

The Textile Mercury:

A Representative Weekly Journal for

Spinners, Manufacturers, Machinists, Bleachers, Colourists, and Merchants,

In all Branches of the Textile Industries.

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Articles, Correspondence, Reports, Items of News, on all matters of novelty and interest bearing upon the Textile Industries, home or foreign, are solicited. Correspondents should write as briefly as possible, on one side only of the paper, and in all cases give their names and addresses, not necessarily for publication, but as a guarantee of good faith. When payment is expected, an intimation to that effect should be sent with the contribution. The Editor will do his best to return incalculable MSS. if accompanied by the requisite postage stamps, but will not guarantee their safe return.

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Current Topics.

THE OLDHAM M.P.'S ON THE NEW TRADES-UNIONISM AND THE EIGHT HOURS BILL.

Last Saturday the borough members of the town of spindles, Messrs. Maclean and Lees, delivered addresses at a meeting at Shaw. Dealing with the labour question Mr. Maclean said there had arisen of late years a school of working-men Socialists who denounced all the old laws of political economy, and who would tell them that what they had to do to improve the position of the working classes was to do away with capital altogether. That doctrine was entirely against the principles which had been acted upon with such wonderful success in Lancashire, and which had made the greatness of the industry of this country, and he was extremely glad to see that at the Trades Congress all the representatives of the trades-unions of Lancashire held themselves aloof from those new doctrines, and refused to have anything to do with them. It was ruinous for working men to think they could do any good to themselves by attacking capital and the principle of private property, as, if they did away with the motive for individual exertion, they would soon have industry and commerce paralysed. He was glad to see that the men of Lancashire intended to go on the old lines of self-help, working heartily in co-operation with capital, and trying by that co-operation to do the best they could for their native country. As to the eight-hours question, he said it was quite open to any trade at the present moment, if the workers and employers could agree upon it, to work for not more than eight hours per day, but he did not think it would be possible to lessen the number of hours in which factory workers are engaged without either losing the command of the foreign market, because of the great competition in the wages of the workmen. He censured the Government for not dealing with the hours of labour in the Indian factories. He declared that if the people of England were in earnest in this matter they should make their views known to their representatives, and it was high time the Government of England shewed the Government of India who were really the masters of that country. Mr. E. Lees, M.P. (a member of the firm of Messrs. Lees and Wrigley, cotton spinners, Greenbank Mills, Oldham) also expressed himself in similar terms, and gave utterance to the following significant passage:—"In the time of Adam Smith the price of bread used to be regulated by the State, and I think that any attempt at the end of the 19th century to go back to the mediæval restraints and mediæval ideas of the relations between capital and labour, to go back to the old State socialism of

the Middle Ages, would be, I think, to put back the hands of the clock of progress. Labour has escaped from those shackles in which it was held as long as it was subject to State interference, and while under such regulations was like Samson with his hair cut, bound and fettered by Delilah. Since labour had escaped from State regulations in the latter part of the last century, and throughout the whole of this century, it has advanced to be the mightiest power in this country. Surely it will not go back, now that it has grown and got its strength but will refuse to trust itself again in the arms of Delilah. What Lancashire says to-day on this question, England will say to-morrow—and trades-unions throughout this country will resolve that they will soon go on in the old paths of self-help, of common sense, and combination, without State interference, which have led them to such advantages in the past, and that they will not, by soliciting State aid, put themselves again in such fetters, but that they will maintain the proud position of independence which they won for themselves during the last century." There is no mistaking the tenour of these speeches, which thoroughly endorse the attitude taken up upon the eight-hours question by the Lancashire unionists. Labour and capital cannot afford to be divorced from their present relationship; the former would quickly perish without the latter; and capital would immediately become afflicted with the disease of consumption, by which it would slowly perish.

A NEW INDUSTRY FOR THE NORTH OF ENGLAND.

Northallerton, the "northern town of the alder trees," famed in history owing to its proximity to the spot where, in Stephen's time, the northern barons routed the Scotch at the bloody Battle of the Standard; famed, too, though in a much less degree, for its grammar school, which, amongst other men not unknown to posterity, produced Ryder, the editor of the "Æolera"—Northallerton is now known to us moderns as a centre for the production of linoleum, the Tarpaulin and Brattice Company having added that department to its business. No industry that we know of is such a thriving one as that devoted to the manufacture of this description of floor covering, and, as we have previously pointed out, few offer such enticing inducements to capitalists who desire to invest in profitable undertakings. The firms engaged in the business at the present time may almost be counted on one's fingers, and all of them are making money. The new enterprise which has been commenced in the North Riding town is a conspicuous feature in the local landscape as one approaches the station by the North Eastern Railway, a huge pile of red brick buildings having been erected. The machinery of the most approved construction, the plant includ-

ing Daniel Adamson 500-horse-power boilers with self-acting stokers. The new works are capable of turning out 10,000 yards per week, and in addition there is a very large output of brattice cloth and other similar materials, for which the company has been noted for a considerable period. Following the example which has been set by linoleum manufacturers at Kirkcaldy and elsewhere, the company, we believe, has decided not to allow visitors under any pretence to inspect the works. Mr. Hopper, who is interested in the venture, found it impossible to obtain access to any of the factories owned by the various firms of linoleum manufacturers elsewhere, and the Northallerton concern will adopt a similar policy of exclusiveness. The new departure is an interesting one, and besides its general importance to the industrial student it will locally have the effect of bringing back some of that activity which in Northallerton as in other ancient market towns has subsided with the changing conditions of modern manufacturing.

THE RUSSIAN FLAX INDUSTRY.

It is very well known that for some years past Russian flax has not been delivered to customers in the condition that it ought to have been. The complaints to which this has led have been numerous, whilst the article has suffered in price and in the amount sold. The Revel Exchange Committee have issued their report for the year 1889, and in it they remark that in order to prevent the exportation of badly-worked flax and to re-establish the good reputation of Russian flax in foreign markets, the Ministry of Finance has proposed that the bundles of flax destined for export must be tied up with one cord only, which must also be of flax, that the weight must not exceed 20 lb., and that it is obligatory to pack the flax in large bales which are to be provided with specially confirmed stamps. The omission of any of these rules will prevent the flax from being exported. The Custom House authorities are to be charged with the task of examining the parcels of flax intended for exportation in accordance with the above regulations. With reference to this matter the Revel Exchange Committee express the opinion that the complaints during recent years about the bad quality of Russian flax cannot be removed by the regulations as to the export in the seaports, but only by Government control at the flax centres in the interior of the Empire, where the cultivation of flax, and particularly its preparation for export, should be watched over. It would then be necessary to issue certificates drawn up by experts, stating that the flax about to be exported fulfils all the conditions required. This would naturally cause expense and make the flax dearer. As to any control in the seaports the Committee consider it impracticable, as the flax is generally conveyed from the railway waggons direct to the steamers, and it would require a vast number of Custom House officials to see that all the formalities on shipping are duly attended to, which would moreover cause frequent and great delay in the despatch of vessels. Taking all this into consideration the Committee come to the conclusion that it is best not to assent to a control of Russian flax by the Custom's authorities. So much for the Revel Exchange Committee's views upon this subject. We certainly agree with them that the port of export is not the place at which defects can be properly inquired into or effective supervision exercised. But many a promising and growing industry has irretrievably been damaged by short-sighted persons whom its promis-

ing future has brought into it resorting to malpractices that deteriorate the quality of the article produced. They might almost with safety be left to the severe neglect of buyers, which is certain to be exercised, were it not that they are usually too dense to refer effects to causes. It is well therefore that the Government is taking cognisance of the matter.

A DRASTIC LITTLE IRISH TARIFF.

While everybody is talking or writing about McKinley and all his works, it may afford a little relief to recall the particulars of a tariff about which no fuss at all was made, which was as searching and comprehensive as the most ardent Protectionist could wish, and yet was compressed into a couple of manuscript pages. There was sold not long ago in Dublin a curious old parchment, partly worm-eaten, but, thanks to good ink and careful writing, still as legible as though it had not stood the wear and tear of some years over and above a couple of centuries. It is endorsed—

Small customs or perquisites belonging to the office at mace, which Edward Hollywood formerly held and took at the gates.

This might offer a text for an elaborate study of ancient modes of taxation, but it must suffice to let it shew how little has, after all, been learnt in compiling a tariff. Here we find toll taken of every article brought into the city for consumption, often in kind. Upon furze, charcoal, or turf for fuel, on tubs, spades, pails, or platters for domestic use, and on timber in bulk or in boards, on sheep or calf skins, wool in bags, bark and madder for industrial purposes, and upon the inevitable "aqua vita" there are fixed rates in money; but hay or grass was taxed by a fixed quantity taken from each load, and considered a "curtesie" or acknowledgment. This genial and polite infliction was charged upon all kinds of vegetables and fruit—peas, beans, "apples, pears, wardenes, cherries, plums, and such like," as well as "nuts and such like," and even the smallwares of husbandry—"all sorts of garden herbes—as cabbages, turnaps, radish, leekes, garlick, onyons, skallions, and such like," were charged "a curtesie as accustomed." How remarkable it is to find that the McKinley Tariff Bill is equally careful to tax cabbages at one cent. each, charges eggs by the dozen, and puts a duty per bushel on dried and split peas. The collectors of customs in the States do not levy so many cabbages per hundred, or take, say, one egg from every dozen, but they have to be equally regardful of the day of small things as their Dublin forerunners of the seventeenth century. When towns were walled and could only be approached over bridges or through gates it was quite possible for an official to sit at the receipt of custom and take his appointed share of the produce brought in, and the method was certainly preferable to *ad valorem* duties, assessors, declarations, affidavits, and all the annoying procedure of our day. Perhaps the United States authorities might go back in practice, as well as in principle, to original arrangements. Besides these customs duties in Dublin there were also taxes for local purposes, paid for the maintenance of the town, for repairing the walls, pavements, and bridges, and these are found in

A Particular List of ye Customs to be taken at ye Gates of the City of Dublin for Provost, Murage, Pavage, and Pontage.

This is a comprehensive list of merchandise, including minerals and materials, such as lead, iron, tin, copper, slates, and "glass, coloured or not," mill-wheels, mill-stones, madder, horse-shoes or nails, provisions, such as tallow, "swine's grease," butter, cheese, "figgs," dates,

"raysons," malt, fish, honey, and animals for food, sheep, goats, and "porke," and then with a precaution that Major McKinley himself could not outdo, there is a rate laid upon "every manner of merchandise or other things that passeth ye value of fiveshillings, but not otherwise particularly mentioned." Many of these articles are calculated to give us a higher opinion of the tastes and comforts of our remote forbears than we usually hold, and the list of textiles, if short, shews no lack of choice either in the quality or variety of wearing apparel. There are hides and skins for ultimate personal wear, as well as yarn, and broad and narrow cloths, with specific duties on

Every peece of frize as well Irish as Welch that passeth six ells.

Every peece of Silke with Gould or bankin.

Every peece of English cloth that passeth six ells.

Every Cloath of Assize, Flemmish, Norman, or Brabant.

Every linen Cloath, Canvas, English or Ffrench.

Every whole peece of Worstede.

Every peece of Irish linnen cloath that passeth eight ells.

Every peece of Buckram.

Every peece of cloath Flemmish, Norman, or Brabant that passeth six ells.

DAY AND NIGHT SHIFTS IN THE COTTON TRADE.

Of all the crude notions that have been projected before the public for a long time past by persons who talk and write upon the conditions of our textile industries without adequate knowledge, surely the crudest of all is the proposal to keep our machinery going day and night by the employment of one or two extra shifts of hands. Whoever may have started the idea, the only conclusion that can be come to regarding him is that he is utterly out of touch with existing facts. Indeed he must have been resurrected after being buried in the closing years of the last century or the early ones of the present. Such a thing was possible then, and it was practised when the trade was expanding rapidly and employers were making money at a rate that would make the mouths of their successors of to-day water only to think of as possible for a single twelve months in the early future. It was to reap this rich harvest of profits that the jails and workhouses of the country were scoured of their inmates in order to furnish the necessary complements of "hands" for the purpose. The days then were all too short to satisfy the acquisitive desires of those engaged in the trade, which grew by what it fed upon to the most abnormal dimensions. In fact they would much have preferred that each day should consist of 36 rather than 24 hours, and even then it would not have sufficed to satisfy them. But this wild rush to make a fortune out of the new Dorado could not last; over-production speedily became the order of the day, profits declined, panics accompanied by disastrous failures followed, and gradually the double-shift system was discontinued. Long hours for a single shift then followed, and these in their turn have been successively reduced to their present dimensions. But the teachings of this chapter of history seems to be utterly lost upon the people who have proposed a revival of this long-disused plan of running machinery double or three-fold time. It is strange they did not pause to ask themselves whence they would get the supply of hands "to work the second shift." They are not to be found. But supposing they could, what would their employers do with the products of their labour when made? If it be difficult to secure a profit on the present system, what would it be when the production was doubled or trebled? What would be the effect upon the prices of the raw material? The

latter would go up and the former go down at a rate and to an extent that would quickly disperse in thin air the vaporous emanations from the brains of these economical quacks. The whole thing is utterly impracticable in this country, regarded from any point of view in which it can be presented.

THE EGYPTIAN COTTON CROP.

"There is corn in Egypt" is a proverbial and metaphorical saying that is centuries old, which in its proverbial form is indicative of the wonderful fertility of the country, that being reliable when all others might have failed. The metaphorical use of the expression common today implies that a person's store of anything is as inexhaustible as the granary of Egypt, or that at least the point of exhaustion has not been reached. It is quite possible that in process of time the phrase may come to be changed, and we may console ourselves with the reflection that there is "cotton in Egypt," too. News from Cairo a day or two ago states that the Mudirs in the latest cotton report say that the first picking is finished and the second well advanced. The earliness of the crop is due to the more extensive planting of the metaffi variety this year, which ripens earlier than other species. The quality of the crop is generally excellent, and no damage through worms is reported. The crop is estimated at 3,250,000 cantars. Private advices give even more favourable reports, declaring that the crop will be 3,750,000 cantars, and thus prove the country's capacity to make a very effective contribution to the world's increasing requirements of this useful article. We see no reason why, with the country under its present régime, even this should not be further largely increased. Egypt, too, may fairly be regarded as a preparatory school from which, if necessary, some skilled cultivators of cotton might be drawn and planted in our newly-acquired dominions in other parts of the African Continent, who might teach the natives how to set about the cultivation of the article. In view of the unfriendly attitude and actions of the United States the sooner this task is commenced the better.

THE BOARD OF TRADE RETURNS FOR SEPTEMBER.

The Board of Trade returns for last month appear at first sight to be extraordinarily good, inasmuch as, when compared with the corresponding month of last year, the imports are valued at £35,552,000, an increase of £2,145,000, equal to 6.4 per cent., and the British exports at £22,765,000, an increase of £3,072,000, equal to 15.6 per cent. It will, however, be remembered that the great dock strike was not settled until the 20th of September, 1889; which, as explained when commenting upon the August returns, did not interfere with the due tendering of the documents relating to imports, while, with regard to exports, the documents were not tendered because the goods had not been put on board. The comparison is therefore between two full months of imports, but not of exports. The exports of foreign goods illustrate more fully the disturbance because for the most part exports of foreign goods consist of goods on passage through our ports. Of such goods in September, 1889, the value was stated to be £3,004,076, but last month it was £4,559,758. Another cause for the increase of the exports has been the efforts to effect the entering of goods in the United States before the new Tariff Act was put into operation. Nevertheless, even after allowing for these exceptional causes, the figures are very

satisfactory. The increased imports of textiles are due in particular to the large arrivals of cotton and jute; on the other hand, sheep's wool shews a material decrease. The arrivals of cotton have been received earlier than they were last year from the United States, being 514,364 cwt. against 394,838 cwt. In exports decreases are shewn in respect of haberdashery, jute, yarn, silk manufactures, sheep's wool, and woollen tissues and carpets. In the following abstract we give particulars of the imports and exports of textiles, etc., for the month:—

I.—IMPORTS OF FOREIGN AND COLONIAL MERCHANDISE.

Principal Articles.	Quantities.		Increase or Decrease per cent. compared with Sept., 1889.
	1889.	1890.	
Cotton, raw	Cwt.	645,228	778,370
Flax	"	94,813	104,595
Hemp	"	154,779	132,739
Jute	Tons	9,794	17,314
Silk, raw	Lb.	229,536	214,067
Wool, sheep and lambs'	Lb.	30,218,854	24,735,099
Woollen Stuffs	Yds.	7,233,234	6,381,658

Principal Articles.	Value.		Quantity.	Value.
	1889.	1890.		
Cotton, raw	£	1,677,406	2,042,887	+20.6
" manufactures	"	185,870	196,978	+5.9
Flax	"	183,107	144,431	-19.3
Hemp	"	220,013	179,382	-11.7
Jute	"	150,095	232,071	+54.6
Silk, raw	"	171,129	160,983	-6.5
Wool, sheep & lambs'	"	1,082,789	1,014,633	-7.2
Woollen Stuffs	"	634,467	547,838	-12.6

II.—EXPORTS OF BRITISH AND IRISH PRODUCE AND MANUFACTURE.

Principal articles.	Quantities.		Increase or Decrease per cent. compared with Sept., 1889.
	1889.	1890.	
Cotton Yarn and Twist	Lb.	18,678,000	21,273,000
" Piece Goods	Yards	882,679,100	412,162,700
Jute Yarn	Lb.	3,316,500	2,586,000
" Piece Goods	Yards	20,116,300	27,904,100
Linen Yarn	Lb.	1,113,930	1,270,800
" Piece Goods	Yards	13,464,300	14,467,000
Wool, sheep and lambs'	Lb.	27,790,400	21,68,000
Woollen and Worsted Yarn	Lb.	3,725,200	4,009,100
" Tissues, heavy and light, broad and narrow	Yards	6,268,930	5,330,300
Worsted Tissues, heavy and light, broad and narrow	"	15,409,400	17,633,900
Woollen Carpets	"	1,268,100	1,132,300
" Flannels	"	719,400	1,049,400
" Blankets	Pairs	86,590	151,886

Principal Articles.	Value.		Quantity.	Value.
	1889.	1890.		
Cotton Yarn and Twist	£	822,462	1,024,508	+13.8
" Piece Goods	"	3,945,499	4,453,144	+9.9
" Other Manufactures	"	569,150	651,887	+14.5
Haberdashery	"	203,619	201,785	-0.9
Jute Yarn	"	38,863	28,534	-26.0
" Piece Goods	"	210,596	259,902	+23.4
Linen Yarn	"	65,992	73,367	+11.0
" Piece Goods	"	828,638	837,177	+1.0
Machinery and Millwork	"	1,195,930	1,449,560	+20.9
Silk Manufactures	"	214,872	239,382	+11.4
Wool, sheep and lambs'	"	102,836	83,788	-18.5
Woollen and Worsted Yarn	"	356,830	393,429	+10.4
Wool'n Tissues, heavy & light, narrow & broad	"	594,056	554,759	-6.6
Worsted Tissues, heavy & light, narrow & broad	"	837,763	1,030,734	+23.0
Woollen Carpets	"	132,281	115,397	-12.8
" Flannels	"	27,798	85,325	+207.1
" Blankets	"	59,327	68,678	+15.3

CREFELD MANUFACTURES.

We learn from the annual report of the Crefeld Chamber of Commerce for the past year that the total production of velvet for 1889 rose to the sum of 29,664,134 marks, against 30,178,620 marks for 1888. The number of hand-loom has dropped from 8,568 in 1888 to 7,448 in 1889, but the velvet workers who have been thrown out of employment in this department have found work in other branches, which have been very brisk. The wages paid during the year have not undergone any change. The favour shewn by fashion in the spring of 1889 to red velvet caused an increase in the number of looms manufacturing that article, the figures for hand-loom being 558 against 238 for 1888, and for power-loom 84 against 23. The total number of power-loom has increased from 2,015 to 2,214, but their work has been less consecutive and less urgent. On the other

hand, the stuff-weaving department has had a very good year, the value of the production having risen from 45,769,924 marks in 1888 to 56,388,880 marks. The figures for the total production of the Crefeld factories come very near those for 1883, which are the highest ever reached—86,053,014 marks in 1889 against 86,584,069 for the year named. The number of hand-loom has risen from 12,886 in 1888 to 15,118 in 1889. The number of power-loom for silk has been augmented by 222, amounting, without ribbon-loom, to 2,270. The sale of pure and mixed silks has been very brisk in Germany, exhibiting a distinct advance on that of the preceding year—26,380,924 against 21,337,101 marks. In consequence of this activity the consumption has increased in a remarkable degree—from 390,728 kilos in 1888 to 473,599 kilos in 1889. The dye-works have dealt with 491,449 kilos. of silk for Crefeld against 385,635 for 1888. For foreign factories the quantity has risen from 226,543 in 1888 to 284,189 kilos in 1889. These figures represent the work done in 91 weaving sheds, 49 velvet factories, 23 silk-dyeing works, 12 cotton-dyeing works, and 10 establishments where both silk and cotton are dyed.

THE NEW AMERICAN TARIFF AND RECENT BRITISH EXPORTS.

In order to escape the higher duties imposed by the McKinley Bill, great efforts have been made to get dutiable goods shipped from England and elsewhere to the United States before the new tariff came into operation. How strenuous and long-sustained these efforts were may be judged from the fact that Captain Haines, of the *Etruria*, succeeded in reaching the New York Customs Office, and thus clearing his cargo at the old rates, within only 50 seconds of Saturday midnight, the time when the new duties came into force. This incident formed a highly dramatic finish to the old order of things, and the gallant captain well deserved the round of cheers that greeted him as he drove furiously up to the Customs House door. The acute anxiety that centred round his arrival, thus accomplished in the very nick of time, may be gauged from the fact that one firm importing woollens thereby saved 40,000 dol. in duties. On the other hand, the owners of goods shipped by the Dutch steamer *Zuandam* lost very heavily, owing to her arriving late. These endeavours to forestall the new tariff have naturally infused a temporary energy into various manufacturing industries—into woollen goods in particular. The shipments of these from Liverpool to the States during September last have consequently been abnormally high, amounting in value to 475,530 dol., as against 297,751 dol. from the same port in September, 1889. The following table shews the total British exports of textiles to the United States in the months of September, 1889 and 1890, so far as can be gathered from the Board of Trade Returns for the months referred to:—

	SEPTEMBER.	1889.		1890.	
		Quantity.	Value.	Quantity.	Value.
Sheep's wool, British	Lb.	2,081,900	1,251,900		
Sheep's wool, foreign	"	2,901,780	5,578,160		
Cotton piece goods	Yards	2,528,100	6,071,700		
Jute yarn	Lb.	1,978,000	714,900		
Jute piece goods	Yards	10,364,300	15,810,000		
Linen yarn	Lb.	48,600	107,000		
Linen piece goods	Yards	6,880,100	7,101,800		
Silk, thrown and yarn	Lb.	17,573	46,892		
Silk broadstuffs	Yards	14,096	31,541		
Woollen and worsted yarn	Lb.	31,100	114,900		
Woollen tissues	Yards	319,700	381,000		
Worsted tissues	"	4,147,400	7,558,100		
Wool carpets	"	131,900	107,500		
Machinery	Value	£57,617	£61,519		
Apparel	"	£28,607	£28,608		
Haberdashery	"	£24,172	£28,879		
Bleaching materials	Cwt.	68,759	99,001		

These totals doubtless do not represent the full

quantities shipped during last month to the United States, as probably all the documents have not been put in owing to the pressure of completing the shipments in time.

THE LOCK-OUT AT CALAIS.

The lock-out of lace hands at Calais still continues. The most notable incident of the week in connection therewith has been a meeting between Messrs. Houette and Butler and their men. The former absolutely deny the various allegations made against them, and the men were compelled to admit that they have substantiated their denials. When, however, Messrs. Houette and Butler requested the men to sign a statement admitting that the allegations made against the firm were without foundation, they declared that they could not sign anything without first consulting M.M. Delcluze and Salembier! As the consent of the latter could not be obtained, Messrs. Houette and Butler have circulated a handbill in the town, one of which lies before us. The following is a translation:—

"All the calumnies circulated against us are untruths, as is proved by the result of the enquiry made to-day. As regards the imputations made against us, it has been proved that:

"Not a single pay-check has been torn up without reason.

"Not a single pay-check that has been presented has remained unpaid.

"No workman has remained a fortnight without being occupied or paid.

"No workman has ever made samples without being paid.

"(Signed), HOUETTE AND BUTLER."

Meanwhile an election corresponding to our County Council elections has taken place at Calais, and, as the result, the men's champion, M. Delcluze, is returned. Knowing how complex are the motives of humanity, it is not too uncharitable to suppose that this dispute has been fomented with an eye to the election, and now that it is over a subsidence may be looked for. But the Nottingham trades-unionists are shewing their hands a little too plainly. On Wednesday night in Nottingham an official of the Amalgamated Society of Operative Lace-makers stated that "their Executive Council felt in duty bound to render all assistance possible in order to contend against the competition from France." What will even the assisted French workmen think of this?

ENGLISH, FRENCH, AND GERMAN TEXTILE TRADES COMPARED.

It is difficult sometimes to get hold of recent trade statistics of our Continental competitors, but our Consul at Frankfort presents some in a report just issued, which enables a rough comparison to be made of the exports of the three nations during the first half of the present year, and the three preceding years. For Germany the figures are as follows:—

	1890.	1889.	1888.	1887.
	Double Cwt.	Double Cwt.	Double Cwt.	Double Cwt.
Cotton goods.....	142,664	127,832	149,126	150,569
Apparel and linen	32,677	29,336	32,605	30,817
Cordage	21,626	19,991	22,095	21,619
Linen goods	14,745	15,485	17,747	14,948
Silks, half silks, and trimmings	31,102	29,861	31,314	30,496
Woolens of every description	122,111	110,225	126,488	117,299

Upon these figures our Consul bases the following remarks:—

Judging from the results of the first half-year of 1890 the textile industry, which furnishes one of the principal exports of Germany, seems to be reviving. But its success must not be over-estimated; it is for the present by no means considerable. From the above figures it may, perhaps, be inferred that the German textile export is in a fair way to recover from its decline. It is hoped and desired in Germany that the Government will remove all obstacles that check the development of this industry, foremost among which are the exorbitant duties on the necessaries of life, which, by enhancing prices, burden the consumption of the labouring classes, and also the duties on mixed fabrics, in the

manufacture of which Germany, in spite of her exertions, is backward.

Coming to France, the following figures are given:—

	1890.	1889.	1888.	1887.
	1,000 Fr.	1,000 Fr.	1,000 Fr.	1,000 Fr.
Silk and half-silk tissues	137,489	139,406	112,019	108,164
Woolen goods	181,451	176,114	166,848	169,791
Cotton goods	52,087	52,762	51,585	57,447
Woolen yarns	19,867	20,458	15,890	16,873
Small wares	51,908	46,508	43,655	43,116
Apparel and linen	30,805	22,716	27,727	23,434

These returns are fairly favourable, and from them it may be inferred that the textile industries of France are in a sound economic condition. The figures for Great Britain are as follows:—

	1890.	1889.	1888.	1887.
	£	£	£	£
Cotton yarn	6,142,611	5,814,373	5,778,265	5,475,184
" goods	29,881,246	29,268,236	29,768,746	29,021,019
Linen yarn	437,093	442,338	421,797	469,461
" goods	2,935,669	2,829,285	2,662,008	2,569,894
Silks	1,105,469	1,227,987	1,225,259	1,020,231
Woolen yarn	1,571,635	2,022,940	1,846,513	1,505,051
" cloths	9,260,453	10,123,645	9,571,746	9,242,815
All kinds of textiles	54,601,998	54,130,246	53,122,229	51,515,296

On the whole these are very satisfactory figures, though part of their value is attributable to an increase of price. Cotton yarns were chiefly exported to India, China, and Turkey. Woolen yarns, woolen cloths, and linen yarns have receded. The decline in silks, which was perceptible in 1889, continues. The export in linen goods shews a further increase. On comparing the export trade of the three great rivals, it is clear that Germany is much worse off than either France or England. On the one hand there are the increased imports of provisions liable to duty; on the other hand the successful intrusion of foreign industries on the home market, and the loss of foreign markets for German manufactures. Taken as a whole, there is no reason to complain of the position we still hold in the commercial world.

PROPOSED AMENDMENT OF THE GERMAN PATENT LAW.

Many of our readers are very familiar with the difficulties and delays of obtaining protection for their inventions under the Patent Laws of Germany. They will therefore hear with interest that some changes are intended. Whether, however, these will be improvements when regarded from their standpoint or not it is at present premature to say. Dr. L. Nolte, secretary of the Remschied Chamber of Commerce, in an interesting communication to the London Chamber of Commerce *Journal* on a proposal for the amendment of the German Patent Law, says that:—

Some time ago the Chancellor of the German Empire presented to the allied German Governments a Bill providing for an amendment of the German Patent Law, and it will soon be taken up in the Reichstag. The purpose of the Bill, as is expressly stated, is to reform the process of examination, to afford a better guarantee for the continuance and renewal of patents already granted, and to reorganise the whole Patent Office. It is universally admitted the original arrangements and institutions with which the Patent Office began its work now no longer suffice. They are insufficient in the first place because the business of the office has increased more than was expected, and then, too, unfortunately a widespread distrust of its decisions had taken root, which although often not justified must still be taken into account by the law-giving powers. In order to increase the efficiency, as well as the authority of the office, the Bill totally abolishes the union of two instances (for petition and for complaint), organising both upon independent bases. By means of these changes it is designed to secure the more expeditious rendering of decisions, as well as to increase their thoroughness and impartiality. It will lie within the functions of the Patent Office to decide whether the invention for which a patent is sought corresponds entirely or in part with an invention for which a patent has already been sought or obtained, in case of an entire correspondence to refuse a patent, in case of a partial correspondence to grant the patent, but with a clear and definite declaration of its dependence upon or relation to the older patent, whose

rights, moreover, must always remain ensured, be it by means of a so-called Declaration of Dependence of the newer patent or in some other way. Another important feature is that which will render it necessary that the annual duties on the patent must be paid within six weeks after becoming due. In case of non-payment within this period a fine of 10 marks is imposed. In all instances, however, all dues and fines must be paid within twelve weeks after the date set for the original payment. Patents will only be granted to foreigners when their governments reciprocate, and the names of such countries as discriminate against the Germans are to be published by the Chancellor of the German Empire, in the *Reichsgesetzblatt*. Other provisions of more or less importance are to be made, which it is hoped will have beneficial results. The wisdom of previous legislation, in spite of its defects, is shewn by the fact that while in the year 1876 the number of applications for patents in Germany was 5,949, it had increased in 1889 to 11,645. But the best proof of its efficiency is to be found in the flourishing state of German industry, and in the position which Germany holds among the exporting nations of the world.

English inventors will expect more favourable treatment, and hope for more than they expect, and will certainly be pleased if they find the German Patent Office, as the result of the proposed changes, adopting a more honourable policy towards foreign inventors than has hitherto prevailed.

Articles.

INDIAN COTTON AND ITS FALSE PACKING.

The perversity of human nature seems ineradicable. We are partly led to this conclusion by the history of cotton-growing in India during the past thirty years. Previous to that time Indian cotton was only in small request in this county, and prices ruled low. When, however, the Cotton Famine fell upon Lancashire and a great demand arose in consequence for Indian cotton, the idea seemed to present itself to the gentle Hindoo that anything he could pack into a bale—dust, sand, stones, logs of wood, or anything else—would do to appease the hunger of the spinner for cotton, and that he would readily pay for these things as much as for the downy fibre. It took a great number of protests, much wrangling for allowances, and even the enactment of a penal law, to convince the growers and packers of cotton that the views they entertained on the subject were mistaken ones. But this was accomplished at last, and Indian cotton took its proper place in the market, which it has maintained with credit and advantage to both grower and user until quite recently.

The lesson of twenty to thirty years ago, however, appears now to be quite forgotten, and the members of the present generation have wandered into devious paths again. The form their wrong-doing has now assumed is that of falsely packing their cottons, putting a proper quality in the position from which they know the sample will be taken, and making up the rest of the bales with inferior sorts. Of course a cotton spinner once buying such a lot will not soon repeat the experiment, and thus the cheating vendor will find himself the loser in the end, and that very soon. But the mischief does not end with the buyer severely avoiding the wrong-doer; he also avoids the honest brand, because he fears that it likewise may not prove right, and thus the man who wishes to do and who does right suffers undeservedly. What astonishes us is the stand sometimes taken up by the Liverpool broker, which is practically a defence of these dishonest practices. Surely it is to his interest and to the ultimate interests of the clients for whom

he is selling that he should facilitate the attainment of redress for such wrongs.

But the false packing of the bale is not the only method the Hindoo has adopted. He has reduced fraud to a science, for we are told that the native merchants of India have actually purchased and fitted up machinery specially designed for the mixing of cotton of all qualities. Quite recently, Mr. Albert Simpson, of Preston, saw a gentleman from Bombay who was very largely engaged in the trade, and he stated that he could buy this mixed cotton now in Bombay, the native seller guaranteeing him or any other merchant from loss, and he could ship that cotton and put any name on it that he liked. He could ship it, for instance, as Dhollerah, or Broach, or any other sort. The cotton is so mixed that it is very difficult even for the most experienced to make out which is which, and with the seller guaranteeing the shipping merchant against risk of loss, supposing the cotton is thrown on his hands, there is secured a widespread, ingenious, and most skilfully organised system of fraud. It is a startling fact, but strictly true, that it is very difficult for a buyer now to go into the Liverpool market and buy pure East Indian cotton of any description whatever.

What will be the consequence of this? Simply that Indian cottons will be discredited and avoided, and that at a time when it is of supreme importance that our Indian friends should do everything in their power to increase the confidence of the English cotton trade in their honesty and integrity. A golden opportunity is opening up for them if they know how to avail themselves of it. The McKirley tariff will inevitably diminish our trade with the United States, and consequently our purchases of their cotton, which may and ought to be substituted by the product of India. But this will never be the case so long as such practices are indulged in. Only the other day we were informed by a large and well-known spinner that he had got a parcel of 200 bales of this falsely-packed cotton, for which he could obtain no redress, and which he could not return. He was compelled to use it, and was slowly mixing it off. To use it in this manner would take him three times as long as it ought to do, during which time, had the cotton been right, he would have used 600 bales. Thus 400 bales of Indian cotton are left in the market out of that transaction alone. But this is not all: the same gentleman dare not buy any more, and, therefore, will probably turn his demands upon the lower grades of American for all herequires. Thus an important consumer of Indian cotton is driven away and a customer lost. We present this example as an illustration of the mischief resulting from the perverse and evil doings of men who do know better and ought to act accordingly.

We are glad to see that during the present week another conference has been held between the representatives of the United Cotton Spinners' Association and the dealers in Liverpool, and it recommends the imposition of penalties for false packing. It is to be hoped that the Brokers and Merchants' Association will adopt this and that it will have the effect of stamping out the evil before irremediable mischief has occurred.

In Syria, besides English tissues such as T-cloth, Madapollams and *Indiennes*, which are indispensable to the natives, other European textiles find considerable sale, including Saxony cloth and Austrian fex. According to the Austro-Hungarian Consul at Damascus, the demand for white and coloured English yarn is diminishing, owing to the old-fashioned native mode of dress being supplanted by the tissues of Homs and Lebanon, which are considerably cheaper.

Bleaching, Dyeing, Printing, etc.

NEW COLOURING MATTERS.

During the last two months there has been quite an influx of new colouring matters both from English and Continental colour makers. Some of these we propose to describe now, while others more recently to hand will be dealt with very shortly, when we have had time to test their claims and capabilities. We have to thank the makers for supplying us with samples of these new products.

TITAN YELLOW.

This dye-stuff is sent out by the well-known Huddersfield firm of Read Holliday and Sons. It dyes unmordanted cotton and other fibres. On cotton it is dyed in a bath containing 20 per cent. of salt by boiling for one hour; and on wool in a salt bath slightly acidulated with acetic acid. It is a strong colouring matter, 1 per cent. being sufficient to give fair shades of yellow, and 2 per cent. very full shades of chrome yellow. With the higher percentages the dye-bath is not completely exhausted, and it may be retained for future use. The shades obtained on the fibre possess a fair degree of resistance against exposure to light and air: indeed we have not been able to perceive any loss of colour in swatches that have been hanging in our laboratory for six weeks. Acids affect the colour, turning it reddish, while caustic alkalies change it to an orange colour. Boiling in soap causes some loss of colour and white wool plaited with titan yellow-dyed wool and thus treated is slightly stained thereby. The dye-stuff itself is sent out in the form of a brownish orange powder, readily soluble in water to an amber-coloured solution, and also soluble in alcohol and acetic acid. Hydrochloric acid added to the aqueous solution gives a reddish-coloured precipitate in a faintly-coloured solution, while caustic soda simply turns the colour of the solution to an orange.

Another new yellow dye-stuff is

TURMÉRINE.

Which is sent out by Messrs. Brooke, Simpson, and Spiller, of London. This dyes unmordanted cotton shades of yellow resembling those obtained from chrysophenine; 1 per cent. is sufficient to give a fair yellow of a slightly greenish hue, while 2 per cent. gives a chrome yellow shade. It is dyed in a bath containing the colouring matter, 3 per cent. of refined alkali (or 10 per cent. soda crystals) and 20 per cent. of salt. The bath is heated to from 150° to 180° F., and kept at this for one hour during the operation. The dye-bath is not completely exhausted, and only requires refreshing to be used again. The colour resists exposure to light and air very well, although it is not perfectly fast. It is sensitive to dilute acids, which turn it an orange red, while strong nitric acid first turns it reddish, then discharges the colour. Caustic soda turns the colour scarlet. Boiled in soap it does not bleed. The dye-stuff itself forms an ochreous-coloured powder. Turmerine will be found a very useful yellow. It is cheap, and will mix readily with other products of a similar nature to form a variety of useful shades.

From Messrs. L. Cassella and Co. we have received two new brands of their Diamine colours, viz., Diamine Violet N and Diamine Fast Red F.

DIAMINE VIOLET N

Rather belies its name, because it does not give violets, but shades which are perhaps better denominated by the term 'puce.' It dyes on unmordanted cotton in a bath containing 10 per cent. of Glauber's salt and 2½ per cent. of soda or soap; the dye-bath is much more exhausted than is the case with most of this class of colouring matters. On wool it can be dyed in a bath containing Glauber's salt and a little acetic acid, the shades obtained on wool being redder than those on cotton—nearly what is called a 'wine red.' The dye-bath too is exhausted. Silk can also be dyed with Diamine violet N by the same process as wool. The colour is sensitive to dilute acids, which turn it blue. Strong nitric acid turns it buff. Caustic alkalies have

no effect on the colour of the dyed fibre. Boiling with soap causes some loss of colour and there is a tendency to bleed upon any white woven with it. The dye-stuff itself is sent out in the form of a dark brown powder of a purplish tone, soluble in water to a reddish-purple solution. Acids throw down the free colour acid as a blue precipitate; caustic alkalies turn the colour of the solution a shade darker.

DIAMINE FAST RED F.

This is dyed on cotton wool and silk in precisely the same way as the last. The shades obtained are rather poor, of good depth, but wanting in brilliancy; and as a simple colour it will probably not be much used, but for producing compound shades with other diamine colours will be found very useful. The colour is sensitive to dilute acids, being turned blue thereby, and in this respect resembling benzopurpurine. It is, however, rather faster to light than that dye-stuff, and it is fast to alkalies. Boiled with soap there is very little loss of colour. Diamine fast Red F is sent out in the form of a dark brick-red powder, soluble in water to a red turbid solution. Both acids and alkalies precipitate the colouring matter, the acids in the form of a dark bluish-red precipitate, the latter as a red precipitate.

The same colour makers send out another new dyestuff,

THIOCARMINE R,

Which is only suitable for wool and silk, on which it is dyed in the usual way with Glauber's salt and sulphuric acid. This product is sent out in the form of a liquid, having a deep blue colour with a slight bronzy tint. It mixes readily with water, and acids have no action on the colour of this aqueous solution, while alkalies simply brighten the shade. It is about the best substitute for indigo extract that has yet been sent out, dyeing shades of blue very closely resembling those obtained from the dye-stuff just noticed. Compared with indigo extract, it is about equally as fast when dyed on wool, but on silk it is faster. It is also faster to acids and alkalies. Dilute acids do not alter the colour of the dyed fibre, while strong hydrochloric acid turns it a shade darker, and nitric acid greener. There is not much loss of colour when boiled with soap, and little tendency to bleed upon other colours in the soap bath.

The Farbwerke vormals. Meister, Lucius, and Brüning have placed on the market three new products yielding most magnificent shades, especially on silk. These are:—Violamine Band 2 R, and Acid Violet N:

VIOLAMINE B.

This dye-stuff dyes magnificent shades of violet with a reddish tone in a slightly acid bath; on silk it is very fine and brilliant. The dye-baths are completely exhausted. On wool the colour gives the following reactions:—Strong hydrochloric acid turns it bluer; dilute acids have no action; strong nitric acid turns it red; caustic soda turns it red; and it is not fast to boiling soap, which causes it to lose a little colour. The dye-stuff itself is sent out in the form of purple powder, readily soluble in water to a dark crimson solution, and it is also soluble in alcohol and acetic acid. Acids added to the aqueous solution turn it more violet, and caustic soda more crimson.

VIOLAMINE 2 R.

This dyes very fine shades of a light crimson, those on silk being brilliant. Dilute acids have no action on the colour, while strong acids turn it yellower, as does also caustic soda; boiling in soap discharges the colour almost completely. The dye-stuff itself is sent out in the form of a dull purple red powder, which dissolves in water to a scarlet solution, and in alcohol to a bluish pink solution having an orange fluorescence; while a similar solution is obtained with acetic acid.

ACID VIOLET N.

This product dyed on wool in an acid bath gives fine violet shades. The colour is not affected by dilute acids, while strong acids redden it, and caustic soda gradually decolorises it. On boiling in soap and water there is some loss of colour, and a tendency to bleed upon white. The product is sent out in the form of a dark reddish-violet powder, which is soluble

in water, alcohol, and acetic acid, to violet solutions. Acids turn the colour of the aqueous solution to an olive yellow; while alkalies gradually decolourise it.

PRINTING BLUE ON CONGO RED.

Prepare the following standards:—

WHITE A.
20 litres acetate of tin, 32° Tw.,
3 kilos. starch,
¼ litre acetic acid, 10° Tw.

BLUE E.
Two kilos. starch boiled with 10 litres water.
Add, hot,

3 kilos. yellow prussiate of potash,
1 kilo. red prussiate of potash.

Allow to cool; and add

4 kilos. tartaric acid,
200 grms. oxalic acid,
5 kilos. ferrocyanide of tin paste,
7½ litres of acetic acid, 11° Tw.

Take

10 litres of A,
20 litres of E.

Dye the cloth with congo red, dry, print on the above mixture, steam and dry. Finish with

50 kilos. dextrin water at 6° Tw.,
200 grms. soda,
200 grms. Turkey red oil.

Pass twice over the drying cylinders to brighten the blues.

The ferrocyanide of tin is made by mixing 4 kilos. of yellow prussiate of potash with 5 kilos. tin crystals, both dissolved in water, and draining the precipitate, using it wet.

Another method is to print on *Blue E*, allow to stand till the next day, then steam for one hour: allow to lie for another day, then treat with solution of 10 grms. of potassium bichromate and 10 grms. of soda crystals dissolved in one litre of water. Finish as above.

Another method of printing a dark blue on congo or benzo-purpurine reds is the following: Print on the dyed pieces the following:—

BLUE.
4 kilos. indophenol,
10 litres tin oxide paste,
1½ litres dextrin paste (2½ kilos. in 1 litre of water),
¼ litre of water,
3 kilos. soda crystals,
5 litres glycerine.

Heat till the solution is complete, and the indophenol has been completely reduced. Print, steam for one hour, age the pieces for 24 hours, and wash. The pieces may be chromed as in the last method. The oxide of tin paste is made by mixing 15 kilos. of tin crystals in 15 litres of water, and adding 15 litres of ammonia, and draining on the filter, and using wet. The colour may be reduced, if required, by thickening.

THE EFFECT OF OILING WOOL ON THE DYEING PROCESS.

Horwitz, in the *Farber Zeitung*, discusses this important point as follows:—Although the oiling of wool before carding is a necessary preliminary operation to spinning, it is nevertheless of great importance to the dyer, in so far as a proper selection of the material serving for oiling is essential to the production of an even shade. It is usually supposed that an admixture of resinous, mineral, and drying oils with the oiling materials causes some disturbances in the dyeing operations, and this has been proved to be correct, although the action of the substances mentioned has not yet been scientifically established. In practice their presence renders the production, especially of light shades, much more difficult, and is generally considered with some reason as one of the causes of the unevenness sometimes experienced on dyeing. Resin oils and mineral oils being unsaponifiable ingredients of the oil, are certainly injurious, because they cannot be removed from the woollen fibre by the usual process of treatment, and in the after dyeing process they are obstructive to an even impregnation of the colouring matter into the wool fibre. But this effect being probably produced by all other

unsaponifiable fats, the condition made hitherto that the oils should contain no resin or mineral oils may be extended so far that they are to be free from any unsaponifiable fatty ingredients.

An unsaponifiable fat that the author has frequently found in wool oils is cholesterol, a sticky matter like pitch, and which easily crystallises. Its chemical formula is $C_{26}H_{44}O + H_2O$. The author has found from many trials that cholesterol is more obstructive to an even fixation of colouring matter on the wool than any other ingredient, and he therefore recommends that all oils used for oiling wool should be tested for cholesterol.

Olive oil is the principal oil used in this connection. The best quality is obtained by pressing the olives in the cold, or a second quality by boiling the olives, and hot pressing them. The latter quality is generally used for oiling wool. It consists chiefly of triolein (about 72 per cent.), palmitin, arachin, arabinic acid, and very little stearin. Schaedler states that it invariably contains cholesterol.* With the usual methods of preparing the oil, the cholesterol passing into the oil will be very small in quantity, and the presence of such small traces will scarcely have any influence on the result. But if the amount of cholesterol should be about 4 per cent., as the author has frequently found to be the case, the oil is of the poorest quality, and has been obtained by unusual ways of preparation. In one instance the author having extracted cholesterol from dyed pieces, which were spotted, examined the olive oil that had been used for oiling the wool, and extracted 3 per cent. of cholesterol therefrom. The olive oils of commerce are, he avers, never pure oils. Adulterations with less expensive oils are very common. An addition of non-drying vegetable oils can only interest the spinner, while in dyeing it can scarcely have any bad result. An admixture of drying resin, or mineral oils, will, on the contrary, create some injurious effects in dyeing. In using adulterated oils it is difficult to say to what extent the oil may exercise an injurious influence on the dyeing operation.

One more point to be observed in connection with wool oils is, that they should not contain any free acid, which attacks the cards, destroying them.

A NEW YELLOW colouring matter is described by Cazenève in a recent issue of the *Comptes Rendus*, which is of interest because of its being derived from a hydrocarbon belonging to the terebene series—the hydride of prophylbenzene—which is found as the base of camphor. The latter body is converted into a sulphonated phenol and this is treated with nitric acid, when on crystallisation yellow needles are obtained of a tetranitrated derivative, having the formula $C_9H_5(NO_2)_4(SO_2)(OH)(ONO_2)O$. This body is slightly soluble in water, but more so in alcohol. It melts at 87° C. and solidifies at 80° C. Thrown on a red-hot surface it explodes. It has acid properties and combines with bases forming salts, all of which have an orange yellow colour and are soluble in water. The baryta salt crystallises with two molecules of water, which are driven off by a temperature of 100° C., and turns red on exposure to air. This anhydrous red compound again absorbs water from the air, becoming orange yellow. Both the nitro-body and its salts dye wool and yellow fine yellow or orange yellow shades without a mordant. This is interesting as being a product obtained from a hydrocarbon not hitherto obtainable from coal-tar. Whether it will be so obtained is uncertain at present.

A METHOD for the valuation of indigo is proposed by Ch. Tennant Lee. It is not exactly new, having been tried before. The details are as follows:—A sample of 0.25 gm. of the indigo is finely powdered, dried at 100° C., and spread evenly on a platinum dish about 7 cm. in length, 2 cm. in breadth, and 3—4 mm. in depth, the sides being turned up sharply from the bottom. The dish with its contents are heated on a sheet of iron until crystals of indigotine begin to appear on the surface of the indigo.

* We are disposed to be sceptical on this point, and especially as regards another statement—that of olive oil containing 3 per cent.—Ed. T. M.

The dish is now covered with a piece of sheet iron bent to the form of a vault, so that the highest point is about 1 cm. above the dish. At the same time the heat is gently increased. The temperature rises somewhat rapidly, but care must be taken that only the indigotine be allowed to sublime; no yellow vapours must be allowed to appear, as they would indicate further decomposition. As soon as, on lifting the cover, no further crystals of indigotine are seen on the platinum dish or in the substance it contains, the latter is allowed to cool in a desiccator, and is then weighed. The loss corresponds to the quantity of indigotine in the indigo. The results are said to be exact to 0.25 per cent. Ordinary 50 per cent. indigo requires about 30—40 minutes for one determination, and soft Java indigo about two hours, and requires special attention during the heating.

Designing.

NEW DESIGNS.

SUGGESTIONS FROM THE MICROSCOPE FOR THE DECORATION OF TEXTILES.

Textile decorations consist either in the repetition of geometrical figures, or in the imitation of objects in organic nature. The treatment of the latter forms the subject of this paper. Everything which occurs in organic nature may be reasonably examined to see whether or not it can be used for the purpose of decoration. Success in a given case depends on a large number of factors, but the correctness of the principle will not be called in question. The European decorative art of our century cannot escape the reproach of slackness in its exploration of the fields of Nature. A successful movement in new ways, such as was made in the work of Anton Seder, entitled "The Plant in Art and Commerce," must be noted as an exception, which deserves the highest praise. As a rule, however, people were contented with reviving the patterns of the Renaissance and the French styles of the 17th and 18th centuries. Of the many thousands of species of plants that are known to exist, about 600 are made use of in the decorative arts, mostly those which were employed by the masters of the Italian and German Renaissance and the great French designers. This negligence in the discovery and application of fresh motives is one of the reasons why Japanese art has obtained, and deservedly, so much influence during the last twenty years. Here was found a bold yet disciplined pursuit of new motives, combined with an uncommonly acute observation of Nature, which even managed to gain fresh turns for the old motives.

A large sphere which has not yet been utilised by textile art is furnished in the world revealed by the microscope. Splendid volumes with costly illustrations have been published on micro-organisms, but the textile artist ought to take his materials, not from them, but directly from Nature. Professor Schricker, of Strassburg, who makes this suggestion, has studied the subject for some years, and has just published in the *Centralblatt* a series of eight designs in illustration of his views. These designs are taken from the groups of *Protozoa*, sponges, and *Actinia*. One design is supplied by the *Peridinium*, one of the *Protozoa*. Another is composed by the insertion, alternately with a mussel-form, of *Difugia corcna*, also one of the *Protozoa*, between the meshes of *Aphrocallistes braccagaci*, which belongs to the class of marine sponges. Two designs have been produced with the help of the skeleton of the *Sycandra elegans*, another marine sponge. The *Pterogorgia*, one of the *Actinia*, has suggested a curious and graceful design. By making a cross section in an example of the *Acyonium palmatum*, a cork polypus, Professor Schricker has obtained a comparatively large pattern, which furnishes a striking contrast to the preceding one. The two remaining designs, which are exceedingly strange-looking, have been suggested by *Geodia gigas*, a marine sponge, and *Tubularia larynx*, one of the *Actinia*, which reminds us of a plant.

The professor adds that a conversation with a manufacturer of materials for cravats and waistcoats had led him to select his patterns in the

first instance with reference to that department of textile industry. He is disposed now, however, to regard them as not sufficiently loose for that purpose. They are more suitable for cotton and woollen prints, in which at present the coloured flower-pattern of the style of Louis XVI. is in fashion. He considers them especially appropriate for the manufacture of damask fabrics.

COTTON, WORSTED, OR SILK DRESS STRIPE.

Design 188 is an effective example of producing a stripe simply by figuring one portion and leaving plain another portion of the fabric. As given here it is suitable for using as a cotton warp and lustre weft piece.

Warp. 260 to 280's cotton. 25's to 36's lustre mohair.

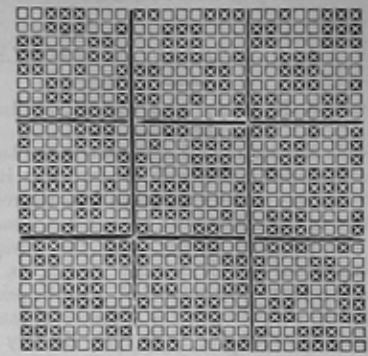
60-80 threads per inch. 60-80 picks per inch.

The long flushes in the figure in this case should not be allowed to flush more than 10 or 12 threads at most; as a rule for solid figures the 8-end sateen will prove very useful, but the flush to allow in any case must depend on two

points: 1st, the sett used; and 2nd, the character of the design. Since setts used vary, often 50 per cent. in the ends per inch, little need be said on this point, but perhaps the effect of the character of the design is not so fully realised. For example, suppose a design to be developed in flushes of say 4-6, then a flush of from 8-10—save when introduced for some characteristic feature in the design—presents at once a fault to the eye, whereas the same cloth if figured with flushes of from 8-10 entirely, might appear quite perfect. This is a point frequently overlooked by young designers; the importance of it in developing in the best possible manner designs of various types, all experienced designers fully realise.

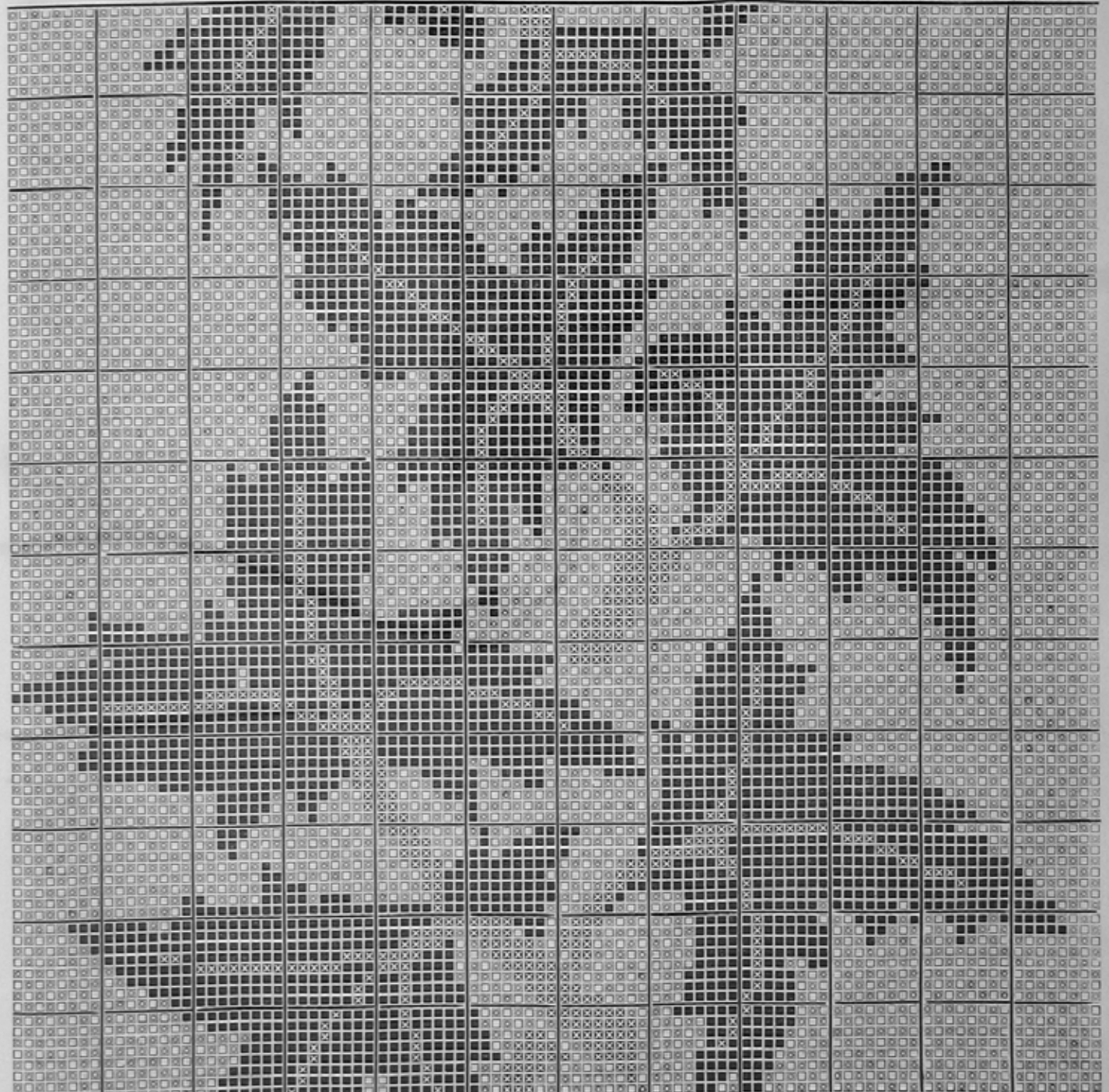
As an all-silk or all-cotton fabric this figure would be very effective, particularly if developed say three times the size, and characteristic weaves introduced. *Design 189* is a very effective weave for developing a silk figure on plain ground, and would prove very effective if used in this case, the stems of the plant being developed in warp flush.

This figure would also make an effective striped dress fabric; all worsted for the ground and extra silk warps introduced for the figure, will give very effective results.



DESIGN 188.

Repeats on 30 ths. and 30 picks.



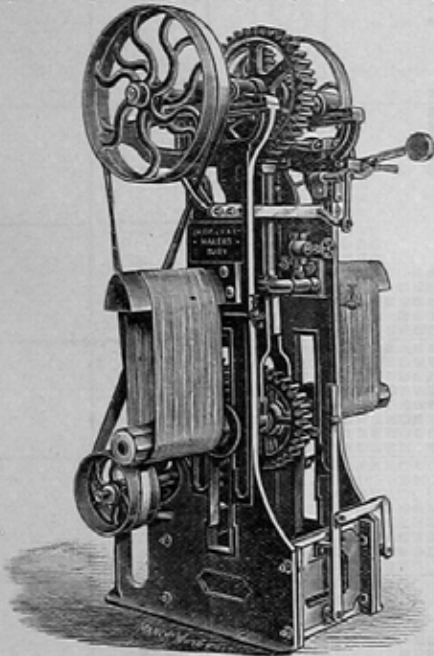
DESIGN 189.

Machinery and Appliances.

NEW HANK STRETCHING MACHINE.

MESSRS. J. H. RILEY AND CO., ELTON IRON WORKS, BURY.

People having to deal with yarn in the hank are soon made familiar with the fact that it is apt to run into snarls when taken from the reels, and that in the subsequent processes of bleaching, printing, and dyeing, and the various tossings about that it usually undergoes, it becomes considerably entangled. In the printing and dyeing processes the presence of snarls is highly objectionable from their liability to interfere with the attainment of satisfactory results. Especially is this the case when the yarn has been somewhat hardly twisted, and reeled in a very dry state. Under these circumstances the snarls may be numerous, and the defects resulting from them equally so, and therefore it may be very desirable to get them taken out if possible, previously to subjecting the yarn to any



NEW HANK STRETCHING MACHINE.—MESSRS. J. H. RILEY AND CO., ELTON WORKS, BURY.

treatment. The tossing that the yarn receives in the processes to which we have referred also does much to entangle it, and induce a condition in which the re-winding becomes tedious and troublesome, owing to the numerous breakages that take place. The cost of re-winding is enhanced, the production is lessened, and the quality deteriorated. The desirability of diminishing these obstacles as far as possible, or, better still, of removing them altogether, will be obvious. The method hitherto adopted has been that of shaking by hand—that is, inserting the hands in the hank, and then sharply extending them. This, however, was unsatisfactory in the result, the straightening being only imperfect, whilst there was the serious drawback of numerous breakages of the threads. Various machines have been introduced to effect the same purpose, but they have been wrong in principle, owing to their imitating too closely the defective system of shaking by the hand; it is only advantageous to imitate the manual methods when these are perfect.

When snarls exist in the hank it is obvious that the threads, which are linked or doubled into snarls, being shorter than the others, must bear the strain of the action, and thus be broken. Neither of these methods, therefore, were satisfactory.

In view of these facts Messrs. J. H. Riley and Co. have endeavoured to construct a machine that shall obviate the defects of both the systems just enumerated. The result is the machine illustrated herewith. The stand or frame is strongly built. Mounted in the lower part near the bottom is the first motion shaft, on the end of which and away from the observer looking upon the machine, are the driving pulleys. On the opposite extremity is another pair of pulleys, from which power is transmitted to the second shaft on the top of the frame by means of the crossed strap. This second shaft carries a pinion gearing into a spur wheel upon the third shaft, likewise upon the top of the frame. On the latter is also a pinion gearing into a vertical rack, from the bottom of which are two projections descending so far and in such a manner as to clip the spur wheel upon the stretching shaft. This shaft carries two octagon rollers, one upon each end. In the centre of the frame beneath this shaft and connected with it by means of metal straps, gibbs, and cotters, is a large square weight depending by these means from the shaft. On the stretching shaft, as shewn, is a strong spur wheel, connected through a train of gearing with the first driving shaft. Above the octagon rollers are arranged two hollow saddles attached to the sides of the machine. These are two steam chambers and are fitted with inlet and discharge pipes, the latter for carrying off the water formed by the condensation of the steam. Their external surfaces are polished, as also are those of the octagon rollers below them.

The course of action of the machine when at work is as follows:—The hanks are placed upon the saddles and passed under the octagon rollers. The machine is then set to work, when the shaft carrying the octagon rollers slowly but steadily descends, gradually stretching the hanks by the gravitation force of the dependent weight, which exerts a constant strain, acting without any shock or jerking, thus obviating the breakages resulting in the older methods. When the hanks have been sufficiently extended the stretching is automatically stopped by means of a break, which is worked from a catch upon the rack. The adjustment can be made with great nicety. Though the stretching ceases, the revolution of the stretching shaft continues, carrying the hanks round the shoulders as before, whereby they are quickly and beautifully "readied"—that is, made ready for winding—or for any other process, with great facility. Whilst in this position they may also receive any slight dressing it may be desirable to impart to the yarn.

Spinners, manufacturers, bleachers, dyers, yarn printers, and merchants, and indeed all persons having to handle hank yarns with a view to prepare them for any operation such as has been indicated, will, we think, find this a very useful invention, as it facilitates all re-winding, diminishes breakages and knottings, and consequently improves the quality and increases the production. Application for any further information if desired may be made to the maker, at the above address.

A LAW has just been promulgated in Norway to the effect that no girl shall be eligible for the marriage state until she is proficient in spinning, knitting, and baking.

PLOUGH-GROUND CARD CLOTHING.

MESSRS. JOHN WHITELEY AND SONS, HALIFAX.

Considering the important position which carding occupies in the processes of cotton-spinning, it is worth while to examine the latest feature of Messrs. Whiteley's production rather more closely than we were able to do when recently describing their establishment. Everyone acquainted with the subject knows how desirable it is to reduce to a minimum the necessary grinding of cards in a cotton mill; and how much cleaner and healthier a card-room would be if grinding could be done away with altogether, to say nothing of the increased durability of the card clothing. In spite of tales which are told to the contrary, we are sceptical enough to believe that no card clothing has yet been made that will enable the spinner to dispense with grinding altogether, and at the same time produce thoroughly satisfactory results. In making this statement, however, we do not affirm that this expectation will never be attained. It is to be hoped and may be expected that this desirable end will be achieved in course of time. Our present purpose, however, is not to speculate upon what the future may bring forth, but rather to examine what has already been accomplished.

A card clothing in which great advances have been made towards this desideratum is the plough-ground card-clothing of Messrs. Whiteley. The system of grinding the sides of the teeth in order to produce the taper point is a very near approach to perfect accuracy. The methods commonly in use have this objectionable feature—that the emery wheels or discs are set into the teeth of the card fillet and then given a traverse motion, so that in order to pass over the tops of the teeth they must force them either downwards or sideways. Generally they do both, with the result that the holes in the foundation are enlarged, and the fillets when put to work are found to be "soft." In the plough-grinding system, however, each row of teeth is ground by itself, and the emery wheels are guided by ploughs, so that they continue to work in the same row from end to end of the fillet. In this way every row, indeed one might almost say every tooth, is ground alike. Messrs. Whiteley set the discs down about two-thirds of the way to the bend of the tooth, and though they are set in so deep, the machine is so accurate in all its parts that they do not distress the teeth at all in the process. The result is a fine taper point, as seen in Fig. 1.

For comparison we give a drawing of a tooth taken from an ordinary so-called "needle-pointed" fillet. Fig. 2. The taper in it extends rather less than half-way down to the bend, and when in course of a few years the tooth has been worn down to this point, it will have become as blunt as if it had never been ground on the sides at all. In the plough-ground card, however, the case is very different, as the grinding is so deep that it will never require more than light grinding—and that only for a very short time—throughout its life. But as the plough-grinding, in common with all other systems where emery wheels are used, has a tendency to leave a very rough surface on the sides of the teeth, Messrs. Whiteley afterwards polish the teeth in order to remove all traces of the scratchings. The difference between a tooth before and after it is polished is a surprising one: it may be seen in Figs. 3 and 4. The drawings from which these illustrations are prepared were not the production of imagination, nor taken from teeth specially prepared to illustrate what we have stated, but are as faithful re-

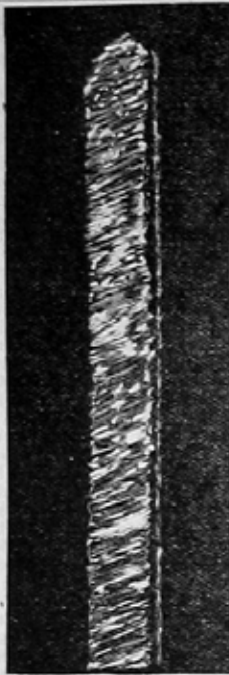


FIG 3.—UNPOLISHED TOOTH.



FIG 4.—POLISHED TOOTH.

productions as a careful engraver can make of actual photographs of teeth taken at random out of card fillets. The teeth were photographed through a microscope magnifying about 15 diameters, and are, therefore, if we may use a paradox, "truthful exaggerations." The importance of this polishing process can hardly be overstated, and it is significant that these cards have been supplied to spinners of Sea Island cotton, who are using them with great satisfaction, which is, indeed, a contrast to the experience of some Bolton spinners a few years ago.

One other feature of Messrs. Whiteley's plough-ground cards ought to be mentioned, namely, that they are made of a stronger wire than has been usual, so that, if the fillets be lightly lapped upon to the carding engine, and carefully ground, it is possible to set the parts of the engine closer and so improve the quality of the carding. The results of some tests made with the card clothing described above shew that it will work from one to six months—or even longer—without requiring to be ground, according to the quality and quantity of cotton passing through. This is at least a good step towards the ideal to which the trade is justified in looking forward.

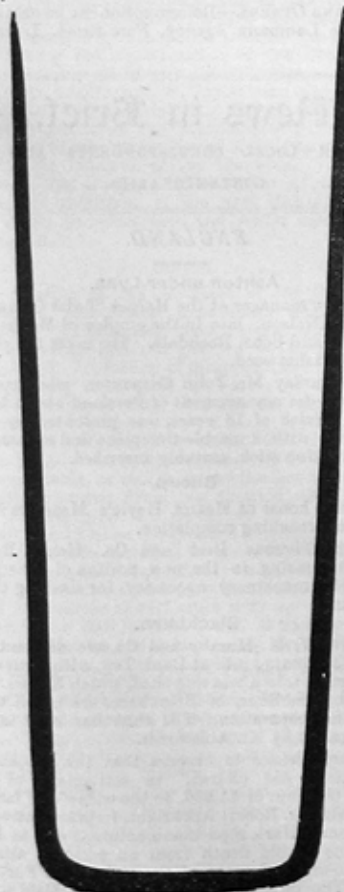


FIG 1.

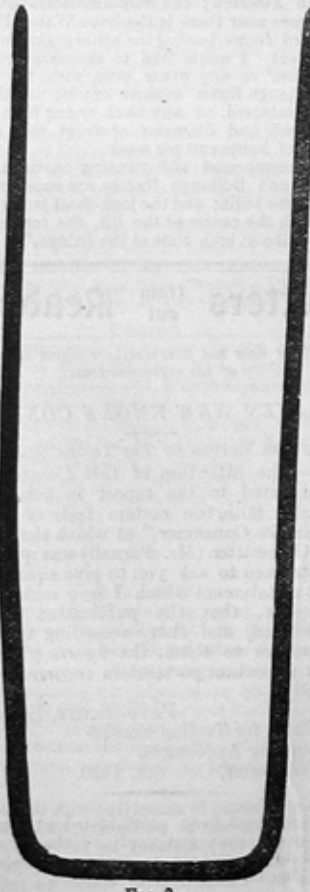
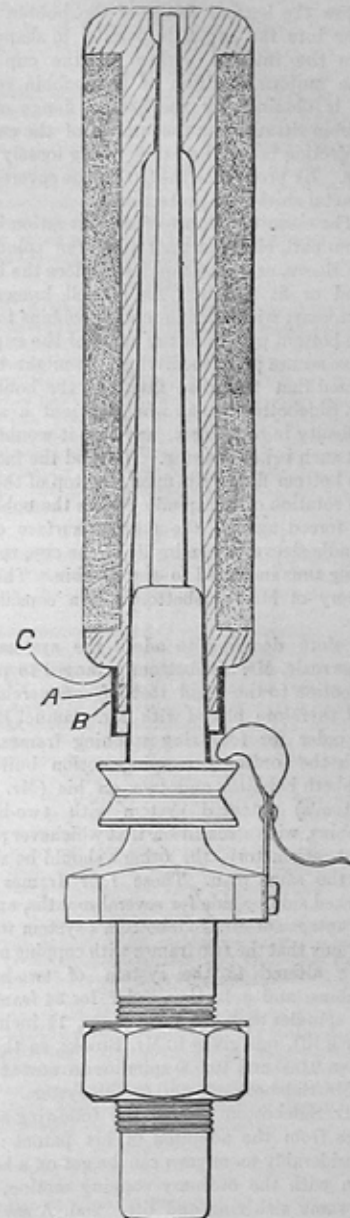


FIG 2.

IMPROVED RING FRAME BOBBINS.

(SIDEBOTTOM'S PATENT.)

It is questionable whether in any branch of textile machinery there have been chronicled so many inventions as in connection with the ring frame. Prominent machinists have over and over again introduced improvements, patented and otherwise, and the present performances of this machine greatly redound to their credit. Frequently, however, the textile trade is indebted to its own members for valu-



able inventions, often the result of careful thought and costly experiments, and the one described below, which has created considerable interest and discussion, is a case in point, having been introduced by a thoroughly practical cotton spinner, Mr. W. R. Sidebottom, of the firm of Messrs. Kershaw, Leese, and Co., India Mill, Stockport.

Mr. Sidebottom's patent is a new departure and is very simple in itself, while the results obtained thereby are highly satisfactory. The chief object aimed at by the inventor has been to obtain certain advantages by using on ring frames (principally for spinning) what is known as a "two-headed" bobbin, or a bobbin with a flange at the bottom and another at the top,

instead of the ordinary coping-motion bobbins, and to drive this effectively.

It has long been desired and many attempts have been made to use a two-headed bobbin on modern ring-spinning frames. The difficulty has been to ensure that even with accurately-made bobbins the yarn shall not overrun either the bottom or the top flange, which is the case unless the whole of the bobbins in a frame can be kept in one uniform position to suit the mechanical and unvarying traverse of the ring rail. On reference to the illustration it will be seen that the foot A, below the bottom flange of the bobbin which goes into the cup B, is parallel in shape, as is also the internal surface of the cup itself. The uniform position of the bobbin referred to is obtained by the bottom flange of each bobbin sitting upon the rim C of the cup, the projection below the flange fitting loosely in the cup. By preference the flanges are covered with a metal shield for protection.

The essential feature of the invention is that at no part, either at the top of the spindle, on the sleeve, or in the cup itself, does the bobbin bind or fit tightly. As is well known it is customary with coping-motion bobbins to taper the bottom part to fit the taper of the cup, and thus secure positive driving. It might be expected that this loose fitting of the bobbin on Mr. Sidebottom's plan would present a serious difficulty in rotating it, and that it would slip; but such is not the case. Beyond the fact that the bottom flange sits upon the top of the cup, the rotation of the spindle causes the bobbin to be forced against the outside surface of the spindle sleeve, or the inside of the cup, rotation being thus imparted to the bobbin. This discovery of Mr. Sidebottom's is a considerable one.

Before deciding to adopt the system on a large scale, Mr. Sidebottom arranged to put his invention to the rigid test of commercial use, and therefore placed with Mr. Samuel Brooks an order for four ring spinning frames, two with the ordinary coping-motion build and Rabbeth bobbins, and two on his (Mr. Sidebottom's) patented system with two-headed bobbins, with a condition that whichever proved most satisfactory, the others should be altered to the same plan. These four frames were worked side by side for several months, and the advantages of Mr. Sidebottom's system were so obvious that the two frames with coping motion were altered to the system of two-headed bobbins, and a further order for 34 frames of 252 spindles each, 2½ inch gauge, 1½ inch ring, 5 inch lift, was given to Mr. Brooks, so that between 9,000 and 10,000 spindles are now at work at Mr. Sidebottom's mill on this system.

Mr. Sidebottom claims the following advantages from the adoption of his patent:—1st. Considerably more yarn can be got on a bobbin than with the ordinary coping motion, with the same size ring and lift. 2nd. A saving of doffing in consequence of more yarn obtained per bobbin. 3rd. The lift being what is termed a "straight" one, or from bottom to top of the bobbin, the speed of the traveller is unvaried during the whole length of the lift, hence a more regular drag is obtained. With the coping motion there is a rapid and constant variation in the speed of the traveller, and therefore in the drag, owing to the tapered form of build. 4th. There is no straining of the spindles when doffing, the bobbins never sticking, but fitting quite loosely as stated above. 5th. Less time is taken to doff a frame. 6th. In consequence of the extra length of yarn on each bobbin, knots are less frequent in the winding process. 7th. When winding, the bobbins are pulled

round as is the case with ordinary coping-motion bobbins, but the speed of the bobbin gradually increasing as the quantity of yarn on the bobbins is reduced, there is no tendency to overrun, and no jerking of the bobbins, and consequently fewer breakages take place. Practically an unlimited speed can be attained when winding, as the only limit is the number of spindles to which a winder can efficiently attend. There is a saving in doffers' and winders' wages: after very careful comparison, Messrs. Kershaw, Leese, and Co. estimate that the saving is from 20 per cent. to 25 per cent. in both cases. Not only are the results entirely satisfactory to the firm, but on account of the less number of doffings, etc., the workpeople have a decided preference for these frames.

The counts spun by Messrs. Kershaw, Leese, and Co. range from 20's to 32's, the ordinary average production on 22½'s counts being from 43 to 44 hanks per spindle in 56 hours.

Any invention that tends to increase the margin of profit between the raw cotton and the finished yarn, should in these times possess considerable interest for cotton spinners, and as Messrs. Kershaw, Leese, and Co. are willing to shew the frames by arrangement to bona-fide spinners, parties interested in the matter should apply to them for permission to see the same at work.

In the course of a correspondence in the *Boston Journal of Commerce*, on English v. American carding, "K. P.," in reply to a correspondent signing himself "Variation," writes:—

"Allow me to say, friend 'Variation,' that the American speeders do not lead or even equal the English-built speeders, as built by Howard and Bullough. I am surprised that any mill man who understands roving frames, or pretends to, will make any such statement. The largest per cent. of production, least cost of running power, and least percentage of repairs, have been made on the English-built Howard and Bullough roving frames. These frames are far in advance of any speeders built in America; the only American-built frame that comes near them is the Saco Water Power, or Biddford frame, leaving the other makes far behind in the race. I would like to compare figures with 'Variation,' or any other man, with the Howard and Bullough frame against any he might choose, speed considered, on any hank-roving from 8 to 20. Give speed and diameter of front roll, also the number of hours run per week.

"The compound and winding motions of the Howard and Bullough frames are superior to any other frame built; and the jack-shaft being more on a line with the centre of the lift, the tension of the ends is alike at both ends of the bobbin."

Letters from our Readers.

The Editor does not necessarily endorse the opinions of his correspondents.

GREAVES' NEW SMOKE CONSUMER.

(TO THE EDITOR OF *The Textile Mercury*.)

SIR,—The attention of this Committee has been directed to the report in your issue of September 20th, on certain tests of "Greaves' New Smoke Consumer," at which the Engineer to the Committee (Mr. Parnell) was present. I am instructed to ask you to give equal prominence to a statement which I now make on their behalf—viz., that the publication is wholly unauthorised, and that, according to Mr. Parnell's report to them, the figures given are in certain important particulars incorrect.—Yours faithfully,

FRED. SCOTT, Secretary.

Committee for Testing Smoke-Preventing Appliances,
Manchester, Oct. 8th, 1890.

[We have pleasure in complying with the request of our correspondent in publishing, on behalf of his committee, the statement he makes. We, however, quite fail to discover on what ground he makes it. The article to which he refers con-

sisted in the first place of our own comments on Mr. Greaves' invention, based upon our own observations, which we had substantially stated before; and in the second of a report by Mr. E. G. Constantine, M.I.M.E. Consulting Engineer, of a scientific test conducted by him on the date named. As we believe Mr. Constantine was engaged by Mr. Greaves to make this test, and was not engaged by Mr. Scott's Committee, we fail to see what right they have to intervene in the matter at all, or why they should expect either Mr. Greaves or Mr. Constantine to seek the committee's authorisation to publish the result of the latter's investigation. The Committee is only incidentally mentioned in connection with the name of Mr. Parnell, its engineer, who was, we presume, present as an expert observer in performance of his duty to the Committee, or expressly by its instructions. Neither the credit of Mr. Parnell nor that of his Committee is in any way committed to the report of Mr. Constantine. If, however, Mr. Parnell has made a report to his committee materially varying from that of Mr. Constantine, that is his and the committee's affair. It, however, becomes something more when a public Committee instructs its secretary to impeach the accuracy of a scientific expert's report on the *ipse dixit* of its own servant, who himself may be incorrect. But we beg pardon: scientific men are never wrong. Science, if anything, may be roughly defined as exact knowledge, of which its devotees are in possession. But scientific truth is chameleon hued: "'tis blue, 'tis green, 'tis red," indeed 'tis anything according to the position of the observer. This satisfactorily accounts for the remarkable fact that scientific men when placed in the witness box in a law court are always ready to swear to diametrically opposite conclusions regarding the most simple matter. Of course we cannot assume that either side is ever knowingly incorrect: it is the hue of the chameleon that does it. That is a truth that Mr. Scott's Committee does not appear to have realised. We have not, however, any concern in proving either one or the other of these scientific gentlemen to be correct or incorrect in the report of their observations, as both are equally unknown to us. As, however, it is Mr. Constantine's figures that have been impeached without a correction being offered, the defence of them may be left with him.—Ed. T. M.]

ANSWERS TO CORRESPONDENTS.

H. W. AND OTHERS.—Reform cotton can be obtained of the Lahmann Agency, Fore-street, London, E.C.

News in Brief,

FROM LOCAL CORRESPONDENTS AND CONTEMPORARIES.

ENGLAND.

Ashton-under-Lyne.

The new manager at the Harper Twist Company is Mr. J. Nelson, late in the employ of Messrs. S. Radcliffe and Sons, Rochdale. He takes the place of Mr. O. Isherwood.

On Saturday Mr. John Carpenter, who has retired from the management of Portland-street Mills after a service of 18 years, was presented by the operatives with a marble timepiece and ornaments and a walking stick, suitably inscribed.

Bacup.

The size house at Messrs. Hoyle's Meadows Mill is fast approaching completion.

Messrs. Thomas Best and Co., Height Barn Mill, are placing in the new portion of their premises the machinery necessary for slashing their own warps.

Blackburn.

Messrs. W. H. Hornby and Co. are dismantling their old spinning mill at Bank Top, with a view to transform it into a weaving shed, which Messrs. W. Dickinson and Sons, of Blackburn, are to fill with looms and preparation. The shed has been taken on a tenancy by Mr. Ainsworth.

We are pleased to observe that the Blackburn Corporation has offered, in settlement of all claims, the sum of £1,250, to the widow and family of the late Mr. Robert Arkwright, (representative of Mr. Thomas Hart, rope manufacturer,) who in May last came to his death from an accident arising from the unsound state of the highway at Farther Gate. The offer might have been a little more

liberal, without becoming excessively generous, but having been tendered without an action it may be regarded as satisfactory.

The death took place very suddenly in a tramcar at Southport, on Monday, of Mr. John Fish, J.P., of Park-avenue, Southport, and formerly of Beechwood, Livesey, Blackburn. The deceased gentleman, who was eighty years old, was formerly senior partner in the firm of John Fish and Co., Waterfall Mills, Blackburn, and retired from business about a dozen years ago, subsequently taking up his permanent residence in Southport. He was a Liberal Unionist and a Congregationalist, and was highly esteemed by a large circle of friends.

The operative spinners at Daisyfield Mill (Messrs. John Dugdale and Sons), have now served a week of their notice to leave work. Their allegations are that they don't earn enough money and that the work is bad. This is an old mill and the mules are not as long as the best modern ones; therefore it may be correct that not quite as much can be earned from them. It is, however, certain that were they so disposed they could make better earnings than they do. If there is any truth in the assertion that the spinning of the material is bad, it arises from their refusal to keep the machinery properly clean. The action of the Society in encouraging this course of conduct is not likely to be conducive to the return of the spinning industry to the town.

A quarterly meeting of the Blackburn and District Chamber of Commerce was held on Wednesday afternoon, Mr. J. Hacking presiding. Mr. W. Taylor moved that a vote of thanks be tendered to the president of the Chamber, Mr. Henry Harrison, in recognition of his very valuable efforts in connection with Indian factory legislation. Seeing that England and India were both under the same Government, he thought it was monstrous that children of tender years should be allowed to work in India 20 hours longer than in England. (Hear, hear.) They should devote all their energies to obtaining remedial measures as regards Indian juvenile labour. Mr. G. Barker seconded the vote, which was carried unanimously. Mr. J. Booth hoped the Chamber was not losing sight of the question of railway terminals. So far as the recent returns of the Board of Trade were concerned he thought much valuable information was afforded, and on the whole he came to the conclusion that the Board of Trade were opposed to terminals, although they did not recommend that reduction of rates which they as manufacturers desired. It was their duty, as a Chamber, to oppose any increase in the rates whatever. Terminals constituted one of the most important of trade questions; indeed the life-blood of trade depended upon the points at issue. The question was left for the consideration of the Council. A sub-committee of Messrs. W. Thompson, A. Birtwistle, G. Barker, and W. Taylor was appointed to watch any bill introduced in the ensuing Parliamentary session on the Merchandise Marks question, and to take such steps as they deemed necessary in the interests of the Chamber. It was announced that any local information as to the injustice or unfairness of the new McKinley Tariff Bill would be acceptable, and would receive consideration.

Bolton.

A meeting of the members of the Bleachers, Finishers, and Dyers' Association was held on Saturday, when reports from several works in the district which had not granted weekly pays were considered. A feeling of disappointment pervaded the meeting that some half-score of firms still objected to pay weekly, although the question had been before them since the 1st May. It was thought ample time had been allowed, and that the reasons given by several employers against the system were unsupportable, as was shewn by the fact that one or two of the largest firms had granted weekly pays, and not required the assistance of extra clerks, which seemed to be the greatest objection. Again, some firms who promised to give the system a trial for three months were perfectly satisfied, and stated their intention to continue. A resolution was passed that deputations should again wait upon those employers who still objected, and if possible obtain their consent to grant the boon, seeing that the bleachers, etc., was about the only trade in the district that did not pay weekly. The following firms are now paying weekly:—Messrs. H. and E. Deakin, Belmont, and Egerton; Longworth and Co., Springfield; James Chadwick and Bro., Eagley; Taylor and Nicholson, Eagley; Eden and Thwaites, Waters Meeting; George Murton and Co., Sharples; Slaters', Little Bolton; Blair and Sumner, Mill Hill; Wm. Makant, Gilnow; Knowles and Green, Brightmet; Horridge and Co., Raikes; and J. Marsden and Co., Burnden. Messrs. Waterhouse and Co., Tootel Bridge, have promised to commence on January 1st, 1891.

Bradford.

Shortly before noon on Thursday between 500 and 600 weavers employed in the Heaton shed at Manningham Mills came out on strike as the result of a dispute between a small number of hands and the firm. They have been engaged in the weaving of a new make of velvet, and naturally a little difficulty has arisen in the adjustment of the scale of pay, as the looms require alterations and the weavers are unfamiliar with the new class of work. The demand of the weavers for an advance in the rate of payment of 1d. per yard has been temporarily granted, and work was resumed at breakfast time yesterday.

Cullingworth Mills (the scene of the clerical labours of the great wool king, Mr. Isaac Holden, M.P., when a young man) have recently been bought by Messrs. Craven and Craven, yarn spinners, of Waterloo Mills, Bradford. These premises have been very indifferently occupied since the failure, some ten years ago, of Messrs. Townend Bros., who had owned and "run" them for a generation. Their unsuitability for modern machinery, and particularly for the long spinning frames now made, no doubt accounts for this, but the new owners propose to get over this difficulty by widening the rooms of the mill and making other structural alterations. It is also reported that Messrs. Craven and Craven purpose building some 200 cottages for workpeople, which will more than restore the village to its former activity.

Brierfield.

Masters, remarks the *Factory Times*, as well as the inspectors, in some instances at least, appear to be determined here to enforce the Factory Acts, as at one weaving shed several persons have been fined one shilling each for allowing their tenters to sweep the looms whilst in motion, and in two cases where persons have refused to submit to such fines they have been dismissed from their employ.

Burnley.

It is now evident that even the double roller and clearer card has no chance against the revolving flat card. Many spinners have seen the folly of relying on them, and are now replacing them with the revolving flat, a notable instance being the old-established firm of Messrs. John Dugdale and Sons, Lowerhouse, near Burnley. This firm, who have over 100 at work, are now substituting for them 80 revolving flats, the order for which is being executed by Messrs. Howard and Bullough, of Accrington. In addition to the above the Accrington firm have received orders within the past fortnight from Messrs. Varley and Pomfret, Burnley, to replace the whole of their roller cards.

Bury.

Messrs. Walker and Lomax, of this town, have placed an order for revolving flat cards with Messrs. Howard and Bullough, of Accrington.

Colne.

Messrs. J. and W. Crabtree, spindle makers, Waterside and Derby-street, purpose erecting a new weaving shed at the bottom of Derby-street. When finished, the shed will have a holding capacity for over six hundred looms.

Some additions to the St. Helens Mill and Weaving Shed in Waterside will be taken in hand before long. The erection of the new weaving shed at Foulridge for the Foulridge Weaving Shed Company is being pushed on with as rapidly as possible.

Church.

There is practically no change in the aspect of the dispute at Hippings Vale Mill, except that a paper war has broken out between the Company and the operatives' secretary.

The spinners in the employ of Messrs. R. Watson and Co., Stone Bridge Mill, have tendered their notices to their employer in the form of a round robin, though all the names are in one handwriting, and it is certain that some have been appended without authority. The allegation is that the wages earned are low, though they are as high as at any previous time for at least a dozen years past.

Dukinfield.

We understand a limited spinning company is being promoted at Dukinfield. It is intended to build a mill to hold 100,000 spindles.

Farnworth.

The employes at the Moss Rose Mills, Kersley, belonging to Messrs. Giles Gee and Sons, last week presented Mr. Ernest Gee, a member of the firm, with a beautiful marble timepiece, with side ornaments, in commemoration of his marriage with Miss Greenwood.

Messrs. Stott and Sons, mill architects, of Oldham, have prepared plans for the new mills proposed to be erected on the site of those burned down two years ago, which formerly belonged to Messrs. Whittam. The new company has decided to erect

two large mills, each of which will contain 30,000 spindles. Operations are expected to be commenced at once.

Hallifax.

The death of Mr. James Greenwood, worsted manufacturer, took place last week at his residence Sunnyside, Lightcliffe. Mr. Greenwood, who was nearly seventy years of age, was senior partner in the firm of Messrs. James Greenwood and Co., West End Works, Halifax. He was connected with Lightcliffe Congregational Church, and was a Liberal in politics.

Mr. John Greenwood, who has held the position of carder to Messrs. Smith and Co., cotton spinners and doublers, Britannia Mills, Huddersfield, has been offered and accepted the position of manager to the firm of Samuel Whitley and Co., cotton spinners, Hanson-lane Mills, Halifax.

Haslingden.

A number of Oldham gentlemen, assisted by local capitalists, are forming a company to take over the large fine cotton spinning mill, weaving shed, and other buildings known as Acre Mill. The mill contains 10,000 throstle spindles, 24,924 mule spindles, 308 looms, and the usual carding and other machinery. The new company intend to replace some of the present machinery with new and modern machinery, to be supplied by Messrs. Platt Bros. and Company, Limited.

Hadfield.

Mr. W. S. Rhodes, J.P., cotton spinner, of Hadfield Mills, has commissioned Messrs. Wadsworth and Co., of Manchester and Aberdeen, to build a new organ for presentation to the Hollingworth (near Hadfield) Congregational Church, of which the Rev. Thos. Hughes is pastor. The organ is a two-fold manual and pedal, containing about 30 stops, including couplers, and is constructed on the pneumatic principle throughout, the wind power being supplied by a hydraulic engine, with separate double-acting feeders. The total cost of the instrument will be close on £600.

Heckmondwike.

The death is announced of Mr. Firth, formerly an active partner in the firm of Messrs. Edwin Firth and Sons, manufacturers. Mr. Firth was 63 years of age.

At the quarterly meeting of the members of the Heckmondwike Co-operative Society, held on Saturday evening, Mr. B. Hepworth, the president, in the chair, Mr. Johnson moved—"That the society contribute a sum of £500 as the nucleus of a fund for the formation of a technical school in the Spen Valley, and that a committee of fourteen persons be elected to bring the project before the public, and to report to the next quarterly meeting of the society." Mr. Johnson urged that they were about the only society in the county which did not contribute handsomely to support educational projects, and he expressed his confidence that the manufacturers and tradesmen of the Spen Valley would accord the scheme their hearty approbation. The motion was supported by several members, but some opposed it on the ground that the Dewsbury Technical School would better serve the requirements of the Spen Valley district than they could ever hope to be served by a scheme of their own, the expense of properly staffing such institutions being beyond the reach of the immediate district. It was urged that the society would take the better course by contributing liberally to the Dewsbury institution, and by forming some sort of a scheme for defraying the travelling expenses of the students from their locality. The motion, however, was eventually adopted by a large majority.

Heywood.

The employes of Messrs. Healy Brothers, together with a few friends, were treated to a first-class tea in the Reform Club on Saturday, at the expense of the firm.

Mr. E. Taylor, of Littleborough, contractor for the Yew Mill here, has also secured the contract for the building of Derby Mill, which will be commenced immediately.

Hollinwood.

The cotton class held at the Co-operative Store is likely to be very successful. About forty have already been enrolled as members. Mr. Wellington Whipp is the teacher. Mr. Whipp, who is a self-actor minder, has taken first-class honours, and holds a certificate as teacher.

Keighley.

At a meeting of the Town Council, held on Tuesday evening, it was agreed to make a grant to the Keighley Technical Institute for the current year of a sum of £100 in aid of technical instruction, and to accept the offer of the Council of the Technical Institute to nominate 200 free students to the evening classes.

In 1879 Messrs. Ira and James Ickringill, of Eastwood Mills, worsted spinners, were obliged to call their creditors together, who accepted a composition of 13s. 6d. in the pound, which was duly paid. Messrs. Ickringill then recommenced business, and in 1889 the members of the firm formed themselves into a limited liability company, under the style of Ira Ickringill and Co., Limited. Throughout various changes in the constitution and management of the business Messrs. Ira and James Ickringill have borne in mind a resolve, formed in 1879, to pay the remaining 6s. 8d. in the pound as soon as they were able. Many difficulties have had to be overcome owing to fluctuations in the trade of the district, but Messrs. I. and J. Ickringill have now intimated that they feel themselves justified in paying the sum required to make up 20s. in the pound on the debts due in 1879. The amount they are paying represents over ten thousand pounds, and Messrs. Ickringill feel it due to the gentlemen who are associated with them in their business to place on record their sense of the energetic labours which have so materially assisted the realisation of this long hoped-for result.

Kidderminster.

Messrs. Green and Sons have disposed of the freehold of their Mill-street property, with a view of centralising their business, and will shortly remove their machinery to the Green-street Works, where extensions will be made.

Messrs. George Oldland and Co. have this week purchased the Brussels freehold, hitherto belonging to Messrs. William Green and Sons, in Mill-street, which are to be an adjunct to their other works in Green-street. It is understood that Messrs. Oldland have only bought with the freeholds six Brussels looms, and intend increasing as their rapidly-growing business requires.

Leeds.

It is probable that the black dyers of Leeds, numbering about 200, will strike this week, the masters having refused to concede the demands of the men. Workmen earning under £1 per week demand an advance of 2s., and those getting over £1 per week 1s. rise.

The Marquis of Ripon on Tuesday distributed the prizes to the students of the Yorkshire College, and in the course of an address mentioned that if funds were available it was the intention of the College to extend its operations in the direction of affording technical instruction.

Tuesday's market could not pass over without a good deal of animadversion on the new American Customs Tariff. In Leeds and neighbourhood there are 20 firms, at least, whose worsted goods will now be shut out from America for a long time to come. Those people have nothing but looms. They have always been able to buy yarns ready to their hand. Now these looms are useless and want replacing by scribbling and combing machinery, so that the owners may adventure into the production of those cloths of which there is such a large and increasing home-trade consumption. The inferior worsteds which have been shipped so hastily and in such immense quantities to America will, it is calculated, suffice for the wants of the Republic for a year and a half, so that, under any circumstances, the parties just referred to cannot have any reliable hopes in that quarter, and it is to be expected that competition in the home market will prove an extremely severe ordeal. In connection with this it has to be taken into consideration that woollen cloth machinery has never been better employed than it has been this year so far, and yet there is not much stock beforehand. Moreover, the Continental and Canadian purchases are above the average, and our business transactions with the Argentine Republic have doubled. There is hope, therefore, for these additional producers of medium and minor cloths that they will not have long to wait for employment of a fresh kind when they are ready to undertake it.

Leicester.

We understand that Messrs. Kemp and Sons, elastic web manufacturers, who some years ago were compelled to seek the indulgence of their creditors, have now retrieved their circumstances, and have paid off all their old liabilities in full. In recognition of their honourable conduct, a deputation from their creditors recently waited upon and in their name presented each member of the firm with a silver cup and a sum of money. It is a pleasure to hear of facts like these. A similar case is recorded under our Keighley news.

Between £30,000 and £40,000 damage was done by a disastrous fire which broke out in the hosiery factory of Messrs. Langdale and Co., on Monday night. The factory was four storeys high, and adjoined three other large factories. The fire brigade appeared to have mastered the fire, when it burst out afresh at the rear, and the whole building was soon a mass of flames, causing great alarm. The fire brigade by great efforts saved the three

adjoining factories, only slight damage being done. Four persons were seriously injured by the steam fire engine.

Leigh.

Upwards of 100 new looms are about to be erected in the Co-operative Weaving Shed, Leigh.

New machinery is being erected in the Avenue Mill, belonging to Mr. William Guest.

A largely attended meeting of the directors of the Mather-lane Cotton Spinning Company, Leigh, was held last week, when the question of building a new mill came up for consideration. The general feeling seemed to be in favour of the proposal, and it was decided to convene a special meeting of the shareholders on Saturday, the 18th inst., to consider the question.

Long Eaton.

A great fire occurred here on Tuesday night, the damage done being estimated at £100,000. The scene of the disaster was Fletcher's lace factory, close to the Midland Railway. It was a substantial brick building in two sections—one thirteen windows long, the other twenty-five windows, and four storeys high, capable of holding about 140 lace machines. The fire was discovered in a room occupied by Mr. F. Wilkinson, curtain manufacturer. Considerable time elapsed before the arrival of the fire brigade, and soon after they got to work the water supply gave out. The building was reduced to ruins. About 200 persons will be thrown out of employment.

Macclesfield.

The Technical School opens on Monday evening, with additional help on the teaching staff. During the past two years the students of this school have obtained eleven silver medals, eight bronze medals, and £33 10s. in money prizes, in the annual examinations in silk manufacture conducted by the City and Guilds of London Institute, a result unequalled by any school in the kingdom. The hon. secretary (Mr. R. Brown) has just received from the City and Guilds of London Institute the £16 money grant earned by the students at the examinations in May last; the medals and certificates will arrive in the course of a week. Yesterday morning, the chairman of the committee (Mr. J. O. Nicholson, J.P.) received a letter from Mr. Mather, M.P., who has kindly consented to distribute the prizes, fixing the date for Monday, the 27th inst. The meeting will be held in the Town Hall. The Mayor (Mr. Alderman Kershaw) will preside, and it is hoped Mr. W. Bromley-Davenport, M.P., the ex-member (Mr. Alderman W. Conze Brocklehurst), and other gentlemen will be present.

Manchester.

Yesterday on 'Change the announcement of the death of Mr. Ernest Grether, a well known and highly-esteemed merchant of this city, was received with sentiments of the deepest regret.

On Saturday Sir Philip Magnus distributed the prizes to the successful students connected with the Technical School, and afterwards delivered an important address on technical education. We regret that the limits of our space preclude us from giving a report.

On Wednesday afternoon whilst a lorry laden with cotton belonging to Messrs. Rylands and Sons, Limited, was proceeding along Grosvenor-street, one of the bales was discovered to be on fire. The burning cotton was thrown into the street and the fire extinguished by means of a jet attached to the main.

Middleton.

Mr. William Schofield, under-secretary of the Middleton and Tonge Spinning Company, has been appointed secretary of the Irk Mill Company.

Oldham.

Mr. James Kay has been appointed carder at the Smallbrook Spinning Company.

Mr. W. Tipping has been appointed carder at the Victoria Mill, Hollinwood.

The Oldham Boiler Works Company have obtained the order for new boilers from the directors of the Royal Mills Company.

It is rumoured that arrangements are in progress for the erection of a ring mill, by a limited company in the neighbourhood of Oldham.

Mr. Thomas Ashton, the secretary of the Oldham Operative Spinners' Association, took his seat on the borough bench for the first time on Thursday.

Mr. Henry Schofield, who has resigned his position as manager of the Middleton and Tonge Mill Company, has been presented with a secretaire by the workpeople.

Park Mill, Hollinwood, is being fitted up with sprinklers, and the directors of the Ash Spinning Company, whose premises are fireproof, have also decided on protecting the mill in a similar manner.

The directors of the Bankside Spinning Company are replacing the mules which were destroyed by a fire on the premises some months ago by Messrs. Taylor, Lang, and Company's make. New cards are also being put in.

It is reported that a number of Oldham gentlemen are assisting in the promoting of a company to take over the spinning mill, weaving shed, and other buildings, known as the Acre Mills, Acerington. The new company is to be named "The Hazel."

Stamford mill is making rapid progress towards completion. Arrangements are now being made for putting on the roof. At this rate there is every probability of the mill being fully at work by next spring.

Messrs. Asa Lees and Company have secured the order for the whole of the machinery for the Irk Mill Company, Middleton, and also for the Royal Mills Company, Oldham, with the exception of the cards, which are being supplied by Messrs. Ashworth.

Mr. J. S. Twyford, of Liverpool, has been appointed cotton broker to the Neville Mill Company. The directors have also given the order for three new steel boilers to Messrs. Tetlow Bros., Hollinwood, and for card clothing to Messrs. Samuel Law and Sons, Limited, Cleckheaton.

The mill which is to be erected by the Holly Mill Company, Royton, will be built on a site at Lowerhouse Field. Messrs. Wild, Collins, and Wild, Oldham, have been engaged as the architects. The company will be registered at once, and letters of allotment issued immediately afterwards.

The directors of the Cotton Buying Company paid a visit on Thursday to the Salford section of the Manchester Ship Canal, under the guidance of Mr. Marshall Stevens. The object of the visit was to obtain information as to the facilities for loading and unloading of vessels, and also for the warehousing of cotton.

The Oldham cotton operatives have come to the conclusion that there will be no cotton corner for some time to come, and have accordingly decided to discontinue paying the special levy of a penny per day, which had been in force 44 weeks. It was imposed last December, with the object of recouping the society the money lost through stoppages occasioned by the cotton corner.

Work has been resumed at the mill of the Broadway Spinning Company. The premises had been closed for over five weeks, owing to the carrying out of repairs to the engine, we understand, by Messrs. G. Orme and Co. The engines are now working very satisfactorily. The company is re-arranging its machinery, and placing carding machinery in the shed which has been erected. Additional machinery will be required, a portion of which has been delivered. Nine thousand five hundred spindles will also be put in which will bring the number up to nearly 78,000.

The will of the late Mr. Edward Collinge, of Woodfield, Oldham, cotton spinner, who died on the 21st August, has just been proved. The personality, including leaseholds, is valued at £91,121 11s. 3d. gross and £88,785 6s. 8d. net, and administration was granted to the executors and trustees under the will, namely, the testator's widow, Mr. Whyte, bank manager, and Mr. J. E. Clegg, of Mumps Mill, Oldham. To Mr. Whyte and Mr. Clegg as executors the testator bequeaths £150 each, free of duty. To his widow he assigns all the effects in the Woodfield residence, with an immediate bequest of £500; also a yearly allowance of £1,400 should she elect to reside at Woodfield, the annuity to be increased to £1,550 if she leaves Woodfield, and decreased to £500 upon her re-marriage. The testator leaves to his eldest son, in addition to a share in the general estate, the advowson of Buckingham, near Newark. All the rest of the property is to be held in trust for the benefit of his children, and to be so apportioned that each son's share shall be £3,000 more than that of each daughter. The will bears date 9th April, 1889.

Preston.

At the Police-court on Wednesday, Mr. W. H. Hinksman, of Croft-street Mill, was summoned for employing five children, a woman, and a young person, twelve minutes before half-past six o'clock on the morning of September 20th. Mr. E. W. C. Taylor, inspector of factories, spoke of entering the mill at 6-18 a.m., and finding the engine just starting. He took the names of the number of persons mentioned in the charge, all of whom were at work. He hoped the Bench would assist him in putting a stop to the system of "cribbing time." Mr. Edleston, who represented the defendant, said the offence was really committed by the engineman. The day but one before the offence was committed a steam pipe burst, and the hands lost some time. The engineman, therefore, with the idea of allowing them to make up a bit, started the engine before the proper time. The Bench imposed a fine of 20s. and costs in the first case, and ordered the payment of costs in the others.

Rochdale.

According to the directors' report of the Eagle Spinning Company, the following contracts have

been let, and are progressing very favourably:—Machinery to Messrs. Platt Bros. and Co. Limited; new triple expansion engines, to Messrs. Pollitt and Wiggall, Sowerby Bridge; alterations to present beam engines, to Messrs. J. and W. M'Naught, Rochdale; gearing to Messrs. Carter Bros., Rochdale; boilers, to Messrs. Tetlow Bros., Hollinwood; card clothing, to Messrs. Joseph Sykes Bros., Ländley; sprinklers, to Messrs. Dawson, Taylor, and Co., Manchester; new extension building, to Mr. T. Taylor, Rochdale; cast-iron work to Messrs. W. Milburn and Sons, Stalybridge; and steel girders, to Messrs. Dorman, Long, and Co., Middlesborough. Messrs. Platt Bros. have made their first delivery of machinery.

Rossendale.

The owners of the spinning mills in this valley evidently mean keeping up to the times. There are about 28 mills in the district, and of these we are informed that 20 have adopted Messrs. Howard and Bullough's revolving flat card, having taken out the roller and clearer cards, which were previously in use throughout the district. The new Baccup and Wardle Commercial Company, Limited, Stacksteads—which, by the way, was in existence as a joint-stock company before the passage of the Limited Liability Act, and was the first cotton mill in the kingdom to register itself under this measure—gave an order last week to Messrs. Howard and Bullough, for 60 revolving flat cards. They have evidently found that without such a change they could not compete with their neighbours.

SCOTLAND.

Arbroath.

The lappers in the employment of Mr. Andrew Lawson, manufacturer, numbering about a dozen, have struck work for an increase of wages.

St. Rollox Factory, in Lindsay-street, containing 50 canvas looms, with preparing machinery, etc., was sold on Saturday to Mr. Andrew Lawson, spinner and manufacturer, at the upset price of £2,200.

Dunfermline.

Below we give a comparative statement shewing the direct value of linen and cotton goods exported through the Dunfermline American Consul office to the United States during the past two years ending 30th September. It must be borne in mind that the totals given do not represent the total value of Dunfermline goods sent to the United States. Glasgow, London, Manchester, Liverpool, and the other merchants ship Dunfermline goods with other goods, and those parcels do not pass through the Dunfermline Consul's office. Therefore the returns can only be accepted as an index to the general trade. The year ending 30th September 1889 was a record year for the exporting of goods through the Dunfermline office, and the year just closed shews a slight falling-off. In linens the decrease amounts to £8,078 6s. 11d., and in cottons to £7,134 1s. 9d.—a total of £15,212 8s. 8d. A little uneasiness is naturally felt in the trade over the McKinley Tariff Act. Selling prices have not increased during the year. Wages remain steady, and all hands are fully employed. Yarns have fluctuated a good deal in price during the year.

	Linens. 1889-90.	Linens. 1889-90.	Cottons. 1889-90.	Cottons. 1889-90.
October	£18,753	£21,089	£1,142	£737
November	16,591	15,933	444	695
December	50,454	46,295	3,955	2,974
January	27,218	25,976	8,068	1,176
February	32,718	24,345	2,976	1,318
March	26,001	24,731	1,681	1,369
April	17,608	15,497	875	612
May	17,596	23,752	665	822
June	26,742	43,844	2,689	1,941
July	29,463	22,821	1,838	1,553
August	35,954	19,418	2,436	1,354
September	27,870	54,790	1,228	1,836
	£326,578	£318,799	£23,020	£15,986

	Linens.	Cottons.
1880	£224,459 8 7	£95,717 6
1881	226,979 14 1	78,354 15 5
1882	291,051 10 2	94,771 6 7
1883	283,626 15 1	61,607 14 3
1884	366,011 7 1	22,922 9 2
1885	247,943 6 4	10,634 0 11
1886	256,891 12 6	8,534 6 11
1887	285,244 7 6	14,594 3 5
1887-8	302,441 13 2	26,767 17 1

Dundee.

Some time ago an action was raised in the Sheriff Court by the Falconhurst Shipping Company, of London, against Messrs. Cox Brothers, spinners and manufacturers, for payment of a balance of freight. When a vessel belonging to the pursuers arrived at Dundee on 23rd June last, from Chittagong, it was found that 800 bales consigned to the Messrs. Cox were in a more or less damaged condition. Two surveyors, one acting for each party, assessed the damage at £34 17s. This sum, along with the surveyor's fees (£2 2s.), the Messrs. Cox deducted from the £240 of freight at the time of payment. An action for payment of the balance of £36 19s. was

raised by the pursuers, but the defenders declined to pay, holding that the cargo had been damaged through careless and negligent stowage. A joint minute had been lodged, stating that an agreement has now been come to, and asking that the defenders be absolved from the conclusions of the action, neither party being held liable in expenses.

Paisley.

The death is announced of Mr. John Hunter, of Montreal (Canada), manager for the Messrs. Coats, and a brother-in-law of Sir William Arrol, the builder of the Forth Bridge. Mr. Hunter, who was only 54 years of age, enjoyed excellent health until within a short period of his death. He had been 17 years in Montreal, and previous thereto was with the Messrs. Coats in Paisley. He was an active worker in religious as well as commercial circles, and will be much missed.

Nothing has been heard for some time regarding the proposed Technical College, and it looks as if the matter is to lie aside for a period. Influential gentlemen who were interesting themselves in the promotion of the college obtained reports from architects on the probable cost of buildings on the open space and on a site nearly opposite the museum, and it is understood that these statements went to show that the Cross site would necessitate a more expensive edifice owing to there being two frontages. It is understood that the college aimed at is not one which will partake to any extent of the character of the workshop, but rather a school in which instruction will be given with the aid of specimen models, etc., students being accompanied to workshops for practical tuition.

Windygates (Fifeshire).

The workers at Messrs. Beveridge's Spinning Works at Haugh Mill, Windygates, have received notice that their wages are to be advanced at the rate of 5 per cent. No advance had been asked for.

IRELAND.

Belfast.

Our Irish flax crop, unfortunately, is not shewing much improvement as the season opens up, and it is only here and there that any fine parcels can be picked up. We had 30½ tons of milled flax at Belfast the other day, which sold at from 4s. 6d. to 7s. 3d. per stone. Russian advices are all in favour of high-priced flax, and some shippers, in their anxiety for early deliveries, are offering more than is warranted. This will, of course, have an injurious effect upon the market, more particularly as the rouble is so high at present. Reports from French districts also speak of dear flax with active demand.

Co. Tyrone.

All the scutch mills in this locality are now in full swing, and are turning out large quantities of fibre. In recent years we have heard a great deal about new and improved machinery for scutching, but up to the present nothing has satisfactorily superseded the old method. The yield is in general very good this year, 24 stones of fibre per bushel of seed being quite common, and some cases of much more are reported. Much of the fibre is of poor quality and prices consequently low, though of late rather improved, 7s. per stone being about the average. In Cookstown, on Saturday last, some top lots reached the respectable figure of 9s. per stone.

THE INDIAN FACTORY COMMISSION.—A Calcutta telegram of Wednesday says:—"The commercial community are dissatisfied with the composition of the Factory Commission. They urge that the president, who is inspector-general of gaols in Bengal, is no authority on questions of free labour, and that one Bengal member, Rajah Pearymohun Mookerjee, is a leading Zemindar, but without commercial experience, while the other is a mere clerk in a jute mill. As regards the Bombay members they state that Mr. Sorabjee Bengalee is identified with previous restrictive legislation."

BENGAL JUTE CROP.—The final official report on the Bengal jute crop for the current year is as follows:—"1. In the preliminary forecast issued on the 7th July it was remarked that the weather had up to that time been very favourable to the jute crop, except in one or two districts in which excessive rainfall had done some injury, and it was said that on the whole a full average or more than a full average crop might be expected. Since then there has been excessive rainfall followed by floods in many of the jute-growing districts. The crop has materially suffered from this cause in Nuddea, Mymensingh, Purneah, and parts of Jessore and Farredpore, and to a lesser extent in Rajshahye, Rungpore, Bogra, Dacca, and Tipperah. The out-turn will in consequence be less than might have been harvested had there been no injury from floods. But still the total yield is estimated to be better

than that of last year. On the whole a good average crop may be expected. 2. The figures furnished by collectors of actual areas sown were omitted from the preliminary forecast because of their manifestly incorrect and contradictory character. They have since been revised, and are now produced. The total outturn is estimated to be a 15 to 16 anna crop. The total exports from Calcutta last year amounted to 8,768 974 cwt. In the present year an increase of about 20 per cent. on this quantity should be available for export."

A PROPOSED GERMAN EXHIBITION.—The next of the series of national exhibitions promoted by Mr. J. R. Whitley, at Earl's-court, which began with the American Exhibition in 1887, will be devoted to the arts and industries of the German Empire.

Textile Markets.

COTTON.

MANCHESTER, FRIDAY.

In its external aspects our staple industry offers no features calling for special comment. There is a general quietude throughout the districts; there are no burning questions to be settled, and nothing demanding heated discussion. The excitement produced by the late Trades Congress has all subsided, Mr. Mawdsley, the spinners' secretary, having received his instructions to sever his connection with the Parliamentary Committee. Two or three small and foolish disputes such as have been referred to before are still pending settlement. The great question of the Uniform List for weaving has been cleared out of the way, the operatives having accepted it, and there is little reason to anticipate that it will meet with any opposition, beyond perhaps a little grumbling, from any section of the employers. Liverpool has settled down into quietness, and business is proceeding unhampered by movements of speculators. Though the raw material is steady at the moment we are inclined to think that there is a prospect of a still further decline, at least to a slight extent, when the weight of the crop begins to make itself felt. This anticipation is, however, held somewhat in check by the action of the trade, members of which have already bought, while others are still buying their season's supplies for gradual delivery. This is being done on such a considerable scale that it may have the effect of quite preventing any further decline.

COTTON.—The market for the raw material has been very unvarying in its features during the week. The only thing calling for remark has been the undulation of the demand as registered by the estimated sales, which are, for the first half of the week, 27,000 bales, and for the second, 26,000, included in the total being 6,000 bales on speculation and for export. Prices are without the slightest change, save, perhaps, in the first day or two, when the strength of the demand led sellers in some few cases to ask a fraction above the official rates, which in a few instances they obtained. Futures have exhibited several fluctuations, but these have not been of wide range. On the week the changes to be recorded in this section of the market are gains in the various positions of 1 to 2 points. In Americans, as observed above, the trade has bought very heavily of forward cotton, both on spot and c.i.f. terms, and sellers, remembering their experience last season, are beginning to hesitate, particularly as the quality of the current crop is not yet ascertained. Brazilian has only met with a retail demand, and rates are unchanged. Egyptian has been bought to a fair extent at prices slightly favouring buyers. Peruvian smooth cottons have been in request, and prices have been put up ½d.; rough varieties are freely offered but not in much request. East Indian has sold freely at unchanged rates. Crop news has not been favourable during the week, the reports indicating weather that will have deteriorated the quality if it does not affect the quantity. The crop of estimates is beginning to appear, the figure generally spoken of being about 7,500,000 bales.

The following particulars of the business of the week are from the official report issued by the Liverpool Cotton Association:—

	Imports.	Forw'ded.	Sales.	Stock.	Exp't
American	.. 31,282	.. 49,500	.. 51,250	.. 175,020	.. 2,700
Brazilian 1,416	.. 920	.. 13,120	.. 42
Egyptian	.. 7,650	.. 3,256	.. 2,650	.. 36,980	.. 11
W. Indian	.. 4,497	.. 803	.. 1,000	.. 19,010	.. 266
E. Indian	.. 1,530	.. 4,851	.. 8,880	.. 215,640	.. 2,309
Total	.. 44,959	.. 62,970	.. 64,720	.. 459,770	.. 5,332

The following are the official quotations from the same source:—

	G.O.	L.M.	Mid.	G.M.	M.F.
American	5½	5½	5½	5½	5½
				M.F. Fair.	G.F.
Pernam	5½	6½	6½	6½	6½
Ceara	—	6½	6½	6½	6½
Paraiba	—	6½	6½	6½	6½
Maranhm	—	6½	6½	6½	6½
			Fair.	G.F.	Gd.
Egyptian	6½	6½	6½	6½	6½
Ditto, white	—	—	—	—	—
	Fr.	F.F.	G.F.	F.G.F.	Gd.
M.G. Broach	—	—	—	—	—
Dholerab	3½	3½	4	4½	4½
Comra	4½	4½	4½	4½	4½
Bengal	—	3½	3½	3½	4½
Tinnivelly	4½	—	4½	5½	—

* Nominal.

YARNS.—The yarn market continues exceedingly firm. Spinners are keeping a strong grip upon prices and manufacturers are as a rule quite unable to obtain concessions such as will enable them to conclude business on the prices offered for cloth. There has been a strong export demand of late for yarn for the east of Europe, especially Austria, and it is affirmed that this has been of sufficient dimensions to account for the abnormal scarcity experienced in some sections of the market. It would appear, however, that this is now to a great extent satisfied, as there is not as much passing as previously. On home account there is seldom a departure from the hand-to-mouth policy of buying, and manufacturers are in no particularly enviable position.

CLOTH.—In cloth there is a fair average inquiry, but the bulk of it is at prices too low to admit of acceptance in the present state of the yarn market. Still, where business is transacted it is on the basis of manufacturers' rates, as buyers find themselves quite unable to extort any concession. The better classes of Eastern shirtings are well sold, and very firm in price. Other classes of goods for the same markets are moderately well engaged, but not much new business is presenting itself at prices which enable it to be placed. Burnley printing cloths are steady, with a tendency to move upwards, manufacturers making strong efforts to improve their position, though as yet with little success. In heavier fabrics there is a fair average demand at unchanged rates. In the miscellaneous cloths for finishing and other purposes, about the usual amount of business is passing, though here, too, it is obstructed by the firmness with which manufacturers hold out for full rates. It is quite probable that the next movement in cloths will be an upward one.

WOOLLENS AND WORSTEDS.

BRADFORD.

In the wool market, business is less timid and depressed, which may be attributed to several causes. The extreme firmness of country wool dealers, in conjunction with the prices ruling for merino and cross-bred wools at the London sales, causes holders of stocks to insist more strongly upon their quotations. In addition, the consumption is still very large, and buyers are constantly coming into the market and making purchases in the more fashionable descriptions, for which no concession in value can be obtained. English wools are not in active demand, but the sales show that prices are not lower, though at the same time no advance can be made. Some little buying has been done for export in demi sorts. The turnover in Colonial wools shows that makers of tops are kept moderately busy. Nevertheless, there is great reluctance to operate at rates commensurate with prices outside this market for either fine merino or cross-bred sorts. McChair is quiet, but in alpaca further business has been done in different qualities and at quite firm rates. Only a slow business is doing in yarns, particularly for the export trade. Continental buyers are still holding aloof, and the American Tariff Law tends indirectly to curtail buyers' operations. Spinners are kept fairly well employed on old contracts, and "particulars" are given out rather more freely for various descriptions of worsted yarns. For mohairs, a little inquiry has been made at low limits. Home-trade spinners are kept busy on two-fold warps and to a less extent for coating yarns, and prices are tending against buyers. In pieces a more cheerful tone prevails. For America new business is extremely slow, but there is a steady trade doing for the home and Continental markets in various classes of goods, all wools, and lustre fabrics.

HUDDERSFIELD.

Yesterday's market witnessed a very poor attendance of buyers, and there has been hardly any business doing. In some cases manufacturers are well employed, but these are the exception. The latter

are chiefly engaged on the better classes of worsted cloth in fancy makes, but now attention is in some quarters being paid to the production of medium qualities of worsteds in as effective designs and colourings as the others. The serge trade is gradually growing and seems likely to go on growing alongside that of fancy worsteds, and these two classes form the bulk of what is put upon the market. What the effect of the McKinley Tariff will be on our trade it is too early to say, but it will probably throw on to the home market a large quantity of goods that would under other circumstances have found their way into the States, and so cause a glut which it will be very difficult to get rid of. It will also take some time to get rid of the goods which have been "rushed" to the States, and the course of our future business with that country is likely to be very uncertain. There is a fairly satisfactory demand for the Continent. Yarn spinners are moderately well employed. The local wool trade is quiet, as buyers are holding aloof in the expectation that prices will recede a point or two.

LEEDS.

Manufacturers and merchants realised on Tuesday quite an average home trade in all new cloths which have been prepared for next spring and summer, and business proceeds smoothly, notwithstanding the recent revision of prices, which at first rather alarmed purchasers. Few cloths are now more than 2½ per cent. dearer than they were; when some good hit is made by bringing out a novelty 5 per cent. may be got, and readily too, for the Continental men are ever on the look-out for such incidents, and to get hold at first sight of the latest new production they are unceasingly on the watch; but the generality of suitings and overcoatings, strange as it may appear, are now not one fraction dearer than ever they have been before. For instance, many firms making five or six thousand yards of cloth weekly only use an infinitesimal quantity of wool, so that a little variation up or down in the price of wool does not make much difference to some manufacturers as it formerly did to those who at one time made only broadcloths.—Times.

ROCHDALE.

The recurrence of unusually mild, we might almost say warm weather, has somewhat restrained activity in the flannel trade, and there has been a falling off as compared with last week in the number of orders. The recent advanced prices are consequently maintained with more difficulty, but manufacturers firmly resist any attempts to lower them, expecting colder weather very shortly, which would be of considerable assistance in maintaining present rates. Trade is later than usual this season, and merchants seem more than ever to be relying upon manufacturers for immediate supplies than keeping stocks of their own to draw upon from time to time, as used to be the case with them not very long ago. In Yorkshire woollens there is a little improvement, and prices are firm.

GLASGOW.

Messrs. Ramsey and Co., in their report dated 7th October, 1890, say:—

WOOL.—At the public wool sales held here this week the attendance was moderate and competition rather slow, only a small proportion of the wools catalogued being taken up. Since the sales, however, there has been a fair business doing privately at full rates.

SHEEP SKINS.—The supply has been fairly liberal, and the quality is well maintained. The competition continues active, and prices are quite firm.

FLAX AND JUTE.

DUNDEE TRADE REPORT.

WEDNESDAY, 8th Oct., 1890.

The market here is greatly perplexed by the uncertainty regarding the American Tariff. Merchants wait for the text of the Act; but in the meantime three things seem to be certain: First, the duty on jute is abolished. This gives an advantage of about £3 a ton to those mills now running in America, and, of course, tends to induce further extensions there. Machine makers are in America booking orders for extensions of jute works there. Second, the Hessian trade in Dundee is not further seriously touched; and third, the linen manufacturers must face an increase of quite 15 per cent. All this tends to depress trade here.

Still the market here is not utterly hopeless. Jute falls in price, and were the workpeople true to their own interests, all endeavouring by regularity and care to do each his utmost to make business a success, the merchants here need not despair of finding a market even for the greatly increased production.

Jute is easier again, and offers of £14 are invited for R.F.C.

Flax is firm without being dearer. The reports from Russia are encouraging. The retting season has been excellent; the crop is large and of good quality. New K is offering here at from £20 to £21.

Jute yarns are quiet, a fair business is passing at 1s. 2d. for 8 lb. cop, 1s. 4d. to 1s. 4½d. for 8 lb. warp. The better qualities are relatively dearer. For the best, extra 7 lb., 1s. 8½d. is paid. This shows the great difference between common and fine jute. 8 lb. common cop 1s. 2d.; 7 lb. fine 1s. 8½d., and this, of course, applies to cloth. Buyers at a distance are apt to misread Dundee reports, without bearing in mind the new relation which exists between fine and common qualities.

Hessians are dull, and sellers are offered 1½d., but refuse this for the commonest goods.

Flax yarns, especially the lighter sizes, are very firm at the recent advance. Tows are done to-day at about 1d. of a rise from the lowest point.

There is an excellent demand for home trade linens, and were the labour difficulties settled in the south, buyers would place good orders forward.

Abroath is still well engaged in canvas, and the Dundee fancy goods are all wanted.

Twines and ropes are in excellent demand, and all the makers are fore sold.

HOSIERY AND LACE.

NOTTINGHAM.

Notwithstanding a slight improvement trade here remains very dull, and is far from finding employment for all the lace machines. In the Lavers branch especially many frames are standing idle. The aggregate of business, nevertheless, is considerable, and some few manufacturers of a hopeful disposition are further making goods in anticipation of increased orders. Popular designs in Valenciennes of good quality are in steady demand, and there is rather more inquiry for cheap torchon laces. The sales of Vandykes appears to be increasing, but generally speaking the supply of fancy millinery laces is in excess of the demand. Loop laces are dull of sale, and there is no activity in the trade for Irish trimmings. American laces, too, are only in moderate demand. Paris print, macramé, and Guipure laces are being sold to a small extent. Silk Chantilly laces still remain in demand, and it is thought that the sale of these goods will very shortly increase. A few Spanish laces and scarves are finding buyers. There is a little demand for Spanish soutache and Chantilly lappet laces. Fancy veil nets are in fair request. The "beauty spot" veils are still inquired for, and moderate home orders are on hand for the nets with the velvet adornments. Black and coloured silk Cambray nets are in middling request, and there is some demand for silk Brussels nets. The plain cotton net trade is in about the same condition as of late. In the curtain trade business continues to be tolerably brisk, although machinery is not fully employed, and manufacturers are anticipating an increase of orders in the near future. In the hosiery branch manufacturers are steadily employed, the current of business running in the same channels as of late. The new American tariff will operate prejudicially in this department.

LEICESTER.

There is very little increase of business apparent in the wool market, which continues to maintain a confident tone, holders refusing to consider all suggestions in the direction of lower quotations. Supplies are moderate in extent, whilst consumption is fairly large, and spinners are under the necessity of buying frequently to fulfil current contracts. The lambs' wool trade is brisk. The yarn market is more animated, deliveries are larger, stocks are small, and spinners being well engaged, are holding out for more profitable prices. Lambs' wool yarns are in good request, and cashmere yarns are taken more freely. The hosiery trade is fairly active, and the outlook more encouraging, but those firms who have worked the American markets are quiet. In fancy hosiery manufacturers are making good deliveries of the season orders, but repeats are small though numerous until a spell of cold weather gives the much-needed impetus to all fancy goods. Elastic web fabrics, as well as cords and braids, are in good demand.

SILK.

LONDON.

THURSDAY.—London Produce Clearing House quotations of 5½ Taitlee: October 12s. 2d., November 12s. 2d., December 12s. 3d., January 12s. 4d., February 12s. 5d., March 12s. 5d., April 12s. 6d., May 12s. 7d. per lb. Sales registered, nil.

DRY GOODS.

MANCHESTER.

A very fair week's trade has been experienced in Manchester, and stocks in the hands of the distributors have been reduced considerably. Velveteens, as already reported, have moved off more freely, and manufacturers are hopeful that both at home and on the Continent a better future is before them than seemed probable a few months ago. The winter fancy stuff has been in brisk demand, laces and Swiss embroideries having claimed attention. The use of corahs for cutting up for men's ties promises to be a success, but the effect of the demand cannot be great owing to the small amount of material consumed in the manufacture of goods. The fancy silk plushings, previously referred to, are still going well. They are naturally extremely warm, and in appearance very handsome. The cost places them beyond the reach of all but the well-to-do, but amongst this class they have certainly sold very largely. One style with stripes on a cream ground has proved a great favourite. Its price (wholesale) is 100s. When the ordinary public come to buy it the cost, as can be readily imagined, becomes almost appalling. The London houses introduced the article, which is now being pushed on this "ground" by the travellers. Silk vests in hosiery have been selling to a satisfactory extent both in pink, sky, cream, and flesh colours. The same shades are also prominent in wool and cotton materials, although the latter variety is falling off in demand, as might be expected now that such cold weather has set in.

THE KIDDERMINSTER CARPET TRADE.

The Brussels branch of this industry is still in a somewhat somnolent state. Not that it is by any means intended to infer by this that business is abnormally quiet, as the number of orders booked so far quite comes up to expectations, and the outlook is considered by everyone connected with the trade far more promising than it was this time last year; but, as is usually the case after the long period of quietude which manufacturers are forced to endure throughout the summer months, progression towards a more active condition seems tediously slow, and taxes the patience to the uttermost. In the course of a week or two it is felt that business must undergo considerable expansion, as during this week almost all the firms' travellers have been despatched on their journeys, and in the ordinary course of events manufacturers should soon be in a position to commence making their goods for winter delivery. Prices remain firm, and all orders now booked will be on the advance lists issued recently. In some quarters it is feared that this may tend to check operations at the outset, but as stocks are exceedingly light buyers must soon give way. In tapestries, the demand, although better than it has been, is still restricted. With Brussels at a higher figure, however, these goods have a better chance of sale, and an increased inquiry is looked forward to.

In Royal Axminsters there is more doing, and one or two manufacturers speak of pressure. Although a long time in gaining favour, it is evident that these goods have now "caught on" for their warmth and life-long durability, and important additions are being made to the productive power at several of the works in anticipation of the future.

The condition of the wool market is hardly as buoyant as it was a week ago, and values are stationary. Transactions are pretty numerous, but considerable caution is displayed, and there is quite an absence of speculation. Worsted yarn spinners are busier, and are consigning a fair quantity of yarns to other markets.

Cotton yarns have become slightly easier. Jutes are dull, and lower in price than for some time.

Tariff News.

THE NEW AMERICAN TARIFF. THE TEXTILE SCHEDULES.

The following are the textile schedules of the McKinley Tariff Act, showing the old rates and the new. In cases where both rates are *ad valorem* or specific the difference is readily seen, but where one is specific and the other *ad valorem* the dealer can calculate the amount of the change from the market value of the article. The letters "p.c." signify "per cent. *ad valorem*," and the rates expressed in dollars and cents signify that that is the new duty per pound when ton or gallon or other standard of quantity is not expressed.

SCHEDULE I.

COTTON MANUFACTURES.

	Old Rate.	New Rate.
Cotton thread, yarn, warp, single or twisted, except spool cotton, valued at not exceeding 25c. per lb.	10c.	10c.
25c. to 40c.	15c.	18c.
40c. to 50c.	20c.	23c.
50c. to 60c.	25c.	28c.
60c. to 70c.	33c.	33c.
70c. to 80c.	38c.	38c.
80c. to \$1	48c.	43c.
Over \$1	50p.c.	50p.c.
Spool thread, not over 100 yards to spool, per dozen spools	7c.	7c.
Over 100 yards, for each additional 100 yards or fraction, per dozen spools	7c.	7c.
Cotton cloth, not bleached, or coloured, and not exceeding 50 threads to the square inch, per square yard	2½c.	2c.
If bleached, per square yard ..	3½c.	2½c.
If dyed, coloured, or printed, per square yard	4½c.	4c.
Cotton cloth, not bleached or coloured, not exceeding 100 threads to square inch, per square yard ..	2½c.	2½c.
If bleached, per square yard ...	3½c.	3c.
If dyed, coloured, or printed, per square yard	4½c.	4c.
Provided, that on all cotton cloth not exceeding one hundred threads to the square inch, counting the warp and filling, not bleached, dyed, coloured, stained, painted or printed, valued at over six and one-half (8) cents per square yard; bleached, valued at over nine (10) cents per square yard; and dyed, coloured, stained, painted or printed, valued at over twelve (13) cents per square yard, there shall be levied, collected, and paid a duty of thirty-five (40) per cent. <i>ad valorem</i> .		
Cotton cloth, not bleached or coloured, 100 to 150 threads to square inch, per square yard	3c.	3c.
If bleached, per square yard	4c.	4c.
If dyed, coloured or printed, per square yard	5c.	5c.
Provided, that on all cotton cloth exceeding 100 and not exceeding 150 threads to the square inch, counting the warp and filling, not bleached, dyed, coloured, stained, painted or printed, valued at over seven and one-half (8) cents per square yard; bleached, valued at over ten cents per square yard; dyed, coloured, stained, painted or printed, valued at over twelve and one-half (13) cents per square yard, there shall be levied, collected, and paid a duty of 40 per cent. <i>ad valorem</i> .		
Cotton cloth, not bleached or coloured, 150 to 200 threads to square inch, per square yard	3c.	3½c.
If bleached, per square yard	4c.	4½c.
If dyed, coloured, or printed, per square yard	5c.	5½c.
Provided, that on all cotton cloth exceeding 150 and not exceeding 200 threads to the square inch, counting the warp and filling, not bleached, dyed, coloured, stained, painted or printed, valued at over eight cents per square yard; bleached, valued at over ten cents per square yard; dyed, coloured, stained, painted, or printed, valued at over twelve (13) cents per square yard, there shall be levied, collected, and paid a duty of forty-five (40) per cent. <i>ad valorem</i> .		
Cotton cloth, not bleached or coloured, exceeding 200 threads to square inch, per square yard	4c.	4½c.
If bleached, per square yard	5c.	5½c.
If dyed, coloured or printed, per square yard	6c.	6½c.
Provided, that in all such cotton cloths not bleached, dyed, coloured, stained, painted or printed, valued at over 10 cents per square yard; bleached, valued at over 12 cents per square yard, and dyed, coloured, stained, painted or printed, valued at over 15 cents per square yard, there shall be levied, collected, and paid a duty of 45 (40) per cent. <i>ad valorem</i> . Provided further that on cotton cloth, bleached, dyed, coloured, stained, painted or printed, containing an admixture of silk, and not otherwise provided for, there shall be levied, collected and paid a duty of 10 cents per square yard, and in addition thereto 35 per cent. <i>ad valorem</i> .		

	Old Rate.	New Rate.
Clothing, ready-made, handkerchiefs, neckties made up by tailor or manufacturer	35 p.c.	35 p.c.
Not specially provided for ..	50 p.c.	50 p.c.
Plushes, velveteens, corduroys, and pile fabrics, not bleached or coloured, per yard	40 p.c.	10c. and 20 p.c.
If bleached, per square yard		12c. and 20 p.c.

	Old Rate.	New Rate.
If dyed, coloured, or printed (But none of the foregoing articles shall pay less than 40 p.c.)	40 p.c.	14c. and 20 p.c.
Chenille curtains, table covers ..	40 p.c.	60 p.c.
Stockings, hose, and half hose, made on knitting machines or frames, of cotton or vegetable fibre, and shirts and drawers of cotton, valued at not more than 1 dol. 50c. per dozen	35 p.c.	35 p.c.
Stockings, shaped by knitting machines or frames, or knit by hand, valued at not more than 60c. per dozen pairs, per dozen	40 p.c.	20c. and 20 p.c.
Value 60 c. to 2 dol. per dozen	40 p.c.	50 c. and 30 p.c.
Value over 2 dol. per dozen	40 p.c.	1 dol. and 40 p.c.
Shirts and drawers, valued at 1 dol. 50c. to 3 dol. per dozen, per dozen	40 p.c.	1 dol. and 35 p.c.
Value 3 dol. to 5 dol. per dozen	40 p.c.	1 dol. 25c. and 40 p.c.
Value 5 dol. to 7 dol. ...	40 p.c.	1 dol. 50c. and 40 p.c.
Value over 7 dol.	40 p.c.	2 dol. and 40 p.c.
Cotton cords, braids, boot, shoe and corset lacings	35 p.c.	35 c.
Gimps, webbing, goring, suspenders, braces	35 p.c.	40 p.c.
(Provided that none of these articles shall pay a less rate than 40 p.c.)		
Cotton damask	40 p.c.	40 p.c.
Manufactures of cotton not specially provided for	35 p.c.	40 p.c.

SCHEDULE K.

WOOL AND MANUFACTURES OF WOOL.

In this schedule the duties upon raw wools have been raised to some extent for the purpose of protecting the growers of American wool. It reads as follows:—

All wools, hair of the camel, goat, alpaca, and other like animals shall be divided for the purpose of fixing the duties to be charged thereon into the three following classes:—

Class 1, that is to say, merino, mestiza, metz or metis wools or other wools of merino blood, immediate or remote, down clothing wools and wools of like character with any of the preceding, including such as have been heretofore usually imported into the United States from Buenos Ayres, New Zealand, Australia, Cape of Good Hope, Russia, Great Britain, Canada, and elsewhere, and also including all wools not hereinafter described or designated in Classes 2 and 3.

Class 2, that is to say, Leicester, Cotswold, Lincolnshire Down combing wools, Canada long wools, or other like combing wools of English blood and usually known by the terms herein used, and also hair of the camel, goat, alpaca, and other like animals.

Class 3, that is to say, Donskoi, native South American, Cordova, Valparaiso, native Smyrna, Russian camel's hair (free), and including all such wools of like character as have been heretofore usually imported into the United States from Turkey, Greece, Egypt, Syria, and elsewhere, excepting improved wools hereinafter provided for.

The standard samples of all wools which are now or may be hereafter deposited in the principal custom houses of the United States, under the authority of the Secretary of the Treasury, shall be the standards for the classification of wools under this Act, and the Secretary of the Treasury shall have the authority to renew these standards and to make such additions to them from time to time as may be required, and he shall cause to be deposited like standards in other custom houses of the United States when they may be needed.

Whenever wools of Class 3 shall have been improved by the admixture of merino or English blood from their present character as represented by the standard samples now or hereafter to be deposited in the principal custom houses of the United States, such improved wools shall be classified for duty, either as Class 1 or as Class 2, as the case may be.

The duty on wools of the first class which shall be imported washed shall be twice the amount of the duty to which they would be subjected if imported unwashed; and the duty on wools of the first and second classes which shall be imported

scoured shall be three times the duty to which they would be subjected if imported unwashed.

Unwashed wools shall be considered such as shall have been shorn from the sheep without any cleansing; that is, in their natural condition. Washed wools shall be considered such as have been washed with water on the sheep's back. Wool washed in any other manner than on the sheep's back shall be considered as scoured wool.

The duty upon wool of the sheep or hair of the camel, goat, alpaca, and other like animals which shall be imported in any other than ordinary condition, or which shall be changed in its character or condition for the purpose of evading the duty, or which shall be reduced in value by the admixture of dirt or any other foreign substance, or which has been sorted or increased in value by the rejection of any part of the original fleece, shall be twice the duty to which it would be otherwise subject, provided that skirted wools as now imported are hereby excepted. Wools on which a duty is assessed amounting to three times or more than that which would be assessed if said wool was imported unwashed, such duty shall not be doubled on account of its being sorted. If any bale or package of wool or hair specified in this Act imported as of any specified class, or claimed by the importer to be dutiable as of any specified class, shall contain any wool or hair subject to a higher rate of duty than the class so specified, the whole bale or package shall be subject to the highest rate of duty chargeable on wool of the class subject to such higher rate of duty, and if any bale or package be claimed by the importer to be shoddy, mungo, flocks, wool, hair, or other material of any class specified in this Act, and such bale contain any admixture of any one or more of said materials, or of any other material, the whole bale or package shall be subject to duty at the highest rate imposed upon any article in said bale or package.

	Old rate.	New rate.
Wools and hair of the first class.....	10c.	11c.
Of the second class.....	12c.	12c.
Of the third class, value 13c. or less per lb.	21c.	32p.c.
Of third class, camel's hair, value 13c. or less.....	Free.	32 p.c.
Of third class, value over 13c.....	5c.	50 p.c.

Wools on the skin shall pay the same rate as other wools, the quantity and value to be ascertained under such rules as the Secretary of the Treasury may prescribe.

Noils, shoddy waste.....10c. 30c.
Woolen rags, mungo.....10c. 10c.

On noils, shoddy, top waste, slubbing waste, roving waste, ring waste, yarn waste, garnetted waste, and all other wastes composed wholly or in part of wool, the duty shall be thirty (10) cents per pound.

On woolen rags, mungo, and flocks the duty shall be 10 cents per pound.

Wools and hair of the camel, goat, alpaca, or other like animals in the form of roving, roving, or tops, and all wool and hair which have been advanced in any manner or by any process of manufacture beyond the washed or scoured condition, not specially provided for in this Act, shall be subject to the same duties as are imposed upon manufactures of wool not specially provided for in this Act.

Yarns.

On woollen and worsted yarns made wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, valued at not more than 30 cents per pound, the duty per pound shall be two and one-half times the duty imposed by this Act on a pound of unwashed wool of the first class, and, in addition thereto, 35 per cent. *ad valorem*; valued at more than 30 cents, and not more than 40 cents per pound, the duty per pound shall be three times the duty imposed by this Act on a pound of unwashed wool of the first class, and, in addition thereto, 35 per cent. *ad valorem*; valued at more than 40 cents per pound, the duty shall be three and one-half times the duty imposed by this Act on a pound of unwashed wool of the first class, and, in addition thereto, 40 per cent. *ad valorem*.

Cloth, etc.

On woollen or worsted cloths, shawls, knit fabrics, and all fabrics made on knitting machines or frames, and all manufactures of every description made wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals not specially provided for in this Act, valued at not more than 30 cents per pound, the duty per pound shall be (wool, 35 cents; worsted, 12 cents) three times the duty imposed by this Act on a pound of unwashed wool of the first class, and, in addition thereto, 40 (worsted 35) per cent. *ad valorem*; valued at more than 30 cents, and not more than 40 cents per pound, the duty per pound shall be three and one-half times the duty imposed by this Act on a pound of unwashed wool of the first class, and, in addition

thereto, 40 per cent. *ad valorem*; valued at above 40 cents per pound, the duty per pound shall be (worsted, 18 cents to 35 cents) four times the duty imposed by this Act on a pound of unwashed wool of the first class, and, in addition thereto, 50 (wool, 40; worsted, 35 to 40) per cent. *ad valorem*.

Blankets, Flannels, etc.

On blankets, hats of wool, and flannels for underwear composed wholly or in part of wool, the hair of the camel, goat, alpaca, or other animals, valued at not more than thirty cents per pound, the duty per pound shall be (10 cents) the same as the duty imposed by this Act on one pound and one-half of unwashed wool of the first class, and in addition thereto thirty (35) per cent. *ad valorem*; valued at more than thirty and not more than forty cents per pound, the duty per pound shall be (12 cents) twice the duty imposed by this Act on a pound of unwashed wool of the first class; valued at more than forty cents and not more than fifty (60) cents per pound, the duty per pound shall be (18 cents) three times the duty imposed by this Act on a pound of unwashed wool of the first class; and in addition thereto upon all the above-named articles 35 per cent. *ad valorem*. On blankets and hats of wool composed wholly or in part of wool, the hair of the camel, goat, alpaca, or other animal, valued at more than fifty (60) cents per pound, the duty per pound shall be (24 to 35 cents per pound) three and a half times the duty imposed by this Act on a pound of unwashed wool of the first class, and in addition thereto 40 per cent. *ad valorem*. Flannels composed wholly or in part of wool, the hair of the camel, goat, alpaca or other animals, valued at above fifty cents per pound, shall be classified and pay the same duty as women's and children's dress goods, coat linings, Italian goods and goods of similar character and description provided by this Act.

Dress Goods, Haberdashery, etc.

On women's and children's dress goods, coat linings, Italian cloths, and goods of similar character or description of which the warp consists wholly of cotton or other vegetable material, with the remainder of the fabric composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, valued at not exceeding fifteen (20) cents per square yard, seven (5) cents per square yard, and in addition thereto forty (35) per cent. *ad valorem*; valued at above fifteen (20) cents per square yard, eight (7) cents per square yard, and in addition thereto fifty (40) per cent. *ad valorem*; provided that on all such goods weighing over four ounces per square yard the duty (shall be 35 cents per pound and 40 per cent. *ad valorem*) per pound shall be four times the duty imposed by this Act on a pound of unwashed wool of the first class, and in addition thereto fifty per cent. *ad valorem*.

On women's and children's dress goods, coat linings, Italian cloth, bunting, and goods of similar description of character, composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, and not specially provided for in this Act, the duty shall be twelve (9) cents per square yard, and in addition thereto fifty (40) p. c. *ad valorem*; Provided, that on all such goods weighing over four ounces per square yard the duty (shall be 35 cents per pound and 40 p. c. *ad valorem*) per pound shall be four times the duty imposed by this Act on a pound of unwashed wool of the first class, and in addition thereto fifty p. c. *ad valorem*.

On clothing, ready make, and articles of wearing apparel of every description, made up or manufactured wholly or in part, not specially provided for in this Act, plushes and other pile fabrics and felt fabrics, all of the foregoing, composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals (40 cents per pound and 35 p. c.), the duty per pound shall be four and one-half times the duty imposed by this Act on a pound of unwashed wool of the first class, and in addition thereto 60 p. c. *ad valorem*.

On cloaks, dolmans, jackets, talmas, ulsters, or other outside garments for ladies' and children's apparel and goods of similar description, or used for like purposes, composed wholly or in part of wool, worsted, the hair of the camel, goat, alpaca, or other animals, made up or manufactured wholly or in part (45 cents per pound and 40 p. c.), the duty per pound shall be four and one-half times the duty imposed by this Act on a pound of unwashed wool of the first class, and in addition thereto 60 p. c. *ad valorem*.

On webbing, gorings, suspenders, braces, belting, bindings, braids, galloons, fringes, gimps, cords, and tassels, dress trimmings, laces and embroideries, head nets, buttons, or barrel buttons, or buttons of other forms, for tassels or other ornaments, wrought by hand or braided by machinery, any of the foregoing which are elastic or non-elastic, made of wool, worsted, the hair of the camel, goat, alpaca,

or other animals, or of which wool, worsted, the hair of the camel, goat, alpaca, or other animals, is a component material, the duty shall be 50 cents (30) per pound, and in addition thereto 60 (50) p. c. *ad valorem*.

Carpets, etc.

Aubusson, Axminster, Moquette, and Chenille carpets, figured or plain carpets woven whole for rooms, and all carpets or carpeting of like character or description, and Oriental, Berlin, and other similar rugs, 60 (45) cents per square yard, and in addition thereto 40 (30) per cent. *ad valorem*.

Saxony, Wilton, and Tournay velvet carpets, figured or plain, and all carpets or carpeting of like character or description, sixty (45) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Brussels carpets, figured or plain, and all carpets or carpeting of like character or description, forty-four (30) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Velvet and tapestry velvet carpets, figured or plain, printed on the warp or otherwise, and all carpets or carpeting of like character or description, forty (25) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Tapestry Brussels carpets, figured or plain, and all carpets or carpeting of like character or description, printed on the warp or otherwise, twenty-eight (20) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Treble ingrain, three-ply and all chain Venetian carpets, nineteen (12) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Wool, Dutch and two-ply ingrain carpets, fourteen (8) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Druggets and bookings, printed, coloured, or otherwise, twenty-two (15) cents per square yard, and in addition thereto forty (30) per cent. *ad valorem*.

Felt carpeting, figured or plain, (40 per cent.), eleven cents per square yard, and in addition thereto forty per cent. *ad valorem*.

Carpets and carpeting of wool, flax, or cotton, or in part of either, not specially provided for in this Act, 50 (40) per cent. *ad valorem*.

Mats, rugs, screens, covers, hassocks, bed sides, art squares, and other portions of carpets or carpeting made wholly or in part of wool and not specially provided for in this Act shall be subjected to the rate of duty herein imposed on carpets or carpetings of like character or description.

SCHEDULE T.

FLAX, HEMP, AND JUTE.

This schedule refers to raw flax, hemp, and jute, and the manufactures made from these materials. The duties upon these are as follows:—

Flax straw, 5 dols. per ton. Flax not hackled or dressed, 1c. per lb. Flax, hackled, known as "dressed line," 3c. per lb. Tow, of flax or hemp, 1c. per lb. Hemp, 25 dols. per ton; hemp, hackled, known as line of hemp, 50 dols. per ton.

Yarn, made of jute, 35 per cent. *ad valorem*. Cables, cordage, and twine (except binding twine, composed wholly of manilla, or sisal grass), 11c. per lb.; all binding twine manufactured in whole or in part from istle or Tampico fibre, manilla, sisal grass, or sunn, 7c. per lb.; cables and cordage, made of hemp, 21c. per lb.; tarred cables and cordage, 3c. per lb.

Hemp and jute carpets and carpeting, 6c. per square yard. Burlaps, not exceeding 60in. in width, of flax, jute, or hemp, or of which flax, jute, or hemp, or either of them, shall be the component material of chief value (except such as may be suitable for bagging for cotton), 11c. per lb. Bags for grain made of burlaps, 1c. per pound. Bagging for cotton, gunny cloth, and all similar material suitable for covering cotton, composed in whole or in part of hemp, flax, jute, or jute butts, valued at 6c. or less per square yard, 11c. per square yard; valued at more than 6c. per square yard, 11c. per square yard. Flax gill-netting, nets, webs, and seines when the thread or twine of which they are composed is made of yarn of a number not higher than 20, 15c. per pound and 35 per cent. *ad valorem*; when made of threads or twines, the yarn of which is finer than number 20, 20c. per pound and in addition thereto 45 per cent. *ad valorem*. Linen hydraulic hose, made in whole or in part of flax, hemp, or jute, 20c. per pound. Oilcloth for floors, stamped, painted, or printed, including linoleum, corticene, cork carpets, figured or plain, and all other oilcloth (except silk oilcloth), and waterproof cloth, not specially provided for in this Act, valued at 25c. or less per square yard, 40 per cent. *ad valorem*; valued above 25c. per square yard, 10c. per square yard and 30 per cent. *ad valorem*. Yarns or threads composed of flax or hemp, or of a mix-

ture of either of these substances, valued at 13s. or less per pound, 6c. per pound; valued at more than 13s. per pound, 45 per cent. *ad valorem*. All manufactures of flax or hemp, or of which these substances, or either of them, are the component materials, or chief value, not specially provided for in this Act, 50 per cent. *ad valorem*; provided that until January 1, 1894, such manufactures of flax containing more than 100 threads to the square inch, counting both warp and filling, shall be subject to a duty of 35 per cent. *ad valorem* in lieu of the duty herein provided. Collars and cuffs, composed entirely of cotton, 15c. per dozen pieces and 35 per cent. *ad valorem*; composed in whole or in part of linen, 30c. per dozen pieces and 40 per cent. *ad valorem*; shirts, and all articles of wearing apparel of every description not specially provided for in this Act, composed wholly or in part of linen, 55 per cent. *ad valorem*.

Lacings, edgings, embroideries, insertings, neck ruffings, ruchings, trimmings, tuckings, lace window curtains, and other similar tumbled articles, and articles embroidered by hand or machinery, embroidered and hem-stitched handkerchiefs, and articles made wholly or in part of lace, ruffings, tuckings, or ruchings, all of the above-named articles, composed of flax, jute, cotton, or other vegetable fibre, or of which these substances or either of them, or a mixture of any of them is the component material of chief value, not specially provided for in this Act, 60 per cent. *ad valorem*; provided that articles of wearing apparel and textile fabrics when embroidered by hand or machinery and whether specially or otherwise provided for in this Act, shall not pay a less rate of duty than that fixed by the respective paragraphs and schedules of this Act upon embroideries of the materials of which they are respectively composed.

All manufactures of jute, or other vegetable fibre, except flax, hemp, or cotton, or of which jute, or other vegetable fibre except flax, hemp, or cotton, is the component material of chief value, not specially provided for in this Act, valued at 5 cents per pound or less, 2 cents per pound; valued above 5 cents per pound, 40 per cent. *ad valorem*.

The duty upon "binding twine," which is especially exempted in the earlier part of the above schedule, has been reduced in consequence of a determined opposition offered by representatives and senators from the wheat-growing States in the North-west, who were anxious to shew their constituents, who use this material largely for tying up their sheaves of corn, that they were doing something to help them. This shews that where consumers are strong they have been able to a very slight extent to resist the action of the Protectionist majority.

(To be continued).

Joint Stock and Financial News.

COTTON COMPANIES.

BURNLEY SELF-HELP (HEALEYBOYD).—Profit, past three months, £410; past six months, profit, £645. 446 looms and no spinning.

HARGREAVES-STREET COMPANY (HASLINGDEN).—Profit, three months, about £150. 1,420 looms and no spinning.

LANESIDE COMPANY (HASLINGDEN).—Loss, three months, about £150. 760 looms and no spinning.

HASLINGDEN COMMERCIAL COMPANY.—Loss, three months, about £120. 1,748 looms and no spinning.

HIGHER MILL COMPANY (RAWENSTALL).—Dividend, 10 per cent. per annum. 630 looms and 19,350 spindles.

RAWENSTALL COMPANY.—Loss, three months, two mills, £237. 54,000 spindles and 1,332 looms.

NEW COMPANIES.

THE STONEHOLME ROOM AND POWER COMPANY, LIMITED.

Registered by R. Jordan, 120, Chancery-lane, W.C., with a capital of £8,000 in 25 shares. Object, to acquire from James Kay, of Burnley, the building known as the Stoneholme Shed, together with the warehouse, engine and boiler-house attached thereto. E. Jones, E. Heap, J. C. Waddington, J. Heap, and W. Whittaker are appointed the first directors. Qualification, 20 shares. Remuneration to be determined in general meeting.

IRK MILL COMPANY, LIMITED.

Registered by Chester and Co., 36, Bedford-row, W.C., with a capital of £40,000 in £100 shares. Object, to carry into effect an agreement made September 23rd between Edward J. Broadfield, of Prestwich, George Broadfield, of Kersal, and Charles and Walter Hughes, both of Manchester (trading under the style of George Broadfield and Co., cotton spinners), of the one part, and John Hood, of 12, Osborne-road, Oldham, share-broker, the promoter of an intended company to be called the Irk Mill Company, Limited, of the other part, for the acquisition of the freehold land, mill, and other buildings situate in Tonge, Prestwich-cum-Oldham, and known as Park Mill; to carry on the business of cotton-spinning only, or of spinning and doubling.

The first subscribers are:—
 Shares.
 H. Schofield, Springvale, Middleton 5
 R. Cooper, Holly Bank, Royton 5
 M. Crompton, Foxdenton-lane, Chadderton . 5
 S. Dronfield, 73, Windsor-road, Oldham .. 5
 J. Hood, 12, Osborne-road, Oldham 5
 G. Swallow, 84, Carpenter-street, Manchester 5
 C. Hughes, 5, Parsonage, Manchester..... 5

There shall not be less than five nor more than seven directors. The first are H. Schofield, R. Cooper, M. Crompton, S. Dronfield, and J. Hood. Qualification, five shares. Remuneration, £150.

Gazette News.

PARTNERSHIPS DISSOLVED.

John Berry and Wm. Green, Nottingham, lace manufacturers.

James Blakey and Robert Blakey, Sandy Gate Shed, cotton manufacturers.

Edward Adeshead and Nicholas Galattio, Rumford-street, Liverpool, cotton brokers.

John Lewis and Henry Lewis, Blackburn, cotton spinners.

RECEIVING ORDERS.

Robert Addyman, Kirkstall-road, Leeds, cloth finisher; Leeds.

NOTICES OF DIVIDENDS.

The following amended notice is substituted for that published in the London Gazette of the 19th September, 1890:—Frederick Charles Simpson (trading as F. C. Simpson and Co.), 4, Britannia-street, Leeds, residing in Springfield-place, Leeds, wholesale and export clothing manufacturer; 2s. 10d., first and final.

C. Weatherhead, Crow Nest, Bingley, and F. E. Weatherhead, Alexandra-road, Shipley (trading as Weatherhead Brothers), trading at Cromwell-road, Shipley, and at 55, Brook-street, Bradford, all in Yorkshire, worsted coating manufacturers; 1s., first and final.

Patents.

APPLICATIONS FOR PATENTS.

The names in italics within parentheses are those of Communicators of Inventions.

Where Complete Specification accompanies Application an asterisk is suffixed.

29TH SEPTEMBER TO 4TH OCTOBER.

15,356. M. DEAN, 4, St. Ann's Square, Manchester. Ornamental fabric, applicable for curtains, etc.

15,359. W. CROWTHER, Spring Terrace, Binn-Road, Marsden, Huddersfield. Bowls or pulleys in looms; also jacks.

15,421. E. APPENZELER, 17, St. Ann's Square, Manchester. Card clothing and mounting same.

15,427. J. W. NEWELL, United University Club, Pall Mall, London. Machine for cutting hair and wool.

15,428. D. BARNETT, 62, St. Vincent-street, Glasgow. Treatment of textile vegetable substances to obtain fibres therefrom, and apparatus therefor.

15,477. J. A. TUCKER, 53, Chancery-lane, London. Shuttle-operating mechanism for looms.

—[DATE APPLIED FOR UNDER PATENTS ACT, 1883, SEC. 103. MARCH 3RD, 1890, BEING DATE OF APPLICATION IN U.S.]

15,481. H. H. LAKE, 45, Southampton Buildings, London. Shuttle-driving apparatus for looms. (G. F. Butterfield, U.S.)

15,497. J. T. THORNTON, Market Place, Huddersfield. Improvements in the going part of looms for supporting the warp whilst weaving.

15,504. J. W. BERRINGTON, 13, Upper Mount-

street, Dublin. Clamping and holding flax during scutching and hackling.

15,510. E. DOUGHTY, Foxhall-road, Nottingham. Lace curtains, etc.

15,590. F. P. MIDDLETON, 46A, Market-street, Manchester. Check and other looms.

15,592. J. LOFTUS, 4, St. Ann's Square, Manchester. Drawing-out motion of mules and twiners.

15,641. W. COURTENAY, 23, Southampton Buildings, London. Shuttles.

15,642. W. CAMPTON, 23, Southampton Buildings, London. Machines for seaming together knitted or looped fabrics.

15,649. R. SCOTT, 131, Noel-street, Nottingham. Jacquards and bars.

15,656. W. J. FORD, 4, Shenton-street, Leicester. Twisting or doubling of threads.

15,671. J. R. GEIGY, 89, Chancery-lane, London. Brown colours which may be diazotised on fibre, and then combined with phenoles or amines.

15,680. J. BRINTON and Co., LIMITED, and T. GREENWOOD, 55, Chancery-lane, London. Looms for the manufacture of tufted or pile fabrics.

15,684. L. KERN, 53, Chancery-lane, London. Preventing escape of noxious gases in making shoddy mungo or extracts.

15,701. J. H. CLIBRAN and G. BROWNING, Oldfield, Altrincham. Weaving selvages.

15,702. C. CHEVRON, 4, Corporation-street, Manchester. Machines for measuring fabrics.

15,705. G. WHITELEY, 20, Charles-street, Bradford. Card-setting machines.

15,706. D. MARRIAGE, 17, St. Ann's Square, Manchester. Cop or bobbin tubes used in ring spinning or doubling frames.

15,709. G. WHITELEY, 20, Charles-street, Bradford. Wire cards for clothing carding machinery.

15,717. D. BATCHELOR and T. C. KEAY, 87, St. Vincent-street, Glasgow. Pickers for looms.

15,727. W. BRADBURY and J. GRAYSON, 8, Quality Court, London. Shuttle guards for looms.

15,743. W. DAVIDSON, 12, Ashcroft-road, Grove-road, Mile End, London. Colours.

SPECIFICATIONS PUBLISHED.

1889.

14,699. NUSSEY and LEACHMAN. Pressing, etc., fabrics. 8d.

17,104. CROSSLAND and BROOK. Looms. 8d.

17,149. HOYLE and SMITH. Combing machines. 6d.

17,204. IMRAY (The Farbwerke Grietham-on-Main Wilhelm Noetel and Co). Colouring matters 4d.

17,312. ROWBOTHAM. Finishing felt hats. 6d.

17,544. BIRCH and THOMSON. Marking cotton goods. 4d.

17,845. DAVIS and ORS. Knitted articles. 11d.

17,874. COOPER. Folding, etc., fabrics. 8d.

17,901. KIDDER and ORS. Rotary knitting machines. 8d.

17,957. IMRAY (Actien Gesellschaft fur Anilin Fabrikation). Colouring matters. 4d.

18,221. EVES. Spinning flax, etc. 6d.

18,310. BROADBENT, W. and H. Drying wool, etc. 8d.

19,337. MAGNIN and RICBOURG. Jointed belting. 8d.

1890.

9,388. COCHRAN. Cleaning cotton seed. 8d.

11,405. LOVERING. Textile fabrics. 8d.

11,493. WORMALD and WASHINGTON. Looms. 8d.

SECOND EDITION.

1888.

13,547. HURST (Fenton). Spinning machinery. 8d.

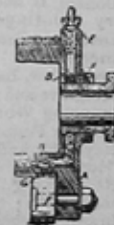
ABSTRACTS OF SPECIFICATIONS.

7,167. April 30, 1889. Looms. B. BERRY, 128, College-road, Bradford, and D. B. BACOS, Ludlam-street, Bradford.

Picking tappets.—Lubricant from a chamber B in the tappet A falls through a passage G on to the tappet bowl F. An air valve E closes by its own weight as it passes on the lower side. [6d.]

7,185. April 30, 1889. Sizing and painting window curtains, etc. A. J. BOWLE, 222, High Holborn, Middlesex.—(D. A. Pugs, E. C. and M. E. Bird; Chicago, Illinois, U.S.A.)

Fabrics are taken from a roll, sized upon one or both sides, thoroughly dried, painted upon both sides, again dried, and finally re-wound, all in one machine. For sizing upon one side only, the fabric is passed through the sizing tank in contact with a cylinder. After sizing it is pressed upon the pins carried by blocks on cables, which work in inclined guides to stretch the fabric, and is dried by a steam coil. It is then led through the painting tank, and subjected to the action of reciprocating and rotary brushes to distribute and rub in the paint and remove the surplus. It is again dried by a steam

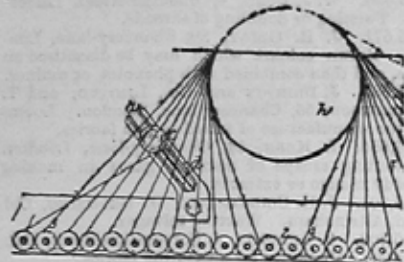


coil, and finally re-wound on a frictional driving roll, the driving pulley being carried on a weighted arm. [Is. 24. Drawings.]

7,328. May 1, 1889. **Spinning.** A. J. BOULT, 225, High Holborn, Middlesex.—(F. Nichols; 15, Rue de Richelieu, Paris.)

Breaking flax, etc.—China grass, flax, hemp, etc., is fed between rollers, which are grooved spirally, the width of the grooves being about equal to that of the stalks. From the rollers the material passes down an inclined table, and while supported by an elastic "counter-beater" is beaten by rotary beaters; it then falls on to rotary rollers, which pass it on to an inclined delivery apron. The "counter-beater" consists of a series of slightly flexible angle irons, and the rotary beaters are mounted loosely on bars carried by end plates. [84d. Drawings.]

7,322. May 1, 1889. **Spinning.** T. JENNY, Sabadell, Spain.



Driving spindles.—In order to ensure regularity in the rotation of the spindles of mules or other spinning machines, a number of spindles are driven by the same band, and the band is kept at a uniform tension by means of a weighted pulley supported freely in suitable guides. In the arrangement shown in the drawing the cord is passed from the spindle 1 round the drum A to the spindle 2 and thence to the spindle 3, from which it passes again round the drum A to the spindle 4 and so on. If the driving drum be horizontal the

band is passed alternately round the drum and round one of the spindles. c is the tension pulley mounted in guides a and held by the weighted cord d. [Is.]

7,290. May 2, 1889. **Finishing fabrics.** A. GAUVE, 49, Rue Pascal, Paris.

The superfluous float threads, connecting the different parts of devices on tulle, nets, laces, embroideries, and similar fabrics, are cut by a number of blades A, terminated by a small ball or lenticular part B, and arranged in a handle alternately with plain metallic stems D. The blades may act in connection with flat springs, fixed at the other end of a frame and terminating in a grooved or slit lenticular part to engage with the point of the corresponding blade. The blades may be replaced by scissors or similar cutting devices. [84d.]

7,297. May 2, 1889. **Fabrics.** F. H. BOWMAN, Union Mills, Felling-lane, Halifax.

Lace and other reticulated and woven fabrics are produced or modified by using chemically prepared groundwork or yarns, which may be afterwards destroyed by heat. In the case of lace, etc., a suitable design is embroidered upon the groundwork in animal, vegetable, or metal threads. In woven or felted fabrics, the prepared yarns are woven or worked into them, either as draw threads, or part of the fabric itself. A solution of aluminium chloride is preferred for the treatment, and the groundwork or yarn may be sized to prevent contact with the rest of the fabric. [84d.]

7,315. May 2, 1889. **Humidifying fibrous substances.** J. T. PEARSON, 4, Calder Vale-road, Burnley.

Wet yarn in cop form is placed on a web of canvas or cloth, which is passed through a tank and wound alternately on rollers. Longitudinal ribs on the web prevent undue pressure on the material to be moistened. The web may be folded, and the material placed between the folds. [84d. Drawings.]

7,326. May 2, 1889. **Looms.** J. C. MURPHY, 55, Chancery-lane, London.—(A. J. Laval-Charlet; Armentiers, France.)

Picking motion.—The stick D is connected by a strap T with a heavy beam F carried by a rock shaft K, which is operated through an arm N by a cam S on the shaft C. The stick is operated for picking by the fall of the beam F, and is returned by a spring Q. In some cases a tappet, jointed to the heel of the stick, may receive the blow of the beam F. Weights K may be placed on a beam as required. [84d.]

7,328. May 2, 1889. **Looms.** J. JAGGER, Riflan Glen, Esopus, New York, U.S.A.

Relates to the driving, shedding, picking, jacquard, take-up, and cloth measuring mechanism of looms for weaving velvet pile and Brussels loop, intermingled in one cloth or carpet. [84d. Drawings.]

7,386. May 3, 1889. **Calendering fabrics.** E. CHADDER, 62, Wellington-place, Longsight, Manchester.

In order to run the calenders continuously, an accumulation of fabric in fold is formed in advance of the machine to allow the attendant time to attach the end of another piece of cloth. For this purpose the fabric is taken from the roll or box by draw rollers and folded by rods, which are traversed from the box on curved guides by levers and cams. The empty box is released from its bearings and allowed to slide down guides by pushing the full box against inclined levers, which form part of the said bearings. [84d. Drawings.]

PATENTS.
W. P. THOMPSON & CO.
Agents for procuring Patents and Registering
Trade Marks and Designs,
6, Bank St. (Exchange), Manchester,
6, Lord St., LIVERPOOL; and 323, High Holborn, LONDON,
Largest Patent Agency in Great Britain.
"Facts for Inventors" (Pamphlet sent free on application).

TEXTILE MACHINERY, APPLIANCES, &c.—DIRECTORY OF MAKERS.

Auctioneers:

Rushton, Edward, and Son, Blackburn, and Manchester.

Salisbury & Hamer, Blackburn and Manchester. Unsworth, Geo., Manchester.

Bandings, Tape and Tubular:

Hart, Thomas, Blackburn.

Belting:

Greenwood, John, and Co., Ltd., Todmorden.

Reddaway, F., and Co., Pendleton.

Rosendale Belting Co., Manchester.

Sampson and Co., Stroud.

Bobbins, Spools, Shuttles:

Kay, John, Rochdale.

Livesey, Henry, Limited, Blackburn.

Wilson Brothers, Todmorden.

Boilers:

Galloways, Limited, Manchester.

Calenders:

Hoyle, E., and Sons, Limited, Halifax.

Riley, J. H., and Co., Bury.

Card Clothing:

Whiteley, John, & Sons, Halifax.

Cement, Mineral Fusible:

Fox and Williams, Manchester.

Chemicals:

Grimshaw Bros, Clayton, Manchester.

Cop-Tubes:

Jagger & Co., Oldham.

Cop-Tubing Apparatus:

Jagger and Co., Oldham.

Cotton Driving Ropes:

Hart, Thomas, Blackburn.

Cutters (Spiral) and Ledger Blades:

The Smith's Patents Co., Sheffield.

Gold and Silver Wire:

Makinson, E. and W. G., Preston.

Driving Ropes, Bandings, &c.:

Hart, Thomas, Blackburn.

Dust Fuel Furnace:

Donkin, B. and Co., London.

Emery Filleting:

Dronsfield Brothers, Oldham.

Engines:

Goodfellow, Ben., Hyde.

Musgrave and Sons, Ltd., Bolton.

Engineering Work:

Bransby Foundry and Engineering Co., London.

Hoyle, E., and Sons, Limited, Halifax.

Fire Hose:

Reddaway, F., & Co., Pendleton.

Furnace Bars:

Bransby Foundry and Engineering Co., London.

Hydraulic Presses:

Dickinson, Wm., & Sons, Blackburn.

Hoyle, E., and Sons Limited, Halifax.

Hydro-Extractors:

Broadbent, Thomas, and Sons, Huddersfield.

Indicators:

Orms, G., and Co., Oldham.

Jacquard and Card Cutting Machinery:

Devoe & Co., Manchester.

McMurdo, James, Manchester.

Knitting Machinery:

Harrison, W., Manchester.

Lattices, Pegs, Jacquard Slips, &c.:

Livesey, Henry, Limited, Blackburn.

Stone and Burnett, Preston.

Looms etc.:

Butterworth and Dickinson, Burnley.

Dickinson, Wm., & Sons, Blackburn.

Dugdale, John, and Sons, Blackburn.

Hacking and Co., Bury.

Hall, Robert, and Sons, Bury.

Hutchinson, Hollingworth, and Co., Dobeross, Oldham.

Livesey, Henry, Limited, Blackburn.

Pemberton and Co., Burnley.

Platt Brothers and Co., Limited, Oldham.

Schofield and Kirk, Huddersfield.

Shaw, Wright, Stockport.

Machinery (Cotton):

Bethel, J., Manchester.

Curtis, Sons and Co., Manchester.

Dobson & Barlow, Bolton.

Guest and Brookes, Manchester.

Hetherington, John, and Sons, Manchester.

Holden, G. H., and Co., Manchester.

Horrocks, John, and Son, Manchester.

Howard and Bullough, Accrington.

Hurst, W., Rochdale.

Lees, Ass. and Co., Limited, Oldham.

Lord Brothers, Todmorden.

Platt Brothers and Co., Limited, Oldham.

Stubbs, Joseph, Manchester.

Tatham, John, and Sons, Limited, Rochdale.

Taylor, Lang and Co., Stalybridge.

Machinery (Dyeing, &c.):

Dickinson, Wm., & Sons, Blackburn.

Heppenstall, E., Huddersfield.

Riley, J. H., and Co., Bury.

Machinery (Silk):

Curtis, Sons and Co., Manchester.

Dobson & Barlow, Bolton.

Guest and Brookes, Manchester.

Holden, G. H. and Co., Manchester.

Horrocks, John, and Son, Manchester.

Platt, Brothers and Co., Limited, Oldham.

Stubbs, Joseph, Manchester.

Sykes, John, and Sons, Huddersfield.

Taylor, Lang and Co., Limited, Stalybridge.

Machinery (Sizing, Filling, &c.):

Dickinson, Wm., & Sons, Blackburn.

Riley, J. H., and Co., Bury.

Machinery (Woolen and Worsted):

Curtis, Sons, and Co., Manchester.

Dobson & Barlow, Bolton.

Guest and Brookes, Manchester.

Hetherington, John, and Sons, Manchester.

Holden, G. H. and Co., Manchester.

Horrocks, Jno., and Son, Manchester.

Lees, Ass. and Co., Limited, Oldham.

Platt Brothers and Co., Limited, Oldham.

Stubbs, Joseph, Manchester.

Sykes, John, and Sons, Huddersfield.

Tatham, John, and Sons, Limited, Rochdale.

Taylor, Lang and Co., Stalybridge.

Oil:

Wells, M. & Co., Manchester.

Oil Cans and Oilers:

Jagger & Co., Oldham.

Royle, W., Atherton.

Patent Agents:

Bosshardt, F. & Co., Manchester, Oldham, and Stockport.

Thompson, W. P., & Co., Manchester, Liverpool and London.

Pickers, Picking Bands, &c.:

Greenwood, John, Todmorden.

Picker Steepers:

Green, James, Blackburn.

Pistons:

Lancaster and Tonge, Pendleton.

Roller Leather:

Meredith-Jones, J., and Sons, Wrexham.

Shuttles:

Kay, John, Rochdale.

Livesey, Henry, Limited, Blackburn.

Pickles, Robert, Burnley.

Walton and Halstead, Hebden Bridge.

Wilson Brothers, Todmorden.

Greenwood, John, Todmorden.

Sizing and Filling Preparations:

Adley, Tolkin, and Co., Blackburn.

Eastwood, James, Manchester.

"Gloy" Manufacturing Co., London.

Grimshaw Brothers, Clayton, Manchester.

Smoke Consumers:

Greaves, W. McG., Manchester.

Steam Traps:

Lancaster and Tonge, Pendleton.

Tambouring Threads, Braids, &c.

Makinson, E. and W. G., Preston.

Technological Handbooks:

Bell, George, and Sons, London.

Temples, etc.:

Blezard, James, and Sons, Padiham.

Lupton Brothers, Accrington.

Tools (Machine):

Hetherington, John, and Sons, Manchester.

Ventilation:

Blackman Ventilating Co., London.

Renshaw and Co., Manchester.

Rothwell, John, Farnworth.

Warping Machinery (Sectional):

Bethel, J., Manchester.

Wire, Gold and Silver:

Makinson, E. and W. G., Preston.

Wire Heads:

Barlow, H. B., and Co., Cornbrook, Manchester.

Yarn Assorting Balance:

Thomas, G. and Co., Manchester.

Yarns, Coloured:

Makinson, E. and W. G., Preston.

Yarn Testing, &c., Machine:

Wallwork, Henry, and Co., Manchester.