the French temperament, just as perhaps the Hamburg rules, with all their cumbersome machinery, may appeal to the German character; but on the whole such a mania for regulating, coupled with considerations of a financial nature, is more likely than not to prevent the Havre market from attaining any importance as an international factor in the copper trade—*Ironmonger*.

THE MINERAL OIL TRADE.

THE *Times* writes:—A sudden movement in the demand for oil shares has naturally directed attention to the position of petroleum, but whatever the position of petroleum for the moment, it cannot affect the immediate position of the Scotch Mineral Oil companies. The Scotch oil year ends with March, and current contracts are at former, not present, prices. In other words, however, much burning and heavy oils may rise before March 31st, they cannot affect the balance-sheets to be then drawn out. Thus the advance in Scotch oil shares is speculative inasmuch as purchasers must be anticipating the results of the trade, not in the coming dividends, but in the possible dividends a year hence.

So far by way of introductory caution, but what is the cause of the advance or advances that have been lately announced? They initiated not with the Scotch companies, but with the American sellers in this country—and the Americans have probably sold more oil in the United Kingdom within the last 12 months or so than ever they did before. Roadly speaking, lamp or burning oil has risen

2d. per gallon and heavier oils have risen from 20s. to 30s. per ton since the beginning of the contract season now expiring. But it is noteworthy that the greater part of the increase in both cases has been within the present calendar year. Last autumn the Standard or the Standard agency companies, raised the price of burning oil by $\frac{1}{2}$ d. per gallon to cover the extra costs of handling resulting from the dockers' and other strikes of last summer. It was stated then that the addition to price did not cover the addition to costs and that business was being conducted at a loss, but with that we have nothing to do. What is certain is that costs of transport and handling have increased still further and at a rapid rate. For example, freight across the Atlantic, which a short time ago was only 12s. 6d. per ton in tank steamers, is now 42s. 6d.—an appreciable sum per gallon. The reason for this is the comparative scarcity of tank steamers, some of which have been lost, while the need for them increased. The Americans are extensive owners of tank steamers, but the selling companies have to charter, for they have not steamers, or at all events enough steamers, of their own. At any rate, the cost of sea transport has to be reckoned on price. And what has borne still more on price has been the increase in dock and harbour charges. The initial cause of the upward movement then has been the increased cost, not of production, but of delivery.

Consumption Smaller than is Believed.

There are certain things about the mineral-oil trade on which a good deal of misconception exists. In the first place the consumption of fuel oil is very much less than is generally supposed, and in the second place the advance in oil is distinctly against its increased use for fuel. For example, fuel oil costing one penny to two pence per gallon is cheap fuel, but oil costing, as it will at present, say four pence per gallon is dear fuel, dearer even than dear coal, so the use of it is abandoned, for the time being at any rate. But what is called fuel oil is a very different article from what is used for oil engines and motor boats. The use of what we may call motor oil has increased enormously, and is still so increasing as to explain the advance in light or burning oil—which is practically the same thing. The fleet of fishing vessels alone now fitted with auxiliary oil engines is a new consumer, and light oil is also being more used for industrial purposes. Thus there is a larger demand than there ever was for petroleum, but the tendency for the medium oils for furnace fuel is downward as to consumption because price is against its industrial value. We do not discuss what an influence a national miners' strike may have on fuel oil, but whatever it is, it can only be transitory.

What has been said applies both to imported petroleum and to domestic paraffin oils, and there is another matter which applies to both. That is the barrel supply. The market for petroleum barrels is and has always been very much larger

than the market for petroleum in barrels. A new or comparatively newer demand has arisen for them in connexion with the whale fisheries and in other directions. It is perfectly true that the American distributors endeavour to do as much as possible without barrelling the oil by delivering direct for consumption by tank wagons in this country and on the Continent. The Scotch companies do the same to a considerable extent. Nevertheless, the major portion of the trade in lamp and lubricating mineral oils has to be done in barrels and the barrels are included in the price. But the price which producers and distributors have now to pay for barrels has practically doubled on what was formerly customary. Even recently petroleum barrels have risen from 4s. to 6s. 6d. each. Take the contents of the barrel at 40 gallons, and here is an advance in packages alone equal to nearly a penny a gallon of the oil. This is a charge which falls as heavily on the Scotch producers as on the foreign producers, perhaps more so in proportion than on the American distributors in this country. There are other interesting things about this remarkable trade in earth oil, but our point at the moment is to show that, while at present the consumption and demand overhead (though not in each individual item) are almost beyond precedent, the profits of the trade are of a vanishing or at all events uncertain quantity.

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With Special Reference to the History of the Nineteenth Century. By WALTER T. LAYTON, M.A. 2s. 6d. net. Macmillan & Co.

KEROSENE OIL, WEEK ENDING 16th MARCH, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	114,800	...	114,800
Karachi	...	...	...	...
Madras	...	...	...	...
			Bengal	763,900
			E. B. & Assam	...
			Bombay	...
			Sind	...
			Madras	547,000
			Indian Ports, Non-Br.	...
			Foreign Ports	...
Exports by sea from Burma to				

IMPORTS OF SUGAR, WEEK ENDING 16th MARCH, 1912.

	REFINED SUGAR IMPORTED INTO						
	Calcutta.	Chittagong.	Bombay	Karachi.	Madras.	Rangoon.	TOTAL.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	32	...	56	32	31	64	215
Germany	...	...	...	...	...	...	...
Austria-Hungary	...	...	...	775	...	...	775
Other European Countries	...	...	26	...	...	...	26
Java	110,286	...	30	126	18	1,304	111,744
Mauritius	11,289	...	2,751	2,998	...	...	17,038
Other Non-European Countries	...	...	2,991	...	...	20	3,011
					Total refined		132,809
					Total unrefined		5
					Grand Total		132,814

—A local Government Board enquiry was recently held at Accrington into the application of the Accrington Corporation for sanction to borrow £33,000 needed for the adoption of the system of generating power gas, as against steam, for the production of electricity. It was stated that Accrington would be the first corporation to adopt the system, although a number of large industrial firms have done so with unquestioned success. According to careful estimates of the economies resulting from the use of gas as against steam, there was for a 60 per cent load factor on 2,000 b. h. p. a saving in favour of gas of £1,100 a year, allowing 12½ per cent for interest, sinking fund and repairs, and taking coal at 10s. a ton, and from the recovery of by-products it is estimated that a further £1,250 a year would be forthcoming. The Town Clerk said that the electricity works were at present being run to their fullest capacity, and with demand for additional supply of current to Haslingden, Clayton-le-Moors, and Church considerably more plant was needed.

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REGISTERED.



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CALCUTTA, THURSDAY, MARCH 28, 1912.

[ANNAS 4.]

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NOTES.

MONEY MARKET.

Wednesday Evening.

PRESIDENCY BANK RATES	Calcutta	6 per cent. (Mar. 21).
	Bombay	6 per cent. (Mar. 20).
	Madras	8 per cent. (Jan. 29).

EXCHANGE	On demand	1-4 $\frac{1}{2}$
	Telegraphic	1-4 $\frac{1}{2}$
	Transfers	
	3 months	1-4 $\frac{1}{2}$
	6 months	1-4 $\frac{3}{4}$

GOVERNMENT PAPER (3½ per cent.) Rs. 96-8.

The spot price of wheat at Karachi on the 23rd March was Rs. 31-12-0 per candy of 656 lbs. This is for white wheat on a basis of 30 per cent red wheat, 5 per cent barley and 3 per cent dirt; the price of bags included. The price of Indian grey yarn (20's) at Bombay on the 26th March was Re. 0-8-3 to Re. 0-9-0 per lb. and of cotton (Fully Good Oomras) ready goods, Rs. 265 per candy of 784 lbs.

The wholesale spot prices of the undermentioned articles in Calcutta on the 27th instant were as under:—

Jute—C. D. M. and Co. (Red)	
Group per 400 lbs.	Rs. 63 0 0
M. per 400 lbs.	57 0 0
Rice—Ballam No. 1 per B. md.	Nil.
Moonghy	3 12 0
Linseed—Bold 4% per B. md.	Nil.
Rapeseed—Yellow, mixed, bold,	
Cawnpore, 4% per B. md.	Nil.

The various crop forecasts relating to the current season and already made public in the *Indian Trade Journal* are summarised in the following statement, which is self-explanatory:—

Crop.	Tracts comprised in the figures.	Percentage of average Indian crop represented by the tracts mentioned in col. 2.	Estimated Area.	Ratio of reported area to annual average for these tracts at corresponding date.	Estimated outturn.	Ratio of estimated outturn to annual average for these tracts at corresponding date.	Date of publication of the forecast in the Journal.
1	2	3	4	5	6	7	8
Indigo	Bengal, Madras, Punjab and United Provinces.	98.3	271,100	81	Cwts (dyed) 48,700	101	Dec. 21st, 1911.
Wheat	Practically all wheat growing tracts.	99.8	29,444,000	115	Information not yet available.	...	March 14th, 1912.
Rape and Mustard	U. P., Punjab, Bengal, E. B. and Assam, N.-W. Frontier, Bombay*, Sind* and Hyderabad.	99.5	3,308,300	(a)	Do.	...	Do.
Linseed	U. P., C. P. and Berar, Bengal, Bombay*, E. B. and Assam and Hyderabad.	99.6	3,464,800	(a)	Do.	...	Do.
Sesamum (til or jinjili)	U. P., C. P. and Berar, Madras*, Bombay*, E. B. and Assam, Bengal, Punjab, Sind* and Hyderabad.	79.3	4,164,700	92	Tons 311,300	81	Jan. 18th, 1912.
Groundnut	Madras, Burma and Bombay.	(a)	1,200,900	121	542,200	120	Feb. 15th, 1912.
Cotton	All cotton growing tracts.	100	20,393,000	95	Bales 3,135,000	77	Do.
Rice	Bengal, E. B. and Assam, Madras and Lower Burma.	77.7	56,443,000	101	Cwts 521,932,000	113	Feb. 22nd, 1912.
Sugarcane	U. P., Bengal, Punjab, E. B. and Assam, Madras, Bombay* and N.-W. Frontier.	98.4	2,331,700	103	Tons 2,390,400	114	Do.

N. B.—The ratios in column 3 are calculated on the total acreage in all India in the case of wheat and cotton and on that in British India in the case of other crops.

* Including Native States.

(a) Data for calculation of ratio not available.

The total approximate gross earnings of State and Guaranteed Railways from 1st April, 1911, to 9th March, 1912, show a gain of Rs. 4,00,67,478, as compared with the corresponding figures for 1910-11.

A new spinning mill under the name of "Gomtipur Spinning and Weaving Mill" and a new spinning and weaving mill under the name of "Peoples' Spinning and Weaving Mill", have started work at Ahmedabad and Surat, respectively. Two mills, (1) the Victoria Mill at Bombay and (2) the Bharatkhand Textile Mill at Ahmedabad, have added weaving sheds.

In their weekly report on the Shanghai piece-goods market, dated February 29th, Messrs. Noël, Murray and Co., Ltd., say:—News from Bombay shows a strong market for Indian yarn there with cotton recovering from a slight decline. Yarn has advanced 1½ to 2 taels a bale and the position in Hongkong has improved to the extent of 8 to 9 dollars. Transactions here have approximated 2,200 bales at advancing prices for Kiukiang. The Custom Returns just issued in Tokyo show that during the last three years the export of Japanese yarn to China totalled 2,368,000 piculs (picul=133½ lbs.),—733,000 piculs in 1911, 917,000 piculs in 1910 and 718,000 piculs in 1909, the values being yen 37,000,000, yen 40,700,000 and yen 29,250,000, respectively. In Osaka, the prices have continued to advance, February closing at yen 143.90, March was yen 141.90 to day and April yen 139.20. From second hands 2,200 bales have been sold here at higher rates, viz., Taels 112.00/116.25 for 16's and Taels 114.00/120.00 for 20's, against last prices Taels 116.50/112.50 and Taels 105.50/109.00. A fair quantity of yarn said to be 65,000 large bales has been bought by dealers in Japan on the basis of yen 140.00 for 16's July to September delivery. Something like 4,000 bales of local yarn have been contracted for since the opening, comprising 100 bales 12's. Mandarin at Taels 106.00, 150 bales 14's Clouded Dragon at Taels 106.00, 500 bales Moon and Season 16's at Taels 110.00/111.00, 1,000 bales Red Dragon 16's at Taels 110.00, 650 bales Two Tiger 16's at Taels 112.00, 200 bales 16's Two Dragons at Taels 121.00/121.50, 500 bales Railway 16's at Taels 114.50, and 600 bales Water and Moon 16's at Taels 114.50/115.00. The retail prices have advanced about Taels 4 and 10's are quoted Taels 98.75/101.25, 12's Taels 99.75/112.25, 14's Taels 102.25/114.75, 16's Taels 105.25/116.75. As anticipated the cotton market reopened at a strong advance, the farmers refusing to part unless at very much higher prices, which it seems buyers will be obliged to pay, or stay out; nominally quotations are Taels 26 to Taels 26.50 for Tungchow and Taichong, Taels 25.60 for 4 Chop and Best Steam Ginned, Taels 25.20 for Shanghai and \$14.40 for seed.

In an article on the prospects of the German cotton industry, the *Borsen Zeitung* (Berlin) of 27th February states that, although the year 1911 was a more or less unprofitable one for cotton spinners in general, business has been improving since the middle of December. Orders have been received in increasing quantities from week to week, and some spinners have five to six months', and others twelve months', orders in hand. Since January the prices of cotton yarns have gone up, and this has, of course, still further improved the markets for spinners. Certain branches of the cotton weaving industry, e. g., the shirtings, cord and trousers branches, were fairly active during December and January. The low prices of cotton brought a large number of orders, and consequently most works have enough work on hand to carry them to May and June. Prices of yarn are firm, and it is therefore anticipated that prices of manufactured goods will improve. The cotton print industry appears to have suffered, perhaps, more than other branches, so that the slight improvement which has recently manifested itself is very welcome.

The following return shows the number of bales of cotton imported and exported at the various ports of the United Kingdom during the week and 9 weeks ended 29th February, 1912:—

	IMPORTS.		EXPORTS.	
	Week ended 29th Feb., 1912.	9 weeks ended 29th Feb., 1912.	Week ended 29th Feb., 1912.	9 weeks ended 29th Feb., 1912.
	Bales.	Bales.	Bales.	Bales.
American	113,558	1,067,282	16,390	96,334
Brazilian	1,406	11,300	38	1,592
East Indian	1,431	5,839	805	1,689
Egyptian	25,887	201,977	7,657	47,085
Miscellaneous	1,979*	17,316†	58	1,835
TOTAL	144,261	1,303,714	24,948	148,535

* Including 241 bales British West Indian, 13 bales British West African, and 1,677 bales British East African.

† Including 1,518 bales British West Indian, 90 bales British West African, and 5,936 bales British East African, and 296 bales foreign East African.

NOTE.—Cotton "in transit" or "for transshipment under bond," if described as such in the ships' reports, was not included in this return prior to 3rd November, 1911, but has been included since that date.

The subject of dampness in cotton, which has exercised the trade with increasing frequency during the last twenty years, is likely to receive serious consideration in the near future. Some years ago, a home paper points out, the Manchester Chamber of Commerce attempted to deal with the question of setting up a standard for moisture in yarns, but without much success. The spinners were found to be strongly averse at that time to anything being done

in the direction of creating a standard for yarn, in the absence of one for raw cotton. The amount of dampness in the raw cotton is not controlled at Liverpool, nor is it quite clear whether any particular body of persons could regulate it. A few years ago, when the Lancashire Cotton Investigation Commission visited the United States they found that it was an invariable rule to add a certain percentage to the actual weights of cotton at Galveston and other ports situated in a very hot and dry climate; the amount added to the invoice being an anticipation of the gain in weight due to the absorption of moisture between the times of leaving the Gulf ports and of arrival in the Lancashire mills, as shown by experience. Whilst the weight of cotton invoiced was thus—and it is today doubtless—increased to allow for the moisture absorbed in the case of cotton from the ports referred to, cotton from Savannah and other Atlantic ports already contains at the time of shipment as much moisture as it will absorb. In India artificial methods are openly adopted to damp the cotton on various pretexts. In some quarters, however, there is now a strong disposition to regard these difficulties as not sufficient to stand in the way of a fixed standard of moisture for cotton yarns. The question is being pressed upon the attention of the Textile Institute for solution, and it is considered likely that the matter will be brought forward at the forthcoming spring meeting. The whole question is one of great importance not only to Lancashire, but to the cotton trade of the world.

At a meeting of the Council of the British Cotton-growing Association held on the 5th March, Mr. Hutton who recently returned from a visit to Egypt stated that the deputation were fully convinced that in the Anglo-Egyptian Sudan there is one of the very finest cotton-growing prospects in the whole of the British Empire. Given hearty co-operation between the Government and the commercial community rapid developments should ensue, and the delegates were of the opinion that the Government should do everything possible to prevent any unnecessary delay. Excellent arrangements were made to facilitate their investigations by Lord Kitchener, Sir Reginald Wingate, and other officials of the Government, to whom the deputation expressed their grateful thanks and they also expressed their appreciation of all that was done for their comfort and convenience by Major Wilkinson, the Director of Agriculture. The purchase of cotton in Lagos to the end of February amounted to 2,072 bales as compared with 1,282 bales for the same period of last year, and 710 for 1910. As the crop is a late one this season the figures were considered very satisfactory. In Northern Nigeria 580 bales have already been purchased by the Association at Zaria, which is more than the total purchases during the whole of the preceding year. The Association's local manager reports that several of the Government residents anticipate that the crop may reach 10,000 bales within the next

two years. It was reported that at the end of December 145 tons of seed cotton were waiting to be ginned at Port Herald, Nyasaland, and there were then about 190 tons still to be brought in. The Uganda crop of last year amounted to 19,000 bales, and it is anticipated that the 1912 crop will reach 25,000 to 30,000 bales. The Association have recently arranged to send out additional ginning plant to deal with this increased production. Of the total authorised capital of the Association (£500,000), £25,062 remains to be raised. The amount received from workpeople's collections during February shows a considerable increase over several recent months.

The statement below shows the quantity of cotton goods calendered and proportion thereof to the total production in Indian mills in the month of January, 1912, and in the ten months from April, 1911, to January, 1912, compared with the corresponding periods of 1910-11 :-

	1910-11.		1911-12.	
	Jan.	Ten months, April to Jan.	Jan.	Ten months, April to Jan.
BRITISH INDIA— Quantity calendered lbs.	9,325,898	120,154,554	9,803,264	127,706,963
Ratio of calendered goods to production %	53.27	59.83	52.42	60.12
NATIVE STATES (excluding Hyderabad)— Quantity calendered lbs.	65,911	1,095,949	66,387	573,691
Ratio of calendered goods to production %	10.49	14.02	8.88	7.69
TOTAL INDIA (excluding Hyderabad)— Quantity calendered lbs.	9,391,809	121,250,503	9,869,651	128,280,654
Ratio of calendered goods to production %	51.78	58.15	50.75	58.34

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

For the week ending 23rd March, 1912—
In the Calcutta market—

Behar opium—Rs. 5,600 ; 5,600 ; 5,600 ; 5,600 ; 5,600 ; 5,600 ; 5,600.

Benares opium—Rs. 5,500 ; 5,500 ; 5,500 ; 5,500 ; 5,500 ; 5,500 ; 5,500.

No quotations have been received in regard to the prices in the time bargains for the Behar opium of the 4th sale of 1912.

At Hongkong—(Exchange : Rs. 143 per \$100.)

Behar opium—\$4,200 ; 4,200 ; 4,200 ; 4,200 ; 4,200 ; 4,200 ; 4,200.

Benares opium—No quotations received.

At Shanghai—(Exchange : no quotations received.)

Behar opium—No quotations received.

Benares opium—No quotations received.

For the week ending 16th March, 1912—

In the Bombay market—

On the 10th and 11th instant (new, 1909-10) Rs. 4,900 ; from the 12th to 16th instant (new, 1909-10) Rs. 4,880 ; from the 10th to the 16th instant (old, 1908-09) Rs. 5,175. The latest prices at Hongkong and Shanghai were (new) Rs. 4,853 and 5,408 ; (old) Rs. 4,996 and 5,516, respectively.

The following statistics showing the acreage, yield, and value of various crops in Canada in 1910 and 1911 are taken from the December issue of the *Census and Statistics Monthly*, published by the Department of Agriculture, Ottawa :-

	Area.	Yield per Acre.	Total yield.
	Acres.	Bushels.	Bushels.
Wheat . . . 1910	9,294,800	16.14	149,983,600
" fall . . . 1911	1,172,119	22.19	26,014,000
" spring . . . 1911	9,201,839	20.63	189,837,300
Oats . . . 1910	9,864,100	32.79	323,449,000
" 1911	9,219,920	37.76	348,187,600
Barley . . . 1910	1,834,000	24.62	45,147,600
" 1911	1,404,312	28.94	40,641,000
Rye . . . 1910	84,100	18.35	1,533,500
" 1911	142,571	18.89	2,694,400
Peas . . . 1910	386,110	16.93	6,538,100
" 1911	287,135	15.80	4,536,100
Buckwheat . . . 1910	270,608	26.77	7,243,900
" 1911	359,367	22.69	8,155,500
Mixed grains . . . 1910	575,700	33.76	19,433,600
" 1911	559,991	29.78	16,679,000
Flax . . . 1910	476,777	7.97	3,802,000
" 1911	1,131,586	11.41	12,921,000
Beans . . . 1910	53,034	22.21	1,177,800
" 1911	60,630	19.06	1,155,600
Maize for husking . . . 1910	328,499	57.00	18,726,000
" 1911	316,104	19.29	18,772,700
Potatoes . . . 1910	593,262	147.14	74,048,000
" 1911	459,097	143.82	66,023,000
Turnips, etc. . . 1910	236,622	402.36	95,207,000
" 1911	227,141	373.92	84,933,000
		Tons.	Tons.
Hay and clover . . . 1910	8,515,400	1.82	15,497,000
" 1911	7,903,242	1.61	12,694,000
Fodder maize . . . 1910	271,960	9.38	2,551,000
" 1911	285,321	9.92	2,577,200
Sugar beet . . . 1910	16,000	9.69	155,000
" 1911	20,878	8.66	177,000
Alfalfa* . . . 1911	101,781	2.24	227,900

	Weight per measured bushel.	Average price.	Total value.
	Lbs.	Dols. per bushel.	Dollars.
Wheat . . . 1910	59.91	0.753	112,973,000
" fall . . . 1911	61.12	0.825	21,461,000
" spring . . . 1911	59.2	0.611	117,106,000
Oats . . . 1910	36.08	0.354	114,365,000
" 1911	34.65	0.364	126,812,000
Barley . . . 1910	47.69	0.474	21,400,300
" 1911	46.97	0.566	23,004,000
Rye . . . 1910	55.72	0.702	1,083,600
" 1911	55.11	0.774	2,086,000
Peas . . . 1910	58.73	0.880	5,754,600
" 1911	59.58	1.025	4,647,700
Buckwheat . . . 1910	47.83	0.563	4,078,000
" 1911	47.32	0.611	5,232,000
Mixed grains . . . 1910	45.45	0.512	9,913,000
" 1911	45.10	0.607	10,127,000
Flax . . . 1910	54.96	2.070	7,898,800
" 1911	58.29	1.507	19,467,000
Beans . . . 1910	59.81	1.780	2,094,200
" 1911	58.30	1.920	2,219,000
Maize for husking . . . 1910	57.14	0.541	10,135,000
" 1911	50.31	0.648	12,171,900
Potatoes . . . 1910	—	0.450	33,446,000
" 1911	—	0.600	39,358,000
Turnips, etc. . . 1910	—	0.230	21,444,000
" 1911	—	0.230	19,541,000
		Dols. per ton.	
Hay and clover . . . 1910	—	9.660	149,716,000
" 1911	—	11.550	146,536,000
Fodder maize . . . 1910	—	4.680	11,957,000
" 1911	—	4.840	12,469,000
Sugar beet . . . 1910	—	5.720	887,000
" 1911	—	6.580	1,165,000
Alfalfa* . . . 1911	—	9.863	2,249,000

Dollar=4s. 1½d.

* Figures for 1910 are not given.

It should be noted that figures given for the total yield, the yield per acre, and the average price relate to bushels of the Canadian legal weight for each grain, viz., 60 lbs. to the bushel for wheat, peas, beans, potatoes and other roots, 56 lbs. for maize, rye and flax seed, 48 lbs. for barley and buckwheat, and 34 lbs. for oats. The ton is the short ton of 2,000 lbs. The weight per measured bushel (Imperial) represents the natural weight of the grain, and is an indication of its quality due to the character of the season.

The prices of British corn per quarter of 8 bushels, as received from the Inspectors of Corn Returns, in the week ended 2nd March, 1912, were as follows :—Wheat, 34s. 1½d.; barley, 32s. 0d.; and oats, 21s. 6d.

The *Corn Trade News* gives the following summary of the world's crops as on the 5th instant :—
United States of America—There is much snow in the winter belt, but there are continued and stronger complaints of late sown soft winter, and in Kansas alternate frosts and thaws have occurred. Primary receipts distinctly smaller but larger than a year ago, and visible stocks about maintained. Estimates

farmers reserves very small, say roundly 120 million bushels compared with 175 million last year. *Canada*—Last north-western wheat crop estimated by Grain Dealers' Association 179 million bushels compared with 193 million by the government. Again reported that much wheat left out during winter will be useless for human food. Receipts at Winnipeg continue very big, grading about as recently. Stocks further increased. *Argentina*—Occasional mail advices give no better accounts of wheat crop; exports still slow, and probably so continue for at least one month. *Australia*—No change as regards harvest estimates. Offerings moderate, but shipments very fair and although loading fleet not big, yet sufficient boats to maintain fair movement some weeks. *Russia*—Weather mild-er and rainy in south but still much snow in interior. Arrivals at ports generally small but at Novorossisk very fair and wheat shipment larger. *Roumania*—Weather spring-like, navigation re-opened; larger supplies expected at Braila. Maize been sent freely to Hungary. *Hungary*—Weather not quite seasonable but crop outlook considered good. Supplies moderate but about sufficient. Some people claim market too high, especially for Maize. *France*—Crops look well but still complaints forward growth and weeds. Wheat supplies moderate to fair. *Germany*—Interior navigation opened and supplies native grain larger; some mention crop damage, but prospects generally favourable, demand foreign wheat poor owing bad flour sale. *Italy*—Some complaints want of rain in south and crops generally too forward. Native wheat quiet and easier. *Spain*—Crops are in want of rain. *United Kingdom*—Crops look well but fine period now greatly needed.

Messrs. H. A. Watson and Co., Metal and Mineral Brokers in their *Metal Report*, Liverpool, March 4th, say :—The market for standard copper was quiet after our last report, and the price fell to £62 17s. 6d. Cash and £63 10s., but afterwards steadily recovered, closing to-day at £64 7s. 6d. Cash and £65 2s. 6d. Three Months. Notwithstanding the Coal strike the market is well sustained, and were it not for the Labour troubles we should doubtless have had a much stronger feeling. The consumption in America is steadily improving and next week Producers' Statistics will probably shew a further reduction of stocks. In Europe the demand continues on a large scale and statistics as given below shew a still further shrinkage in the Visible Supply. The statistics for the past fortnight show decreases of 1,631 tons in the Visible Supply, and 1,968 tons in the Liverpool and Swansea Stocks. The arrivals from America at Liverpool and Swansea during the past fortnight amount to 1,288 tons, making 7,696 tons 1st January to date, against 9,143 tons same time last year. The present prices for manufactured copper are as follow :—Strong Sheets £80, B. S. £68 to £68 10s., Tough £68 to £68 10s., Electrolytic, March

£67, April-May £67 5s., India Sheets £77 to £78, and Yellow Metal 6½d. per lb. **Tin**.—Standard. Up to 27th ultimo, the market was fairly steady, Cash Tin fluctuating between £194 and £196 5s., with Three Months at £191 to £192 5s. The Coal strike has since dominated the market, and on the 29th Tin fell to £191 15s. Cash and £187 15s. forward, recovering about 30s. next day, while to-day the market is firm, closing quotations being £194 10s. Cash and £189 5s. Three Months. Up to last week there was no falling off in the demand, but with all manufacturing trades disorganised for want of fuel, we cannot expect this demand to be maintained so far as England is concerned. America, however, is increasing her consumption, and consequently the statistics, as regards the deliveries for March, are not likely to show any material falling off. The statistics for February give the Visible Supply as 15,633 tons, against 17,218 tons for January, being a reduction of 1,585 tons. **Bolivian**.—We quote £170 to £182 per ton, according to quality. **English**.—Ingots: £199 10s. to £200 per ton. **Antimony**.—English Regulus, £25 10s. to £26 10s. net per ton; Antimony Ore, we quote nominally £6, basis 50 per cent. **Bismuth**.—7s. 6d. per lb. **Iron**.—The Cleveland market is quiet and little doing, closing quotations being 49s. 7½d. Cash, 49s. 10½d. One Month, and 50s. 4½d. Three Months. **Lead**.—Dull; English Pig, £16; Soft Spanish, Sellers, £15 15s.; Buyers, £15 12s. 6d. **Nickel**.—£167 to £171 per ton. **Quicksilver**.—Firsts £8 7s. 6d.; Seconds £8 6s. 6d. per bottle. **Spelter**.—Quiet; Silesian, Ordinary Brands, Sellers £26 10s.; Specials, £26 15s. **Sulphate of Copper**.—Prompt £22 17s. 6d. to £23. **Wolfram**.—81 marks. **Bar Silver**.—Spot, 27d.; Two Months, 26½d.

Applications in respect of the following new inventions were filed in the Patent Office, Calcutta, during the week ending 16th March 1912:—H. Heenan—Improvements in and in the manufacture of apparatus for cooling or warming water or air and the like. Firm S. Oppenheimer—Improved process for the manufacture of dried yeast. Requa European Motor Company—Improvements in internal combustion engines. Lamtom Foreign Patent Company Ltd.—Improvements in glazing bars and the like. L. Blessing—Improvements in railway sleepers and means for securing rails thereto. J. Say—Improvements relating to slide valves for fluid pressure engines. P. Girard and J. Sonnerly—A process and machine for the production of artificial fibres. C. A. R. Browne and Rala Ram—Composite timber and iron transverse sleeper for railway track. H. J. J. Hammel—Improvements in incandescence gas or vapour lamps. G. W. Day—Cooking apparatus. Tej Shanker Kochak and Jagan Nath Prasad—Improved water lift.

The Times of March 4th writes:—Following upon the advance of 1½d. per gallon in the Scottish

mineral oil companies' prices for burning oils, the Scottish representatives of the principal importing companies have announced a further advance to take effect in some cases from to-day and in others from to-morrow. The Anglo-American Oil Company, which represents the Standard Oil Company of America, intimates an advance of 1d. per gallon, making their price 6½d. per gallon, ex-tank wagon, and the British Petroleum Company and the Home-light Oil Company announce advances of 1½d. per gallon. The two latter companies represent the Royal Dutch-Shell Transport Combination, which is, or at least was until quite recently, the chief opponent throughout the world of the Standard Oil Company. The most recent advance of the Scottish companies' prices makes their spot prices, ex-tank wagon, 6d. per gallon, which is the highest point touched for nearly 30 years. Keen interest is being taken in the possibilities of oil as an alternative fuel to coal. Inquiries made in authoritative quarters do not encourage the hope that its use is likely to afford any substantial relief in the event of the coal strike proving prolonged. So far as the Scottish supply is concerned it can only be regarded as precarious, as the mineral oil companies, being themselves still to a large extent dependent upon coal as fuel, may be compelled to close down very shortly. It is true that certain of the companies have their own coal-pits, but their miners have ceased work in sympathy with the general body of the coal-miners. Foreign oil is likely to continue coming to hand in fair quantities, but importers are seriously handicapped by the shortage in tank steamers, which has been pronounced for some time past. From this cause they have been experiencing difficulty in maintaining their normal imports, burning oil receipts, for instance, being this year down to the extent of nearly 20 per cent, although the receipts of fuel oil have increased by about 150 per cent.

We take the following paragraph from the Manchester Guardian:—The British Convention which regulates chemically pure glycerine is threatened with disruption on March 4th unless some means can be found of satisfying two of the most important members, viz., Joseph Crosfield and Sons, Ltd., and William Gossage and Sons, Ltd., who gave the necessary thirty days' notice to terminate the agreement. Notice has also been given of their withdrawal from the Continental Convention, so that failure to find a *modus vivendi* would mean the breakdown of the present international arrangement by which the trading spheres of the various groups are defined. Free competition both at home and on the Continent would quickly make its influence felt on prices, which are already to a considerable extent nominal. The Convention does not regulate crude or industrial glycerine, but chemically pure glycerine only. It collapsed in 1905, after a career of nearly five years, but was reconstituted in 1907, since when it has played an important part in regulating prices. During the two

or three years preceding the end of 1910 prices rose greatly, the high water mark of £105 per ton being reached for the industrial article. Glycerine owes its chief importance as an article of commerce to its part in the manufacture of high explosives, the demand for this purpose having increased greatly of late years. It is obtained principally from the oils and fats used in the process of soap-making, the waste liquor containing an average of 9 per cent of glycerine. Soapmakers as a rule sell their crude glycerine to the refiner, particularly to the great European house of Nobel.

The Hull correspondent of the Oil and Colour Trades Journal writing on the 29th ultimo regarding the Hull oil market says:—**Linseed oil**: The market is firm near, quiet forward, with spot at 37s.; 34s. 3d. March-April, 31s. May-August. The exports for the week amounted to 13 tons, of which Africa took 1, America 4, Austria 1, Egypt 6 and Norway 1 ton each. **Cotton oil**: The market is firm near, quiet forward, with refined cotton oil 22s. 1½d. spot; 22s. 9d. February-April; 23s. 9d. May-August. Crude oil 20s. 7½d. spot. The exports for the week amounted to 86 tons, of which Austria took 18, Belgium 2, France 5, Germany 14, Holland 36, Italy 8, and Sweden 3 tons each. **Soy bean oil**, 23s. 9d. spot; 23s. 9d. crushed. The exports for the week amounted to 291 tons, of which Belgium took 23, Denmark 5, France 88, Germany 41, Holland 104, Italy 15, and Sweden 15 tons each. **Rape oils**: Ravison, 27s. 6d.; brown East Indian, 30s. 3d. **Cocoonut oil** slow; English for prompt, in casks, £39 to £40 per ton. **Castor oil** continues quiet, 3½d. to 3¾d. per lb. for spot, and 3¾d. forward quay terms. **Colza oil** continues quiet at 34s. 6d. per cwt. for East Indian refined ex-store in barrels, and 36s. 6d. for Stettin. **Lard oil** steady. Best English refined 48s. 6d. per cwt. ex-mill, in barrels. **Olive oil** continues quiet but steady at £41 to £41 10s. per tun for Spanish, ex-store. **Palm oil**: A moderate business done at the easier rates, including spot softs at £27 12s. 6d. and May-June at £27 15s. Lagos at £28 to £28 2s. 6d., and hards at £25 10s. transit. Refined sorts dull; bleached, in casks, £32 5s. to £32 10s. per ton. **Petroleum** very firm at 8d. per gallon for ordinary American; 8½d. for R. D. and 9½d. for W. R. **Turpentine** steady, spot 35s. 6d., March-April, 35s. 9d. and May-June, 36s. per cwt.

Recent reports from Japan, says the British Trade Journal, indicate that important contracts for sugar machinery will soon have to be negotiated by the Formosan Companies. The Nitaka Seito Kaisha has successfully applied to the Government for permission to erect a sugar mill of 1,000 tons capacity in the Kagi Prefecture. This company already owns a sugar plant of 750 tons capacity, situated at Shoka. If present plans do not miscarry, the Byoritsu, Chuko, Shinchiten, and two or three

other smaller sugar concerns in Formosa may be incorporated into one large company under the name of the Minami Nippon Seito Kaisha (Southern Japan Sugar Co.). The machinery would necessarily have to be increased, and the plantations acquired would comprise, approximately, 50,000 acres.

The stock of sugar at the various Port Commissioners' Warehouses in Calcutta on the 26th instant was 89,376 bags, while the stock in Bombay on the 22nd idem amounted to 160,600 bags.

The statement below shows the despatches of sugar from Calcutta by all routes during the week ending the 23rd March, 1912:—

	Cwts.
(1) By rail	46,211
(2) „ river	16,790
(3) „ road	1,880
(4) „ sea (foreign)	852
(5) „ „ (coastwise)	27

In their review of the Mauritius sugar market, dated March 9th, Messrs. Blyth Brothers and Company say:—During the latter end of February no less than three cyclones threatened the Colony, but fortunately passed away without doing any damage whatever, the wind hardly exceeding 20 miles per hour, and as torrents of rain fell at various intervals, the effect of the drought experienced up to December has been a great deal minimised, and it would not surprise us if a very satisfactory crop was eventually found to be realised. In the postscript to our Price-Current of 10th ultimo, we were able to report continued heavy buying at Rs. 12.50 for Crystals and Rs. 8.00 for Low Syrups, since which date the market has been absolutely lifeless and practically no sales whatever of any class of sugar have been made. This, no doubt, has been due principally to the fact that the question of tonnage is now becoming serious. In addition to this, sellers up to a few days ago have shown no inclination to follow the rapid decline in Beet, still being of opinion that as soon as tonnage is available, Bombay will again come in at high prices, but this we do not think is likely, especially looking to the fact that, no doubt on account of the Coal strike, the British India Company have increased their rates from 8 as. per bearer to 9 as. for March loading and to no less than 12 as. for the April boat. The question of damp sugar is also one that is now becoming serious, for the very heavy rain experienced in February and the hot moist weather experienced since has caused a lot of sugar to be damp in store, and buyers having bought largely and finding their sugar turning out damp are now very cautious in operating, unless they can have some recourse against sellers for damp sugar. The market therefore closes to-day extremely weak with moderate stocks of ordinary Bombay sorts available and no demand whatever. Estimated stocks of Crystals unsold amount to 200,000 bags

including 60,000 bags finest Whites, and these sugars, we fear, will realise but little more than ordinary Bombay sorts especially as they are packed in gunny vacoa and this fine grain sugar is naturally more liable to become damp than grainy sorts. Practically all the dry quality White Syrups have been sold, but there seems absolutely no demand whatever for over 100,000 bags of the moist syrups which remains unsold, and for which holders still continue to ask extreme rates.

Imports of tobacco from each principal country into British India in the month of February, 1912, and total duty realised thereon have been as follows:—

Imports—	MANUFACTURED.						
	Unmanufactured.	CIGARETTES.					Total tobacco.
		Cigars.	Weighting less than 3 lbs. per 1,000.	Weighting 3 lbs. or more per 1,000.	Total.	Other sorts.	
From the United Kingdom.	Lbs. 14,374	Lbs. 401	...	...	Lbs. 103,056	Lbs. 35,271	Lbs. 153,002
From Holland.	4,280	3,722	...	...	168	...	8,170
From Belgium.	1,366	777	...	...	1	20	2,164
From Egypt	...	2	...	...	5,093	15	5,110
From the United States of America.	1,914	...	...	...	725	12,377	15,016
From other countries.	1,208	2,390	...	...	477	45	4,080
Total	23,162	7,292	...	...	110,389	47,728	188,562
Total duty realised thereon Rs.	11,704	11,204	68,228	8,285	76,513	24,534	1,23,955

In their report on **London tea sales**, dated March 8th, Messrs. Gow, Wilson and Stanton, Ltd., say:—Importers of **Indian tea** brought forward 36,836 packages against 46,038 packages last week. With country trade, however, on a very small scale, competition was limited and most irregular. At Monday's auction the best liquoring invoices from Assam and Dooars, especially those with good autumnal flavour, continued to meet with good enquiry at firm rates. For all other descriptions, however, prices were easier, common and medium black leaf teas frequently showing a fractional decline, whilst for red and stalky descriptions, which were much in evidence, distinctly lower quotations were established. At the closing sale on Wednesday, the tone in the room was

slightly better, and Monday's rates were generally maintained. 53 final invoices have been printed to date against 45 last year. The amount printed for next week is smaller, only 30,759 packages being advertised. Week's average of tea sold on Garden Account, Season 1911-12, 36,772 packages, average 8-52d. 1910-11, 33,123 packages, average 8-99d. Season 1911-12, to date 1,335,004 packages, average 9-11d. Season 1910-11 to date 1,223,173 packages, average 8-58d.

In their weekly report on **Australian wool sales**, dated Melbourne, February 29th, Messrs. Goldsbrough, Mort and Company, Limited, say:—We held what is practically the last sale of the season in this centre to-day to a good attendance of the trade, augmented by a few Sydney operators. Despite the rather miscellaneous character of the catalogue, which, apart from one good clip from the Hay district, consisted mainly of oddments, the clearance made was a good one. Good wools of all descriptions were firm at late rates, but inferior parcels of all grades were considerably lower than at our last sale.

A *List of Joint Stock Companies* showing companies at work in each province of British India and in the State of Mysore on the 31st March, 1911, compiled in the office of the Director General of Commercial Intelligence, has just been published by the Superintendent, Government Printing, India, 8, Hastings Street, Calcutta. The price is Rs. 2 per copy.

Commercial development is very much to the fore in India just now and in this connection questions often arise as to the necessary **machinery for industrial enterprise** and where to obtain it. This information the General Secretary of the Indian Industrial Conference, Amraoti, now seeks to supply in a book entitled *A Guide to Modern Machinery for Starting Various Industries*, copies of which may be had from him at one rupee each, post free. The *Guide* has been carefully compiled, is sure to be popular because of its practical aims, and it shows that the Conference, which is responsible for its production, has thoroughly found its feet.

A useful book of references to hand by the last mail is an *Index to Consular Reports*, which gives handy reference to all trade matters and materials referred to by British Consular representatives abroad, together with a list of the Reports indexed and the price of each Report. The publishers are Messrs. Darling and Son, Ltd., London, and the price 4½d.

The Government of **Madras** propose to issue certain **rules** under the **Indian Factories Act** and these are published in the *Fort St. George Gazette* of March 19th for information and criticism.

The **weather conditions in India** for the week ended Tuesday last were marked by a deep depression over the greater part of North-West India. Numerous light falls of rain and snow have occurred in the extreme north and along the Western Himalayas. Rainfall continued in Eastern Bengal and Assam, Cherrapunjee and Silchar.

It is stated that results of considerable promise have been obtained in the **tobacco curing experiments** which are being conducted at Pusa in collaboration with the Peninsular Tobacco Company at Monghyr. The varieties used were American and the most promising of the Pusa selections, and the method adopted was a modification of that usually employed by the people. Under the conditions of the experiment the Imperial Economic Botanist states that the **Indian tobacco gave better results than the American**, and one of the Pusa selections gave leaf of considerable promise. The experiments are being continued on a large scale.

At the **London auctions of East Indian tanned hides** on March 1st 96,532 Madras, Ceylon and Bombay were offered (including about 50,000 calf) and 71,405 sold. Madras imports were very poorly represented. The few parcels of fair to good tan-nages sold at firm prices on average, the lower assortments realising extreme rates. Plastered rejection sorts sold at relatively full values. Best calf skins were firm but dull, and inferior sorts were about ½d. per lb. easier. Buffalo leather advanced fully ½d. per lb. Bombays show no material change. Ceylons were unchanged. Stock in brokers' hands about 40,000. Australian and New Zealand Basils: 48,175 offered and 2,510 sold. Wellington best, 11d. to 17½d.; second class, 7½d. to 13½d.; best lamb, 16½d.; first greasy, 15d.; second ditto, 10d. per lb.

NOTICES.

CALLS FOR TENDERS.

Indian Coal.

The Director of the Royal Indian Marine, Bombay, is calling for tenders up to the 23rd proximo for the supply of 15,200 tons of Indian steam coal at Bombay, 13,400 tons at Calcutta, 850 tons at Colombo, 1,700 tons at Karachi, 700 tons at Madras, and 8,500 tons at Rangoon.

Welsh Coal.

The Director of the Royal Indian Marine, Bombay, is calling for tenders up to the 23rd proximo for the supply of 1,000 tons of Welsh unscreened steam coal at Karachi and 2,000 tons at Rangoon.

ENQUIRIES.

(For particulars address the Director-General of Commercial Intelligence, New Imperial Secretariat, 1, Council House Street, Calcutta.)

An asterisk (*) preceding an enquiry indicates that bank references are offered.)

Belt Dressing.

(1369)—A Dublin firm desires to appoint agents

in Calcutta, Madras, Karachi and Delhi for the sale of a special belt dressing.

Gum Tragacanth, Rhubarb and Chiretta.

(1370)—A Lahore firm desires to be placed in communication with importers of gum tragacanth, rhubarb and chiretta in the United Kingdom, France and Japan.

Machinery.

(1371)—A firm in Madras desires to be placed in communication with manufacturers of gas and oil engines and dairy and knitting machines (suitable for small industries), who may be desirous of appointing agents in South India.

Beeswax and Dried Gut.

(1372)—A firm in Trieste desires to be placed in communication with shippers of beeswax and dried gut.

Typewriter Ribbons and Carbon Paper.

(1373)—A firm in Austria desires to appoint sole agents for India for the sale of typewriter ribbons and carbon papers.

Plant for Decreasing Cotton Waste.

(1374)—A London firm handling an extraction plant for decreasing cotton waste desires to be placed in communication with engineering firms or dealers in agricultural implements who would be prepared to act as agents.

BOOKS OF REFERENCE.

THE following publications have been received and may be consulted by any desirous of studying them at the office of the Director-General of Commercial Intelligence, 1, Council House Street, where they will be displayed in the waiting-room till Wednesday, the 3rd April, 1912:—

Parliamentary Publications.

Accounts relating to Trade and Navigation of the United Kingdom, for each month during the year 1912—February 1912. Agricultural Statistics, 1910—Vol. XLV—Part IV—Colonial and Foreign Statistics with Index to Vol. XLV. Report of the Proceedings of the Inspection Committee of Trustee Savings Banks for the year ended 20th November 1911, with Appendices. Woods, Forests and Land Revenues—Abstract Accounts of—1910-11.

Foreign and Colonial Publications.

Statistical Register of the State of South Australia for the year 1910—Part III—Production, with Prefatory Report. Statistical Register of the State of Victoria for the year 1910—Part IX—Population; Part X—Interchange. Italy—Statistica del Commercio Speciale—Gennaio 1912; and Dicembre 1911. Sweden—Uppgift I Runda Tal Över Rikets in—Och Utforsel Af Vissa Varor under Januari 1908-1912; F Handel Kommerskollegii underdaniga berättelse, 1910.

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The Indian Trade Journal.

THURSDAY, MARCH 28, 1912.

THE SUDAN AS A MARKET FOR INDIAN GOODS.

In our issues of October 5th (page 22), November 2nd (page 143), and November 9th, 1911 (page 173), some particulars were published of the economic developments in the Sudan during the year 1910. Later particulars indicate that there has been a satisfactory increase in the trade of the port during the past year. The value of the external trade during the first nine months of 1911 was £E3,230,549 which compares with £E2,299,771 during the corresponding period of 1910, or an increase of nearly 42 per cent. Much of this improvement is due to the increase in the value of the exports. The value of these in the first nine months of 1911 was £E1,203,147 as compared with £E790,224 in the first nine months of 1910, an increase of £E412,923 equivalent to over 52 per cent. The principal factors in this increase are gum, cotton, livestock, and hides and skins. The import trade has also shown a satisfactory increase, viz., from £E1,348,318

in 1910 to £E1,696,663 in 1911, an increase of £E348,345 equivalent to over 25 per cent. One of the main increases in the imports is that of cotton fabrics. This commodity was imported to the extent of some 3,064 tons in the first nine months of 1911, valued at £E413,000. (£E=1l. 0s. 6½d.) The table below shows the exports from Calcutta and Bombay during the past three years:—

		Calcutta.			Bombay.		
		1909-09	1909-10	1910-11	1909-09	1909-10	1910-11
Tea	lbs.	7,072	12,500	13,500	...	...	...
Gunny bags	No.	...	...	...	...	...	...
Cotton goods—							
Piece-goods (grey)	yds.	...	...	...	...	...	6,000
Other sorts	lbs.	...	...	...	...	...	336
Spices—							
Pepper	lbs.	...	...	...	...	...	1,006

With a view to obtain a market for Indian goods in the port and district the Commercial Intelligence Department recently set itself to ascertain (1) the shipping lines sailing to Port Sudan from Calcutta and Bombay; how often they sailed; and what freights they charged on jute and cotton goods; (2) what were the port dues and landing charges at Port Sudan on cotton goods, jute goods, tea, coffee and spices; (3) what reliable agency houses were established there; and (4) what were the railway freights on jute and cotton goods from Port Sudan to the interior. The information so collected is summarised below.

The B. I. S. N. Co.'s London line of East African steamers usually call every month at Port Sudan and Aden, outwards and inwards, but the movements of these steamers are regulated by trade requirements. The Egyptian (Khedivial) steamers call at Aden every fortnight, but they do not call at Port Sudan, cargo for this port being transhipped at Suakim. If, however, £75 earnings offer of cargo or passengers, a steamer calls specially at Port Sudan. The steamers of the Austrian Lloyd running between Trieste and Calcutta call monthly at Port Sudan on the Calcutta run, outwards and homewards, but this call is optional.

A copy of "Harbour Regulations, Dues and Tariffs," containing all information as to port dues, may be seen at the office of the Director-General of Commercial Intelligence. The landing charges are P. 1 (=2½d.) per package under 350 kilos; over 350 kilos P. 10 per ton weight, excluding cranage on heavy cases. Quay dues at Port Sudan are 1/4 % *ad valorem* on imports and 1/8 % *ad valorem* on exports. There are no dues at Suakim. A list of agency houses has been obtained and may be seen at this office, as also may a list of rates

charged on the Sudan Government Railways on certain commodities from Port Sudan and Suakim to Khartoum Central, Wad Medani and Kosti, respectively; and also a copy of the Sudan Government Railway Tariff and a map of the Sudan Government Railways.

TARIFF CHANGES AND CUSTOMS NOTIFICATIONS.

The Board of Trade Journal, published on the 7th instant, relating to Tariff Changes and Customs Regulations, gives particulars about:—

EAST AFRICA PROTECTORATE.—Proposed Free Importation of Motor Vehicles and Petrol.

UNITED STATES OF AMERICA.—Proposed Prohibition of Importation of certain Sealskins

DOMINION OF CANADA.—Customs Decisions.

COMMONWEALTH OF AUSTRALIA.—Commerce Act: Decisions. Description of Turpentine Substitutes. Marking on Handkerchiefs. Drawback allowed on Rice Meal.

DOMINION OF NEW ZEALAND.—Customs Decisions.

UNION OF SOUTH AFRICA.—Customs Decisions.

NATAL.—Regulations regarding Disinfection of Used Clothing, etc., Imported for sale.

EAST AFRICA PROTECTORATE.—Importation of Matches. Over entry Declarations; Applications for Certificates. Free Importation of certain Agricultural, etc., Implements.

UGANDA PROTECTORATE.—Export Tariff Valuations for Chillies.

FINLAND.—Tariff Classification of "Health Salt."

NORWAY.—Duty-free Admission of Wireless Telegraphy Apparatus.

NETHERLANDS.—Customs Decisions.

GERMAN NEW GUINEA.—Alteration of Customs Regulations as regards Goods sent by Post.

BELGIUM.—Customs Decisions.

FRANCE.—"Temporary Admission" of Crude Glycerine Imported to be Refined.

FRANCE (GUADELOUPE).—Modifications of the "Octroi-de-Mer" Tariff.

SWITZERLAND.—Customs Classification of Figured Cotton Tissues.

TURKEY.—Customs Duty on Italian Sulphur

Prohibition of Exportation of Butter and Cereals from Yemen Vilayet.

GREECE.—"Temporary Admission" of Wheat.

COSTA RICA.—Revised Customs Tariff.

VENEZUELA.—Importation of Gold Coin.

URUGUAY.—Enforcement of Law imposing a Customs Duty on Sheep Dips.

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

COMMONWEALTH OF AUSTRALIA.

Rice Meal—Drawback allowed on.

Respecting the removal, under a Notice of 7th October, 1911, of the drawback of duty allowed on

rice meal used in the manufacture of articles within the Australian Commonwealth upon their exportation, the Board of Trade have now received a copy of a further Notice, dated 5th January, 1912, which cancels the previous Notice of 1911. The effect of the present Notice is to restore the following articles to the list of imported materials upon which drawback of duty is allowed, under certain prescribed conditions:—Rice meal produced in the process of cleaning imported *uncleaned* rice. Rice meal produced in the process of polishing and re-dressing imported *cleaned* rice.

FRANCE (GUADELOUPE).

The "Octroi-de-Mer" Tariff—Modifications of.

The French Journal Officiel for the 28th February contains a Presidential Decree, dated the 13th February, continuing in force for a further period of four years the exemption from *octroi-de-mer* duty accorded for four years by the Decree of the 9th May, 1907, in respect of agricultural and industrial apparatus and machinery. The same Decree reduces from 20 to 15 francs per 100 kilogs. the *octroi-de-mer* duty on margarine, oleomargarine, alimentary greases, and similar substances of animal origin, also alimentary vegetable fats; and fixes the *octroi-de-mer* on sacks as follows:—

Jute sacks—	Centimes.
Empty each	4
Full "	2
Sacks of hemp, linen, cotton and other tissues, except jute—	
Empty "	5
Full "	2½

[NOTE.—*Octroi-de-mer* duties are applicable to goods of any origin (French or foreign) whether imported, or produced or manufactured in the Colony.]

Franc (100 centimes) = 9½d.

—In the course of an article on the chemical industries of Sweden, United States Consul T. H. Norton says:—The Kilafors Company and a few others, notably the Skanska Attikfabriken, of Perstorp, furnish a wide variety of products obtained from the **destructive distillation of wood**. Their lists contain the various charcals, wood naphtha of 64°, methyl alcohol free from acetone, pyroligneous acid, technical and crystallized acetic acid, formaldehyde, creosote, carbonates of creosote and guaiacol, turpentine, lampblack, tar oil, carbolineum (for the impregnation of wood), pitch, etc. Little effort is made to go further in the isolation of the numerous other constituents of wood tar, or to use those separated for the manufacture of higher derivatives. Forty years ago factories were started in Sweden for the purpose of utilizing the stumps of spruce and other conifers, by subjecting them to destructive distillation. Apart from tar, etc., it was sought to secure more particularly the crude wood oil, used in place of turpentine. This branch of manufacture has not been very successful, as it has not been possible to free the product from a pronounced burnt odour.

CHAMBERS OF COMMERCE.

MADRAS.

THE extracts below are from the proceedings of the Madras Chamber of Commerce at the monthly meeting held on the 27th February, 1912 :—

Indian Currency.

Read a letter, dated the 20th January, 1912, from the Karachi Chamber of Commerce with reference to this Chamber's letter of the 1st December, 1911, on the above subject.

Resolved to inform the Karachi Chamber that while this Chamber generally adheres to the terms of its letter of the 16th June, 1909, it is now less inclined to take part in a joint representation to Government in view of the fact that the gold position has so enormously improved

Coal Despatches.

Read (1) copy of a telegram addressed by the Upper India Chamber of Commerce to the Railway Board protesting against certain orders issued to collieries regarding coal despatches, (2) a letter, dated the 8th February, from the Upper India Chamber of Commerce, enquiring whether this Chamber is prepared to support a protest against the action of the Railway Board and (3) a letter, dated the 14th February, from that Chamber on the above subject.

Resolved to inform the Upper India Chamber that this Chamber is not prepared to protest against the action of the Railway Board, as it considers it to be in the general interest of the public.

Royal Arms and Prince of Wales's Feathers.

Read letter, dated the 7th February, from the Government of Madras, forwarding copy of a communication from the Government of India No. 400-414-45, dated the 12th January, 1912, on the subject of the prevention of the improper use of the Royal Arms and Prince of Wales's Feathers in India, and (2) a letter from the Madras Trades Association on the above subject.

Resolved to inform Government that the Chamber approves of the proposals contained in Clause 5 of the Government of India's letter, to the effect that legislation might take the form of an enactment somewhat similar to Section 68 of the English Trade Marks Act, 1905, combined with a penal clause on the lines of Section 20 of the English Merchandise Marks Act, 1887.

Grey and Bleached Yarns and Customs Regulations in Burma.

Read a letter, dated the 19th February, from the Collector of Customs, Madras, enclosing copies of correspondence from the Government of India on the above subject, and inviting an expression of the Chamber's views.

Resolved to inform the Collector that so far as single yarns are concerned, this Chamber sees no objection to the proposed make up. As regards double yarns, the Madras market does not deal in

these, and the Chamber is, therefore, unable to express an opinion. The Chamber is opposed to any subdivision of the standard hank.

Telegram Covers.

Read a letter, dated the 20th February, from the Director-General of Telegraphs, forwarding for an expression of the Chamber's opinion a sample of the staple-fastened envelopes which he proposes to adopt in place of present system of sending out messages in gummed envelopes.

Resolved to inform the Director-General that while the proposed method of sending out telegraphic messages enclosed in specially shaped envelopes fastened by a staple is an improvement on the present gummed envelopes, the Chamber considers that a still better method would be to enclose messages in envelopes with a flap fastened with an eyelet or eyelets.

PUNJAB.

A special meeting of the Committee of the Punjab Chamber of Commerce was held on February 20th to meet Sir Frederick Upcott, Chairman of the Board of Directors, East Indian Railway, accompanied by Mr. Higman, District Traffic Superintendent.

The Chairman (the Hon. Mr. James Currie) in introducing Sir Frederick Upcott to the members of the Committee said that it was at once profitable and pleasant to have such meetings. They gave the Committee an opportunity to express their views on matters that affected Merchants and Railways alike and although there might not be any immediate results there was this advantage obtained, both sides were afforded an opportunity of seeing things from the other's point of view.

With regard to the Wagon question, the Chairman pointed out it was one that was coming again to the front. He said that some years ago it was suggested that the goods Wagon should be standardised and that a Government Wagon Depot should be established at Delhi from which, when a special demand for wagons arose, any Railway could draw for a supply and be in a position to meet the traffic. Government, he said, could well afford to maintain a Depot of this nature for was it not the produce which these wagons would transport that was mainly the means of maintaining the balance of trade in favour of India.

Everything, he thought, was to be said in favour of a Depot of this nature. It would not in any way hinder Railway managements from making the most of their Rolling Stock and no Railway need be burdened with an overstock of wagons which was a great consideration in management. The automatic working of the Depot would show from day to day the volume of traffic and the extent to which it was necessary to supplement the stock of wagons for the Depot and by obtaining this it is obvious that it will be far better and safer and more economic than the method adopted now of supplementing on the requisitions of the managements of the different

Railways. But what concerns merchants most of all is that wagons should be available at all times to move produce when merchants can market it whether through a Depot or by other methods. Sir Frederick Upcott replied that the wagon problem was a difficult one. The first item of expenditure in the Budget of a Railway Company was always for Rolling Stock. The East Indian Railway Company endeavoured at all times to meet the demands of the trade. Of course the Company tried to keep its wagons in constant use, it would not pay a Railway to have idle Rolling Stock. It was often difficult to meet the demands of merchants particularly in connection with coal traffic because they were inclined to requisition for a greater number of wagons than were actually required. The Company was endeavouring to persuade industries and the other Railways who drew from the coal fields of Bengal over the East Indian Railway to lay in stocks of coal in the slack season. With regard to the suggestion that a Government Wagon Depot should be established at Delhi, it would certainly be a help to his Company to be able to draw on it for a supply of wagons when a pressure of traffic arose, provided, of course, that the Company only paid for the hire of wagons the time they were in use. If merchants can induce the Government to provide such a Depot it would undoubtedly be a great facility.

The Committee suggested that Railway Companies should be liable for thefts while goods were in their care and that the Railway Risk Notes B and H should be amended accordingly. Sir Frederick Upcott agreed with the Committee that thefts were most annoying and his Railway endeavoured by all means to stop them. It was reported to him by the Traffic Department that there were comparatively few claims in connection with goods that were securely packed. Of course the object of the risk note was to afford merchants a minimum rate with a minimum risk to the Railway. It was a question, however, which might very well be taken up by the Railway Conference which meets annually at Simla.

The necessity for a simplification of the goods Railway Tariff was mentioned. Sir Frederick Upcott said that it was a matter that was receiving the earnest attention of a Special Committee appointed by the Railway Board. A simplification was much to be desired.

The Committee urged the necessity for the revision of rates for the carriage of Raw Materials to Industrial Centres and of goods from Industrial Centres to the consuming districts. It was also urged that the products of Industrial Concerns should be carried to ports for export at minimum rate. Sir Frederick Upcott said that the Management of the East Indian Railway was always anxious to develop traffic and wherever merchants and manufacturers could provide a certain traffic, they were always met liberally. Of course in the case of odd consignments it was not possible to quote a minimum rate. He looked upon the Railway as a mercantile concern selling its traffic and working on a policy that secured the greatest possible turn-over.

Mr. Higman promised that the question of the free time allowed for the delivery of goods after arrival and the giving of notice of arrival would be looked into.

Sir Frederick Upcott thanked the Chairman and the Committee for having given him the opportunity of meeting them and assured them that he would always do his utmost to meet the wishes of merchants and would continue to advocate the adoption of rates calculated to develop traffic at the same time sufficiently remunerative to ensure the maintenance of a good service.

KARACHI.

At a meeting of the Managing Committee of the Karachi Chamber of Commerce, held on the 19th March, 1912, the following among other items came up for consideration :—

Storage Accommodation for Produce.

Read letter, dated 6th March, 1912, from the District Traffic Superintendent, North Western Railway, Karachi Port, intimating that the Karachi Port Trust have taken over the old railway godowns at Keamari on and from 1st March, and that arrangements for the traffic which was formerly accommodated in these godowns will in future be made by the Port Trust.

Resolution.—To be acknowledged, circulated and recorded.

Make-up of Grey and Bleached Yarns.

Read letter, dated 26th February, 1912, from the Under Secretary to Government, Revenue Department, Bombay, forwarding copies of letter, dated 20th January, 1912, from the Government of India, and of its accompaniments, on the question of the modification of the existing regulations concerning the make-up of grey and bleached yarns and the reduction permissible in the count of the latter, and requesting an expression of the Chamber's opinion on the proposals contained in paragraphs 4 and 5 of the letter from the Government of Burma, dated 27th November, 1911.

Read also opinions expressed by the Piece-Goods and Yarns Sub-Committee on the subject.

Resolution.—The Government of Bombay to be informed that the Committee concur with the proposals made in paragraphs 4 and 5 of the letter from the Government of Burma, No. 403 of 27th November, 1911.

Mates' Receipts.

Read letter, dated 12th March, 1912, from a Member, forwarding for the information of the Chamber a copy of letter addressed to the Karachi Port Trust, regarding a shipment of cotton per S. S. *Persia* for which the Port Trust obtained a receipt for the full quantity shipped whereas the shipper was given a Mate's Receipt for one bale less. It appears that the one bale in dispute after being taken on board, was subsequently re-landed by the steamer on

the ground that the bale was on fire. It is pointed out that the present system, whereby the Karachi Port Trust actually ship cargo, whilst the owner of the cargo receives a Mate's Receipt quite separate from and independent of the receipt granted by the ship to the Port Trust, seems faulty and might, as in the instance quoted, lead to serious difficulties.

Resolution.—To be acknowledged, circulated and recorded.

Scarcity of Rolling Stock.

Read letter, dated 5th March, 1912, from a Member, pointing out the disadvantages to Karachi interests arising from the despatch by the North Western Railway of a large number of North Western Railway wagons to Bengal for coal for the North Western Railway, at a time when Karachi exporters are complaining of inadequacy of rolling stock to serve Karachi.

Resolution.—The North Western Railway to be asked in view of the recent despatch of empty North Western Railway stock to Bengal for coal if they cannot see their way to import more of their coal requirements *via* Karachi thus making their stock serviceable for the transport of produce to Karachi.

Delay to Steamers and the Railway Rolling Stock.

Read letter, dated 19th March, 1912, from a Member drawing attention to the delay alleged to occur at Keamari to steamers and to the North Western Railway rolling stock owing to the Karachi Port Trust insisting on the loading up of wagons of coal to the exact carrying capacity of the wagons.

Resolution.—Enquiry to be made of the Karachi Port Trust regarding the alleged delays.

Scarcity of Rolling Stock in Bengal.

Read letter, dated 19th March, 1912, from a Member stating that, owing to the reported scarcity of rolling stock in Bengal, arrivals of coal in Calcutta are seriously behindhand, with the result that not only are steamers delayed, but it has now become impossible to buy coal for early shipment from Calcutta owing to insufficiency of rolling stock to bring the coal to the sea-board. As a shortage of coal stocks in Karachi is likely to lead to very serious complications, in that steamers relying upon Karachi for the supply of bunker coal are likely to be delayed and even prevented—temporarily—from sailing hence, the Chamber is asked to press upon the Government of India by wire the urgent necessity of taking such steps as will relieve the situation and ensure a sufficient supply of wagons for bringing coal to Calcutta.

Resolution.—The statements made to be wired to the Bengal Chamber of Commerce with an enquiry as to what steps have been taken to ensure an adequate supply of wagons for the service of the coal trade to Calcutta.

Control of the Rajputana Malwa State Railway.

Read telegram, dated 11th March, 1912, to the Railway Board, Calcutta, as follows:—"Chamber under-

stands that Secretary of State contemplates, cancelling clauses in existing contract with Bombay, Baroda and Central India Railway whereby Government reserves power in certain circumstances to withdraw Rajputana Malwa State Railway from the Bombay, Baroda and Central India Railway system. Chamber refers to your letter of 22nd February, 1906, and most strongly protests against proposed cancellation of clauses above referred to. Chamber holds the view that now that Bombay, Baroda and Central India Railway to have three hundred and fifty miles of broad gauge railway giving them direct and unbroken communication with Agra and Delhi *via* Nagda and Muttra, administration of Rajputana Malwa State Railway should now be undertaken by Government so that the metre gauge system which now serves both Bombay and Karachi and is for greater part nearer to Karachi than to Bombay may properly serve both ports. Chamber requests that this protest and expression of opinion may be wired to Secretary of State, if contract is likely to be agreed upon before they can reach Secretary of State by letter." Read also letter, dated 18th March, 1912, to the Railway Board, Calcutta, confirming the above telegram.

Resolution.—To be circulated and recorded.

BURMA.

The annual general meeting of the Burma Chamber of Commerce was held on the 14th instant, Mr. W. R. Stikeman presiding. In the course of his remarks the President said:—

For the last few years Burma has been the sport and at the beck and call of the company promoter. Ventures of all sorts, in some cases accompanied by seductive prospectuses, in some cases not, have been dangled in front of the Rangoon public and the Rangoon public has swallowed the bait whole and asked for more without apparently taking the precaution to consider the merits of each individual case or the stability and business capacity of those appealing to their credulity. Very few of these companies are earning dividends, some have been wound up, while more are moribund. I confess I have little sympathy with those who have lost their money in the wild race of premium snatching but unfortunately the innocent invariably suffer with the foolish and guilty, and Burma has proved no exception. Every country has in turn suffered from the speculative mania, therefore it could not be supposed that Burma would pass unscathed, but unfortunately she contracted the disease rather badly, and I fear it will take her some years to recover from her losses; let us hope however that a salutary lesson has been learnt. When I came to Rangoon eleven years ago there was no Stock Exchange and to realise even first class securities sometimes required patience; moreover the pernicious system of time bargains was quite unknown. I have since been amazed at the long list of limited companies successfully floated, not to mention the host of private ventures that have never yet appealed for public support. The enormous lock-up of capital which all

these appeals have necessitated, led to a crisis, culminating in the failure of the Bank of Burma, and widespread loss and ruin. Gentlemen, the coming catastrophe had no doubt been patent to you all for a long time past, and in recording the event it is unnecessary for me to add further comment to members of this Chamber, but it may not be inappropriate to remind the innocent outside public that there is no royal road to fortune, that quick returns are generally made in small amounts by attending strictly to one's own business, and that outside ventures should always be viewed with extreme caution, the credentials of the promoters being subjected to the severest tests and their capacity in the past duly weighed.

The really serious feature of the situation arises from the fear that those in the outer world will assume that no good thing can come out of Burma and consequently withhold their support in future. This we all know to be absolutely incorrect, nearly all the older concerns having proved eminently successful, but it may take time and patience to remove that bad impression that has been created. The Government of India have been considering the advisability of introducing a Companies Act based on the Act at home. It is earnestly to be hoped that it will be pushed forward with all speed and that the Local Government will make rigorous use of the additional powers bestowed on them in order to curb abuses and save the public from the predation of the unscrupulous.

One of the most crying needs, continued the President, is better communication; particularly roads linking up with one another and the railways according to a well matured and comprehensive scheme. The Government of India out of their prodigious surplus this year have been pleased to allot to us a grant of 20 lakhs for communications. Even this very meagre contribution is welcome enough, but by itself is a mere drop in the ocean. What is really required to carry out a thorough scheme is a regular yearly grant, not simply a grant this year and then a lapse of a year or two owing to the coffers of the Indian Government being depleted by famine, bad trade, or the more persistent demands of other provinces. In the whole of Tenasserim there are not 50 miles of pucca roads, yet, Tenasserim has been a British possession for 88 years and is contiguous to and in many parts closely resembles that wisely developed and marvellously prosperous Colony, the Federated Malay States. Arakan in 1871 had been for nearly 50 years an outlying and neglected division of the province of Bengal and to-day almost as entirely undeveloped.

Another pressing want is the necessity for more and adequate public buildings and larger establishments to meet the ever-growing requirements of an expanding province. Through lack of funds all kinds of makeshifts have been resorted to, and buildings used which are quite unworthy of the name of public, the upkeep of which, owing to

their temporary and often dilapidated condition, leads to enormous expenditure which might have been saved if proper and permanent works had been constructed in the first instance.

In connection with the urgent need of better communications, proceeded the President, a letter has been received this week from the Revenue Secretary to the Local Government, which has been circulated to all members. The deplorable condition of the province owing to lack of funds has been placed before you in lurid colours, and the straitened condition of the finances described in a manner which will admit of no denying. The Lieutenant-Governor through his secretary has explained how the fervent appeals of the Local Government for help have failed to enlist the support of the Imperial Government owing to their inability to pledge themselves to a regular yearly grant. The most they can do is to give occasional grants when times are prosperous. The Revenue Secretary has clearly and ably pointed out the necessity for a continuous policy requiring a regular yearly expenditure of 30 to 35 lakhs on communications and the Lieutenant-Governor, despairing of any other way, suggests that funds should be raised by the imposition of a cess on the exports of rice. The proposal, for all its boldness, possesses certain strong merits, the money could be raised at the least possible cost and with the smallest friction. The question therefore resolves itself into whether the mercantile community are content to let matters remain in their present very unsatisfactory state or sacrifice a really small individual contribution now for the benefit of reaping larger profits in the future by the development of the province. It will be noticed that the contribution which India will have to pay under the proposed arrangement is on a much larger scale than that of foreign countries, therefore placing Burma in very little worse position as regards foreign competition. This is only just and right. You will also notice that it is proposed to earmark the funds raised by the cess to a special fund solely devoted to communications and that an Advisory Committee is to be appointed for the purpose of how the funds can be best expended. I understand the Chamber of Commerce will be represented on the Committee and will therefore be in a position to voice the opinions of the Chamber. The scheme requires very careful consideration, but on the whole I am inclined to view it with favour. It is however quite impossible for us at this meeting to give it the consideration it deserves or arrive at any definite conclusion. The new committee will probably call a Special General Meeting at an early date thoroughly to discuss the matter. I am authorized to say, that, if desired, Sir Harvey Adamson will be pleased to receive a deputation to discuss the matter. I may perhaps add that should the Lieutenant-Governor's proposal meet with favour, and the Chamber act on the principle that God helps those who help themselves, it will still be necessary for the Chamber to continue to agitate for more liberal and fairer treatment from India. Every rupee so wrung

from the Imperial Government will be required in our dire necessity.

The New Committee.

The following were elected on the committee for the ensuing year:—Messrs. F. D. Stewart J. A. Polson, J. Wood, W. Buchanan, J. R. Halliday, A. R. Finlay, A. W. Binning, and A. J. Anderson.

WEATHER AND CROP REPORTS.

BENGAL.

Calcutta, March 26th.

DURING the week ending March 25th rain fell in all the districts of the Burdwan and Presidency Divisions (Burdwan and Bankura excepted) and also in Shahabad, Darjeeling, the Sonthal Parganas, Cuttack, Sambalpur and in parts of Monghyr. There was no rain in the rest of the Province. The fall was moderate in Midnapore. Hooghly and in parts of the 24-Parganas and Jessore and generally light elsewhere. More rain is wanted in Murshidabad, Jessore and Purnea for cultivation.

Preparation of lands for the next season's crops and harvesting of *rabi* crops continue.

Planting of sugarcane has commenced in some districts. The standing crops are doing well.

The prices of common rice has risen in Jessore, Darbhanga, Bhagalpur and Singhbhum and has fallen in Nadia, Murshidabad, Monghyr, Ranchi and Palamau.

Cattle-disease is reported from Midnapore, Jessore, Monghyr, Purnea, Angul, Puri, Sambalpur, Hazaribagh and Palamau.

The supply of fodder and water is sufficient throughout the Province.

EASTERN BENGAL AND ASSAM.

Dacca, March 26th.

During the week ending March 25th practically no rain fell in the Rajshahi division and lower Assam, but there were showers in most other parts of the Province.

In Mymensingh and Tippera standing crops have been somewhat damaged by hail.

Rain is urgently needed almost everywhere for the sowing of rice and jute.

The Malda mango crop is being badly injured by drought. Plucking of tea has commenced.

Prices of rice are a little lower than last week.

Rinderpest has broken out in the Dacca and Rajshahi divisions, the Sarma Valley and the Jaintia Hills.

THE RISE IN COPPER AND COPPER SHARES.

Causes and Factors.

In an article on this subject dated March 7th the *Times* writes:—The price of copper has this week risen to a level higher than any which has been recorded for more than four years. The improvement has been proceeding for the past year and more especially in recent months. Briefly, the rise in price has been due to the strengthening of the statistical position of the commodity, owing to persistent buying on a large scale by European manufacturers.

At the end of June, 1910, the visible supply of copper in the world, excluding Holland and Germany was estimated at 179,129 tons, to which level it had been steadily rising for more than two years. This movement was naturally accompanied by an appreciable relapse in the price of the metal—namely, from £65½ in autumn of 1908 to £54½ in June, 1910. Since then, however, there has been a steady improvement in the statistical position except for a brief period early in 1911, when, owing to the quietness of trade in the United States, the supply there again showed a tendency to increase.

The decrease in the visible supply has been extraordinarily rapid during the past few months. At the end of October last the combined figures were 122,103 tons; at the end of November, 108,586 tons; at the end of December, 97,218 tons; and 85,159 tons at the close of January. During the same period the European visible supply declined from 61,836 tons to 55,570 tons, and at the end of last month the total had further declined to 51,507 tons. Similarly the stocks of copper in the hands of American producers has declined from 60,267 tons at the end of October to 29,589 tons at the end of January. Shipments from America were again on a large scale last week, and for the month of February they amounted to 34,643 tons, and consequently it is fully expected that the figures due to be published at the end of this week by the American Copper Producers Association will show a further shrinkage in stocks of the metal held on the other side.

Large European Consumption.

It must not be assumed, however, that because of the big decrease in stocks in America the improvement in the position of copper has been due chiefly to demand for copper in the United States. On the contrary, it is to be ascribed almost entirely to activity of trade in Europe, where the consumption, as represented by deliveries, has every month since the end of March, 1910, been in excess of supplies, and last month reached the unprecedented high figure of 52,743 tons. For February, 1911, the total supplies sent to Europe amounted to 30,911 tons, while the deliveries were 31,717 tons, whereas during last month the supplies were 17,769 tons more and the deliveries 21,026 tons more. It may be noted that the consumption of copper in Germany in January is given as 17,548 tons, as against 11,390 tons in the same month of 1911.

Business in copper in America, however, has also begun to improve now, and as regards refined copper Messrs. Henry R. Merton and Co. point out that the most interesting development recently has been the increasing strength shown by the American market. They state that the buying movement which started there a fortnight ago has become more general, and that a very large business has been done by producers. European buyers have consequently been further encouraged to place orders, and though the labour troubles have tended to check the upward movement in values, the present price of £64½ is expected to be maintained, if not passed, in the near future, provided the coal strike is brought speedily to an end.

PRICES OF COMMODITIES.

The following are the index-numbers of the prices of forty-five commodities worked out to the month of January, 1912, by Mr. A. Sauerbeck, the average of the eleven years 1867—1877 being 100:—

Average.	Monthly Numbers.
1878—1887 = 79	February, 1895 = 60.0
1890—1899 = 66	July, 1896 = 59.2
1902—1911 = 74	May, 1907 = 82.4
	February, 1909 = 71.9
1883 = 82	January, 1911 = 78.5
1896 = 61	March, 1911 = 78.9
1900 = 75	June, 1911 = 80.0
1903 = 69	August, 1911 = 79.5
1906 = 77	September, 1911 = 80.3
1907 = 80	October, 1911 = 80.7
1908 = 73	November, 1911 = 80.6
1909 = 74	December, 1911 = 80.9
1910 = 78	January, 1912 = 81.8
1911 = 80	

The further rise is due to better prices for articles of food—principally wheat, potatoes, rice, bacon, and butter—and amongst materials to a large extent to the movements of coal. Cotton recovered some of the fall during the last quarter, and jute and petroleum were higher, but metals generally, merino wool, and silk were rather weaker.

The prices and index-numbers of silver compare thus (60.84d. per ounce being the parity of 1 gold to 15½ silver=100):—

	Price.	Index-number.
Average, 1890—1899	34d.	55.8
Average, 1902—1911	26½d.	42.9
Average, 1893	35½d.	58.6
Average, 1909	23½d.	38.9
Lowest, November, 1902	21½d.	35.6
End December, 1906	32½d.	53.1
End December, 1909	24d.	39.9
End December, 1910	25½d.	41.2
End December, 1911	25½d.	41.2
End January, 1912	26½d.	44.7

Silver had a rising market during the month of January, and in February the price touched 27d. per ounce.

PETROLEUM FIELDS OF BURMA.

In an article published in the *Empire*, Sir T. H. Holland, writes as under:—

The development of petroleum, like that of coal, has given results that ought to satisfy the most exacting political economist. Practically the whole of the crude material is converted on the spot into refined products, and thus, whether consumed in the country or exported, is turned to full account. The growth of the petroleum industry forms one of the most interesting chapters in the development of Indian minerals.

The belt of the Tertiary rocks forming a great arc stretching from the north-west corner of the Himalaya, through Baluchistan and Persia, to the famous fields of south-east Russia, show signs of oil at various places. A series of folds approximately similar in age stretches away in arc like fashion from the eastern end of the Himalayan belt, with a general southerly trend through Assam and Burma, to the oil-bearing Tertiary rocks of Sumatra, Java, and Borneo.

In spite of the numerous "shows" of oil in Baluchistan and the Punjab, no serious or continuous exploitation has been so far accomplished in this part of the Indo-Iranian oil-bearing arc. In the Assam and Burma section of the eastern arc oil has been developed within a small area in the north-east corner of Assam, where the annual output has ranged around three million gallons for some years and in Upper Burma, where the development has been limited practically to three fields, known as the Yenangyat field in the Pakokku district, the Singu field further south in the Myingyan district, and the Yenangyaung field along the same line of folds in the Magwe district. Of these three, the Yenangyaung field, which has been exploited for many generations by native well-diggers, has always been and still is the most productive.

The development of the Yenangyat field began on a serious scale no further back than 1891, through the enterprise of the Burma Oil Company. The output rose slowly till 1894, and thereafter more rapidly until it reached a maximum of 22½ million gallons in 1903. From that year it has steadily declined to an output of a little over 6 million gallons in 1909.

The Singu field sprang into prominence in 1902, reaching an output of over 5½ million gallons in the following year, with a still more rapid rise to 23½ millions in 1904 and since then to a maximum of 43½ millions in 1907. The output of this field still exceeded 43 million gallons in 1908, but dropped to 37 millions in 1909. The diminished production during this last year is not, however, a reliable indication of failing resources; for the companies concerned have, by force of competition, devoted their main energies to the small but exceedingly rich area originally reserved by Government for the benefit of the native well-diggers in Yenangyaung.

This small section of the Yenangyaung field known as the Twingon Reserve, has yielded the

principal fraction of the field's output, which has risen during the past twenty years from under 10 to over 187 million gallons of crude oil. The operations in this field from an economic point of view are of such an interesting kind that they merit more detailed consideration.

The Twingon Reserve.

For many years before the annexation of Upper Burma in 1885 the sole right to dig for oil in the Yenangyaung field was vested in twenty-four persons known as "twinzayos," this right, or as it was called, the "ayo" being hereditary. Each "twinzayo," however, had the power to sell his ayo with the consent of the other twenty-three members of the guild. He or she—for the "ayo" sometimes descended through the female line—had the power to allot sites for oil-digging, each side extending to a distance of about 60 feet from the edge of the well in all directions. The *twinzayos* as well as the *twinzas*, or native well-diggers to whom sites had been allotted or sold, were obliged to sell all oil extracted at a fixed price, well below its market value, to the King's contractor. On taking over Upper Burma the Government of India recognised the hereditary rights of the *twinzayos*, and they permitted the *twinzas* to sell their oil in the open market as well as to alienate their digging rights to whom they pleased, the Government taking a fixed royalty equivalent to eight pence for every forty gallons of crude oil extracted. In place of the old ill-defined practice of granting further well-sites to the *twinzayos* the Government demarcated two reserves in what was apparently the rich parts of the field, and within these reserves each *twinzayo* was granted annually a regular number of well-sites. According to the "Executive Instructions" sanctioned in 1893, these sites were not to exceed one-fifth of an acre in area; but in applying the sanctioned rules, a local custom arose, or rather was continued from the pre-British days of requiring only an interval of 60 feet between the centres of the sites. As a consequence, the sites granted were about one-fourteenth, instead of one-fifth of an acre and in this way the whole of the land available for oil-winning in the reserves became divided into thousands of small sites.

The *twinza*, with his hand-dug well, can exploit only the shallow oil-sands; even with the assistance of a diver's equipment introduced in late years, his operations do not extend below 300—400 feet. As, however, there is nothing in his grant to prevent the site being sold for any purpose and to any person the purchase of sites by the Burma Oil Company for deep drilling opened in 1896 a new chapter in the history of the fields.

An Era of Progress.

With the threatened intrusion of competing companies ten years ago the market price of well-sites within the reserves rose rapidly from under about £7 to about £200. At the end of 1906 the Rangoon Oil Company, which had been previously working in

the Yenangyat field, also secured leases of well-sites in the reserves from the *twinzas*. The success which followed their operations tempted other companies with the result that sites in the richest areas rose rapidly in value to as much as £3,000 and £4,000. As the wells drilled prove to be so uniformly successful in the central and southern part of the Twingon Reserve, a veritable forest of derricks began to arise. In consequence of the small area of the individual sites, with American drillers exploiting the deep and gassy sands, while the *twinzas* between the derricks continued modestly to bail out oil from the upper beds, serious risks of fire were incurred. In consequence of the feverish haste with which the competing companies rushed for the richer oil-sands, there was the danger of imperfect precautions being taken to keep the subterranean water out of the productive oil-sands, while possibly there was some danger also of imperfect exploitation of the resources.

In 1908 the Government appointed a Committee to make a careful investigation of the complicated circumstances which had arisen in consequence of this alienation by the *twinzas* of small well-sites to European companies for drilling. The Committee found that there was, as anticipated, a serious danger of fire, due to the congestion of derricks with free-flowing wells of gassy oil interspersed among the native hand-dug wells. The new state of affairs had developed so rapidly that there were no regulations framed, either by Government or by the companies themselves, for the purpose of safe-guarding the valuable field. The Committee found also, that in consequence of the established right of the *twinza* to alienate his small well-sites, site by site, no new system of tenure could be equitably devised to enforce a greater interval between producing wells than sixty feet. Although the *twinzas* were selling sites formerly regarded as expensive at from £5 to £10 a piece for as much as £4,000 and were thus receiving many times more than the values originally contemplated when the system of tenure was sanctioned, it would obviously be inequitable to adopt any new system which would depreciate even slightly or temporarily the market value of the sites. Similarly it was found to be impossible to rearrange the holdings of the European companies by exchange of sites for the purpose of forming larger blocks, as there were no data by which to form any idea of the great local variations in the values of different parts of the field.

Legislation in Burma.

The Committee consequently were forced to propose a series of regulations to mitigate, so far as possible, the dangers due to a confessedly unfortunate system of granting small holdings. The proposals made, after criticism by the companies and *twinzas*, were embodied in a Regulation passed last year by the Legislative Council of Burma. According to this Regulation, known as the Upper Burma Oil Fields Regulation, of 1910, the field is placed under the control of a Warden, who has the power

of a Magistrate of the first class and is deemed a Revenue officer within the meaning of the Upper Burma Land and Revenue Regulation of 1889. Consistent with the new Regulation detailed rules are issued defining the powers of the Warden, describing the manner in which well-sites are to be demarcated, the manner in which hand-dug wells are to be protected, the nature of regulations regarding the access of persons not employed in the work of the oil-winning, the methods for measuring the oil produced, the precautions to be taken for the prevention and extinction of fires, the precautions to be observed to prevent the flooding of oil-sands by water, and regulating rights of way and transport. The new regulation in many ways add to the cost of oil-winning, but it has been recognised by the oil companies as a desirable form of insurance.

Resources of Oil-Fields.

It is impossible ever to predict the trend of development in an oil-field, for there is absolutely no way by which an estimate can be made of the total resources of any field. The geologist is able to recognise certain stratigraphical features that are favourable for the storage of oil, but there are more fields favourably constructed without oil than with it. The mere fact that the structure is favourable gives no more exact idea as to the quantity of oil stored below ground, than the perfection of workmanship in a safe indicates the amount of money it contains. The Yenangyaung field has already far surpassed the expectations of every expert, and even the hopes of every speculator; nevertheless, there must be a limit to the quantity of oil available for exploitation, and no one has a right to expect that the heavy drain now occurring within a few acres in the centre of the field can last for many more years. Signs of exhaustion have appeared already in the upper oil-sands, and the drills are now seeking new reservoirs at greater depths. No one knows when the inevitable end will appear, and, unless other productive fields be discovered, the collapse of the Burma oil industry will be described more accurately as sudden than rapid. The Yenangyat field which gave rise to great hopes ten years ago, has proved to be most refractory. On account of its topographical features it is an expensive field to work and the topographical features being partially an expression of complicated structure below, it is difficult to locate wells in it with any assurance of success. Singu is certainly capable of a greater output than the production figures show, and it must be regarded partly as a reserve to tone off rapid fall which will otherwise follow the exhaustion of the Twingon Reserve in the Yenangyaung field. The rest of Burma may be summed up in one sentence: there are numerous occurrences of rocks similar in age to those which are productive in the three principal fields; in many cases these show a suitable stratigraphical structure for oil storage, but so far not one among them has paid the expenditure incurred in prospecting.

The only area, in addition to Singu that can now be looked upon as a satisfactory reserve is that known as the Khodaung tract in the Yenangyaung field. In structure the Khodaung is a replica of the rich Twingon reserve; it is, in fact, the other half of the dome, whose summit is very near the dividing line between the Twingon Reserve on the north, in which so many companies and *twinzas* are scrambling for a share of the oil, and the Khodaung to the south, which is held by the Burma Oil Company.

Depletion of Wells.

In this area (the Khodaung) the Burma Oil Company has wisely limited its drilling operations in depth and has placed the wells sufficiently far apart to prevent, so far as can be judged, mutual interference. It is probable, almost certain in fact, that some of the oil being drained off from near the southern border of the Twingon Reserve comes across underground from the Khodaung area, and to this extent the property held by the Burma Oil Company is being depleted by their competitors near the boundary line. To what extent this depletion is serious has yet to be proved. By a careful comparison of the large number of well records in the field, the Committee of 1908 found that there was a great variation in the radius from which a well might draw its supplies of oil. Wells separated by less than 100 feet sometimes appear to be quite independent of one another. In other cases a new well put down several hundred feet from an old producer has been found to have a marked effect on the older well. The results of our local investigation coincide with conclusions from purely theoretical considerations: the sandbanks in which the crude oil is stored underground are not continuous sheets, but, as anyone might infer from the conditions under which sandbanks are formed, they are lenticular patches of sand separated by partial or complete envelopes of impervious clay; thus, two wells, separated by a short interval, may be tapping the edges of two adjacent, but distinct, sandbanks: on the other hand, one of these wells might be near the edge of the same sandbank as a third well several hundred feet away. In addition to this original disposition of the oil bearing strata, adjoining wells may tap the same sandbank and yet be made independent of one another by a very slight fault of the kind extremely common in all oil fields.

At great depths, where the oil is under pressure and is more mobile because of its higher temperature and larger content in the lighter hydrocarbons, there is probably a more complete communication between adjoining sandbanks than would be the case at shallower depths, where oil of the kind occurring in Burma suffers from the clogging effect of its high charge of paraffin; consequently, there is reason to suppose that, whatever may be the effect on Khodaung as the result of draining the Twingon Reserve, its effect will be proportionately more serious in the deeper than in the shallower oil-sands. Every

oil-driller also recognises what he imagines to be channels of supplies underground; if he can get down his well to a producing sand before his neighbour reaches the same level, he thinks that it is possible to establish channels from the neighbouring parts of the sand towards his own well, and thus he concludes that he will have a permanent advantage over his neighbour. In this conclusion he is probably correct, and it is consequently likely that wells in the southern section of the Twingon Reserve will continue to rob oil from those put down by the Burma Oil Company to the same oil sandbanks in the Khodaung area.

It is doubtful if the summit of the great oil-storage dome, forming the rich part of the Yenangyaung field, lies on the Twingon or on the Khodaung side of the boundary between the native reserve and the Burma Oil Company's property. On the whole there seems to be some slight balance of evidence in favour of the conclusion that the actual summit is within the Khodaung boundary. Thus, if it were a case of simple competition between one company working the Twingon and the Burma Oil Company working in Khodaung, the latter would have a slight advantage in the race. The competition, however, has been complicated by the circumstance that the Burma Oil Company are also the largest holders, by purchase from the twinzas, of sites in the Twingon area, and their policy has been, consequently to drill at least one well as near as possible to every well put down by the competing companies. They know that the well-sites secured by other companies though smaller in number, are so distributed throughout the reserve that their own interspersed sites would be largely drained if they did not take a share in the drilling competition. They are thus compelled to witness the drainage of their own property, and are forced to take themselves as large a share as possible in the process.

Risks and Competition.

Those who are producing crude oil only for sale to refineries will regard the exhaustion of the Twingon Reserve as merely the end of their present easily-earned profits; and the capital to be recovered will be the small amount invested in the wells and their accessories. With some other companies, who have laid out large sums on refineries, the prospect is far more serious; for, unless other productive fields be discovered, and discovered at once, there appears to be a slender chance of the debentureholder being able to realise the full value of his investment. The Burma Oil Company will be able to turn to its reserves in Khodaung (which is probably nearly as rich as Twingon), and to Singu, in addition, perhaps, to a reasonable expectation of favourable results at Minbu, on the other side of the Irrawaddy river. I wish it were possible to show that the enterprise of all the other companies who have tied up their capital in expensive refineries had equally good prospects. But, as I have already explained, the existence of similar strata in other districts, and their disposal in structures suitable

for the storage of oil do not necessarily mean the occurrence of the crude material in commercial quantities. A wisely governed oil company must necessarily keep in hand as a reserve large areas in which prospecting operations indicate good oil supplies, and as no one can ever estimate the quantity obtainable, every serious outlay of capital must be regarded as speculative until profits are obtained sufficient to cover its amortization. All forms of mining must be accompanied by a considerable number of risks that cannot be accurately estimated, and while it may be necessary to secure a large nominal capital to be ready for possible developments, it seems to me to be an unwarrantable addition to, or rather a multiplication of, the usually great risks of oil-winning to lay out money on refinery plants, for the visible output only from an already highly drained field. In this case the exhaustion of the Twingon Reserve will be a serious loss to all companies, but it will mean absolute extinction to those that have no productive reserves in other districts. There is little doubt that the Twingon Reserve is now showing serious signs of fatigue; flowing wells, when struck, rapidly fall off, and most of the producing wells in the field are now reduced to pumping, with an average daily output of only about forty-five barrels.

—The *Textile World Record* of Boston publishes an account of some new cotton-bearing trees found in Brazil. One called "Barriguda" (*Chorisia crispiflora*) a member of the Bombax family of plants, has an enormous swelling on its trunk immediately above the base. It grows 25 to 35 feet in height and from 4 to 6 feet in maximum diameter. The branches begin at about 12 feet from the ground, and the trunk below is covered with sharp thorns. The pods in which the cotton grows are from 5 to 8 inches long and from 2 to 4 inches in diameter. The fibre is coarse and white and adheres closely to the seeds, which are somewhat smaller than peas. While long and rather strong it is too coarse for use in textiles of fine quality, but it is suitable for blankets, canvas, twine and many other purposes. The tree grows in elevated portions of Bahia and Pernambuco and flourishes at elevations of 1,000 to 1,600 feet above sea-level, where the temperature drops frequently to 42° and 38°F. It would, therefore, says the *Indian Textile Journal*, seem well suited for the hill districts of India to take the place of less useful trees. Another tree is the Imberasser (*Bombax tomentosus*) which yields a much finer cotton of a brownish colour, exceedingly light but hardly long enough to spin well. It resembles eiderdown. The seed pods are about 10 inches long and from 1 to 2 inches in diameter. This cotton is used for stuffing pillows, and, when properly prepared, is as soft and downy as the best feathers, shewing no tendency to mat and harden with use. The inner bark of this tree is also utilized for many purposes. It has a remarkably strong fibre, and strips half an inch wide will carry 50 to 100 lbs. weight. This tree is most abundant in the Provinces of Minas Geraes.

BOMBAY RAILWAY PROBLEMS.

THE Hon'ble Sir T. R. Wynne, President of the Railway Board, met the Committee of the Bombay Chamber of Commerce on March 13th for a discussion of Railway matters. The Chairman, the Hon'ble Mr. C. H. Armstrong, presided.

After welcoming Sir T. R. Wynne, the Chairman stated that the Committee wished to discuss with him the proposed absorption of the Oudh and Rohilkhand State Railway system by the East Indian Railway, a proposal to which they strongly object, unless steps are taken to fully safeguard the present and future interests of Bombay and Karachi, in the O. and R. Districts; and the inability of the railways at the present time to deal expeditiously with the traffic required for export. As regards the delay in handling traffic the Chairman mentioned that this had been felt since nearly in December, when preparations were being made for the Durbar, and that latterly the position had become very acute. The difficulty was generally referred to as a shortage of wagons, but although undoubtedly a large number of wagons had been sent across to the other side of India to carry coal, and a large supply was engaged in carrying hay to the famine districts, the probability was that the present block was due partly to the difficulty of passing wagons along the lines and also to an actual shortage of rolling stock. The question seemed to resolve itself into one of more sidings and crossings, stations, larger railway yards upcountry, doubling of lines in various directions, additional rolling stock which should be promptly supplied and so forth and until there was comprehensive programme embracing all these points he did not look for much material improvement as the normal increase of railway facilities, including rolling stock, was not now, in his opinion equal to the increasing needs of the country. He then mentioned that although the position at the present time might be somewhat abnormal owing to the famine and the shortage of coal it was hardly open to question that railway facilities at the present time are deficient.

Consideration Essential.

Looking forward as he did during the next three years to a rapidly increasing trade it seemed very desirable that the question should now be considered from all points of view. Two reasons no doubt accounted for the difficulties at the present time, one being that the railways on this side of India had been allowed to run very short of coal and that it had been necessary for them to send a large number of wagons to Bengal for supplies which are urgently needed. He expressed surprise that this shortage should not have been foreseen and provided for. No doubt the Durbar traffic was in some measure responsible for the inability of the railways on the other side of India to carry coal, but this is a matter which might have been anticipated by the railways and supplies should undoubtedly have been laid in some months ago. The other factor in the

situation is undoubtedly the famine in Gujarat. So far as this is concerned it is impossible to blame the B., B. and C. I. Railway for they can only carry famine traffic when it is offered, but it certainly seems very strange that arrangements were not made by the officials in the famine districts to lay in large supplies of hay before Christmas when there would have been plenty wagons available. That there would be a severe famine and that large supplies would be required must have been known many months ago and it is very hard indeed on traders in Bombay who have to fulfil engagements made many months previous that they should now be told that owing to famine and shortage of coal it is impossible to supply wagons to bring down the produce from up-country. The Chairman referred to a resolution which had been brought forward in the Imperial Legislative Council by Sir Vithaldas Thackersey ten days ago on the question of railway administration and alluded especially to that part of it which suggested that as regards the fixing of rates, two commercial members should be associated with the Railway Board.

Suggested Consultation.

Whilst he did not think a plan of this kind was quite practicable he suggested that as regards increased facilities for moving the traffic, commercial men might be brought into consultation with the railways and the Railway Board, with a view to a complete programme being drawn up for the requirements of the next three or five years. No doubt the railways would in the first instance be asked to send in a full statement of their needs and if these were considered sufficient it would not, perhaps, be necessary to take any further steps beyond endeavouring to obtain the money necessary for the works required. So far as grants are concerned the Chairman understood from conversations he had had that in the past in some cases the railways had not been able to spend during the year the money that had been allotted to them. If so he thought the railways should be advised to look well ahead in their recommendations and that arrangements should be made to finance them over a period of any three or five years as the case might be. It seemed to him that railway workshops might require enlarging; that many station yards up-country also needed extending; that lines should be doubled in various places, and many additional sidings laid down. No doubt much additional rolling stock was also required, but the rolling stock now existing could surely handle a very much larger traffic if the railways provided the necessary facilities in the way of additional sidings and so forth. As regards money he considered the Government of India should certainly give largely increased grants in the future, and that when surpluses occur demands of the railways for more capital should receive additional consideration. He also referred to the surplus cash balances which to a large extent might also be used for railway purposes.

Sir T. Wynne.

Sir Trevredyn Wynne in reply said:—With regard to the proposal made that the E. I. Railway should take over the working of the O. and R. Railway, he would like to make it quite clear that Government was not in any way committed to this arrangement and he felt sure that nothing would be decided finally until Bombay and Karachi had had the fullest opportunity of expressing their views on a question such as this in which they were very largely interested. The proposal had been put forward by the E. I. Railway and it would be examined on its merits, after full consideration of all the conflicting interests involved. The O. and R. Railway was doing very well as a State worked line, having paid 4½ per cent in 1910, and 6 per cent in 1911, and there were many reasons why it should be continued to be worked as a State line. With regard to the difficulties and delays which was occurring in Railways generally dealing with traffic which was offering, he desired to refer the Committee to the statement he had recently made in the Imperial Legislative Council dealing with this matter. For ready reference he asked permission to hand to the Committee a copy of these remarks in anticipation of their being published in the *Gazette of India*:—Briefly, the difficulties now being experienced are due primarily to the unprecedented, and, I think I may say, unexpected development of trade at the present time, which has out-stripped the capacities of the Railways and, incidentally, to other causes, and is only partly due to shortness of rolling stock.

"The reason why railways are unable to carry the present abnormal traffic is because terminal facilities at ports are inadequate; because single lines are now being taxed beyond their capacity; because a big fodder famine traffic has to be dealt with at the same time as a big export business; because railways being short of coal, owing to the unprecedented traffic which they now have to deal with, are employing a large number of wagons on this traffic, because there has been a large rise in steamer freights for coal thus diverting its carriage to railways, also to difficulties, I understand, about water for locomotives in the famine area where water is scarce."

Sir Trevredyn thought that what would be of most interest to the Committee was some assurance that action would be taken in order to ensure that trade could rely on prompt railway transport in the future. The statement just referred to dealt with this point. The very large sum of 65½ crores had been allotted during the six years—April, 1907, to April, 1913—for expenditure on open lines and rolling stock for the purpose of increasing the carrying capacity of Indian Railways. That this sum has been effective is illustrated by the fact that the railways for the year 1911-12 will have carried 25 per cent more traffic than they did and were able to do three years ago. Works are now in progress

designed to still further increase the carrying capacity of railways and more rolling stock is under order.

Importance Realised.

He could assure the Committee that the Railway Board fully realised the immense importance of reliable and prompt railway transport as a vital necessity in the development of Indian trade and had steadily worked to this end, and would continue to do so with the funds at their disposal. With regard to the suggestion that commercial men might be brought into consultation with the railways and the Railway Board with the view of a complete programme being drawn up for the requirements of the next three years, he would like to point out, he was afraid that commercial men would hardly be of any assistance in deciding what works should be built to increase the capacity of a railway. In regard to their dealings with railways as consignors and consignees, he was under the impression that traders and railways and the Railway Board were in very close touch. The direction, however, in which the advice and assistance of commercial men would be most useful to the railways and the Railway Board would be if they would forecast the probable development of trade for periods of three years ahead and keep them fully advised of possible developments of new traffics arising which would have to be provided for. He thought that even the commercial community hardly anticipated the immense development of trade that was now occurring. In conclusion, he said, he would like to reiterate that the Railway Board were firm believers that reliable railway transport was a most important factor on the development of Indian trade, as it enabled merchants to make engagements with certainty of being able to fulfil them. Holding this view the committee might rely on the Railway Board giving as much effect to it as they were able to within their financial limits.

A cordial vote of thanks to Sir T. R. Wynne terminated the proceedings.—*Times of India*.

—The British Vice-Consul at Leipzig (Mr. R. M. Turner) reports that, according to the *Spinner und Weber*, Herr Schatz claims to have discovered a new substitute for hemp for the textile and cord industries, in the fibre of the hop-vine, from which the wooden and gummy substances are separated. The treatment is said to differ but slightly from that of hemp, and to have the advantage that the preliminary treatment can be undertaken by the hop-grower himself. The process of steeping is recommended for loosening the fibres. In the case of hop vines, however, greater care must be taken than with hemp not to miss the right moment for taking the plants out of the water. It is thought that, although the process as a whole is more troublesome than in the case of hemp, the cheapness of the raw material will more than compensate. It is intended to proceed with the spinning of the fibre obtained in the coming autumn after the hop-picking.

AGRICULTURAL VALUE OF SILTS.

Mr. F. J. Warth, Agricultural Chemist, has compiled an informative Report on the Source, Supply and Agricultural Value of silt in Burma. In forwarding this Report to the Government of Burma Mr. H. Clayton, Director of Agriculture, says that the proposals for the study of the questions raised were:—(a) A series of analyses of the silt content of the Irrawaddy at Myanaung at different times of the year, and in conjunction with this analytical work a series of systematic experiments in silt deposition and prevention of erosion. (b) An analysis of the silt deposit in rain at different places and at different times of the year, specially to see what is the deposit from the earlier rains or first falls of rain. (c) An analysis with reference to silt content or samples of water taken from different parts of the Mandalay Canal. (d) Analyses of surface drainage, these analyses to include the mechanical character of the silt.

This programme of work received the sanction of the Local Government on 21st December, 1908, with the proviso that the experiments were to be conducted with the existing staff of the Department and without incurring any additional expenditure.

As a result of this proviso, however, it was found necessary to modify considerably the programme originally proposed. Owing to want of the necessary establishment the analysis of rainfall was abandoned altogether, not with any serious loss to the value of the final results now obtained. Similarly, it was found impracticable to conduct the proposed experiments in silt deposition and prevention of erosion. Here, too, the omission does not seem to have impaired the value of the enquiry.

We take the following passages from the Report:—

The agricultural value of silt depends mainly upon the three following factors:—

- (a) Its effect upon the texture and water-holding capacity of soils.
- (b) Its lime content and lime magnesia ratio.
- (c) Its plant food content.

But these factors again have very different relative values for different soils; it will therefore be necessary to consider separately the agricultural value of silts for clay soils and for sandy soils.

Further, only canal silts will be considered for the present.

Silt on clay soils.—The texture and water-holding capacity of clay soils are very little influenced by the addition of silt.

Sand, for instance, even when added in large quantities, scarcely makes any difference to the texture of such soils and though particles of somewhat smaller dimensions are more effective than sand, still the quantities required to produce appreciable results are very large, and we must conclude that to alter the texture of a clay soil by addition of silt is not likely to be feasible as a rule.

This argument, of course, does not apply where silt is available in such large quantities that practically a new soil may be made from it.

In the case of a clay soil then the added silt has no effect upon the texture of the soil, and we must conclude that any benefit such a soil may derive from silt must depend upon the chemical composition of the latter and the needs of the former.

Calcareous Silts.

The most important points in the chemical composition of a silt are probably its total lime content and the lime magnesia ratio. Though both lime and magnesia are important plant foods, it has been found that those soils are most fertile which contain an excess of the former over the latter.

In the soils of Central Burma, as in those of other arid regions, the lime magnesia ratio is generally rather low.

Soils of this nature require silts with a high lime and low magnesia content.

This condition is fulfilled only by the silts of the Shan rivers which are therefore probably the most valuable in the country. It is interesting to notice that the Kyaukse District which is irrigated by two of these streams is so rich agriculturally. The characteristic clay loam of this tract is rich in lime as the accompanying analysis shows. Its resemblance to the Zawgyi-Panlaung silts suggest that the soil is largely composed of the silt of these rivers.

It would be interesting to know whether the irrigation waters add any lime to these soils.

Usually lime is very rapidly removed from cultivated soils by the drainage waters, and under intensive cultivation aided by irrigation with waters poor in lime, this loss would make itself felt in time.

The advantage therefore of irrigating with such highly calcareous waters as those of the Shan rivers must be very considerable, because, even if they do not actually supply lime to the soil, they cannot extract any.

It is probable, therefore, that the good condition of the Kyaukse soils is largely to be attributed to the composition of the irrigation waters.

The subject is of considerable importance and would no doubt repay careful investigation.

The moderately high lime content of the Mon water would bring it also more or less under this category, and if any enquiry into this subject is instituted, the possibilities in the Mon region should not be overlooked.

Other Plant Foods in Silt.

The value of the Potash, Phosphoric acid, and Nitrogen, contained in silts will be best appreciated

by taking a concrete case. In the case of the canals unfortunately, when the water is richest in silt it has often to be shut off because of heavy rainfall on the irrigated tract itself.

For this reason the average silt content of the canal waters is somewhat low. On the Mandalay canal, in 1909 for instance, it was found to be .40, .26, .15 grams per litre for the months of August, September and October, respectively. Allowing for the fact that the August discharge is the greatest, the average silt contents for the whole period becomes .3 grams per litre. Further, as all the water is not required, it may be supposed that by using only the richer waters for irrigation the average silt content might reach .5 grams per litre.

It is possible to find a silt content of one gram or more for a short time and with this a part of the land could be irrigated.

As, however, we wish to know how much silt the canal can supply to the tract as a whole, .5 grams is the highest possible figure that can be allowed for the mean silt content.

An acre of land flooded to a depth of one foot with such water would supply 1,360 lbs. (.6 tons) of silt containing 20.8 lbs. potash, 1,765 lbs. phosphoric acid, 1,900 lbs. nitrogen. From a series of experiments which I am at present carrying out I find that a Kawkayi crop of 2,000 lbs. seed and 4,000 lbs. straw per acre absorbs the following quantities of plant food:—

	Potash.	Phosphoric Acid.	Nitrogen.
Rice	2.2	7.8	18.0
Husk	2.2	1.5	1.8
Straw	60.0	2.8	17.6
TOTAL	64.4	12.1	37.4

For such a crop therefore, one foot and three feet of the above irrigation water would supply the following fractions of the plant food utilised:—

	Potash.	Phosphoric Acid.	Nitrogen.
One foot water . .	1/3	1/7	7/50
Three feet water . .	All	1/2 nearly	1/7

The Phosphoric Acid is of these three probably the most important in the district. Therefore, if nearly half the quantity removed by the crop is replaced by the silt, it must be admitted that even this relatively small amount of silt is playing an important part in maintaining the fertility of the land.

Judging from the Mon river data we may conclude that the mean silt content of the canals in Mid-Burma will be distinctly higher than that of the Chaungmagyi and Shan rivers. These canals will therefore supply more plant food to the soils they irrigate than do the Upper Burma Canals.

The figures must however be examined from another point of view still.

The table below compares the quantities of plant food contained in silts and in the soils on which these silts are being deposited.

	Average silt.	Mandalay soil.	Singauing soil.	Shwebo soil.
Potash	1.51	1.00	1.60	.26
Phosphoric Acid . .	.13	.04	.09	.03
Nitrogen	.14	.06	.10	.05

It is true that the silts are richer than the soils, but the differences are small and we must conclude that, by putting an average silt sample on the land, we would not be enriching the soil at all, but we should merely be adding a film of fresh soil.

The cost of such an operation is generally prohibitive, and it is clear that any departure from the most economical working of the canal, made for the purpose of augmenting its silt supply, is doomed to almost certain financial failure.

The results as far as the clay soils are concerned may be summed up as follows:—

1. Silts and waters rich in lime are of advantage. These are only obtainable from the Shan rivers.

In the Upper Burma Canals.

2. The amounts of Potash supplied by silts will generally meet the demands of the crop.

3. Phosphoric Acid is supplied in much smaller quantities. It may, however, amount to half that absorbed by a paddy crop. This quantity must help to partially maintain the fertility of the land.

4. The Nitrogen supplied forms a very small fraction of that required by a crop.

All these quantities will be exceeded in the Mid-Burma canals.

5. Silts will not materially affect the texture of the soil.

Silts on Sandy Soils.

As far as plant foods are concerned the above remarks apply equally well to these soils.

The texture and water-holding capacity of a sandy soil are, however, much improved by even small additions of silts. Herein lies the real value of silt on these soils.

Sandy soils occur chiefly in Mid-Burma, and as the canals of this tract are richer in silt than the canals of Upper Burma they must be doing good work in improving the texture of the soil.

It would be a distinct advantage in this region if the flood waters were given by preference to the more sandy areas. On these the silt that is available will produce far greater benefits than it could on the heavier soils of the same region. This is merely offered as a suggestion which might be found to be workable as a practice locally profitable. It

does not concern the general enquiry in which we are engaged.

Irrawaddy and Chindwin Hills.

In the utilisation of silt the financial success of the operation depends upon the richness of the silt-bearing water. In this respect, although the total silt they carry may be very great, the Burmese rivers compare unfavourably with the Italian and even with many of the large Indian rivers.

With the waters of the Irrawaddy and Chindwin therefore silting operations would be absolutely certain financial failures.

Smaller Streams in Mid-Burma.

The numberless torrential streams which feed the rivers of Mid-Burma must be very rich in silt during floods, and might be profitably employed for silting operations.

As, however, prevention of erosion is to be recommended over this area the utilisation of silt on any large scale cannot be considered.

Indian Canal Silts.

We may conclude this section by noting the amounts of silt carried by some of the Indian canals and rivers.

The silt content of the Upper Eastern Jumna canal at different stages was found by Dr. Leather to be as follows:—

	Silt Content.
June	1.50
July	1.97
August	10.58
September	1.29
October	.68
December	.64
April	.32
May	.34

Dr. Leather shows also the amounts of plant food supplied during the different seasons,

For the monsoon rice crop he estimates that 32.6 lbs. Nitrogen and 41.7 lbs. Phosphoric acid are supplied by a mean depth of irrigation water of 8.25 feet.

Three feet of irrigation water would therefore supply 11.85 lbs. Nitrogen and 15.16 lbs. Phosphoric acid. These figures far exceed the Mandalay Canal results shown above.

The difference is not due to the quality but the small quantity of the silt supplied by the latter.

Hutton gives 20.0 and 7.7 grams per 1,000 c. c. as the average maximum silts contents of the Sutlej and Sone canals respectively.

Allowing that the average monsoon silt content will be considerably lower than the above figures these streams would still supply far more silt and plant food than the Upper Burma Canals.

ELEVATORS FOR SOUTH AFRICA.

THE importance assumed by maize in the trade of South Africa led the Government of that colony to commission Sir Thomas Price, K.C.M.G., to visit certain countries in Europe as also the United States and Canada to report upon the prospects of developing the trade in this article and upon the methods that would most conduce to such development. The Report of Sir Thomas Price was published at Pretoria some months ago and copies have now been received in India. The publication is entitled "Report on the Storage and Handling of Grain" and is procurable from the Government Printing and Stationery Office at a price of one shilling (postage extra). It should be widely read by persons concerned in the exportation of Indian wheat and rice. The sense of the Report is that the trade in South African maize might be largely developed and that the principal means towards such development must be the adoption of elevators. We shall probably have occasion to return to specific points in the Report. For the present we quote the principal part of the Summary of Recommendations:—

(1) The adoption by South Africa of the handling and transport of grain in bulk on the general lines obtaining in the United States of America and Canada.

(2) The provision by the railway administration of country and terminal elevators for the receiving, storing, cleaning, and loading of grain.

(3) The granting of facilities at nominal ground rental to private companies, firms, and co-operative societies desiring the same, for erecting and operating elevators at any railway station.

(4) The charge made for the operating of the elevators by the railway administration to be sufficient to cover the cost of the work done, including renewal and depreciation, but not interest on the cost of building.

(5) That a reduced charge be made to senders requiring grain to be loaded into trucks only, without storing or cleaning.

(6) Grain consigned for export oversea not to be granted the benefit of the reduced export rate, unless cleaned at the elevator.

(7) Arrangements to be made with the Agricultural Department as to the grading of grain on receipt of the station elevators.

(8) That the attention of the Director of Agriculture be directed to the report dated 26th March, 1910, issued by the United States Department of Agriculture, and that a formal report be obtained as to the practicability of conveying in bulk in steamers under normal conditions without deterioration or damage.

(9) That freighters taking advantage of the bulk method of handling and transport should receive the benefit, in rates and charges, of savings effected, and freighters deciding to continue bag handling and transport should be allowed to so continue at existing rates.

(10) That, as a commencement, three or four country elevators be erected at such stations as may be selected by the General Manager of Railways and the Director of Agriculture in consultation, large enough to be used in the first instance for local requirements and as collecting depots from adjacent stations until elevators at those stations have been erected.

(11) That either a terminal elevator at one port be erected with an assurance that elevators will be provided at the other ports so soon as the first is complete and has been tried; or else a terminal elevator be erected at each of the ports simultaneously as the Railway Board may decide after reviewing all the considerations.

(12) The country and the terminal elevators to be so designed as to be capable of considerable enlargement as the tonnage to be dealt with may require.

(13) Floating elevators to be provided at the ports when and where necessary of the descriptions in use, among other places, at New York, Boston, and Montreal. One-half of the cost of the use of such elevators, calculated at so much per ton, to be paid by the steamship company, and the other half by the railway administration.

ECONOMIC DEVELOPMENT OF INDIA.

In the *Indian Trade Journal* of March 14th, 1912, (page 368) reference was made to the discussion on India at a dinner of the London Chamber of Commerce held on February 20th under the presidency of Lord Desborough. Fuller particulars of the discussion are now available and will be read with interest:

The Chairman, after alluding to the importance of the subject to be discussed and regretting the absence of Lord Amthill and Sir James Thomson expressed the hope that those who took part in the discussion would devote their attention to the economic rather than to the political and social aspects of India. They had been told by Theodore Morison, in a recent address to the Chamber, that nine-tenths of the population were engaged on the land, that a revolution was taking place, the population coming to the towns, and that thus India would become a manufacturing country. As representing in some degree the business community of London, they thought that that great revolution was going to have serious economic effects upon this country, whether for good or evil he did not know, but he supposed that the more wealthy India became so there would be a greater demand for those goods which were manufactured in this country. At the present time, India stood third as regards the foreign trade of the United Kingdom, the export trade from this country for last year being 52½ millions sterling and the import trade 45½ millions. But supposing that revolution was going to take place, as it must take place owing to the greater distribution of goods through the railways and various other important means of communication, how was it going to affect the Empire at large and this country in particular?

The problem with which they had to deal was how far Great Britain was going to share in those changes? In the first place, India would need capital and presumably she would come to England for it. She would also come to England for the necessary machinery. In that direction a most suggestive thought was thrown out, at the lecture by Sir Theodore Morison, to the effect that the Indian manufacturers would naturally go for the supply of machinery to that country which had instructed them in the use of the machinery, and the question was raised that, besides Great Britain giving technical instruction in its schools, opportunities ought to be afforded by English manufacturers for giving practical instruction in the use of machinery by encouraging Indian students not merely to learn theoretically but by practical work, which opportunities were at the present time given by other countries, notably Germany, the United States and Japan.

Sir Theodore Morison, K.C.I.E. (Member of the India Council) felt that many of the generalizations about India were due to ignorance of the conditions of the East, and that the sonorous reflections about "the unchanging East" should now be dropped.

Economic Changes.

The changes in the economic sphere of India were of enormous importance and worthy of the attention of the London Chamber of Commerce. Some years ago it was said that the part which should be assigned to India in the territorial division of labour should be that of producing raw materials which the manufacturers of England should work up into finished products. The people of India, however, were not content to be "hewers of wood and drawers of water." They wished to take their part in manufacture, and now a great many educated young men were coming to this country to learn those processes of industry which had been so successfully developed by the manufacturing and commercial classes of this country. The large modern universities devoted to the application of science to industry welcomed these students, but he had been informed by practical business men that, although first class theoretical education served very well as a foundation, it did not help those young men very far in business. To that theoretical knowledge they had to add practical training in our workshops, but that was where the difficulties began. For very natural reasons both employers and workmen had no wish to train up these young men who would in the future become their competitors. But those young men were going to get their practical training somewhere; if they could not get it in this country they would go elsewhere, either to Germany, to America, or even possibly to Japan. In any case when those young men eventually started business in their own country they would wish to follow the methods and to adopt the machinery used where they had been trained. In the course of his recent paper before the members of the Chamber he had

referred to this objection on the part of employers to receive Indian students in their factories. It was highly desirable that the future captains of Indian industry should be trained in this country.

Proposed Indian Section of the Chamber.

Mr. C. C. McLeod said he thought the time had come when a separate Section of the Chamber should be constituted to deal with purely Indian affairs. He thought that they, as business men would then be able to get into closer touch with the Imperial Government through the India Office. They would remember that four years ago an informal meeting was held at the Chamber in regard to the acute want of wagons on the railways in India, and that a deputation to the India Office took place, when they were able to point out to the Secretary of State that, if greater facilities were not granted as to wagons, trade would be bad in India. The result of the deputation was that a Committee was appointed and contracts were made for a large number of wagons, thus putting the matter upon a proper footing, and a deficit on the working of the railways of 204 lakhs in 1896 had become a surplus of 259 lakhs in 1907. He gave that as an instance in which business men were asked to give their views to the Government. There were many questions upon which the views of business men were needed. For instance, with regard to the Agricultural Department of India was supposed to give accurate figures of the out-turn, but he thought it would be quite within the power of the Government to depute some one from that Department to confer with the business men of Calcutta and arrive at a conclusion which would enable them to get something better than only an estimate based upon the previous five years. Then there was the question of labour in the tea gardens which had become very acute. He did not agree that India in its economic development would show itself prominently in the direction of the big towns and factories, but if this country helped India in its agricultural development we should do more for India than in any other way.

Sir J. D. Rees, K.C.I.E., said it was an exceedingly happy thought of the Chairman that India and the City should be brought into more intimate connection.

India must remain an Agricultural Country.

India must be in the main an agricultural country raising crops in great quantities and of great value. It was difficult to say what the value might be, but to hazard a guess it might exceed £600,000,000 sterling per annum, which, although a large sum in itself, was not very great when divided amongst the population, being only about £2 per annum per head. Having said so much, he thought the day was far distant when the Indians would come to this country for capital for the purpose of promoting manufacturing industries. He thought the Indian Government could still further develop the country by a more liberal purchasing of Government stores, which would in all probability develop industrial works and

induce some of the British firms now engaged in Indian trade to establish themselves in the country.

Sir Krishna Gobinda Gupta, K.C.S.I. (Member of the India Council) said that he fully agreed with his friend and colleague, Sir Theodore Morison, in what he said with regard to the industrial development of India. Referring to the good effects of the recent Imperial Visit to India, he had the means of judging, by letters from people in all stations in India, and from newspapers in the vernacular, that the results had been beyond the most sanguine expectations. Sir Patrick Playfair seemed to think that the name of the King-Emperor had only reached about one-tenth of the population, but he would assure them that the name of the King and Queen had gone to every part of India. Thousands saw their Majesties face to face, but the Durbar was proclaimed in every village, and those celebrations had been performed with the greatest enthusiasm and loyalty.

India as a Manufacturing Country.

It was all very well to say that India was an agricultural country—so was the United States—but it was a manufacturing country as well. England was once agricultural purely and simply, but because of the great discoveries made not 150 years ago all her great industrial activity was taking place. While India would continue to be a great agricultural country she would at the same time become more and more industrial, but on that account England need not be afraid that her industrial interests would be in any way prejudicially affected. There was room for the activities of both countries, and as India rose in the scale of civilization, there would be room for British goods in a larger measure than at present in addition to what India could herself manufacture. That was the view they ought to take and not the view that India must always remain agricultural, producing raw material to be sent to England in order to be manufactured and then sent back again. It was not logical and would not last for ever. He had no doubt that if India and England joined in commercial enterprises as they were joined politically they would be able to withstand the rivalry of all the other nations of the world, and hand-in-hand remain supreme.

The Hon. Mirza Ali Abbas Baig (Member of the India Council) referred to the observations of Sir Theodore Morison to the effect that India was proceeding at an extraordinary pace in industrial development; but he thought that the progress of India, educationally, industrially and socially, although it had advanced considerably, had not kept pace with the advance of other British Possessions.

Indian Industries.

What were the principal industries? They were jute and cotton—both dependent upon the produce of agriculture. Those industries during the past 10 or 12 years had made great progress, the number of cotton mills increasing from 75 to 215, and the jute

mills from 20 to 63; the advance in looms and spindles, of course, had been very considerable. The total number of operatives in all factories worked by mechanical and electrical power was only 800,000—one in every 400 of the population. He would like to see India progress at a greater pace. It was true that India was an agricultural country, but there was room for industrial development without in any way diminishing the area under cultivation—a development which need not in any way fill them with apprehension as to the future. They should welcome industrial development and he thought that there were many directions in which the activities of the Section of the Chamber could be profitably employed. India produced an immense variety of oil seeds, but there were only 21 mills. The leather and skins industry was undeveloped, Cawnpore being the only place where it was carried on in a crude way. There were only eight paper mills throughout the country, and although there was abundance of material, including certain grasses, from which paper could be manufactured of best quality and cheaply, the industry had been checked by the competition of cheap wood pulp paper imported from certain European countries, and capital was shy, and the enterprise was more or less weakened. The shellac industry was also undeveloped. It would therefore be seen that the country had not progressed at an extraordinary pace. After reference to the gold, coal and manganese ore industries—in regard to the latter of which there were no smelting works in India, manganese being exported in bulk to be smelted in the United Kingdom, Germany, and America—the speaker said he thought that with English help and talent and English capital, the interests of England and India could become mutually beneficial to both countries. They expected England to take a broad Imperial view. If they encouraged the industries of India it would be to England's benefit.

Sir Felix Schuster (Member of the India Council and Vice-President of the Chamber) said that the discussion which had taken place showed how useful these dinners were, and he was sure that the speeches to which they had listened would be productive of good to the trade not only of India but of the United Kingdom also, because the two were inseparable. As an old city man who had heard a great deal about the red tape and unbusinesslike ways of Government offices, when he had the honour of becoming a member of the India Council some six years ago he was taken by surprise and filled with admiration for the thorough and businesslike manner in which the great work of the India Office was carried on. He believed in an immense and rapid development of India in all directions, agricultural as well as industrial. The rapid development of the Indian railway system and the huge irrigation works had put vast areas under cultivation with a view to preventing the terrible famines which occurred from time to time. This agricultural development would be continuous to the benefit of India and ourselves, and would lead to more rapid industrial development than we in this country had any idea of. It was

natural that it should be so with the vast population of India seeking for better conditions of life and for employment and new interests. With raw material and cheap labour at hand it was surprising that English capital was not more freely sent to India, and that Indian Government securities were not so popular as they ought to be. He believed that was due partly to old prejudices which should have vanished with the disappearance of the fluctuating rupee. It was not sufficiently appreciated in this country that there was practically no debt in India, since the interest in good years was met from the receipts of railways and other productive public works. He thoroughly approved of the idea that an East Indian Section of the Chamber should be formed.

NEW REFERENCE BOOKS.

PITMAN'S WHERE TO LOOK.

An easy guide to books of reference. Fifth Edition. Revised and Augmented. 7½ x 5, 138 pp. 2s. net. Sir Isaac Pitman.

ENGLAND'S INDUSTRIAL DEVELOPMENT.

A Historical Survey of Commerce and Industry. By A. D. INNES. 7½ x 5, 374 pp. 5s. net. (There seems to be some need for a book of this scope; and Mr. INNES has in many books on English history shown considerable skill in providing the ordinary reader with concise but not unattractive material).

Rivingtons.

MEN AND MEASURES.

A History of Weights and Measures, Ancient and Modern. By E. Nicholson, F.I.C., F.C.S., Surgeon Lieutenant-Colonel, Army Medical Department, Author of "The story of our weights and measures", etc. 8½ x 5½, 313 pp. 7s. 6d. net. Smith, Elder.

(A clear and instructive book by writer who is not in favour of the metric system).

THE "COLLIERY GUARDIAN" REVIEW OF THE COAL TRADE IN 1911.

Edited by H. GREENWELL. 8½ x 5½, 161 pp. 1s. net. The "Colliery Guardian" Co.

ANSWERS TO THE QUESTIONS SET AT THE EXAMINATION HELD BY THE INSTITUTE OF BANKERS, APRIL 1911.

Preliminary by P. E. BARTON. 8½ x 5½, 48 pp. 1s. 3d. net. Waterlow.

AMERICAN COLONIAL GOVERNMENT, 1696-1765.

A Study of the British Board of Trade in its relation to the American Colonies. Political, Industrial, Administrative. By O. M. DICKERSON, Ph.D. 9½ x 6½, 330 pp. 8400 net. Cleveland, Ohio; The Arthur H. Clark Co.

—Attention is called to the **British Chamber of Commerce for Portugal** which was recently established at **Lisbon**. Among the purposes for which the Chamber has been formed are the following:—To consider all questions connected with the trade, commerce, and manufactures of the British Empire so far as they relate to British commercial interests in Portugal. To assist members or other British subjects engaged in trade with, or commercial enterprise in, Portugal to attain objects of commercial advantage, and to promote the interests of British trade and commerce in Portugal. The Secretary of the Chamber is Mr. G. J. C. Henriques, 97, Rue de Magdalena, Lisbon.

TARIFF VALUATION OF SUGAR.

THE following statement, showing in respect of each of the descriptions of sugar distinguished in the Tariff Schedule IV (excepting molasses and all other kinds of sugar), *firstly*, the total imports into India in the month of February, 1912, and the average value per cwt. as calculated on the returns received from the Customs Houses; and, *secondly*, a running total showing the total imports into India since the beginning of the year (1st October to 30th September) and the average net value per cwt. so far established, is published in conformity with the procedure laid down in Customs Circular No. V of 1911 in order to enable merchants to compute the probable rate of duty for the year 1913:—

Description of sugar.	IMPORTED DURING THE MONTH OF FEBRUARY, 1912.		IMPORTED SINCE 1ST OCTOBER, 1911.	
	Quantity.	Average net value per cwt.	Quantity.	Average net value per cwt.
	Cwt.	R. a.	Cwt.	R. a.
Sugar, crystallised, beet	960	14 8	1,178	15 0
" " and soft, refined in China	12,702	16 8	42,164	14 0
" " and from Java, 23 Dutch Standard and above	147,042	12 12	2,281,828	12 8
" " and from Java, 16 to 22 Dutch Standard	71,515	11 8	1,553,026	11 4
" " and from Java, 15 Dutch Standard and under	10,481	8 0	74,530	9 0
" " and from Mauritius equal to 16 Dutch Standard and over	18,209	12 4	308,212	13 8

JOINT STOCK COMPANIES.

Number and particulars of new Companies working exclusively in India with sterling capital and similar Companies increasing their capital, registered in the United Kingdom in the month of January, 1912.

No.	Class and Name.	Shares.	CAPITAL.		New Debentures issued.
			Nominal.	Extra.	
		£ s.	£	£	£
I.—TEA AND OTHER PLANTING COMPANIES.					
1	Kerala Rubber	1 0	...	7,000	...
2	Central Travancore Rubber	1 0	...	5,000	...
	Total, Tea and Other Planting Companies	...	...	12,000	...

N. B.—This list is not founded on complete or official information.

—A new feature of the **cocoanut** business has attracted some attention recently in the Philippines; the sap from the flower spathes contains about 16 per cent sucrose, and it only remains for the organic chemists to devise some practical method of preventing premature fermentation in the "tuba," in order to start new **sugar and alcohol industries** here. This tuba, writes *Tropical Life*, can be purchased at 1-1/5 centavos per litre, or about 3d. for 10 litres

(2 Imperial gallons). One tree will yield 1-1/3 litres of tuba per day; roughly speaking, then, ten trees will give one kilo of sugar per day and twenty-five trees one ton per year, under (the usually) continuous tapping; at this rate, if all their force were turned into sugar, the 25,000,000 bearing trees would produce 1,000,000 tons of sugar each year, which is one-seventeenth of the world's total production from both cane and beet.

JOINT STOCK COMPANIES.

Consolidated Statement showing increase or decrease in the Capital of Companies registered under the Indian Companies Act, 1882 (VI of 1882), during the half-year ending the 31st December 1911.

1	2	3	4	5	6	7	8
PROVINCES.	TOTAL PAID-UP CAPITAL AT THE CLOSE OF THE PREVIOUS HALF-YEAR.		NEW COMPANIES REGISTERED DURING THE HALF-YEAR.		COMPANIES WOUND UP DURING THE HALF-YEAR.		
	Share Capital.	Debenture Capital.	No.	Nominal Share Capital.	No.	Paid-up Share Capital.	Paid-up Debenture Capital.
	Rs.	Rs.		Rs.		Rs.	Rs.
Madras	4,61,40,974	23,67,037	18	28,04,990	29	20,31,060	666
Bombay	23,60,84,768	2,17,61,691	25	1,50,25,000	14	15,02,559	5,00,000
Bengal	25,45,52,267	4,66,89,382	36	98,36,000	7	4,06,206	...
United Provinces	3,34,66,959(a)	12,76,260	11	45,23,000	7	5,88,449	...
Punjab	1,81,66,519	5,56,718	34	39,30,000	1	12,820	...
North-West Frontier Province	1,80,636	...	7	51,90,000	1	1,735	...
Burma	5,01,40,960	...	7	26,60,000	6	3,70,380	...
Central Provinces	17,89,896	12,000	...	...	...	...	...
Berar	7,69,473	26,343	1	7,00,000	...	...	...
Eastern Bengal and Assam	49,95,866	3,25,534	29	24,75,000	...	...	...
Baluchistan	1,26,250	...	...	...	1	1,16,050	...
Bangalore Civil and Mily. Stn.	9,91,782	...	...	...	1	91,625	...
Coorg	2,940	861	...	...	...	...	...
Ajmer-Merwara	17,63,675	35,585	...	...	...	...	...
TOTAL BRITISH INDIA	64,91,72,957	7,30,50,411	168	4,71,43,990	67	51,20,884	5,00,666
Mysore (Native States)(b)	32,79,390	...	...	...	...	...	...

1	9	10	11	12	13	14	15	16
PROVINCES.	INCREASE OR DECREASE IN THE PAID-UP CAPITAL OF COMPANIES EXISTING AT THE END OF THE HALF-YEAR.				TOTAL NET INCREASE (+) OR DECREASE (-) IN PAID-UP CAPITAL DURING THE HALF-YEAR.		TOTAL PAID-UP CAPITAL AT THE END OF THE HALF-YEAR.	
	Increase.		Decrease.		Share Capital.	Debenture Capital.	Share Capital.	Debenture Capital.
	Share Capital.	Debenture Capital.	Share Capital.	Debenture Capital.				
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Madras	17,81,820	573	7,01,010	5,153	—9,50,250	—5,246	4,51,90,721	23,61,791
Bombay	2,02,90,753	80,00,000	72,545	...	1,87,15,649	75,00,000	25,48,00,412	2,92,61,691
Bengal	61,61,929	14,58,000	...	1,25,966	57,55,723	13,32,034	26,03,07,990	4,80,20,416
United Provinces	3,56,360	...	145	...	—2,32,234	...	3,32,34,725	12,76,260
Punjab	5,53,016	19,500	...	...	5,40,196	19,500	1,87,06,715	5,76,218
North-West Frontier Province	39,062	...	...	...	37,327	...	2,17,963	...
Burma	5,76,334	...	37,350	...	1,68,604	...	5,03,09,564	...
Central Provinces	2,750	...	...	...	2,750	...	17,92,646	12,000
Berar	10,280	...	...	...	10,280	...	7,79,753	26,343
Eastern Bengal and Assam	86,466	38,442	50	2,000	86,416	36,442	50,82,282	3,61,276
Baluchistan	476	...	...	...	—1,15,574	...	10,676	...
Bangalore Civil and Mily. Stn.	3,310	...	5,286	...	—93,601	...	8,98,181	...
Coorg	...	...	...	...	...	...	2,940	861
Ajmer-Merwara	25,645	...	...	...	25,645	...	17,89,320	35,585
TOTAL BRITISH INDIA	2,98,88,201	95,16,515	8,16,386	1,39,119	2,39,50,931	88,82,730	67,31,23,838	8,19,33,141
Mysore (Native States)(b)	76,402	...	17,347	...	59,055	...	33,38,445	...

NOTE—Columns 9 and 10 include the paid-up Capital of new Companies registered during the half-year.
(a) Revised. (b) Companies registered under the Mysore Companies Regulation III of 1895.

EXPORTS OF WHEAT AND FLOUR.

Statement showing the exports of wheat and wheat-flour from British India to foreign countries in each of the eleven months, April to February, of the years 1906-07 to 1911-12:—

	1906-07	1907-08	1908-09	1909-10	1910-11	1911-12
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
BENGAL—						
April	9,014	12,855	3,360	272,044	341,028	141,605
May	16,398	40,881	6,506	1,026,554	538,670	758,447
June	29,800	42,065	5,019	748,294	508,869	1,032,605
July	72,099	39,656	5,924	324,373	95,554	447,784
August	10,967	16,770	6,610	264,333	169,455	166,661
September	13,722	10,020	4,719	13,956	283,729	46,280
October	12,545	10,256	9,432	4,985	349,970	103,126
November	9,843	8,998	4,591	6,077	234,343	230,360
December	5,930	3,153	5,817	6,819	175,702	147,059
January	8,977	4,314	3,613	5,233	291,098	139,593
February	4,414	2,885	5,392	8,256	362,397	191,501
TOTAL	193,769	191,853	60,983	2,680,924	3,305,815	3,405,021
BOMBAY—						
April	88,333	68,828	20,921	168,321	141,658	240,387
May	167,451	166,153	42,477	716,519	361,016	451,004
June	148,807	167,294	59,088	751,301	111,303	531,331
July	180,630	276,581	45,589	465,304	161,979	716,950
August	61,662	104,744	38,365	251,753	246,636	334,572
September	72,300	107,104	68,259	64,433	206,185	205,581
October	103,977	143,734	72,798	97,054	287,872	215,632
November	110,542	111,818	70,816	100,746	335,002	172,035
December	91,367	49,513	50,948	49,614	333,714	185,754
January	132,755	39,082	32,963	71,456	270,864	233,959
February	64,269	45,416	41,128	67,200	484,210	336,988
TOTAL	1,292,094	1,280,267	543,382	2,603,701	2,940,439	3,629,193
SIND—						
April	439,238	1,395,557	20,968	17,306	313,900	1,084,996
May	1,145,804	1,341,517	14,573	212,803	765,843	1,605,167
June	2,724,525	1,851,899	117,881	3,268,113	2,253,885	2,352,300
July	3,178,056	2,886,485	490,141	4,831,931	3,114,364	4,301,196
August	1,764,921	2,879,693	247,313	3,044,522	2,783,902	2,166,638
September	665,183	2,775,133	467,967	416,967	1,507,237	1,226,980
October	1,372,291	2,429,341	686,313	757,944	1,303,785	1,110,405
November	956,909	1,061,105	220,400	698,865	1,885,969	1,174,738
December	800,202	343,783	15,321	630,334	972,193	1,727,217
January	487,397	65,599	33,978	1,139,369	1,792,317	1,802,230
February	734,417	21,359	20,045	354,038	1,143,029	1,120,486
TOTAL	14,268,943	17,051,471	2,334,900	15,372,102	18,036,424	19,672,353
OTHER PROVINCES—						
April	136	212	90	...	135	...
May	30	1	...	2,112	...	3
June	37	225	3	...	31	4
July	4	...	7	2,007	1	45
August	...	6	...	2,004	30	...
September	...	1	6	4	21	76
October	7	5	...	...	...	...
November	2,001	...	...	...	...	...
December	1,190	...	2	...	3	...
January	1,522	...	10	35	40	...
February	397	4	...	...	...	...
TOTAL	5,324	454	118	6,162	261	128
TOTAL—						
April	536,721	1,477,452	45,339	457,671	1,296,721	1,466,988
May	1,329,683	1,548,552	63,556	1,957,988	1,665,529	2,819,621
June	2,903,229	2,061,483	181,991	4,767,708	2,874,088	3,916,240
July	3,430,759	3,202,722	541,661	5,623,615	3,371,898	5,465,975
August	1,837,551	3,001,213	292,288	3,562,612	3,200,023	2,667,871
September	751,205	2,892,258	540,951	495,360	1,952,172	1,478,917
October	1,548,820	2,583,336	768,543	859,983	1,941,627	1,429,163
November	1,079,295	1,181,921	295,837	805,688	2,155,314	1,577,133
December	898,689	396,449	72,088	686,767	1,481,612	2,060,030
January	630,651	108,995	70,564	1,216,093	2,354,319	2,175,782
February	803,497	69,664	66,565	429,494	1,989,636	1,648,975
GRAND TOTAL	15,750,130	18,524,045	2,939,383	20,862,970	24,282,939	26,706,695

N.B.—The figures of wheat-flour included in this statement are taken as representing 70 per cent of wheat used in its manufacture.

EXPORTS OF MANGANESE.

Statement of the Quantity and Value of Manganese Ore exported by sea from each province of British India to countries of Final Destination in February, 1912, and in the eleven months ending February, 1912, compared with the corresponding periods of 1910-11 :—

Countries of final destination.	MONTH OF FEBRUARY				ELEVEN MONTHS ENDING FEBRUARY			
	1911.		1912.		1910-11.		1911-12.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.	Cwt.	Rs.
BENGAL—								
United Kingdom	30,000	27,000	30,000	27,000	446,000	4,09,000	300,000	2,70,000
Germany	...	...	...	...	14	40	...	...
Holland	...	...	...	...	...	...	...	...
Belgium	20,000	20,000	...	...	563,000	5,50,000	239,600	2,39,800
France	40,000	40,000	...	...	516,799	5,11,399	370,280	3,70,280
United States of America	...	...	...	...	...	...	...	...
TOTAL	90,000	87,000	30,000	27,000	1,525,813	14,70,439	910,080	8,80,080
EASTERN BENGAL AND ASSAM—								
<i>Nil.</i>								
BOMBAY—								
United Kingdom	110,000	92,500	98,000	75,300	2,838,163	21,81,165	1,867,303	17,32,093
Germany	...	...	...	...	...	...	144,000	1,21,800
Holland	38,000	28,500	72,000	54,000	204,000	1,53,000	581,500	4,36,125
Belgium	242,600	2,04,150	369,500	3,22,562	1,737,605	15,42,679	2,382,520	20,45,464
France	158,000	1,35,850	109,000	88,500	1,229,000	11,01,387	1,386,640	12,01,417
United States of America	128,800	96,600	96,000	72,000	2,097,000	15,73,630	1,631,420	12,37,725
TOTAL	677,400	5,57,600	744,500	6,12,362	8,105,768	65,51,861	7,953,383	67,74,624
SIND—								
<i>Nil.</i>								
MADRAS—								
United Kingdom	35,000	10,500	30,000	9,000	280,000	84,000	210,000	63,000
Germany	...	...	...	...	...	...	...	...
Holland	...	...	...	...	...	...	...	...
Belgium	...	...	...	...	90,000	40,500	140,000	42,000
France	...	...	30,000	9,000	...	...	250,000	81,000
United States of America	...	...	...	...	494,000	2,22,300	356,000	1,60,200
TOTAL	35,000	10,500	60,000	18,000	864,000	3,46,800	956,000	3,46,200
BURMA—								
<i>Nil.</i>								
TOTAL BRITISH INDIA—								
United Kingdom	175,000	1,30,000	158,000	1,11,300	3,564,163	26,74,165	2,377,303	20,65,093
Germany	...	...	...	...	14	40	144,000	1,21,800
Holland	38,000	28,500	72,000	54,000	204,000	1,53,000	581,500	4,36,125
Belgium	262,600	2,24,150	369,500	3,22,562	2,390,605	21,33,179	2,762,320	23,27,264
France	198,000	1,75,850	139,000	97,500	1,745,799	16,12,786	2,006,920	16,52,697
United States of America	128,800	96,600	96,000	72,000	2,591,000	17,95,930	1,987,420	13,97,925
TOTAL	802,400	6,55,100	834,500	6,57,362	10,495,581	83,69,100	9,859,463	80,00,904

IMPORTS OF SUGAR.

IMPORTS of Foreign Sugar (excluding Confectionery and Molasses) into British India in the month of February, 1912, and in the eleven months ending February, 1912, 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 February 1911.	Share of each country in the total imports in February 1912.	Share in the eleven months ending February 1911.	Share in the eleven months ending February 1912.	Countries of production of total imports.	Share of each country in the total imports in February 1911.	Share of each country in the total imports in February 1912.	Share in the eleven months ending February 1911.	Share in the eleven months ending February 1912.
	Cwt.	Cwt.	Cwt.	Cwt.		Cwt.	Cwt.	Cwt.	Cwt.
Denmark	...	...	...	5	Java	457,948	235,886	8,332,998	7,797,631
Germany	1,462	612	6,588	9,572	China	2,431	4,629	119,887	9,569
Holland	61	58	726	814	Japan	...	...	...	12
Belgium	100	62	852	1,496	Egypt	...	...	7	918
France	54	27	364	214	Natal	...	...	1	13
Austria-Hungary	189,394	2,469	534,207	240,210	Mauritius	329,269	18,233	2,523,622	1,446,717
India	...	...	50	...	West Indies	19	10	457	33
Straits Settlements	90	94	917	713	Mexico	...	...	1	...
					South America	7	75	157	663
					Australia	...	...	2	15
					From non-producing countries—				
					Origin unknown	31	39	525	392
					TOTAL	980,926	262,194	11,571,361	9,508,992

QUANTITY of Beet and Cane Sugar imported by sea from foreign countries into each province of British India during the month of February, 1912, compared with the corresponding period of the year 1911 :—

PROVINCES	Beet Sugar.		Cane Sugar.		TOTAL.	
	1911.	1912.	1911.	1912.	1911.	1912.
	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.	Cwt.
Bengal	22,908	401	302,265	76,862	325,173	77,263
Eastern Bengal and Assam	...	...	...	1,894	...	1,894
Bombay	44,928	147	302,041	67,550	346,969	67,697
Sind	115,185	2,568	138,690	43,529	253,875	46,097
Madras	7,924	46	17,311	29,245	25,235	29,291
Burma	197	85	29,477	39,857	29,674	39,952
TOTAL	191,142	3,247	789,784	258,947	980,926	262,194

IMPORTS OF COTTON YARN.

QUANTITY of Cotton Yarn No. 31 and higher counts, imported by sea from foreign countries into each province of British India in the month of February, 1912 :—

	Bengal.	Eastern Bengal and Assam.	Bombay.	Sind.	Madras.	Burma.	TOTAL.
	lb	lb	lb	lb	lb	lb	lb
Mule and water, Nos. 31 to 40	385,533	...	188,426	13,500	267,755	2,000	857,214
" " " 41 to 50	58,855	...	62,425	...	75,500	...	196,780
" " " above No. 50	78,941	...	50,478	...	68,965	...	198,384
Orange, red and other colours, Nos. 31 to 40	530,337	6,200	93,400	187,508	277,950	18,400	1,113,495
Orange, red and other colours, Nos. 41 to 50	...	...	2,400	...	4,105	9,400	15,905
Orange, red and other colours, above No. 50	15,839	...	300	...	43,595	10,750	70,484
TOTAL	1,060,205	6,200	397,429	201,008	737,870	40,550	2,452,262

LAND TRADE OF BRITISH INDIA.

Total Value of Imports from, and Exports to, each country in the nine Months, April to December of each year.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1909	1910	1911	1909	1910	1911	1909	1910	1911
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
LOS BELA— Sind and British Baluchistan	4,58,721	6,28,831	5,32,870	2,03,477	2,11,647	1,22,214	6,62,198	8,40,478	6,55,084
KHELAT— Sind and British Baluchistan	3,13,483	5,86,898	3,40,890	4,42,383	5,90,589	6,08,265	7,85,866	11,77,487	9,49,155
PERSIA— Sind and British Baluchistan	2,98,536	2,18,066	3,10,970	4,66,138	4,58,851	9,56,744	7,64,674	6,76,917	12,67,714
AFGHANISTAN— Northern and Eastern (including Kabul and Ghazni)— North-West Frontier Province	29,02,527	26,22,129	27,49,729	58,26,094	65,11,003	54,81,803	87,28,621	91,33,132	82,31,532
Southern and Western (including Kandahar and Herat)— Sind and British Baluchistan	50,18,894	48,01,228	53,21,675	42,57,695	45,72,769	47,17,610	92,76,589	93,73,997	1,00,39,285
North-West Frontier Province	2,58,959	1,36,937	1,03,900	3,30,306	2,78,369	65,928	5,89,265	4,15,308	1,69,888
Panjab	19,522	83,102	37,204	25,237	40,782	19,168	44,759	1,23,884	56,372
TOTAL	81,99,902	76,43,396	82,12,568	1,04,39,332	1,14,02,923	1,02,84,509	1,86,39,234	1,90,46,319	1,84,97,077
TIRAH— North-West Frontier Province	3,75,526	4,78,459	4,69,676	3,69,761	6,83,638	4,53,698	7,45,287	11,62,097	9,23,374
DIR, SWAT, AND BAJAUR— North-West Frontier Province	39,50,273	34,74,570	49,18,081	49,12,091	41,07,434	47,24,907	88,62,364	75,82,004	96,42,968
BUNER— North-West Frontier Province	1,50,343	2,04,499	2,38,858	2,05,788	3,64,687	5,64,361	3,56,131	5,69,186	8,03,219
WAZIRISTAN— North-West Frontier Province	2,06,320	3,18,295	5,23,521	1,97,822	98,774	2,89,646	4,04,142	4,17,060	8,13,167
KURRAM VALLEY— North-West Frontier Province	2,15,231	1,91,920	2,01,980	7,07,580	10,22,734	12,41,094	9,22,811	12,24,651	14,43,074
LADAKH— Panjab	1,32,559	1,64,675	1,78,820	81,382	1,35,889	1,32,384	2,13,941	3,00,564	3,11,204
TIBET— Panjab	2,53,765	2,58,465	2,48,482	60,232	1,07,378	71,676	3,13,997	3,66,343	3,20,158
United Provinces of Agra and Oudh	7,73,882	9,58,231	10,03,543	3,48,312	3,04,412	3,59,592	11,22,224	12,62,643	13,63,135
Bengal	5,72,536	8,48,804	10,13,905	4,99,618	5,06,668	7,06,869	10,72,184	13,55,472	17,20,674
TOTAL	16,00,183	20,65,500	22,65,830	9,08,222	9,18,958	11,38,137	25,09,405	29,84,458	34,02,967
NEPAL— United Provinces of Agra and Oudh	68,08,820	52,95,572	63,83,342	30,35,311	32,07,498	31,62,179	98,44,131	85,63,070	95,45,521
Bengal	1,12,95,510	1,54,29,047	2,05,94,976	74,30,062	79,46,523	1,17,02,600	1,87,25,572	2,33,75,570	3,22,07,576
TOTAL	1,81,04,330	2,07,24,619	2,68,88,318	1,04,65,373	1,11,54,021	1,48,64,779	2,85,69,703	3,18,78,640	4,17,53,097

LAND TRADE OF BRITISH INDIA—continued.

Total Value of Imports from, and Exports to, each country in the nine Months, April to December of each year—continued.

NAME OF COUNTRY	IMPORTS			EXPORTS			TOTAL		
	1909	1910	1911	1909	1910	1911	1909	1910	1911
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
SIKKIM— Bengal	6,30,128	6,66,039	9,23,462	7,30,072	5,76,354	7,62,635	13,60,200	12,43,293	16,86,097
BHUTAN— Bengal	5,557	18,072	28,332	3,539	4,582	6,180	9,096	22,654	34,512
Eastern Bengal and Assam	83,620	49,171	37,649	69,700	28,346	51,309	1,53,320	77,517	88,958
TOTAL	89,177	67,243	65,981	73,239	32,928	57,489	1,62,416	1,00,171	1,23,470
TOWANG— Eastern Bengal and Assam	52	511	2,759	...	425	1,802	52	936	4,561
NAGA AND MISHMI HILLS— Eastern Bengal and Assam	27,797	1,19,096	87,201	2,652	5,528	1,506	30,449	1,24,624	88,707
DUFFLA AND AKA HILLS— Eastern Bengal and Assam	7,181	29,103	30,308	213	235	678	7,394	29,338	30,986
WESTERN CHINA— Burma	19,36,511	27,53,523	21,34,848	26,58,664	31,90,084	26,54,197	45,95,175	59,43,607	47,89,045
NORTH SIAM— Burma	25,13,594	19,79,522	20,78,770	20,73,531	17,59,256	20,27,686	45,87,125	37,33,778	41,06,656
SOUTH SIAM— Burma	6,08,633	7,30,319	7,36,074	5,43,607	5,05,536	6,65,209	11,52,240	12,35,855	14,01,343
N. SHAN STATES— Burma	79,63,331	90,55,004	88,77,516	55,05,402	54,78,463	78,88,704	1,34,68,733	1,45,33,467	1,67,66,220
S. SHAN STATES— Burma	51,45,672	52,02,909	62,71,943	65,25,060	61,63,488	76,28,243	1,16,70,732	1,16,66,397	1,39,00,186
KARENNEE— Burma	18,75,200	19,56,806	18,94,638	9,54,863	7,02,333	11,33,266	28,30,063	26,59,139	30,27,904
GRAND TOTAL	5,48,32,633	5,92,60,703	6,81,85,882	4,84,66,652	4,98,74,775	5,82,02,413	10,32,99,335	10,91,35,478	12,63,88,295
Share of each Province in the total trade—									
Sind and British Baluchistan	61,19,634	62,35,023	65,06,400	53,69,693	58,33,856	64,04,833	1,14,89,327	1,20,68,879	1,29,11,238
North-West Frontier Province	80,59,179	74,26,609	92,05,800	1,25,49,442	1,30,76,639	1,28,21,437	2,06,08,621	2,05,03,448	2,20,27,242
Panjab	4,05,846	5,06,242	4,64,500	1,66,851	2,84,549	2,23,225	5,72,697	7,90,791	6,87,734
United Provinces of Agra and Oudh	75,82,792	62,53,803	73,86,880	33,83,653	35,11,910	35,21,771	1,09,66,355	97,65,713	1,09,08,656
Bengal	1,25,03,731	1,69,62,862	2,24,70,571	86,63,321	90,34,127	1,31,78,284	2,11,67,052	2,59,96,989	3,56,48,859
Eastern Bengal and Assam	1,18,650	1,97,881	1,57,917	72,565	34,534	55,295	1,91,215	2,32,415	2,13,212
Burma	2,00,42,941	2,16,78,083	2,19,93,789	1,82,61,127	1,60,99,160	2,19,97,565	3,83,01,068	3,97,77,243	4,39,91,354
GRAND TOTAL	5,48,32,633	5,92,60,703	6,81,85,882	4,84,66,652	4,98,74,775	5,82,02,413	10,32,99,335	10,91,35,478	12,63,88,295

WEEKLY TRADE MOVEMENTS.

For the week ending 23rd March, 1912.

COTTON GOODS.

Twist and Yarn.

Foreign—	Calcutta lbs.	111,970
Imports by sea into	Bombay "	149,487
	Madras "	26,950
Indian—	Calcutta "	287,200
Exports by sea from	Bombay "	4,111,050
	Madras "	2,000

Grey Piece Goods.

Imports by sea from	Calcutta yds.	3,192,839
	Bombay "	2,683,067
Foreign ports into	Karachi "	152,076
	Madras "	71,427
	Rangoon "	303,661

White Piece Goods.

Imports by sea from	Calcutta yds.	610,005
	Bombay "	2,394,482
Foreign ports into	Karachi "	1,248,816
	Madras "	2,458
	Rangoon "	719,905

Other Piece Goods.

Imports by sea from	Calcutta yds.	850,068
	Bombay "	1,075,710
Foreign ports into	Karachi "	774,033
	Madras "	58,736
	Rangoon "	934,797

Piece Goods.

(Indian and Foreign.)

Despatches by rail from	Calcutta cwt.	40,932
	Bombay "	9,542
	Karachi "	25,589
	Madras "	5,921

Raw Cotton.

Imports into Bombay	By sea cwt.	21,491
	Coastwise "	31,731
	By rail "	297,596
Imports into Karachi by rail	"	84,900
" " Calcutta by rail and river	"	15,601

JUTE.

Arrivals by all routes in	Calcutta cwt.	297,580
	Gunny bags No.	11,413,411
Exports by	Calcutta cloth yds.	22,142,058
sea from	Jute cwt.	210,592
	Chittagong—Jute "	21,386

COTTON SEEDS.

Exports by sea from Bombay	cwt.	176,404
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OIL SEEDS.

Linseed.

Imports into	Calcutta by rail and river cwt.	75,494
	By sea "	...
	Coastwise "	3,365
	By rail "	159,390
	Karachi by rail and river "	...
	Calcutta "	61,047
Exports by sea from	Bombay "	106,994
	Karachi "	...

Rape and Mustard Seed.

Imports into	Calcutta by rail and river cwt.	91,394
	By sea "	16,071
	Coastwise "	49
	By rail "	22,441
	Karachi by rail and river "	52,501
	Calcutta "	88
Exports by sea from	Bombay "	6,450
	Karachi "	76,461

RICE.

Arrivals by all routes in	Calcutta cwt.	574,305
	Calcutta "	344,619
	Chittagong "	...
Exports by sea from	Bombay "	...
	Karachi "	3,598
	Madras "	...
	Rangoon "	1,313,811

TEA.

Arrivals by all routes in	Calcutta lbs.	30,336
Exports by sea from	Calcutta "	346,792
	Chittagong "	29,001

WHEAT.

Imports into	Calcutta by rail and river cwt.	25,087
	Karachi by rail "	183,040
	By sea "	1,337
	Coastwise "	371
	By rail "	54,035
	Calcutta "	9,106
Exports by sea from	Bombay "	51,567
	Karachi "	423,674

The following figures of imports into Calcutta by rail and river were excluded from the statement for the week ending 16th March 1912 published last week:—Cotton, raw 3,744, wheat 55,381, jute, raw 14,920, linseed 14,578, rape and mustard 106,183, rice 138,085 and also for despatches of piece goods by rail from Calcutta 25,650.

The correct figures for the week ending 16th March 1912 of imports of Bombay wheat by rail are 45,231 cwt. and those of cotton, raw imported into Karachi by rail are 85,523 cwt.

EXPORTS—RUNNING TOTALS INCLUDING FIGURES RECORDED ABOVE.

		FROM APRIL		FROM JANUARY					
		1910	1911	1911	1912	1911	1912	1911	1912
		Wheat.		Linseed.		Rape and Mustard Seed.		Cotton Seed.	
Calcutta	Cwt.	3,783,862	4,108,154	281,156	286,565	9,626	576	Not	reported.
Bombay	"	3,026,330	3,420,971	1,177,213	592,200	265,919	62,384	2,183,348	1,832,930
Karachi	"	20,752,109	3,386,679	29	...	1,317,931	834,565	Not	reported.

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KEROSENE OIL, WEEK ENDING 23rd MARCH, 1912.

Imports by sea into—	FROM			
	Russia.	America.	All other Foreign countries.	TOTAL.
	galls.	galls.	galls.	galls.
Calcutta	...	...	...	...
Bombay	...	126,536	...	126,536
Karachi	...	...	...	...
Madras	...	...	...	...
Exports by sea from Burma to				
			Bengal	413,838
			E. B. & Assam	326,204
			Bombay	965,800
			Sind	...
			Madras	...
			Indian Ports, Non-Br.	...
			Foreign Ports	...

IMPORTS OF SUGAR, WEEK ENDING 23rd MARCH, 1912.

	REFINED SUGAR IMPORTED INTO					
	Calcutta.	Chittagong.	Bombay.	Karachi.	Madras.	Rangoon.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
United Kingdom	483	...	6	11	4	9
Germany	...	...	...	...	...	...
Austria-Hungary	...	...	...	...	...	...
Other European Countries	...	...	...	...	...	...
Java	64,582	...	...	104	...	...
Mauritius	749	...	2,350	366	...	...
Other Non-European Countries	...	...	6,500	...	...	10
Total refined						100,786
Total unrefined						...
Grand Total						100,786

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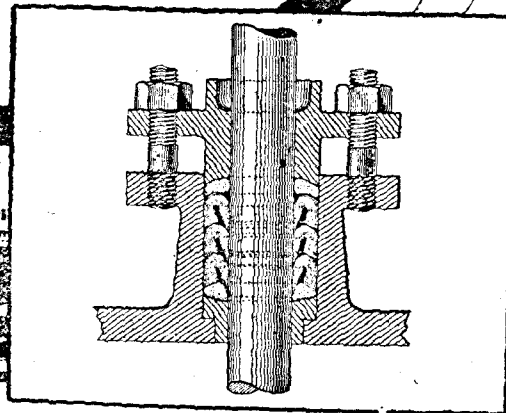
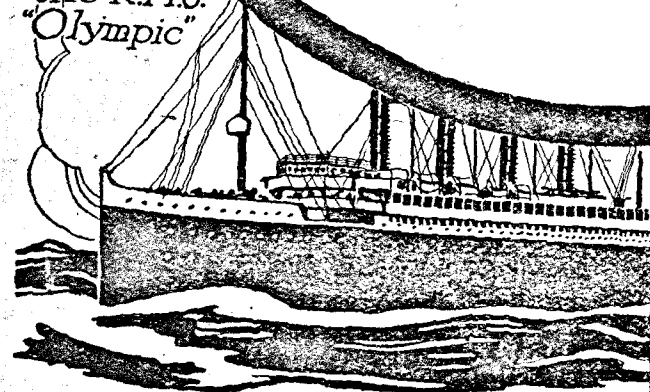
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