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Advertisements in our various departments must be inserted in the Manchester Office not later than Tuesday morning to receive advantage of the next issue.  

NOTICE.  
The Editorial and Publishing departments of The Textile Mercurv have been removed from Street Street, to larger premises.  
Carn Street, Blackfriars, Manchester,  
where all communications should be addressed.  

THE TEXTILE MERCURY.  
VOL. VII. NO. 168. SATURDAY, JULY 29, 1892.  
OFFICES: CARR-ET., BLACKFRIARS, MANCHESTER,  
LONDON OFFICE—121, NEWGATE STREET, E.C.  

Mr. Thomas Birtwistle’s Appointment.  
Mr. Thomas Birtwistle’s Appointment.  

As we stated last week, provided the 24th clause of the Factory Act of last year was enforced at all it is perhaps as well that its administration should be entrusted to one of its parents, in order that its ameliority may be fully brought home to the manufacturers.  

The means we may judge by the manner in which he has been received by the minds of the public of an erroneous impression set afloat by the London correspondent of the Manchester Guardian, who, in his letter published in that journal on Monday, referring to Mr. Birtwistle’s appointment and the steps he had to perform, says:—“The practical knowledge which Mr. Birtwistle possesses of the weaving trade specially qualifies him for his new appointment—which, I believe, will give very general satisfaction.  

Indeed it was recommended to Mr. Matthews, I understand, by the employers and operatives associations in this city, that he was the man to fill the position.  

Undoubtedly Mr. Birtwistle possesses much practical knowledge, of a section of the weaving trade—the grey cloth trade; less of some of the special branches, and probably of the woollen, worsted, silk, linen, and jute industries; but for those outside cotton he possesses no special qualification whatever.  

And for the cotton trade he was at one time a cotton broker. He appears in another column observes, many young men, quite as well qualified, and who in other respects would not have required the regulations governing such appointments to be set aside, could have been found.  

We wonder, therefore, where the correspondent of our contemporary got his “understanding” from; it certainly is not accurate.  

We expect it arose—like the statement made by Sir Henry James to the House of Commons when the late Bill was before the House before the close of the session—in the mind of some person of singular force.  

The right hon. gentleman declared to the House that the manufacturers’ associations had agreed to the Bill as it then stood; whilst at the very moment of his speaking there was within his view in the House a strong representation of manufacturers from nearly all the textile industries, who were there solely with the purpose of opposing it; and Mr. Frovold, M.P. for a Glasgow division, was waiting ready prepared to move an amendment to the Bill.  

There was not a single association of manufacturers, nor do we believe there was a single manufacturer who had so expressed his approval and was authorised to speak for another beyond himself.  

And yet such a declaration was made to the House, and greatly influenced the result! Outside Parliament such lively incitements are spoken in unparliamentary language.  

The Depression Condition of Business: Is the Fancy Trade leaving Manchester?  
Events during the past few weeks have amply confirmed the views so frequently voiced of late regarding the depressed condition of the trade, and in the manufacturing districts of the North.  

Such that an old-established and respected concern as Hall, McKay & Co., Manchester, has, as I understand, found it necessary to call a meeting of creditors, in order to ascertain the real position of the business, and to determine whether any changes in management should be made.  

We have before us also a list of the creditors of the well-known firm of Sharp, Murray, and Co., which occurs.  

The liabilities in this case (exclusive of share capital) exceed £35,000, but the assets are larger still.  

Amidst the week’s announcements of voluntary windings-up, the name of the well-known firm of Sharp, Murray, and Co., occurs.  

We have before us also a list of the creditors of the well-known firm of Sharp, Murray, and Co., the liabilities exceeding £35,000.  

Some of the creditors are manufacturers of twilled linings.  

It has been generally assumed that the waterproof trade is in an extremely flourishing condition throughout the country, but it is evident from this that the statement is not susceptible of universal application.  

The strain upon the resources of home-trade, shipping, and manufacturing concerns has, during the past few months, been extremely severe, and a continuity of the depression for some time prevalent in the South American and Eastern markets can only be regarded with the utmost gravity.  

As a rule the opinion of good authorities concerning the results of the half-year’s operations is that dividends will be found smaller than those of last year.  

So far we have had declarations from J. F. and H. Roberts, Limited, Pavon and Co., Limited, and Devos, Routledge and Co., Limited, of 2½, 5, and 6½ per cent., respectively for their houses, it should be noted, had quite as bad a time as their opponents in the North.  

There is a widespread opinion that much of the fancy business in this city has been lost to the competition of the Metropolis.  

The idea is prevalent that it has been accepted as correct in many quarters.  

By the term “fancies” we include ribbons, studs, shapes, and other “light” goods, as distinguished from linens, flannels, blankets, and articles of a coarser or heavier description.  

No one has ever disputed the position of Manchester in this respect; in regard to the latter: draperies in all parts of the Kingdom are unsatisfactorily recognising the expense of the older and more widely-known centres.  

Bradford stuff houses now transact business in London without red tape, and the sale of woollen piece-goods in Manchester has fallen off greatly, owing to increased demand for ready-made clothing now largely supplied by the London and other manufacturing Leeches concerns, and to a smaller extent by Bristol, where such firms as the Cookes have widely-extended connections.  

But with the city of London, which has in the whole, the whole, retained, if not extended, its “heavy” connection.  

And so to factories, we commend the statement of a well-known London merchant the other day to the notice of our readers.  

As to factories, we commend the statement of a well-known London merchant the other day to the notice of our readers.  

Asked whether it was true that the fact of the trade was gravitating to London, our informant replied in the negative:—“Whether the trade is leaving Manchester or not I cannot say,” he said; “but, pointed with a sigh, across an excellently stocked sales department, “it is not,” he added, “coming here.”  

Messrs. Beale & Speake, Kendal, Ford, and other Manchester authorities, please note and take heart.  

The gentleman we have quoted is well-known and respected by all of us.  

AUSTRO-HUNGARIAN EMBROIDERIES.  
That finest of all textile arts, the art of embroidery, continues to a somewhat lingering existence in places and the position it once held places them above the necessity of considering the cost of the article produced.  

It is well that it should be so, otherwise the art would be likely to perish altogether.  

The many excellences of result in embroidery can be wondrously closely approached by mechanical processes, and at a time of the cost.  

Embroidery is, we hold, a pursuit that should render it exceedingly popular with ladies of simple means and refined tastes.  

The art is the parent of the modern art of painting, as most of the artists of early times worked to produce sketches for the embroiderers of their day.  

As such, it should be as otherwise the art would be likely to perish altogether.  

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Embroidery is, we hold, a pursuit that should render it exceedingly popular with ladies of simple means and refined tastes.  

The art is the parent of the modern art of painting, as most of the artists of early times worked to produce sketches for the embroiderers of their day.  

As such, it should be as
such a scale. Mme. Manckiewicz (who is the wife of the Austrian Consul-General at Dresden) shows considerable power of design, and her result, the sea, is powerful and full. The peacocks, too, on the steps of a castle, are executed with much skill; their plumage shine as in a picture by Veronese. The set of embroideries has been much admired in several exhibitions in Germany, and also in the Austro-Hungarian section of the Paris Exposition of 1889. It is now being shown in London for the benefit of that very useful charity the Austro-Hungarian Association. Should such exhibits as these not stimulate English manufacturers to make use of this modern time to take up this charming pursuit?

The Continental Cotton Trade.

It would indeed be remarkable had the Continental cotton trade not felt severely the great and long-continued depression from which the parent English trade is suffering. A circular issued at the close of the past month by Mr. Gustave Haac, of Bremen, slightly lifts the veil and shows us that it has not escaped our troubles. Mr. Haac says that according to a considerable number of advices from the most reliable sources, both spinners and manufacturers have been for a long time working without margin, and often making considerable losses. The result in the long run is a succession of crises that the crisis will not pass away without serious failures, and declares that several firms are already in very strait circumstances. Having regard to the present supplies of the raw material, the dullness of the trade and the fact that the new crop is almost upon us, only a great disaster to it could justify any advance upon prices, but even that, with average conditions an important and considerable decline only can naturally be looked for to the early future. This fact simply confirms the views all along expressed in these columns.

The Position of Oldham Spinning Companies.

Our Oldham correspondent writes:—Almost all the results of the June stock-takings of Oldham spinning companies have been announced. These present a return, though far from encouraging to the investor, much more favourable than was anticipated. They have been described as 'good and bad.' For instance, Deane, however, has shown a profit, but here and there a bad loss has turned up. Such losses are declared by Astley, Hathershaw, New York, Ridgefield, and West End, each of which companies. As to figures, an explanation is required. The mill, it seems, was closed for five weeks of the half-year through a breakdown, during which period extensive repairs were undertaken, and the cost has been charged to revenue, which thus materially swells the adverse balance. The Ridgefield directors state that 'the engines have been stopped about five weeks of the quarter, which of course includes the three weeks' lock-out, and the loss has to a great extent been brought about by the series of stoppages.' The West End directors also intimate that their loss 'is accounted for by the three weeks' stoppage,' free allowed for a bad debt, allowed for a loss of revenue from breaking-up mules and frames, and the generally unfavourable state of trade throughout the quarter. In other instances the serious fall in value of the cotton taken place has had to be 'bottomed,' and it is currently reported that a few, including some who have announced profits, are yet seen the cost of their higher-priced cotton. However, in spite of these drawbacks, there is every indication that the year's trade of Oldham spinning companies will come out much better than was anticipated a month ago, if we may take the results just declared as anything like a criterion of what may be expected during the remainder of the year. The manufacturers have declared stock takings for the end of June as:

<table>
<thead>
<tr>
<th>Borough (six months)</th>
<th>Profit</th>
<th>Dividend</th>
<th>Credit</th>
<th>Balance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chadderton (half year)</td>
<td>800</td>
<td>.3</td>
<td>.6</td>
<td>97</td>
</tr>
<tr>
<td>Clough</td>
<td>80</td>
<td>.4</td>
<td>.6</td>
<td>94</td>
</tr>
<tr>
<td>Greaves</td>
<td>10</td>
<td>.5</td>
<td>.5</td>
<td>95</td>
</tr>
<tr>
<td>Harrow</td>
<td>100</td>
<td>.5</td>
<td>.5</td>
<td>95</td>
</tr>
<tr>
<td>Hasling</td>
<td>85</td>
<td>.5</td>
<td>.5</td>
<td>95</td>
</tr>
<tr>
<td>Hollandwood</td>
<td>300</td>
<td>.4</td>
<td>.6</td>
<td>94</td>
</tr>
<tr>
<td>Ivy</td>
<td>100</td>
<td>.5</td>
<td>.5</td>
<td>95</td>
</tr>
<tr>
<td>Moss (six months)</td>
<td>1,600</td>
<td>.6</td>
<td>1,600</td>
<td>94</td>
</tr>
<tr>
<td>Mount (six months)</td>
<td>350</td>
<td>.5</td>
<td>350</td>
<td>95</td>
</tr>
<tr>
<td>Newley</td>
<td>450</td>
<td>.5</td>
<td>450</td>
<td>95</td>
</tr>
<tr>
<td>New London</td>
<td>400</td>
<td>.5</td>
<td>400</td>
<td>95</td>
</tr>
<tr>
<td>Oldfield</td>
<td>225</td>
<td>.5</td>
<td>225</td>
<td>95</td>
</tr>
<tr>
<td>Ossett</td>
<td>250</td>
<td>.5</td>
<td>250</td>
<td>95</td>
</tr>
<tr>
<td>Parkside</td>
<td>700</td>
<td>.5</td>
<td>700</td>
<td>95</td>
</tr>
<tr>
<td>Peel (six months)</td>
<td>1,400</td>
<td>.5</td>
<td>1,400</td>
<td>95</td>
</tr>
<tr>
<td>Penworth</td>
<td>200</td>
<td>.5</td>
<td>200</td>
<td>95</td>
</tr>
<tr>
<td>Rochdale</td>
<td>900</td>
<td>.5</td>
<td>900</td>
<td>95</td>
</tr>
<tr>
<td>Rose Mills</td>
<td>150</td>
<td>.5</td>
<td>150</td>
<td>95</td>
</tr>
<tr>
<td>Royal</td>
<td>50</td>
<td>.5</td>
<td>50</td>
<td>95</td>
</tr>
<tr>
<td>Roydon</td>
<td>250</td>
<td>.5</td>
<td>250</td>
<td>95</td>
</tr>
<tr>
<td>Spenfield</td>
<td>500</td>
<td>.5</td>
<td>500</td>
<td>95</td>
</tr>
<tr>
<td>Stonely</td>
<td>250</td>
<td>.5</td>
<td>250</td>
<td>95</td>
</tr>
</tbody>
</table>

Advise balances (a) Long (b) Short (c) Oldham (d) Oldham (e) Oldham (f) Oldham.

* On Preference shares.

Losses.

<table>
<thead>
<tr>
<th>Borough</th>
<th>Long</th>
<th>Adverse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Albert</td>
<td>675.5</td>
<td>2,758.5</td>
</tr>
<tr>
<td>Allison</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Astley</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Covenhuyse</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Dovers</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Duke</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Garforth</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Green's</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Hatherleigh</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Hey</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Honeywell</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Hope</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Huddersfield</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Lessington</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Longfield</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Middlesbrough</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Moss Lane</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Moortown</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>New York</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Oldham (six months)</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Ossett</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Quickley</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Ridgefield</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Sun Mill</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>West End</td>
<td>200</td>
<td>2,200</td>
</tr>
<tr>
<td>Wessington</td>
<td>200</td>
<td>2,200</td>
</tr>
</tbody>
</table>

Insects and Silk.

It has been generally supposed that moths and other insects do not meddle with silk, but it was asserted some time ago by the Secretary of the Chinese Embassy at Berlin that in the Celestial Empire it was a well-known fact that moths did learn to spin as well as to other materials; and he alleged that a parcel of silk goods despatched from China to Berlin had been so badly eaten that the moths had obtained access to the cloth and destroyed them. A German savant, to whom this statement was made, was much surprised, and made diligent search for corroborative evidence; but he could not discover in any work bearing on the subject the slightest scrap of information, and he has not in any way been able to clear up the matter whether it is the sugar-insect, or the little creature Lopita saccharina, or some insect, the larva of which finds an agreeable home in the fibres of the silk, it is a problem, inscrutable, impossible to determine. Of more practical importance is the question how mischief of this kind, whatever it be, is to be prevented. The nature of the destroyer, can be ascertained, it can be shown, but it is not conclusive. It is exceedingly probable that this cotton destruction is not confined to the east but can be engaged. Out of new cotton fields in the far East would not help her much. Such a conclusion would, however, be very suspicious. Cotton is accordingly to be treated from its devastations. Of course the most obvious precaution is extreme care when the silk is packed, but it does not contain any form of animal life which might feed upon it. The best way of ensuring this is to use the method which Dr. Ross, the ardent in question, is to iron the silk by means of an iron made as hot as is consistent with the preservation of the appearance of the fabric. Another precaution is the deposition of the silk in a suitable vessel to the action of histidine of carbon, care being taken of course to prevent injury to the colour. Vapour of ether and alcohol are also useful. The treatment of either of these substances to the colouring has been ascertained previously by experiments. Then comes the packing, concerning which Dr. Ross gives the following directions:—In cases of zinc, or still better of tinned sheet-iron; of course they ought to be air-tight, and care ought to be taken that the stuff used in the packing paper, or any other material employed, is quite free from insect germs or the seeds of fungi. Parchment paper is pronounced especially good: the edges should be gummed down with gum, which corresponds to. Patent or some other salt of quicksilver in an appropriate solution has been added. In the best of silks, stuffs that are too delicate to be as near to any of the methods mentioned for riddling them of insect germs, it is advisable to strike them for a considerable time in air-dried object; and so do the linguistic manner in which she watches every movement of English policy. Like Russia and the United States, France exhibits her willingness to sell her surplus production and any specialities she can manufacture and dispose of in foreign markets, and would gladly take gold instead of goods in payment; though as yet she has not been able to gratify the wish in this direction as fully as she desires. Whether the French will ever succeed or not remains to be seen, and may be left to the future to reveal. A superficial glance at the conditions of cotton production would lead to the conclusion that raising up new cotton fields in the far East would not help her much. Such a conclusion would, however, be very suspicious. It is exceedingly probable that this cotton destruction is not confined to France in such a manner as to yield a handsome profit. Its capabilities are hardly yet known to many countries; very likely it is closely kindled to the native East, and Japan and China, which we venture to assert the West has not yet paid sufficient attention to. That is cotton from its devastations.
known hard cottons of Brazil. They have hitherto been much in demand at home in the domestic industries existing in the countries where they are grown. During the Cotton Famine in this country, caused by the American Civil War, wherefore the cotton vanished from the market, the larger part of the material for the spindles and looms of Lancashire, some of the best qualities of these cottons for cloth, and for fabric, was taken 1,654,664 lb., compared with 352,700 lb. Of linen piece-goods the shipments to the West Indies account for nearly all the increase. As to machinery, the increase is due to the large shipments of spindles to Spain, made in order to escape the heavier duties which came into force on the first of this month. Below are the printed particulars of the imports and exports of textiles, etc., for the month:

1. Imports of Foreign and Colonial Merchandise.

<table>
<thead>
<tr>
<th>Principal Articles</th>
<th>Quantity</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton, raw</td>
<td>2,264,710</td>
<td>18,526,010</td>
</tr>
<tr>
<td>Hemp</td>
<td>75,852</td>
<td>1,274,562</td>
</tr>
<tr>
<td>Linen</td>
<td>15,610</td>
<td>159,400</td>
</tr>
<tr>
<td>Woollen and Worsted Yarn</td>
<td>3,882</td>
<td>490,840</td>
</tr>
<tr>
<td>Flax and Linsey</td>
<td>2,654,530</td>
<td>12,270,300</td>
</tr>
</tbody>
</table>

2. Exports of Cotton and Wool Manufactures.

<table>
<thead>
<tr>
<th>Principal Articles</th>
<th>Quantity</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton Yarn and Twist</td>
<td>10,973,420</td>
<td>15,284,000</td>
</tr>
<tr>
<td>Piece Goods</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Manufactures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood, sheep, and Lamb</td>
<td>2,264,710</td>
<td>18,526,010</td>
</tr>
<tr>
<td>Woollen and Worsted Yarn</td>
<td>3,882</td>
<td>490,840</td>
</tr>
<tr>
<td>Flax and Linsey</td>
<td>2,654,530</td>
<td>12,270,300</td>
</tr>
</tbody>
</table>

3. York Coverlets.

Old-fashioned ornaments relating to textiles, we have already given numerous examples. They are of interest as indicating in a fairly accurate manner the methods adopted by our ancestors for the purpose of regulating trade abuses. Some of the Acts of Parliament reveal many of the tricks of trade practised by our ancestors. There was the Act, for instance, relating to the penalties for stretching cloth—a practice which the weavers of old were very fond of, for, as we are informed, the technology of the time, "they did unlawfully stretch the cloth upon a rack, whereby buyers were cheated." Another quaint Act is the 35 and 36 Henry VII., chapter 1, entitled "The Bill for the making of Coverlets at York." The preamble was as follows:


The ninth edition of Worrall's Cotton Spinners and Manufacturers' Directory—a publication which, though usually excellent, seems to yearly increase in value—contains the usual tabular summaries showing the approximate number of spindles and looms in the districts covered by the work, which, while primarily containing prices and information on various towns, such as Stockport, that, though predominantly Cheshire, industrially belong to the County Palatine upon the staple industry of which they are so large, the number of cotton mills dealt with is 1,218, containing 43,904,727 spindles and 615,279 looms. The following table contains some of the details of which these totals are composed.
not been imposed against us, and which constitute our chief markets, such as India, China, and Japan, our industry has been successfully planted; and in two instances, India and Japan, has taken good and flourishing luxuriously.

The industrial and economic conditions of these countries are highly suitable for its growth: the raw material required can be and is grown in considerable abundance on their shores, and in many instances water is available as a motive power. But the greatest advantage of all is that there is abundance of fine, intelligent, docile, and enterprising labour, which needs only comparatively little training, organisation, and special cultivation, to make it the equal of the best in Lancashire. For it should be remembered that bad work cannot now be made from any one, unless it be deliberately put out of order—so perfectly automatic in their actions have they all become in the constant attention and quickness of movement. Putting a bobbin in a creel, or piecing up a dropped thread, requires very little skill indeed, and certainly comparatively as much dexterity by a Hindoo, a Chinaman, or Japanese, as by a Lancashire man, and the task would be gladly undertaken by any of them at very greatly reduced cost compared to that of the Lancashire man. In view of the attitude assumed by the trades-unionists of Lancashire on the subject of foreign trade, it is clear that the cotton trade of Lancashire is now and probably for a long time to come a matter of concern, if not of interest, to all the other cotton countries.
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THE COMPETITION WITH THE LANCASHIRE COTTON TRADE.

A WARNING TO LANCASHIRE OPERATIVES.

The Textile Mercury, ever since its foundation, has repeatedly drawn attention to the rapidity with which the staple industry of Lancashire is being carried abroad and planted in other lands. Only those who make it a subject of special observation have more than a very vague impression of the degree to which this movement has already extended, and the accelerated rapidity with which it is being carried on.

A full comprehension of its magnitude would satisfy the minds of many of those who are now puzzled as to the origin of the wretched state that has prevailed in the kingdom, the goods manufactured being only for those who foretold a hundred years ago earned his reputation; and even in the present day, many drapers have never had a wholesale road. The main cause of the company's closing its mills and retiring from the trade is the depression in the cotton trade.

But there are others, not quite so apparent, that we may be pardoned for bringing a little more fully to the notice of these gentlemen and the public, so frightfully misleading. It is well known to them that our merchants often export goods to the Eastern and other distant markets, at no profit at all, and even occasionally at a small loss. This is done in order that they may require to import the productions of those countries into these islands, and there is a little economy in paying for their purchases in Lancashire and elsewhere, which is conveyed by the merchant's office, and placed, the small profit, the sol, or the loss, placed opposite each. When the profits have accumulated a little, the buyer will accept a small loss upon a transaction in cotton goods, which will enable him to get another through on the other side. When we speak of a loss, we mean about a halfpenny on the piece on a shilling, or a farthing on a shilling, etc. Upon such small trifles does business often depend. For the operatives therefore to increase the cost of production by any means whatever, and especially by wasteful and inefficient handling of the raw material, will cause the manufacturers to lose by this in any way whatever depreciating the value or increasing the cost of production by the amount of this halfpenny or farthing per piece, is to impose an insuperable obstacle to their employer obtaining an order that might keep his mills going for a month.

We have recently shown, by detailed statement of the progress of the Bournay and Japanese cotton trades, that there is and prospectively severe competition in the cotton trade. There is no bogey of an alarmist's imagination, but a stern fact. Further: more than one cotton mill is either near starting or projected in China; and a Lancashire man is just now nearing the shores of Australia, engaged to superintend its first plantation in Queensland. Whether he will grow his cotton and supply the industry to the mill. To disregard these signs is to take time only be looked upon as an evidence of the deepest consternation on the part of those interested, whilst on going on harrowing employer, by petty persecutions and intrigues, have for years past indulged, but has hastened the time when the further conduct of the trade will simply be impossible. And it will need very little more of the conduct to which we refer to bring this about. A trade that has already been reduced to making a return of only one per cent, per annum upon the hundreds millions of capital invested, is already standing upon the very edge of destruction. The enormous losses recently revealed by the joint-stock companies, owing to the decline of cotton prices, is a powerful indication of the terrible contingencies under which the trade is conducted, and which no skill can eliminate. Under such losses, it would not take long to exhaust the capital of most of the institutions. Such losses have for years past been charged, and where the cotton is most cheaply made, and the weaver's wages may be had upon the most advantageous terms. The result has been that the Lancashire trade has been carried abroad and planted in other lands.
to lead them to control in some degree the wild sentiments of ignorant hatred they are apt to indulge and express towards their employers, as such conduct is fraught with far more immeasurable results than any of which they have as yet formed a conception.

**Bleaching, Dyeing, Printing, etc.**

ALIZARIN A STUDY IN CHEMISTRY. III.

(Continued from Page 457, Vol. VI.)

The next group of oxyanthraquinones to be considered are those which contain three groups of hydroxy and therefore are called the trixo-, or, more accurately, the trihydroxy-anthraquinones. If the student will consider the possible ways in which these three hydroxy groups may be arranged, with regard first to the two benzene rings and secondly to the positions in which they may be arranged, he will find that a large number of isomers are possible, and that he can place them all in one row. There are two isomers in this way, not having regard to the idea that the two rings may be treated, as it were, in formations in such isomers, then he can arrange them in the two rings, two in one and one in the other. In this way we have already exceeded the case of the dibydroxy-anthraquinones. Of the large number of possible trixyo compounds that theory says are quite capable of existing, only a few are at present known, so that there is room for further research in this series of chemical compounds, that are known, and those that are known possess dyeing properties, and are very useful, while others have no such properties, and are of no use at all. Purpurin is a reddish yellow paste, dyeing albumen-mordanted fibres a bright red, and silk that has been mordanted with chrome a fine brown of a red tone. On albumen-mordanted fibres it also dyes brown—a feature that distinguishes it from some of the other isomeric indigo dyes. It is a more valuable dye-stuff, as the colours it yields are quite fast and very durable.

For instance, it is a trihydroxy-anthraquinone, and, like the last, has all three hydroxy groups in one benzene ring, but it is the same isomer as purpurin. Purpurin occurs naturally in the madder root along with alizarin, but not to the same extent. It is prepared from alizarin by a process similar to that used for alizarin, from which it can also be obtained by extra-drying. Purpurin differs very much from alizarin in appearance and dyeing properties. The first is a brown paste, dyeing albumen-mordanted fibres a fine scarlet to red shades, which have not the blue tone of the alizarin scarlet.

Anthrapsarxin, an isomer of purpurin, has the three hydroxy groups distributed between the two benzene rings, two in one and one in the other; the latter in the beta position, the others in both positions. In appearance anthrapsarxin is not unlike alizarin, but it is a different substance. Commerically it forms most of the "alizarin for reds," as it dyes aluminum-mordanted fibres a bright red, without some of the blue tone of alizarin.

Flavopurpurin is also a trihydroxyanthraquinone, being the green group of the trixo, but is not unlike alizarin, although it is not used as an alizarinpurpurin, but in slightly different positions. Flavopurpurin forms the green bulk of the alizarin for scarlets of commerce, as it dyes aluminum-mordanted fibres fiery red shades having a yellow tint. Both alizarin and flavopurpurin are present in commercial alizarin of all shades: the alizarin blue shade contains but little, that for reds a fair proportion, while that for scarlets or yellow shade alizarin consists almost entirely of flavopurpurin, and as this brand is perhaps the most valuable commercially it is seen that these two dye-stuffs are of equal importance, or it may be attributed to alizarin itself, and very much more than purpurin.

Hydroxyanthraspin is another trihydroxy-anthraquinone. This body possesses weak dyeing properties, dyeing reds rather deeper than purpurin scarlet, but it has not been met with any application in the dyeing industry. Although not actually used in dyeing, it forms the source for producing the dye-stuff known as alizarin Bordeaux, into which it is converted by the action of sulphuric acid and mordanting agents.

Oxyanthrarbin is the last of the trixyo-anthraquinones that are known to exist. It has at present no technical use, although it will dye mordanted fibres in the same way as alizarin; quite possibly it may become of use in the preparation of dye-stuffs, as the last compound has done; for by subjecting it to the action of oxidizing agents it can be converted into compounds, some of which may prove of use in dyeing and calico-printing.

**TESTING OF INDIJO-DYED GOODS.**

To learn whether a piece of blue-dyed goods has been dyed with a pure indigo blue, the following test may be made:—Boil the goods with water, which should not become coloured in any way. (2) Boil with alcohol, which should not extract any blue. (3) Boil with strong solution of alum. The indigo has been used in the dyeing of the goods the alcohol will become coloured. (4) Boil the goods with a little ferric chloride; a pure indigo dye will not impart any colour to it. If the box solution be coloured red, then logwood has been used in the dyeing of the goods. (6) Boil with aniline blue, then aniline blue, an indigo extract, has been used. (4) Boiling with weak soda does not affect indigo-dyed goods, but Prussian blue is turned brown, and alkaline blue is discharged. If the goods are subsequently passed into an acid bath, then the colour is restored in each case.

**PREVENTION OF TENDERING IN DYEING ON INDIGO BROWNS.**

As is well known, the white discharge colour for vat-indigo-dyed cotton goods is made with potassium bichromate, soda, and dye. It is finer in the same process. If the goods are then passed through a bath of five gallons water, sulphuric acid, and 3 lbs. salic acid, for one minute, at a temperature of 90° F. They are then heated to a boil, next well washed in water, and then treated in a bath of soda ash for a half-hour, rinsed again, and dried. By this operation those parts on which the discharge colour has been printed are tempered to the extent of 50% of their strength. By the action of the chromic acid, formed by the action of the sulphuric acid on the chrome of potash, the cotton is converted into oxycelulose, which is more or less affected by the alkaline bath through which it is subsequently passed, and the fabric is tendered. Many remedies have been suggested for this trouble, says A. J. D. in the London Manufacturer, or, in other language, to pad the blue-dyed pieces before printing in a bath of solution of soda.

Albert Scheurer, however, has recently shown that this effect of the chloride is to prevent the discharge color from penetrating so far into the substance of the cloth as it would otherwise do, and this same effect can be obtained by making the chloride of sodium. Scheurer proposes the addition of manganese chloride or tartar emetic to the acid bath. Koechlin proposes to add two parts of the chloride to every ten parts of the bath, the result being reported good. Brandt, the last to use an addition of 10% of alcohol, thereby preventing the formation of oxycelulose in the bath. To ascertain the effect of the chloride, a piece of cloth was dyed and printed, and then divided into swatches; these were then passed through acid baths, containing various quantities (from 2 to 10%) of alcohol. They were then dyed in a bath of brilliant blue, and washed and printed on the printed parts against the whites of the printed parts. A swatch was also passed through an acid bath, containing 10% of alcohol, and washed. The results are much better than when glycercine is employed. The only question is whether the extra cost compensates for the advantage gained in not affecting the strength of the cloth.
A mixture for gum arabic is prepared by taking 40 parts Irish moss and steeping in 1,200 pints of cold water until the moss has swollen. All insoluble parts are then filtered, and the liquid is evaporated down after 6 parts of carbonate of potash have been added, until a little takes place, when it is poured on a piece of cold glass. It is strained, and silicate of soda, sugar candy, and gelatine are added.

Some New Textile Compounds.—When indigo is acted on with a mixture of zinc dust and acetic acid the indigo is converted into white indigo and rendered soluble, the solution being available, if necessary, for dyeing. If a mixture of zinc dust, sodium acetate, and acetic acid be used, a new compound is obtained known as diasetyl indigo white—a product forming needle crystals; and if these be heated with acetic acid and a drop of alcoholic acid a fine red colour reaction is obtained, which, however, is but momentary, as oxidation soon occurs. As indigo white yields indigo on oxidation, so acetyl indigo white yields acetyl indigo in the form of crimson red scaly crystals. By the action of alkalis the acetyl indigo is decomposed into ordinary indigo. In strong sulphuric acid this acetyl indigo dissolves with a green colour, turning blue on heating, and the ordinary indigo sulphonic acid (the indigo extract of commerce) is obtained. Acetyl indigo is at present of no technical use, but it is of scientific interest as likely to throw some light upon the constitution of indigo.

Making-off in Alizarin-Printed Goods. This is a source of trouble to the calico printer, who very much dislikes the production of the red stripes on the white portion of alizarin-coloured goods. With a view to ascertain the cause and the conditions under which these stripes are produced, Mr. J. E. Jacquet has made a number of experiments. He caused the printed goods to be sent through the steaming box both horizontally and vertically, with the result that those sent through horizontally were more badly stained than those sent through vertically, the cause probably being that the alizarin was carried forward by the steam. Alizarin printed on unbleached goods causes less than that printed on unbleached cloth. An acid condition of the printing colour, which may be caused by the use of alumina, and (c) the cloth, is also caused to mark-off partly because of the slow fixation of the colour as a colour lake on the cloth. To obtain further information a pattern was printed from a heavy blotch roller with an alizarin red, and the printed material was then steamed in contact with (d) white cloth, (e) oiled cloth, (f) cloth impregnated with alumina, and (g) cloth oiled and impregnated with alumina. After being soaked there was no stain on the white cloth; there was a slight stain on the oiled cloth; and a very bad stain on the cloth impregnated with alumina. A design having much white ground printed and of a considerable size caused the marking-off. The same color printed by hand and roller on unprepared cloth showed no stain on the former, but the latter was stained, the roller being sufficiently damp to give the cloth the small amount of alumina required to fix the alizarin, which sublimes more or less from the printed parts of the cloth. The stains, it is well remembered, are always on the face side of the cloth, and never on the back, which would be the case if they were caused by the steaming. The remedy is to add some citric acid to the oil used in preparing the cloth.

Letters from our Readers.

MR. BIRTWISTLE'S APPOINTMENT.

(To the Editor of the Textile Mercury.)

Sir,—Perhaps it is hardly necessary to draw your attention to the appointment of Mr. Birtwistle as Examining Officer of Particulars, ranking as a Factory Inspector under the Factory Act of 1851. Surely when the Act was passed it was never contemplated that the Government would take the position of the Trades' Unions, and help to force the hand of the manufacturer by giving a trade-union secretary an official appointment and a handsome salary to go from mill to mill taking particulars of the goods woven. Even the operatives themselves must have thought it a surprise. Had such an appointment been at all necessary, it might have been made from the overflowing ranks of applicants hundreds in number, who would not enter the service with prejudice on one side or the other, and who moreover could comply with the regulations of age, examination, etc. One feeds some curiosity as to whether Mr. Birtwistle has complied with all these.

Certainly he is many years above the limit of age, It is certainly a surprise to his friends, both on the side of the masters and operatives, who have always admired his thoroughly “jannock” character, to find that he has lent himself to such an arrangement.—Yours, etc., July 2nd, 1852.

Textile.

German manufacturers are complaining of the disturbance of some firms in Holland. This country, even so sound commercially, is said now to harbour many doubtful elements, and the Fatherland is declared to be their favourite field of operations.

Designing.

NEW DESIGNS.

FANCY COTTON GOODS.

Designs D and F are given for the purpose of producing cotton suiting in solid woven colours or piece-dyed, presenting soft, fine
pleasing and attractive fabrics in buffs, slates, drabs, deep blues, red fawns, mauves, terra-cotta, dark gas-green, myrtle, light and mid blue, etc. Good cream tints, or white, well bleached, would be found very suitable for ladies' jackets, blouses, and vestings. The two designs, if properly constructed, will give a texture possessing capital features for out-door wear and exercise.

Design D has a straight-over draft on 22 shafts, 22 to the round. We have no desire to dictate to the manufacturer what amount of material shall be used in reproducing these designs, which are given simply as suggestive of what may be effected in the formation of a fabric. The hints which we offer are to set forth ideas concerning style. We consider, however, that the following particulars will go far in producing a good, serviceable cloth: 32 dents per inch, two in a dent, 20's cotton twist for warp and weft, drawn in two in a heald and two in a shed of weft, 90 picks per inch. To obviate a very extensive round, the bobbin well might be wound on double. Of course heavier or lighter cloths may be easily obtained by altering the counts of weft and quantity of picks. This is a greater power of producing a fine compact texture than would be the case in ordinary weaves. Considering that no colour is employed by way of variation, the ornamentation depending principally upon the nature of the weaves, these designs will be found useful and the fabrications pleasing to the eye.

Design E, same particulars as D, so far as counts of warp, weft, and picks; on 18 shafts, 36 end draft, 36 to the round may be woven grey, then bleached and piece-dyed in any of the fashionable colours; good beetle finish would be desirable.

FIGURED WOOLEN CLOTH.

Design 1 is an example of a type of woollen cloth capable of much development. Designers as a rule are afraid of using long flush weaves with anything like ordinary woollen sets, but a little experience in this direction will prove that, provided suitable yarns are selected, some really exquisite effects may be produced—mostly, however, suitable for mantles, fancy waistcoatings, and carriage rugs. Evidently a very open, loose fabric will be produced in the loom, but if a good quality of yarn be employed, and a large amount of shrinkage allowed for in the finishing, a well-covered, firm cloth results, in which the colours are beautifully blended. A twist warp as follows, with solid sett, will show up the configuration without too strong a contrast.:

HAY.
All 22 sk. black and white twist woolen 10's red 4%. 1 1/2 sk.
All 22 sk. solid black 80 spin woolens; 40 picks per inch.

A striped warp may be used, but the best result is undoubtedly obtained with a distinct difference between warp and weft.

The full figure is constructed as shown in Design 4, repeating on 64 threads and 64 picks. The reversed portions may be considerably lengthened if desirable. It will further be observed that the weaves cut throughout this, of course, depending on the weaves combined. For example, Design 4 was first tried as the fancy weave, but would not cut; then Design C (practically the same effect) was inserted and cut all round. Such little matters are of much importance.

Many effective drafted patterns may be constructed on a similar scheme, to the same sett.

ZEPHIR GINGHAM

A gingham check, 40 dents per inch, 2 in a dent for the plain ground, 4 in a dent for satin stripe; 36's warp yarn; 86 picks per inch of 36's weft, 8 shafts (see the numbers on design and pegging plan, by which the pattern given may easily be followed): 12 white, 4 dark blue, 12 white, 4 dark blue, 12 white, 4 dark blue, 12 white, 4 dark blue, 12 white, 4 dark blue; 12 white, 4 dark blue threads, all drawn on the shafts numbered 1, 2, 3, 4; then 48 dark blue on 1, 2, 3, 4 shafts; 8 white, 4 in a dent on 5, 6, 7, 8 shafts; 36 white, two in a dent on 1, 2, 3, 4 shafts; 8 white, 4 in a dent on 5, 6, 7, 8 shafts; 12 dark blue two in a dent on 1, 2, 3, 4 shafts, and repeat from first 12 of white.

The weft pattern is the same, only the 8's of white in the crossing must go on the treads in the pegging plan marked 5, 6, 7, 8. Good calender finish.
Machinery and Appliances.

Important Improvements in the Mule.


It might be almost expected to strike every person not very intimately and perfectly acquainted with the construction of the cotton spinning mule, after the progress that has been recorded during the past fifteen or twenty years, that there could not be room for further great improvements in this machine. To conclude this, however, would imply an imperfect knowledge of this, perhaps the most beautiful, ingenious, and complex piece of mechanism that

the whole range of industrial mechanics offers to the consideration of the student. It is in the complexity of its structure, its numerous parts, the variety of their functions, and the necessity of their harmonious interaction, that the inventor finds scope for continued improvement. The male of to-day, as turned out of our leading establishments, is a marvel of perfection when contrasted with what it was thirty years ago. And yet notwithstanding this, the greatest efforts continue to be made to carry what is approximately perfect nearer to absolute perfection. The mechanical anatomist and synthesist, as the inventor may be called, is privileged to watch how each part performs its function, and to take down and improve any one that may display the slightest shortcoming, to add anything that will amend and cast away any superfluous part, whilst the spinner, impelled by ever increasing competition and the necessity of reducing the cost and increasing the amount of production, impels him on the path of improvement. Owing to the

an equal extent, thus ensuring uniform tension upon the rope. It consists of an intermediate adjustable carrier pulley which permits the taking-in band to be all in one length, instead of in two separate bands as in the ordinary arrangement; and it also, on account of the long distance through which the pulley may be moved, dispenses with removal of the bands for shortening for a much longer period, which has to be done so frequently in cases where only a small amount of adjustment can be obtained by a depressing pulley.

2nd.—Strap-Hastening Motion: This is a lever connected to the sliding block on the coping rail, and as the rail drops the lever is correspondingly lifted; thus as the crop increases in length it gradually accelerates the movement of the strap to the fast pulley.

3rd.—Patent Spring Clip Anti-Snaking Motion: This is a click held in position by a weighted spring instead of in the usual manner by a weight. It slightly retards the locking of the front spindle catch-box, thus

because of its liability to jump out of gear. It is substituted by a pair of catch boxes, which are locked in gear by a new patented locking motion, which operates during the first 3° of the outward traverse of the carriage. After the carriage has moved out this distance they unlock automatically. The weaker spring now used in connection with the drag motion is tightened sufficiently to draw the carriage out, but the occurrence of any obstruction would cause the boxes to open and stop its outward movement, and prevent the breakages and accidents that otherwise frequently occur. In the event of an operating being caught between the outgoing carriage and a pillar, the machine would stop before killing him or inflicting serious injury. Any other material obstruction would similarly result in stoppage.

4th.—New Patent Clip for Check Band: Managers of spinning rooms are familiar with the great waste of checkband that occurs, owing to wear rendering them too short. The wear generally occurs at the knot, and

Fig. 1. First Front View of Improved Head-stock. Messrs. Asa Lees and Co., Limited, Oldham.
THE TEXTILE MERCURY.

March 2, 1889.

breakeage renders useless the remainder of the band, because knots in its length are not permissible. This improvement permits the provision of a yard or two of spare band, which practically secures to a single band a life of two years instead of the short one now so general. It consists of a clip constructed in halves and fitted into a frame, which, as well as the clip, is conical in form. The greater pull upon it and the firmer is the hold. When the hinged arm to the roll is moved away it can be replaced by drawing upon the spare band through the patent clip. The value of the improvement in an economical sense will be obvious.

5th.—Taylor's Patent Open Bolsters.—This is a simple yet valuable improvement, as with this form of bolster spindles will run a month without oiling, can be run at a very appreciably higher speed, and are more easily disconnected, always gear again at the same tooth. This causes much less wear that after having been in service for a comparatively short time they produce snails and frequently break. This improvement obviates all the difficulty.

6th.—Improved Double-Action Tightening Frame for Scroll Bands.—This arrangement tightens the band for both scrolls at once. This is accomplished by employing one band connecting both scrolls, and passing over a tension pulley mounted inside the carriage square. By drawing this pulley to the front both bands are tightened at once.

7th.—Improved Tin Roller Bearings and Arrangements for Oilings: The length of these bearings have been increased in double the diameter of the tin-roller shaft. This gives easier and steadier running than before, and diminishes wear and tear. There is an im-

Fig. 2. Second Front View of Improved Hea Stock.—Messrs. A. A. Lee and Co., Limited, Oldham.

proved arrangement for oiling, which consists of a conductor extending from the front of the carriage to the bearing. The oiling is therefore done from the carriage front, the conductor delivering the oil to the bearing. The lubricating can therefore be done whilst the mule is at work, but as an additional safeguard the bearings are also supplied with tallow cups.

8th.—Improved Arrangement of Rim Band: In this arrangement every band is level and parallel, and the bottom pulley is arranged to be self-adjusting, falling by gravitation every time the band becomes slack at the commencement of a stretch or draw, when the weight is first thrown upon it. More even working and less risk of bands flying off are the advantages gained.

9th.—Automatic Cog-Bottom Governing Motion: There is an ancient maxim, the truth of which is universally recognised, affirming that if you want a thing doing well you must do it yourself. This has long been transferred to the domain of mechanics, in which it stands

kept cool than the closed ones. They are kept constantly lubricated through the open spaces by means of a cloth saturated with oil. Result: Economy of oil and greater production.

7th.—Taylor's Patent Spindle Steps.—The spindle feet are placed and run in a trough of oil, which is covered to keep out the dust. The advantages of diminishing friction in economising power and reducing wear and tear will be obvious without comment.

8th.—Patent Strap-Slaying Motion.—This arrangement can be set to pull the strap from the fast pulley from 9 to 12° before the cam changes. Combined with it is a Treadle Strap Pulling-off Motion. This is a treadle independent of the one used for taking in. Its function is to stop the mule when the carriage is coming out, which it does whilst the strap is on the fast pulley. It enables the attendants to clean and oil the loose pulleys on the counter-shaft while the shafting is working.

9th.—Interlocking of the Drawing-out,
substantially as follows: that if you want good work from a machine, you must make it do everything automatically. As long as the formation of the cop bottom was left in charge of the minder, it was exceedingly liable to be faulty, thereby entailing great waste, especially in well cups, where the bottoms could only rarely be woven down to a low point, and still more rarely could they be woven quite off. This improvement is to secure the automatic formation and government of the construction and size of the cop bottom, whereby the percentage of waste is reduced considerably. It is a simplification of all previous arrangements, and consists of a quadrant attached to the latter finger, which gears into a wheel driving a scroll, to the end of which the ordinary shortening motion chain is attached. The arrangement can be adjusted to make any size of cop bottom, after which it needs no further attention, performing its work in the same manner until some further alteration is required.

2oth.—Yarn Easing Motion: The practical observer, when watching the operations of mules, quickly notes the fact that the most breakages of the threads occur in the changes of the action of the mule, say at the end of the winding process, the commencement of the new stretch or draw, and the backing-off and the commencement of the winding. The breakages occur through the difficulty of maintaining a uniform tension of the threads under the considerable range of action of the various parts during these changes. This appliance is to ease the yarn, especially when backing-off, and so to prevent the frequent breakages that originate in this change. It has also another important advantage: it builds a firmer and harder cop, thereby enabling more yarn to be put upon it, and giving more weight in a doffing. These points will be appreciated.

2oth.—Patent Self-acting Nosing Motion: This is the new and ingenious arrangement that we have already described in our issue of February 15th last. We may briefly repeat its salient points. These are that it adjusts the winding at the nose always every draw. As the cop is being formed, the shaper is advanced every draw, and pushes forward one end of the horizontal lever which passes across the headstock. The opposite end is thus drawn backward. Upon its extremity is a hook which is enclosed at the bottom of a vertical lever, to which is attached an adjustable connecting rod from the ‘nosing’ lever. Through this connection the revolution of the spindles is uniformly accelerated, and at such a rate as accurately to compensate for its diminishing diameter, thus building up a firm, sound nose throughout the length of the cop. This invention will be highly appreciated, especially amongst weft spinners, as it will tend very greatly to prevent the breakages of the cops in the shuttle during weaving, and the waste that frequently arises from entanglement of the yarn at the nose of the cop.

22oth.—The Patent Full Cop Stopping Motion: This arrangement can be set to stop the mule at doffing time when a given number of draws have been made, thus ensuring all cops having same length of yarn on, and checking the counts if the weights of each doffing are compared.

In briefly summarising the preceding we may say that the makers in constructing this mule have carefully considered the urgent requirements of the trade in the way of obtaining great production. This, of course, can only be obtained overcome, by which more regularity in the strength of the yarn is assured.

This mule can be made to work entirely automatically, the governing, nosing, and anti-snarling motions being made self-acting, so that they are not dependent upon the attention of the minder; and another stops it automatically at doffing time. By a patented arrangement it is made impossible for two motions to be in gear at the same time, thus reducing the liability to break-downs. There is less risk of fire, because all bearings are of extra length, and are made of phosphor bronze. All pulleys are balanced. The tin rollers are specially arranged for oiling when at work, and all tin rollers are coupled together and balanced in complete sets before leaving the works. The tin roller bearings are fixed in self-adjusting steps, which are provided with stops and lock-nuts. The special self-lubricating spindle steps and bolsters are introduced when desired. All the
parts of this mule are made on the duplicate system, and are, consequently, interchangeable, and can be applied to other models of similar size. The carriages are made of very strong and carefully selected seasoned timber, fitted with diagonal roller bearings, and connected on an improved system. The carriages on the mules are bored underneath with 1 in. timber, fixed with screws instead of nails. The bottom fluted rollers are of the firm's special makes, and can be case-hardened if desired, either all over or in only specific areas.

The headstock is built from entirely new stuff, and is designed to give a firm, steady action to the mules made by the firm for the past ten years, the success of which has been abundantly proved. The framing has been strengthened throughout, and ensures freedom from vibration with mules of even 2,000 spindles each. The back part is made in one piece, the whole being done at one setting, and the boring at another; and each part is finished by special machinery, capable of accuracies, and exact similarity. Every bracket is tongued and grooved into the framework, reducing the strain on the bolts. The driving pulleys on rim shaft are 18 in. to 26 in. in diameter, and are made with two lock nuts to prevent any lateral movement. A very important feature is that every shaft which requires a key is countersunk, so that one half of the key is embedded in the shaft itself, and the slipping of keys on the flat is impossible.

The improved arrangement of speed-wheel gearing, in which the change-wheel (speed wheel) in the frame is replaced instead of being set in a block by a bevel wheel, is retained, but the new speed wheel has a range of from 50 to 120 teeth, instead of 18 to 30 teeth as in the old plan, and the wheel increases in size as the counts go finer and the twist required is increased. This arrangement enables the twist to be more accurately regulated, as each tooth produces a smaller change. The rim pinion is now also a changeable wheel, and being placed outside the bearing can be readily changed without disturbing the shaft. In mills where a wide range of counts are spun this will be found to have a great advantage. The back-off friction cone is 21 in. diameter. The taking-in friction is 12 in. in diameter and firmly mounted on a case-hardened shaft.

Any shaft in the headstock can be taken out without disturbing any other shaft. The scroll shaft has three bearings, all bearing on the frame, and is so arranged that it cannot be strained even under sudden and excessive pressure. The "Redwood" or drag lever has been disengaged with, on account of its liability after running some length of time to produce snarls, through the wheels always gearing in the same plane. In lieu of the old arrangement, a catch box of large diameter is fixed on the back-shaft. Drug change wheels up to 300 teeth can now be used. The back shafts are 15 in. diameter, faller shafts 10 in. diameter, and counter faller shafts 8 in. diameter, and for fine spinning mules the latter are mounted on anti-friction bowls.

The shafts in the driving apparatus are zinc, diameter and running in long bearings. All bearings in connection with rim band also are bushed with self-lubricating steel and provided with separate oil holes and tallow cups. All band pulleys in the headstock are balanced, and all pulleys on the rim shaft are turned inside and outside to eliminate binding.

In this mule the cam-shaft, which is undoubtedly the best and safest method of making the cam-shaft, is made as a whole, as in any mule without cam-shaft the different changes can be easily upset, thereby causing bad spinning and inferior yarn. The particular pattern of cam used in this mule is of a form of careful design, extending over a long period on counts from 4's to 190's. It is absolutely correct at all stages, and is so constructed that the wear and tear has been made to involve the independent driving of bottom rollers, in middle of each half, can be applied to long mules. This arrangement enables the bottom rollers in long mules to be driven with as little torsion as in short mules.

The tin rollers are coupled together at the works the full length of the mule, and are perfectly balanced and tested by being run at much quicker speed than will ever be required in actual work. The bearings run in self-adjusting stops, allowing the rim rollers to be free. These bearings are fitted with oil holes and tallow cups, and can be oiled from the front without stopping the mule. The tin roller stops are also fitted with stops and adjustable screws to prevent any moving of the same. In place of two scroll bands only one is used, this being made of the taking-in scroll, and passing over a tightening pulley in the square, actuated by a tightening screw fixed to the front of the square, so that both sides of the band are exactly of the same tension.

The band pulleys are so arranged that the bands cannot rub or fray on the sides of the pulleys; the bottom pulley falls by gravity if the band is too slack, which prevents the band from slipping off. Two, three, or four grooved rims can be used with tin roller pulleys 10 in. to 12 in. diameter. If required the tin roller pulleys and click wheels can be made in halves to facilitate changing.

The trouble on which difficulty is caused is that a faller in driving apparatus at a greater distance from the rim shaft and thus getting a larger down shaft without coming in contact with the treadle or any part of the shaft. We need only further add that in its general construction this mule is so designed that it can be desired, and well calculated to sustain the high reputation that the firm long ago acquired and has steadily maintained. Practically all the fabrics are prepared to erect mules containing 1,000 spindles and upwards in the finest assurance that in practical working they will give the highest satisfaction, at a spindle speed of more than 12,000 revolutions per minute.

Should any further information be desired, the firm will be pleased to afford it on application as above.

The suspension of Miers, William Bell and Co., we understand, is a temporary measure in connection with the extensive failure of the Western Gazette. Mr. Bell has been well and favourably known in Carlisle and Bombay for the last 25 years, and much sympathy is felt for the firm. The liabilities are very moderate at Ka. 25,000; the assets and outstanding being about Ka. 5,000.
THE TEXTILE MERCURY.

July 8, 1892.

News in Brief.

England.

Ashton-under-Lyne.

Good progress is being made in the erection of the new mill for the Rock Spring Co. at Warrington.

Birmingham.

Mr. J. A. Bright (U.), cotton spinner and carpet manufacturer, has been re-elected M.P. for the Central Division.

Blackburn.

Mr. W. H. Hornby (C.), cotton spinner and manufacturer, and Mr. W. C. Doig (C.), cotton spinner and manufacturer, have been re-elected M.P. for Blackburn. Mr. Eli Heywood, manufacturer, and Mr. W. Y. Shepherd, manufacturer, were unsuccessful in the Liberal interest.

Bolton.

Mr. H. Shepherd, cotton spinner, one of the late Mr. Thom. Cross, cotton spinner, has been re-elected M.P.

Messes. J. and T. Garnett's Cox Green Mills have had to be enlarged to cope with increased business. The workmen employed on the extension had a rearing dinner on Saturday, at the Volunteer Arms, Bromley.

Bradford.

Mr. A. Chilvers (L.), worsted spinner, has been re-elected M.P. for Bury.

Sir Henry James has been re-elected M.P. for Bury by a good majority.

Many of the mills in town on Wednesday were closed during the whole day, although others were closed only during the afternoon, the occasion being the day of election.

There is no foot at the Bury and Elton Co.'s Mills, Elton, owing to the firm having adopted the vote principle, and in consequence of the removal of disaffected ones of their carders. The hands resent this, and allege they are not paid up to the list, and consequently they have not the removal of their disaffected ones.

The firm considering that they are acting within their rights, have decided to put the matter in the hands of their Association's secretary, but no settlement has been arrived at.

The gymnastics and sports held at a meeting on Wednesday at noon, and agreed to tender their notices on Thursday morning, both to act on them again.

The workpeople have placed the matter in the hands of their Association's secretary, but no settlement has been arrived at. The gymnastics and sports held on Wednesday, were announced to be held at a meeting on Wednesday at noon, and agreed to tender their notices on Thursday morning, both to act on them again.

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Cooke's long interest in the market." Another report says: The firm is one of the oldest and most respected in the business. Mr. Bancroft Cool, being the president of the Cotton Association. The failure has caused a great amount of dissatisfaction on the part of the cotton makers, who have been the chief buyers of the firm's goods. The business is one of the oldest and most highly respected in the market, and a great deal of sympathy is expressed for the sufferers. Formerly known as "Mossman." The report is distinctly clear concerning the cotton mill. Mr. Chafin is the manager, and Mr. Chaffin is the agent for the firm. The business is a large one, and the firm has been in the cotton business for a long time. The mill is situated in a large building, and is the largest of its kind in the city.

London.
Mr. W. F. Beazley, formerly in the silk trade, has been elected M.P. for Stepney. Mr. J. T. Taylor, who is engaged in the jute trade, has failed to secure his election as M.P. for St. George's, Tower Hamlets.

Manchester.
Mr. C. E. Schwan (L.), merchant, has been elected M.P. for North Manchester.

Nottinham.
We much regret to have to record the death of Mr. Edward Manlove, chairman of the board of directors of the Nottingham and Allerton Ltd. The funeral took place on Tuesday. Mr. Manlove, who was 65 years of age, was a prominent figure in the early life of the city, and afterwards a director at the Royal Bank of England.

Nottingham is the capital of the Nottinghamshire district, and the second largest city in the county, after Derby. The city is situated on the River Trent, and is the centre of a large manufacturing district. The river is crossed by a number of bridges, and is navigable for small boats. The city is well supplied with water, and has a fine system of sewers. The streets are broad and well-paved, and the buildings are mostly of brick. The city is a centre of industry, and is noted for its cotton and woollen manufactures. The population is about 200,000.

Oldham.
It seems that only three or four pairs of new shoes have been got to work at the Nelson Spinning Co. Mr. J. M. Buckley has been appointed the secretary of the company, and Mr. Edward Milne, manager.

Pearl Mill is fast approaching completion. Provision is being made for the passing down of engines, while two boilers are being placed in position. Machinery will shortly be delivered by Messrs. Platt Bros. A fire occurred on Monday at one of the winding mills of Mr. J. H. W. H. and Co., East Croydon, when damage was done to the extent of upwards of £2,000. Not many of the buildings are likely to be damaged in the fire, as the finishing will go on by water power, and the extensive premises at Blakesworth will meet the requirements of the company.

At the Oldham Police Court, on Saturday, several men, stoneworkers and others, were remanded for further examination. They are accused of being in the possession of a large amount of cotton yarn. The charges are being tried by the magistrates. The Corporation, in three cases fined 6s. 8d. and 10s., and two men were discharged, but a large amount against Messrs. Platt Bros. and Co. Mr. W. E. White, son of Mr. E. W. White, of the firm of Messrs. Lee and White, cotton spinners, Gibson and White, Ltd., and Miss Mary Hannah White, daughter of Mr. E. W. White, Robert Whitaker, cotton spinner, Wemham Mills, Oldham, have been taken to a jury. The wedding party was a large one, being invited to the church by 2,000 guests, and the presents were numerous and costly.

Three of the four candidates who contested the election at Oldham are, Mr. E. W. White, Messrs. Lee and White, and Miss Mary Hannah White. The wedding party was a large one, being invited to the church by 2,000 guests, and the presents were numerous and costly.

The textile industries of the district are of great importance, and constitute a large part of the employment of the district. The cotton and woollen industries are the most important, and are carried on in a large number of factories. The population of the district is about 200,000.

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MISCELLANEOUS.

WEAVING AND EMBROIDERY IN CHINA AND JAPAN.

(By Professor Dr. Lessing.)

We have become accustomed in recent times, to a large extent, to the mer- cenary and political relations with Japan, to prefer Japanese productions to Chinese. We have partly forgotten that China is the oldest centre of civilisation in Eastern Asia; we are disposed to regard the Chinese as an eccentric nation, and to allow that the Japanese that they can be by means of their intellect and fancy rise above this degree of contempt. It may be that any cases are familiar to us in our museums the products of Chinese and Japanese weaving and embroidery—not to mention the manufacture of porcelain in which also China achieves surprising results—be he, even if he is not familiar with historical tradi- tions, can notice that China is the native country of this art, the country in which its development has been richest and most complete, and whose craft of Japanese art that makes it more enjoyable for us Europeans than that of the Chinese, namely, that which rises to a bold naturalism in an almost European group. In other respects we have to turn in the first instance to China.

China is the old native land of silk. At a time when Europe, and even the greatest part of Western Asia, was yet a desert, weaving, that art was fully developed in China. Not only was there a steady importation of silk to Europe when Roman culture was in full flower, but the silk archives of China and Japan, and the first researches of this art, the country in which its development has been richest and most complete, and whose craft of Chinese silk—its silks, its brocades, its damasks, its plain fabrics, its materials for silk, its materials for the warp, as well as the weft, are all of heavy silk. Even in patterned silk-stuff Chinese weaving is characterised by colossal extravagance. Europeans are painfully anxious to expend as little colour as possible, and this tendency leads us to put the stripes of colour together in narrow strips. Not a trace of economy of that kind can be found in Chinese weaving: the material is there far cheaper than amongst us, and therefore less importance is attached to a possible excess. If we look at a Chinese work on the reverse side, we see whole bundles of silk hanging down unused, and this un- deniably makes the pieces more splendid and valuable. On the other hand, it must be carefully noticed that the excess of weaving is far more highly developed in Europe: refinements such as European weaving is able to produce are entirely unknown to Chinese weaving, for the principal object of such a combination is to produce as many different shades as possible, and this is not at all aimed at by the weavers of China and Japan. Moreover, the character of the surface is considerably in the most elaborate products of the textile art, so that the need for refined combinations does not exist. To this must be added another. The good use of gold embroidery—a department of technical industry in which the Chinese are masters.

The gold that the Chinese use for embroidery consists of paper gold, but of course we must not think of our Chinese and Japanese know how to make out of silk, waste a paper which is far more tenacious than leather, and which, too, is far more coloured than the thin threads wrapped round with gold which were used for the European embroidery of the Middle Ages and covered with pure gold by means of a gum, then it is cut into very fine strips, and these strips are wrapped round a silk thread. The gold thus prepared is variously toned, having brown, yellow, and reddish shades, and this variety brings not a little to the effect obtained by Chinese colouring. Occasionally this gold is put on paper, which is strong enough; the lustre is more dazzling, but the durability is not so great, and this in the end is what matters. So far as the ascription of patterns is concerned we must banish the notion that it is a question of patterns, that is to say, a matter of patterned paper, etc., we which are accustomed to think of as special characteristics of Chinese textile art. If you examine collections of Chinese fabrics you find hundreds of patterns which exhibit precisely the same element, the same form, the same pattern. Whether this is owing to European influence is doubtful. The technique of weaving is so elaborate and so refined that the pattern is repeated in the same form, so that the weavers are compelled to adapt regular de- signs to the square form. The Chinese have their patterns, and patterns of Chinese work in fact rests on a quadrilateral or octagonal basis, and has, therefore, the greatest possible similarity to the square in Europe. You see amongst the Chinese patterns a whole series of articles which would be used as furniture-stuffs, or even in many cases as dress-stuffs, without attracting special attention. By the side of these square patterns there exists an extraordinary number of flower patterns, a broad stripe is found between the two halves, just where it is to be cut open, which stripe is afterwards laid round as a hem, to that the two circles exactly coincide. This arrangement is substantially the same. The meander border, which forms a rectangular frame to represent a square, is used in weaving. Here, too, imitation cannot be thought of, but lines of this sort are developed naturally in the technique of weaving, and the patterns become quite striking as a special species only when it is a question of making square pieces. It is not, therefore, said that they have exhibited a wonderful skill in this respect. Splendid gar- rams are made on the Pattern of China which are woven from the top to the bottom in one piece. If the article is meant to be worn, the pattern is arranged from the top to the bottom, a length of from 3½ to 2 metres. If the garment is to be cut open, the pattern is reversed, and it is measured in such a way that if, for instance, a large circle is represented on each side of the garment, a broad stripe is found between the two halves, just where it is to be cut open, which stripe is afterwards laid round as a hem, to that the two circles exactly coincide. This arrangement is which is not easily carried out in embroidery, not to say in weaving. The production of a luxury which has been allowed itself in this case, and we must say that we have here to do with splendid articles of the highest rank. After these splendid embroidered carpets, on which are represented dragons, fabulous monsters, etc.—a great world, but one we are strange to us, and but partially understood.

China, like Western Asia, has not been able to escape the influence of Europe; this influence, however, did not begin to assert itself before the end of the 17th century. The Jesuit missions had an extraordinary success in the time of Louis XIV.; they had gathered together large communities which, brought up in a world of orthodoxy and Christianity, were exceedingly receptive to European influence. Thus the famous Summer Palace in China was built according to European ideas. And European influence can be distinctly recognised in the Chinese figures, which are places of the sculptures in our Berlin Royal Art Commercial Museum, although we find on exam- ination that each single line has been trans- lated into Chinese.

Weaving was far surpassed in splendour and beauty by embroidery, though without suffering from the technical difficulties connected with weaving: it can expiate as it pleases, and it developed in China a really splendid manner. The Chinese work almost uniformly with the flat stitch, which is, however, the most difficult. We have been for a short time in possession of a small Chinese model, which explains in the simplest possible manner the art of this trade. If a Chinaman wishes to execute a piece of flat- stitch embroidery, he cuts every single leaf he wishes to embroidery out of his good silk paper, sticks it on the spot to be embroidered, and then
THE TEXTILE MERCURY.

PARLIAMENTARY CANDIDATES INTERESTED IN TEXTILES.

The following letter appeared in The Times of Wednesday, 7th July, 1892.

EMPLOYMENT IN IRELAND, AND CLERICAL DOMINATION.

The letter is continued.

Mr. Arthur, in the session of 1892, was made by Mr. Cutt to turn on the

embroiderers over this leaf. This method has the advantage of perfectly clear drawing; the needle can be passed under the paper, the thread laid on the back of the edge of the paper, and in this way the thread receives contours so sharp as a hair; whilst amongst us the difficulty commonly experienced is due to the other with the needle so exactly that the threads are formed. If the needle once reaches over the chaff, the needle is held in the other hand, which is an indescribably distinct, that particular thread is marked in the most peculiar way, and an exact design is destroyed. This little method, which is a part of all Chinese work. If it is desired to work such a patch in two halves, there is absolutely no difficulty in cutting the paper in the middle of the paper leaf, and they embroider through it; at the same time this paper gives the whole embroidery a far more admirable appearance. I may observe in addition that all Chinese embroidery is often executed on strips. If necessary, the strip is cut away from the finished length and applied to another fabric. In gold embroidery we find that the gold in most cases is enamelled on, and is fastened with the over-catch stitch. This gold embroidery is executed in China with extraordinary taste. If in the Middle Ages a whole figure was to be embroidered in gold, the gold threads were simply laid on the design from one end to the other, and then sewn into the embroidery in the over-catch stitch. This is not the case in Chinese embroidery. On the contrary, every detail is worked out most minutely in the drawing. Thus, for instance, in the embroidery of peacock feathers, which are so popular in China, the position of each feather is different, and each corner of this feather imparts a wealth of thought such as has never been seen even approximately attained in Europe. The production of large wall-hangings also presents no difficulties to the Chinese, and these articles are frequently to be met with in excellent examples. Above all the embroidery of flowers amongst the Chinese must be mentioned, an art of special notoriety. It is true that the Japanese method comes nearer to our taste, but nevertheless the productions of Chinese embroidery deserve our highest admiration. To these embroideries must be added the Gobelin embroidery, which is very richly embroidered. It has not indeed attained the degree of perfect artistic excellence which has been reached in Europe, where, as everyone knows, complete pictures have been produced. In Chinese designs, on the other hand, we find embroidery of the most exquisite nature and which completely preserve the original character of the figure. If in any spot more development of the pattern is required, an additional colour is added to; butterflies, for instance, are embroidered in blue on a black on the ground, and then painted over with blue pigment, which could also be made of a large group of silk fabrics, on which some sort of painting was traced with water-colours, and which exceedingly popular for the decoration of walls.

(to be continued.)
THE TEXTILE MERCURY.

COTTON.

Manchester, Friday.

What with the distress of trade and the distraction of attention to the observation of the elections in progress over the country, the week promises to make a record for the smallness of the business put through. There has been a very fair trade in all the domestic or foreign markets, and such as has come to hand is often in the lowest of its limits quite out of the range of practical business. A small trade has been indulged through in various directions, and to the bulk the most lamentation has been made by the house-traders. The result is a make up of miscellaneous parcels of no magnitude in other varieties for the export trade and various finishing purposes. It is very probable that the abstention of buyers from business is also influenced by the anticipation that as soon as the new cotton crop begins to realize its appearance prices will recede to at least their former low figures, if not below; and that, with this contingency in front of them, their minded policy will be to sit and grapple, and not be caught with weighty engagements on hand.

Cotton.—The week under notice opened on Saturday with a very quiet demand. Prices were adversely affected by the good crop reports, the slowness of trade, and the distraction of attention caused by the election. Most growers were in the turn order, but none were changed in the official quotations. Futures fluctuated slightly, and closed with a loss of two points. On Monday there was only a very small enquiry, and prices were again easier, though the official rates remained unchanged. The trade were alike divided. On the other hand, finished fabrics declined 1 1/2 to 2 points. On Tuesday there was no improvement in any respect, and prices were much neglected on account of the election. Prices were easier in every respect, whilst futures, after slight fluctuation, gained 1 point to 1 1/2. On Wednesday, owing to the numerous elections in Lancashire, the attendance of the trade was very small and the business very little for a principal market day. American declined 4d., bringing it once more below 6d. again, was very irregular, and could be bought from 5d. to 5 1/2d. from last week. East Indian in all grades, except Timmerned, was reduced 2d. Futures were weak, and after several slight fluctuations closed with a loss of 4 1/2 points. Yesterday business, after opening well, was thrown into some confusion by an important failure. Prices eased off in spots, whilst futures trembled 8 to 10 points, but subsequently steadied considerably on the close of the day. Brazilians were partially reduced 2d., and Egyptians a like amount. Others quiet.

The following are the values of futures at mid-day on each day of the week—American deliveries—very quiet; prices low; heavy selling clause; (the fractions are 6ths of a penny).

<table>
<thead>
<tr>
<th>Futures</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
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</thead>
<tbody>
<tr>
<td>America</td>
<td>4 5/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>4 1/4</td>
<td>4 1/4</td>
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<tr>
<td>Brazil</td>
<td>4 3/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>4 1/4</td>
<td>4 1/4</td>
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<tr>
<td>Egyptian</td>
<td>4 5/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>4 1/4</td>
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<tr>
<td>West Indian</td>
<td>4 1/2</td>
<td>4 1/2</td>
<td>4 1/2</td>
<td>4 1/2</td>
<td>4 1/2</td>
</tr>
<tr>
<td>East Indian</td>
<td>4 3/4</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>4 1/4</td>
<td>4 1/4</td>
</tr>
</tbody>
</table>

The following particulars of the business of the week are from the official report issued by the Liverpool Cotton Association, viz., Forward, Sales Brokers' Report.

<table>
<thead>
<tr>
<th>Number of Lots</th>
<th>Sale Average</th>
<th>Purchase Average</th>
<th>plywood Average</th>
<th>Number of Lots</th>
<th>Sale Average</th>
<th>Purchase Average</th>
<th>plywood Average</th>
<th>Number of Lots</th>
</tr>
</thead>
<tbody>
<tr>
<td>3,500</td>
<td>4 3/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>3,500</td>
<td>4 3/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
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<td>3,500</td>
<td>4 3/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
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<td>4 3/8</td>
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<td>3,500</td>
<td>4 3/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>3,500</td>
<td>4 3/8</td>
<td>4 3/4</td>
<td>4 1/2</td>
<td>3,500</td>
</tr>
</tbody>
</table>

The remainder are the official quotations from the same source. —

WOOLLENS AND WORSTEDS.

Bradford.—There is no little business doing that prices can scarcely be said to be tested. The market is quite complete as to anything but the finest wool, and best cross-trees without special occasions; needy sellers, however, are few. Business in yarns shows no sign of slack, but until the elections are over heavy is expected. Orders are of a miscellaneous character, for salvation, speculation, and immediate delivery. The buyers, merchants, and manufacturers have no better demands to make. In the piece goods trade very little is doing, but for very low rates, and a fair business is also being done in fancy. The condition of trade, however, is unsatisfactory.

Leeds.—There have been very few buyers in the market, business having been dull. Merchants and retailers buy only to suit immediate requirements, and many manufacturers are unable to keep machinery fully employed. This is not the case as regards Leeds, but also as to the finer goods which are usually sold in the West End of London and others. The official orders were only in small requisitions, and in most departments there is a lack of business. The demand for fancy silk hose is decided quiet, as it is in many other goods. The supply of cotton laces is now fully equal to the demands. The old prices upon Irish guarnet laces are still maintained, but the price of some laces in steady goods is much lower than the original price, and in many cases the old prices are not acknowledging the new demand. A moderate business is being done in everlasting trims, and many large orders have been given for the next spring goods, which are large, and all high grade patterns may be quoted at about the prices of 12 months ago. The market is fairly clear, and sales are up to expectation. Ladys' cloths of a high grade keep filling into continent orders, and the extra obtainable in the English market are more satisfactory than in some other branches. Fruits and Absinthes are dull and cheap. With respect to the cottons in new and bright designs there is some improvement. The turnover of winter, vicuna, and fancy worsted goods is better. The export trade remains quiet, and the Continental shipments show a falling-off.

FLAX AND JUTE.

Dundee, Wednesday.—The feature of the market is the continued fall in the value of jute. Government returns gave a large increase of sowings, and the value of the crop is of much good. The export trade does very well, and local and domestic manufacturers' goods sell well. Local house traders speak of an excellent season and an abundant crop. For best new masts, August-October sowing, the average price was done on 7/3d. last week at 6/4d., a fall of 2 1/2d., and prices are 6 1/4d. per lb. on the week. New York advice are still adverse, and so is a most important market, cloth makers refuse to move at even reduced values. No doubt the merchants are largely interested in politics this week, but the trade seems even yet to refuse to accept confidence. Prices, however, now daily from 6d. to 7d. per lb. and 8d. to 9d. per lb., are not far from the same rate as in 1860, a fall of 1 1/2 per lb. on the week. New York advice are still adverse, and so is an important market, cloth makers refuse to move at even reduced values. No doubt the merchants are largely interested in politics this week, but the trade seems even yet to refuse to accept confidence. Prices, however, now daily from 6d. to 7d. per lb. and 8d. to 9d. per lb., are not far from the same rate as in 1860, a fall of 1 1/2 per lb. on the week. New York advice are still adverse, and so is an important market, cloth makers refuse to move at even reduced values. No doubt the merchants are largely interested in politics this week, but the trade seems even yet to refuse to accept confidence. Prices, however, now daily from 6d. to 7d. per lb. and 8d. to 9d. per lb., are not far from the same rate as in 1860, a fall of 1 1/2 per lb. on the week. New York advice are still adverse, and so is an important market, cloth makers refuse to move at even reduced values. No doubt the merchants are largely interested in politics this week, but the trade seems even yet to refuse to accept confidence. Prices, however, now daily from 6d. to 7d. per lb. and 8d. to 9d. per lb., are not far from the same rate as in 1860, a fall of 1 1/2 per lb. on the week. New York advice are still adverse, and so is an important market, cloth makers refuse to move at even reduced values. No doubt the merchants are largely interested in politics this week, but the trade seems even yet to refuse to accept confidence. Prices, however, now daily from 6d. to 7d. per lb. and 8d. to 9d. per lb., are not far from the same rate as in 1860, a fall of 1 1/2 per lb. on the week. New York advice are still adverse, and so is an important market, cloth makers refuse to move at even reduced values. No doubt the merchants are largely interested in politics this week, but the trade seems even yet to refuse to accept confidence. Prices, however, now daily from 6d. to 7d. per lb. and 8d. to 9d. per lb., are not far from the same rate as in 1860, a fall of 1 1/2 per lb. on the week. New York.
which are barely renewable, competition being very severe.

LEICESTER.—A steady demand prevails for yarns, and more extensive deliveries are being made for present consumption. Cashmeres and woolen yarns are in pretty good demand, but the market for cotton yarns is still dull. The boot and shoe trade has lately been well developed; manufacturers have some pretty good orders to complete. There is more activity apparent in the cashmere trade.

Patents.

NOTICE OF REMOVAL AND CHANGE OF FIRM.

E. K. DUTTON & CO.
CHARTERED PATENT AGENTS,
Late DUTTON & FULTON.
Renovated from 1, ST. JAMES'S SQUARE, TO QUEEN'S CHAMBERS, 7, J ohn Dalton St., MANCHESTER.

SPECIFICATIONS PUBLISHED.

Each of the following Specifications may be purchased by the Rule Branch, 30, Charles-street, London, for the price of 5s., or may be ordered on the Postal Request, price 1s., which is now open on only at the principal Post Offices in the United Kingdom.

1891.
11,939 Read Holland and Sons, Ltd., and Brooks (Holland) Also colours.
11,714 Manlove, knitting machines.
13,272 Goode & Goo, and M. Heath rows; mats.
13,407 Hollingsworth, Looms.
13,427 Green and Blackford. Ventilating and regulating temperature in weaving sheds.
16,315 Taylor and Warrington. Figured fabrics.
19,906 Cark and Taylor. Loos pattern bags.
1892.
4,831 De La Rue. Circular looms.
3,583 Leechine. Circular knitting machines.
Amended Specification.
4,892 (1881) Irani (Knockie). Colouring materials.
3,955 Johnson (1886) (Hermite). Producing ozone and hydrogen for bleaching.

ABSTRACTS OF SPECIFICATIONS.

1897.

1898.
Feb. 9, 1898. Spinning. J. W. Avery, 2, Northfields, Barnet, Yorks.

1899.

1892.

Full details of the patent specifications can be found in the primary source material.