

# The Textile Mercury:

A Representative Weekly Journal for

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

In all Branches of the Textile Industries.

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## The Textile Mercury.

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

\*.\* Readers at home and abroad are invited to avail themselves gratis of our columns, for the purpose of entering into communication with machine makers, or others able to supply their wants, and for obtaining any other information on textile matters which they may desire. Their names will not be published unless requested.

All communications to the Editorial department should reach the offices, 23, Strutt Street, Manchester, early in the week in order to receive attention in the next issue.

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## Current Topics.

### THE PARTITION OF AFRICA.

We are not about to describe this operation or trace the limits of the territories to which the various Powers of Europe have laid claim in a more or less formal manner, and to which they have secured in the same style the more or less complete assent of one another. We simply intend to put upon record the completion of the agreement between this country and Germany, as attested by the signature of the treaty drawn up between the two Powers. This important document, as the public has been informed by Sir Edward Malet, was signed on the 1st of July, at the hour of six p.m., an hour and date that may in the future become famous in European international politics and in the history of Africa. The agreement was signed on the part of England by Sir Edward Malet and Sir Percy Anderson, whilst the Chancellor, General von Caprivi, and Dr. Krauel, performed a similar service for Germany. The document to which they thus attached their names records a transaction analogous in magnitude to those documents in which the Pope of Rome and the King of Spain granted and assumed a territorial dominion and political power over the newly-discovered continent of America. It is to be hoped that the subsequent history of Africa will not present such a black record of selfishness, tyranny, and cruel treatment of the natives as does America under the rule of the Most Christian Kings of Spain. Human nature, though we are glad to think it greatly improved since those days, is yet no better than it should be, and there is always a tendency, when it is uncontrolled by the presence of an active public opinion, to indulge its selfish sentiments at the cost of the weak and helpless. And the more helpless the greater the risk. And so it may be in this case. It is to be hoped, however, that the Imperial Governments, parties to this treaty, will so far as lies in their power control their respective subjects, and at least prevent the perpetration of gross fraud and cruelty upon the natives. The great truth should never be lost sight of that in their greatest welfare will be our highest prosperity. The results of fraud and robbery are not always a profit, though at first it may appear to be so. Instances could easily be adduced that would amply demonstrate this truth, but these are not necessary in the present case. As the civilised countries of Europe, and especially England, will in the future have to look forward to Africa for the extension of their commercial markets, it is highly desirable that all dealings with its unsophisticated peoples should be governed by kindly sentiments and honest principles, such as will win and permanently retain their confidence. In that case hardly any limit can be

placed to the benefits that will accrue to both parties.

### THE COUNTING OF YARNS UPON THE CONTINENT.

Our readers are mostly familiar with the various systems of numbering yarns that prevail in this country, and the confusion that is liable to arise from mixing them. Many attempts have been made to obtain the adoption of some uniform system, or at least to reduce the elements of confusion somewhat. As yet not much success has attended these endeavours. The same subject has engaged the attention of the trade in Germany, and the various branches are considering the best means of effecting some reform, and how to best introduce it. This has stimulated attention to the same subject in France, where the anomalies at present existing are startling. For example, Rheims and Roubaix count by 700 metres—that is, No. 100's = 100 × 700 = 70,000 metres per kilo. Fourmies and Amiens count by 710 metres—that is, No. 100's = 100 × 710 = 71,000 metres per kilo. Alsace, Germany, and Austria count by 1,000—that is, No. 100's = 100 × 1,000 = 100,000 metres per kilo. No. 20's in carded yarn represents at Rheims 20,000 metres per kilo, and in combed yarn 14,000 metres per kilo. The removal of these inconsistencies would obviously tend to facilitate commercial transactions, and business men, both at Fourmies and Rheims, are firmly resolved to attempt reform. Considerable difficulties, however, will have to be overcome in France. It is not easy to accustom employés and foremen to a new system, and in the department of the Nord payment is usually made by number.

### OLDHAM AND ITS HOLIDAYS.

Determined not to be behind other towns in having certain fixed holidays during the year, the Oldham operatives have been agitating in this direction. After holding meetings they decided to get the employers' consent for 12 days' holiday in the year as follows:—Christmas Day, New Year's Day, Easter Monday, Whit-Friday, Saturday, and Monday following, and the whole of Wakes week. The workpeople's representatives were unanimous in asking for these holidays, and their wishes were communicated to the committee of the Oldham Cotton Spinners' Association. A conference was arranged for, and the question thoroughly gone into. The employers' committee at once declined to grant 12 days, which, they stated, was more than the workpeople in other towns had obtained, although they were prepared to go as far as what other employers had done. After some discussion the employers suggested 10 days, but this proposal the operatives' representatives declined, saying they had no power to accept it. However, they submitted 11 days, and promised that if the employers would con-



promise the matter there they would recommend the operatives to accept the concession. The subject remained in this position for some weeks, and in the meantime the members of the Association were communicated with as to their opinion upon the subject. We might here state that there was the greatest determination on the part of employers and operatives to come to some understanding as to the recognised holidays, inasmuch as during late years the utmost jealousy had existed between mill-owners as to the stoppages, and it was felt they were becoming so irregular that some effort should be made to allay this feeling and place all on a common footing. Still there was one objection taken by many employers against the operatives' proposals, mainly in respect to defining Easter Monday as the Easter holiday. Notwithstanding that Parliament had declared Good Friday as a working day, some employers insisted on closing their premises on that day, and it was asked, out of consideration for their conscientious scruples, that the stoppage should take place either on Good Friday or Easter Monday. Ministers of religion also brought their influence to bear on the operatives. Still for a time they were obdurate, and suggested that employers, if they thought proper, could close on Good Friday and Easter Monday. Subsequently, however, an informal conference took place, and an offer was made to the operatives that if they would recognise the employers' feelings as to Good Friday, every effort would be made to secure a week's holiday at the Wakes. This proposition seemed to give the highest satisfaction, for employer and employed rejoiced at the prospect of having a good cessation of labour at the annual pastime. A meeting of employers and representatives of limited companies has since been held, at which it was unanimously resolved that the holidays be as follows:—Christmas Day, Good Friday or Easter Monday (optional), Whit-Friday and Saturday, and the Wakes Saturday and the whole of the following week—the latter giving a holiday of nine consecutive days. So that practically the workpeople's compromise of 11 days has been accepted. As the Wakes holidays commence on the last Saturday in August, it is felt that the seven days' cessation could not happen at a more opportune time, as it cannot but fail to have some effect on the operations of Liverpool, the cotton "squeeze" being most felt in September, and will to some extent place a check on manipulators. The new arrangement will come in force at the next Wakes in Oldham, and also at those of the respective out-townships. The greatest satisfaction is felt on all hands at the amicable solution of matters, inasmuch as it gives everyone an opportunity of knowing beforehand what are to be his holidays, and he can accordingly make arrangements for spending them in the most enjoyable and profitable manner.

THE BOARD OF TRADE RETURNS FOR JUNE.

The Board of Trade returns for the past month are, in general, very satisfactory. The value of the imports amounts to £32,926,000, compared with £29,327,000 for June of 1889, an increase of 12½ per cent., and the British and Irish exports to £21,533,000, as against £18,697,000, an increase of 15 per cent. It must be remembered that the Whitsuntide holidays did not fall within the month, as in 1889, but this does not account for the whole of the increased business. In the imports the increase is pretty general, the value of the raw materials imported for textile manufacturing purposes being in value £692,941 higher

(or 14·7 per cent.) than in June of last year. The increased import of sheep's wool is due entirely to shipments from Australasia, and although the total receipts for the six months are below those of last year to the extent of 16,000,000lb., Australasia has increased its shipments by 9,000,000lb. The exports generally are even more favourable than the imports, the increase occurring in most groups of articles. The larger shipments of cotton goods, which have been made chiefly to the East, is a very satisfactory feature of the return. The value of yarns and textile fabrics exported has increased by £1,225,909, or 15·3 per cent., as compared with June, 1889, and in machinery and mill work there is an increase of £105,938, or 8·3 per cent. In jute yarn and fabrics there has been a slight decline: in yarn of 48,300lb. in weight (or £566 in value), and in piece goods of 667,900 yards in quantity (or in value £15,712). The month's export of woollen and worsted yarns also shows a decline of 285,200lb. in quantity, and of £12,684 in value. In woollen tissues there is a fall in quantity of 90,100 yards, or 1·9 per cent., but this is far more than counterbalanced by an increase in value of 18·8 per cent., or £83,495. In worsted tissues a large increase is observable, both in quantity and value. A trifling decline is noticeable in woollen flannels, and a more marked one in woollen carpets, while the export of blankets has declined in quantity, but increased in value. In the following abstract we give particulars of the imports and exports of textiles, etc.:—

I.—IMPORTS OF FOREIGN AND COLONIAL MERCHANDISE.

Principal Articles.	Quantities.		Value.		Increase or Decrease per cent. compared with June, 1889.
	1889.	1890.	1889.	1890.	
Cotton, raw .. .. .	Cwt.	772,628	£	703,288	
Flax .. .. .	"	240,123	"	177,781	
Hemp .. .. .	"	139,713	"	101,598	
Jute .. .. .	Tons	15,010	£	54,760	
Silk, raw .. .. .	.. .. .	125,121	.. .. .	96,412	
Wool, sheep and lambs' .. .. .	.. .. .	45,815,543	.. .. .	55,785,012	
Woolen Stuffs .. .. .	Yds.	6,625,344	.. .. .	5,745,692	

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

Principal Articles.	Quantities.		Value.		Increase or Decrease per cent. compared with June, 1889.
	1889.	1890.	1889.	1890.	
Cotton Yarn and Twist .. .. .	.. .. .	1,897,389	1,774,389	18·3	+6·4
" Piece Goods .. .. .	.. .. .	197,710	194,319	—	+1·7
" Manufactures .. .. .	.. .. .	307,943	203,589	125·9	+29·0
Hemp .. .. .	.. .. .	231,286	238,372	17·8	+8·9
Jute .. .. .	.. .. .	164,424	460,709	189·5	+190·3
Silk, raw .. .. .	.. .. .	75,444	67,443	124·6	+14·9
Wool, sheep and lambs' .. .. .	.. .. .	1,712,359	2,948,589	66·7	+87·1
Woolen Stuffs .. .. .	.. .. .	486,708	805,301	3·9	+44

Principal Articles.	Quantities.		Value.		Increase or Decrease per cent. compared with June, 1889.
	1889.	1890.	1889.	1890.	
Cotton Yarn and Twist .. .. .	.. .. .	887,230	917,188	7·4	+8·3
" Piece Goods .. .. .	.. .. .	3,372,423	4,139,535	13·1	+15·8
" Other Manufactures .. .. .	.. .. .	593,709	705,095	—	+21·4
Haberdaasery .. .. .	.. .. .	149,282	152,010	—	+1·9
Jute Yarn .. .. .	.. .. .	65,590	32,184	11·7	+1·7
" Piece Goods .. .. .	.. .. .	231,188	305,444	12·9	+7·1
Linen Yarn .. .. .	.. .. .	45,572	77,921	39·8	+21·1
" Piece Goods .. .. .	.. .. .	201,571	459,360	91·7	+55·5
Machinery and Millwork .. .. .	.. .. .	1,284,766	1,368,594	—	+8·2
Silk Manufactures .. .. .	.. .. .	210,354	254,922	—	+6·9
Wool, sheep and lambs' .. .. .	.. .. .	56,417	101,216	60·2	+79·4
Woolen and Worsted Yarn .. .. .	.. .. .	357,041	344,338	7·3	+3·5
Woolen Tissues, heavy & light, broad & narrow .. .. .	.. .. .	444,076	527,571	11·9	+18·8
Worsted Tissues, heavy & light, broad & narrow .. .. .	.. .. .	846,254	988,282	25·3	+16·7
Woolen Carpets .. .. .	.. .. .	68,322	61,401	114	+19·8
" Flannels .. .. .	.. .. .	30,150	30,943	—	+0·3
" Blankets .. .. .	.. .. .	34,501	38,799	—	+12·4

A NEW FORM OF PROTECTION.

Not content with protection against foreign wools, American sheep raisers are now agitating for the assistance of the national Government in order to stamp out the destructive agents in the shape of coyotes, wolves, and other wild animals, which play havoc with the live stock of the ranche owners. This is, according to a resolution recently declared at the annual convention of the Texas Wool Growers' Association, the principal reason why the wool cannot be produced as low in the United States as elsewhere, and the removal of these destructive agents, the report further affirms, would result in a saving of about 8 cents per pound, which is the present estimated cost of having shepherds to guard sheep. In our opinion this figure is a grossly exaggerated one. The wool growers of Texas can, and do, obtain experienced Mexican herders who are content to work at their monotonous employment for the paltry remuneration of 12 dols. to 15 dols. per month, with food—and such food—thrown in. A few pounds of "sourbelly" bacon per month, 40 lb. of Indian corn flour, a couple of pounds of brown sugar, and a similar quantum of green coffee berries, which have to be roasted and ground by the poor wretch of a shepherd, who as often as not is unprovided with a coffee mill, and has to make shift with a couple of stones—these constitute the food allowance. A bell tent and a few sheepskins complete the equipment, and yet the ranchmen complain that the cost of all this adds 8 cents a pound to the expense of producing the wool! The Boston Journal of Commerce, in referring to the resolution, does not inform its readers of these facts, although it disapproves of any such assistance being granted as that desired by the Texans. Our contemporary states, however, that 8 cents a pound is over two-thirds of the protection asked for by the grower in the tariff, and it would appear, therefore, that if sheep can be saved from destruction by ravenous animals, the wool grower could get along very comfortably without the aid of a tariff on foreign wools. In any case, it is more the duty of the State than of the national Government to deal with such evils as those complained of in Texas.

THE RATING OF MACHINERY BILL.

The opponents of this Bill have sounded a call to arms through Mr. Edward Heneage, M.P., from whom a letter appeared in the Times on Thursday. The hon. gentleman complains that the promoters of the Bill substantially procured its passage through the second reading under false pretences, namely, promising to introduce amendments in Committee that should obviate the objections of its opponents. This, he complains, has not been done, but in place of it an amendment is introduced that will exclude from assessment "any increased value arising from machinery for any manufacturing purposes." The hon. gentleman complains that by this and other alterations the Bill is really transformed into a bill for the exemption of machinery from rating "pure and simple." He says, in conclusion:—"I therefore venture to call the attention of English county and borough members (as the Bill does not apply to Scotland or Ireland) to the Bill and 'amendment,' as well as that of the various assessment committees throughout the country, as it should be strongly opposed either in its present or proposed form in the interests of all agricultural and small urban ratepayers." It would appear from this that Mr. Heneage is under the impression that the passage of a Bill in this form would be an injustice to the interests of those on whose behalf



he is writing. In this we venture to say he is under a delusion, because it never has been the custom in the great manufacturing districts, and that it has only been introduced during recent years in agricultural districts, where bucolic influences preponderate upon the assessment committees, rendering them strongly averse to the escape of anything in the shape of a manufacturing establishment from the incidence of any tax. This letter ought to be a call to all the supporters of the Bill to rally to its aid when it enters the Committee stage.

#### THE BULLS AND THE BEARS IN LIVERPOOL.

The bovine and ursine fight in Liverpool is again attracting attention. It has been well known for some time that a contest was going on, but as spinners are not in as bad a position as they were last year at this time, it has attracted less attention than usual. Still, as the crucial period approaches, its influence is necessarily increased in that respect. A Liverpool correspondent, writing a day or two ago, says the most conspicuous and attractive feature of the market is the contest between the chief "bull" operator and a large Liverpool firm, who have been sellers for the last two months. The present position of the struggle is thought to be in favour of the "bull," and it is anticipated that August will be the fancy month, it being supposed that even the "bears" will assist this position, with the object of unloading in September into the hands of the "bull," who, being so tenacious, gives the "bears" this opportunity. It will be interesting to observe whether the alteration in the date and length of the Oldham holidays will not contribute an unexpected and slightly confusing factor to the contest. On the whole, however, spinners are happy this year in comparison with last.

#### CURIOUS INCIDENT IN CONNECTION WITH A STRIKE.

It is really impossible to divine the absurdities to which strikers will proceed in the inconsistent determination to compel other persons to do something against their wish which they themselves would be the first to resist. The last instance of such tyranny comes over from Canada. *The Canadian Manufacturer* says:—"A curious phase of the cotton weavers' strike in Hamilton developed in a church in that city, when an employé of the Ontario Cotton Mills, who had returned to work while the strike was still on, and who was also a member of the choir of that church, found on a recent Sunday that the balance of the choir were deaf mutes as long as he retained his place in it. This is the very quintessence of the aesthetics of labour unionism in connection with Christianity—that is, with such Christianity as prevails in that church choir." We may well ask—What next?

#### THE LATE MASTER OF THE MANCHESTER ROYAL EXCHANGE.

The thousands of members of the Manchester Royal Exchange will have heard with regret of the sudden death of Mr. Edwin Simpson, the master of that institution. Mr. Simpson entered the service of the Exchange Company some time before the present building was designed. When the post of master became vacant he acceded to it, succeeding the late Mr. Francis Wrigley, and he has held it continuously ever since, a period of fully 27 years. On Thursday week Mr. Simpson was present at the usual Board meeting, and apparently in his ordinary state of health. He was staying at Blackpool for his usual holiday, and on Tuesday he was seized, while there, with an apoplectic fit

which ended fatally a few hours after its occurrence. His permanent residence was Underwood, Buxton, and he was a magistrate for the County of Derby.

#### CREFELD EXPORTS TO THE UNITED STATES.

We have been favoured with a copy of the statement showing the exports from the Consular district of Crefeld, Germany, to the States during the quarter and year ending June 30th, 1890, with a comparison for the corresponding period of 1889. Only textiles are mentioned in the following table:—

Notices	Quarter ending		Year ending	
	30 June '90	30 June '89	30 June '90	30 June '89
Cotton goods .. Dols.	2,198	2,884	8,155	6,215
Plushes .. .. Dols.	246,940	703,125	1,169,697	2,571,773
Satins .. .. Dols.	2,544			
(Velvet .. Dols.	73,294	4,925	136,939	12,745
Ribbons .. Dols.				656
(Silk Union Dols.	11,151	3,779	17,833	6,700

Our German friends, it will be seen, have been specially active in ribbons, velvets, and plushes, which form the leading items of Crefeld's exports to the United States. Much of this activity is due to the projected tariff legislation on the other side.

#### THE BOLTON WEAVERS' ASSOCIATION AND THE PROPOSED TECHNICAL SCHOOL.

Perhaps one of the most remarkable examples of crass stupidity exhibited for many a day is that which was afforded last week by the Bolton Power-loom Weavers' Association. An effort is being made to establish a technical school in Bolton, in order that the town may not be behind its competitors in the possession of the science and skill so necessary to enable it to keep to the fore as a leader in the textile arts. Bolton has long been noted as the headquarters for the production of the most artistic class of fabrics in connection with the cotton trade, but it is very questionable whether, relatively at least, it is not retrograding. There can be no doubt, however, that with such a spirit as was manifested at the quarterly meeting of the Bolton and District Power-loom Weavers' Association, held last week, it will speedily fall behind. The promoters of the movement have made an appeal to the public, and, as representing the operatives, to the United Trades' Council. The latter body has placed itself in communication with its various constituents, who, in the main, sympathise with the object sought to be promoted. At the meeting of the Power-loom Weavers' Association referred to, the question of according support to the movement was the principal business for discussion, and the following circular from the United Trades' Council was read:—

"The movement for establishing a technical school in Bolton has made such progress, and assumed such shape, that it only requires the working classes to come forward and undertake their share of the work to render the Institution an accomplished fact. The various bodies of workmen in the town, through their representatives on the Council, declared their sympathy with the object some time ago, and the moment has now arrived when we should give such expression of goodwill a more substantial shape, if we mean to do so at all. In calling your attention to the following excerpts from a circular recently issued by the Technical School Committee, the Council's only duty is to ask your best consideration of the subject, and to request that you will advise me at your earliest convenience if it is your intention to subscribe to the fund for the equipment of a technical school for this district:—

'In Bolton the existing schools are efficiently teaching science subjects, but a practical school, fitted up with the best and most approved machinery and appliances wherein to teach the application of science to our special industries, is urgently required. Provision is intended to be made for practical instruction in engineering, metallurgy, weaving and pattern designing, cotton spinning, bleaching and dyeing, wood working, plumbing, and other trades. The Bolton Mechanics' Institution is offered by the trustees and committee as a free gift for conversion

into a technical school, and is perfectly suited for such adaptation. It has been ascertained that the cost of altering and fitting up the building with mechanical appliances, etc., will be about £6,000.' If this sum can be obtained by voluntary subscription, and therewith the institution thoroughly and efficiently equipped, the Corporation has undertaken to adequately maintain the school, the work of which will be carried on by a Joint Committee of members of the Town Council, School Board, Church Institute, and Co-operative society, together with representatives of the employers of labour and the working men. You will, therefore, see that it is extremely desirable that immediate response be made to this appeal, and the benefits of a technical school be secured for the town as soon as possible.—I am, yours truly,

J. T. FIELDING, Secretary."

It would have been thought that a movement so obviously for the benefit of those to whom the appeal was made, and endorsed by the able secretary of the Trades' Council, who is also the secretary of the largest Operatives' Union connected with the cotton trade in Bolton, would have ensured it a ready support. But no; it could not be. A resolution was moved that the Union subscribe £10—the munificent sum of ten pounds, and—it found no seconder, thus falling to the ground. It was subsequently decided by the meeting with *only one dissentient* not to subscribe to the proposed school. We are unmitigatedly sorry to record such a discreditable fact of any body of Lancashire working men, and doubly so of those of a town which claims to have had Arkwright and Crompton numbered amongst its inhabitants, a town moreover whose future prosperity depends more upon the technical progress of spinning and artistic manufacturing than any other in the trade. We trust that there are a few intelligent members of the Bolton Weavers' Association who will immediately take steps to call a special meeting of the members to rescind the resolution passed, and secure the passing of a vote according hearty sympathy with a movement which is mainly for their own benefit, and giving therewith substantial pecuniary support. Unless some such steps be taken the Power-loom Weavers' Association will carry with it an indelible stigma of disgrace.

#### THE BOLTON WEAVERS' ASSOCIATION AND BOYCOTTING.

Just a word more about the Bolton Weavers' Association. At the meeting of this body referred to in the preceding note, at which they refused to subscribe to the project for a Technical School, they were waited upon by a deputation from the Bolton Shop Assistants' Association, and urged to purchase only at those shops where the Wednesday half-holiday was conceded, and to use their influence with their friends to do likewise. A resolution in accordance with this request was carried unanimously. It appears that such an invitation was much more to their palate, having something of the flavour of a strike about it. It was, therefore, promptly resolved upon and adopted unanimously. Verily, when these good weavers go to church on Sunday—presuming they ever do go—they will be able most conscientiously and heartily to join in the confession that they have left undone the things that they ought to have done, and have done the things that they ought not to have done.

THE FIRST AMERICAN BALE.—A private telegram received on Monday states that the pioneer bale of the new American crop has arrived at Albany, Georgia. The first bale last year was received on July 3rd.

STATISTICS just issued show that through the port of Nagasaki, Japan, last year, took less Western textiles than the year before. The decrease of the imports under the head of woollens and mixed cottons and woollen goods amounting to £2,490, the figures being £2,083 for 1889, and £4,573 for 1888.



## Articles.

### CHILDREN, WOMEN, AND YOUNG PERSONS IN MILLS DURING MEAL TIMES.

The three classes of workpeople named above are those the law especially takes under its protection in the Factory Acts, prohibiting their employment during certain specified times. These times are set forth in detail in the Acts, which, on the whole, are fairly clear. Sometimes, however, they are liable to misconstruction, as when a newly appointed inspector wishes to inspire due respect for his office, or an old one is goaded into a feverish condition of activity by the promptings of the trades-unionists, makes a raid into the mills of his districts at meal times, and, perhaps, finds some women, children, or young persons breakfasting therein, or, having finished their meal, idling or playing about as is their wont, and, we may add, as is perfectly natural. Then he hauls the employer of the workpeople before the local Bench for breach of the law in the employment of the said workpeople during illegal hours. The fact that a man has got the privilege of adding the letters J.P. to his name, and of adjudicating upon the minor infractions of the law that may occur in the locality where he resides, affords no guarantee, however, that he is possessed of a plenitude either of knowledge or wisdom, and is, therefore, unlikely to go astray in his decisions. When a factory inspector brings a manufacturer before such men they are likely to assume that the inspector well knows his duty, and that if an infraction of the law had not been committed he would not have taken action. Under any circumstances, this is an improper assumption on the part of the magistrate; and, under present conditions, with a number of working men of limited education and strong trades-union principles, liable to bias their judgment, occupying the posts of inspectors and prompted into excessive activity by their late *confrères* in the unions, such an assumption is doubly risky and detrimental to the proper administration of justice. It is as much the duty of magistrates to protect the defendants in the cases before them as it is to throw the aegis of the law over the prosecutors, who may be hasty, quarrelsome, or litigious people, or, in the case of policemen or factory inspectors, may only be anxious to "get a case" on the record, as a testimony of their activity. According to a newspaper cutting, forwarded to us by a correspondent, something of this sort appears to have recently occurred in the neighbourhood of Colne:—

"On June 18th, Mr. Hezekiah Fletcher, of Brookstreet Shed, Nelson, was, along with one or two other employers in Colne and Nelson, summoned before the Colne Petty Sessions Court for allowing a boy to be employed during the breakfast half-hour on May 17th. Although the boy's mother, Ann Gill, to whom the lad acted as tenter, swore positively upon oath that the lad was in no wise employed at the time, and also that she was fully aware of her employer's warnings that weavers were not to allow their tenters to work in the meal times, the magistrates fined Mr. Fletcher 20s. and costs, Mr. Edward Ecroyd, one of the magistrates, remarking that the very fact of an employer permitting a child to be in the room during that time was in itself an illegal matter."

Mr. Fletcher's defence shows that he had a correct conception of his duty as an employer, and of the requirements of the law in relation to him. Now unless the evidence of the boy's mother in this case was destroyed by that of the

Inspector, or by such as he supported his charge with, the decision of the Bench was in flagrant violation of the law, and it ought to be rescinded immediately, and the money levied as a fine returned. If the other sitting magistrates have only the same hazy conception of the law that, as proved by his own remarks, Mr. Ecroyd possesses, there need be no wonder felt at their stumbling. But where was the magistrates' clerk? This official is supposed to be a lawyer, capable at least of guiding the lay dignitaries in the paths of rectitude in these minor matters. Was he taking a brief holiday, or was he asleep, when somebody blundered?

We are glad to see that Mr. Fletcher is determined not to rest content with the matter as the decision of the Bench left it. Wishing to put himself right, in the event of his being wrong, but evidently having no reliance on the correctness of the Bench, he wrote on June 24th to Mr. Alexander Redgrave, at the Home Office, enclosing cuttings of the report of his case from the *Colne and Nelson Times* and the *Nelson and Colne Express*, and asking the question as to whether it was legal or not for women and half-timers to be in a mill or factory during meal hours, when all the machinery was stopped and no manufacturing process whatsoever was going on. Mr. Fletcher requested an early reply, and a day or two later received a communication, of which the following is a copy:—

Secretary of State, Home Department. 25th June, 1890.—Sir,—In reply to your letter I beg to inform you that if a child, young person, or woman do "any kind of work whatsoever incidental to or connected with the manufacturing process or connected with the article made" during meal time—the occupier is liable for the illegal employment of such child, young person, or woman.—I am, sir, your obedient servant, ALEXANDER REDGRAVE.—Mr. Fletcher.

Now, we have no doubt that the authorities to whom Mr. Fletcher appealed grasped the situation at once, but did not deem it politic to admit that their subordinate, the inspector, had been over officious, and that the Bench had blundered. It was not particularly their duty to administer a rebuke to the latter, whatever they might do to the former, and hence the evasive reply. But Mr. Fletcher was not to be put off in this style, and credit is due to him for his persistence in determining to get the opinion of Mr. Redgrave, who ought to be the best authority in the kingdom upon these questions. Mr. Fletcher wrote again in the following terms:—

DEAR SIR,—Your reply of the 25th is to hand, but I am sorry to say you have not answered my question satisfactorily. I was aware before I wrote to you that it was illegal for a child, young person, or woman to do any kind of work whatsoever in a mill or factory during meal hours; but what I specially wished to draw your attention to was Mr. Ecroyd's remark, where he said it was an illegal act to have such people on the premises during meal hours. I must say that I do not find it so according to the abstract of the Factories' Act, and I should be pleased if you will favour me with your opinion on the matter at your earliest convenience. Yours respectfully, H. FLETCHER.

We have always found, and, so far as we know, other people have also, that Mr. Redgrave is ready to afford any information within his power, when courteously applied for, and that if he naturally hesitates to give an opinion that places one of his subordinates in the wrong yet he will not shrink from his duty when the point is pressed. The reception of the following reply was, therefore, what might have been expected:—

Secretary of State, Home Department, Whitehall. June 28th, 1890. Sir,—There is nothing in the Factory Act to make it illegal for a child, young person, or female to remain upon the premises or in a room of a factory during meal time; but if any work of any kind appertaining to a manufacturing process or handicraft is carried on during a meal time, then the presence of a child, young person, or woman is illegal.—I am, Sir, your obedient servant, ALEXANDER REDGRAVE.

How any person with the ability to read and a slight capacity to think could get wrong on this point like the Colne bench of magistrates and its adviser would be a mystery to most men, were it not that the faculty for blundering is so strong in human nature and that in the said authorities there must be an extraordinary development thereof. We hope they will be more careful in the future, and the other authorities will be so likewise.

But there is a moral to all this, and our reason for directing attention to the case at all is the desire that all persons interested shall note it. It is this: In spite of the law, which is explicit enough upon the point, a manufacturer cannot with safety allow his workpeople to remain in the sheds or rooms in which they work during meal times. In the event of finishing their meal a minute or two before the engine commences its work, the most careful and industrious of them will be performing some of the little duties and jobs incident to their work. If weavers, as in this case, they will perhaps pull out a piece of cloth, do a little sweeping, or oil their fly spindles, loom cranks, and other parts of their looms. Or it may be, if they should happen to have had a smash, or a float to pull back, or even a few "ends" down, they will inevitably endeavour to get these things straight "before the engine starts." In such a case the inspector may "pop in," and a prosecution of the employer would then inevitably follow. The performance of such little duties as we have indicated could not be prevented by an overlooker or by the employer, even if he were standing close to the weaver and turned his back for a moment or two. We venture to say that under such conditions even the lynx eyes of an inspector would be eluded, the work would be performed, and the enforcer of the law would be laughed at to his face. If that could be done in his presence what will not be done in his absence? These things will be done if the workers are permitted to be in the rooms, and they are and will be done in spite of the knowledge that there is an amateur inspector in each room, planted there by the Union, whose duty it is to report all such breaches of the law to the "Club," and on which the latter founds its frequent charges of infraction of the legal regulations, and stimulates the inspectors to a state of nervous activity, with the result that they resort to the most questionable devices in order to enable them to catch the manufacturer napping, whilst his workers are breaking the letter, but not the spirit of the law. It is this sort of thing that ought to incite employers to unite their influence and never cease applying to the authorities until the law be amended in the direction of making those who break it solely responsible for doing so. These are the operatives who are so frequently caught at work against the strictest prohibition that the owner of the establishment can put forth. Our whole statute book does not contain such another illustration of the flagrantly wrongful imposition of penalty upon the innocent person as in these cases, and the sooner it is swept away the better, and the more consistent and perfect will our recognition of the principles of justice become.



## TEXTILES AND THEIR TITLES.

(Continued from page 5.)

There are some instances in which a peculiarity of manufacture has given an unusual name to a material. Dobbies owed their designation to such a circumstance, and so did Drawboys, the help of a boy being required to weave them. It is probable that a similar case led to a particular Irish linen being called Box-and-Trap, sometimes Box-and-Tray. But it can easily be understood that such names, however interesting, did not appeal at all to the inclinations of the general purchaser, which was, after all, the object to be chiefly held in view. Thus it comes that the most common of all titles of textiles have been those which would indicate good and generally durable qualities. Shakespeare mentions Durance, which was a well-known fabric. Perpetuana, with its diminutive of Perpets, was another; and Lastings, which is an abbreviation of Everlastings, still remains with us. Sem-piternum was a more ambitious attempt to convey the same promise, and Everfin was equally full of good intentions. Alamode represented the forefront of fashion, and Amiens, although at first nothing more than a worsted stuff made in the French town of the same name, was quickly corrupted to Amens, as if it were the end and conclusion of all manufactures, but Booth says that it was so called because it was chiefly used for church furniture, which would certainly be very appropriate. One of the most daring of all names was that of Paragon, and it was for a long while expensive enough to excuse its assurance, and one of the most peculiar names for a fabric is that of Philip and Cheany, evidently a popular dress stuff in the seventeenth century, but one of which a satisfactory explanation has yet to be discovered. There is, however, another name of the same period which is still more bold and explicit, about the pretensions of which there could be no doubt whatever, a striped stuff called the Pearl of Beauty. It was made, as we find it authoritatively described, "by colours in the warp, and tufted in the striken." There would thus be no difficulty in imitating the Pearl of Beauty, but the title could not be recommended for modern use since people now-a-days are apt to be suspicious when too much is offered to them. It is necessary to be very careful and not too liberal in selecting titles for new textiles.

Many names of bygone textiles have now no meaning whatever for us, and offer no clue at all to their character. In Bombazine, which became some years ago the outward and visible sign of elderly respectable females, it is possible to find evidence that it was from the first a silken stuff, even if history did not shew the fabric and name together in use several centuries ago; and Hurden or Harden, the good old name still current in many parts of rural England, would always proclaim itself made from Hurds or Hards, the outer and coarser fibres of hemp or flax. This was another resource of poor folk in those good old days, and it is significant enough of the risks run by Charles I., when he escaped after the battle of Worcester, that he had to put up with a hurden shirt. "Then hee, returning to his chamber," according to the account of an old tract, "sitting down by the fierside, he pulled of his shoes and stockings and washed his feet, which were sadly galled, and then pulled of likewise his apparell and shirt, which was of hurden cloth, and put him one of Mr. Huddleston's and other apparell of ours." But many fabrics are textile mysteries, and likely to remain so. What was cloth of Lyre, or Messellawny; what was Rylle, what was Burratine, spoken of in 1619 as "a strange stuff, recently devised and brought into wear?" What was Stand-further-off, a stuff mentioned a few years after by Taylor, the well-known water poet! The giving of eccentric names to textiles is evidently not "of an age, but for all time." But the idea of a lady being dressed in Stand-further-off!

Catches is another strange title, which we know to have applied to a coarse Indian cloth in the time of John Company, and Crystal so

far justified its name in being white and transparent, generally used for nuns' veils. One of the earliest English manufactures of importance was monks' cloths, of which we know little more than the length and width of which they were usually woven, and that they were made of wool and at Norwich. That, indeed, is tolerably full and explicit information, compared with what we have to be content with in other instances. Two old fabrics, called Caffa and Camoca, make a conspicuous show in history, and from their use by kings and nobles may be fairly set down as rich and costly materials, but all else about them is open to conjecture. Sometimes there are more theories than one to choose from. Whether Frieze is a Friesland stuff or a rough-napped cloth has yet to be definitely determined, and there is room for argument as to whether Diaper takes its name from a town in France or from the pannelled pattern with which the material followed ordinary ornament. Corduroy is generally, and very reasonably, accepted as a corruption of *corde du roi*, the king's cord, but we live and learn, and it is certain that before corduroy was, there was a stuff in general use as Duroy. A description of Stourbridge Fair, given in the *Cambridge Chronicle* of 1674, says that in the Duddery, or part of the fair devoted to clothing goods, there was one booth belonging to a Norwich dealer "which alone contained goods to the value of £10,000," and continues, "Western goods had their share also, and several booths were filled with serges, duroys, shalloons, cantalouns, Devonshire kerseys, etc. from Exeter, Taunton, Bristol, and other parts west, and some from London also." But long before this date Sir Everard Digby wrote, while in prison, an account of his share in the great Gunpowder Treason, which we still commemorate after a fashion, and therein he says, "Besides the trunk of armour which was sent to Mr. Catesby, I did carry but one other trunk with me, which had in it clothes of mine, as a white satin doublet cut with purple, a jerkin and hose of De-roi, colour satin laid very thick with gold lace." If De-roi or Duroy can thus be carried back to the early days of the seventeenth century, there is plenty of room for another historic doubt as to the later and regal origin of Cord-du-roi.

But if we once begin to broach disputed questions in textile nomenclature, the conclusion of this paper might be postponed to the time when the identity of the sea serpent is satisfactorily settled, or until everybody has been finally convinced that the secret of perpetual motion is past finding out. Lives there the man, or woman either, who would win scholarly distinctions and enjoy the pleasures of pen-and-ink fighting for a season? Let him or her be constantly on the watch for foolish paragraphs in which the names of textiles are flatly explained with all the confidence of comparative ignorance. When druggat has been shewn not to have originated at Drogoda, for the 41st time, and for the 101st time Buckram is proved to have had no connection with Bokhara, or Dimity with Damietta, the pursuit of misleading information of this kind will have become a pleasure, while the attempt to settle such matters as the origin of D'Oily fabrics, the truth about blankets having taken their name from an old Bristol citizen, or the one and only derivation of Tartan, will have given life a zest which will decide emphatically that it is worth living. But, even though it may be found impossible to stop the circulation of erroneous statements, or to settle questions over which students have argued and quarrelled continually, it is certain that when once an interest is taken in textile history, to which all textile titles lead, the subject will be found one of the most attractive and far-reaching that leisure or attention could be given to.

S. WILLIAM BECK.

## MESSRS. DOBSON AND BARLOW'S CENTENARY.

The centenary of the establishment of Messrs. Dobson and Barlow's Kay-street Machine Works, Bolton, was celebrated on Saturday last in a right royal manner, worthy of the importance of the firm. Its success fulfilled the most sanguine hopes, and Messrs. Dobson and Barlow deserve most hearty

congratulations on having carried out so considerable an undertaking with such credit to all concerned. Having resolved that all their employes should have a trip to the coast, they carried out their intentions on the most generous scale, issuing no less than 3,700 railway tickets, divided between Llandudno (2,400), Blackpool, and Morecambe, the men making their own choice of locality. In addition to the railway ticket, each was presented with 1s. 6d. for refreshments, and each man with 5s. and apprentice and boy with 2s. 6d. besides, as an equivalent to a day's wage. The coins were of the current year (1890), specially obtained, and they will, no doubt, in many cases be preserved as *souvenirs* of the firm's centenary. This, however, did not exhaust the provision made for the employes' pleasure, for tickets were provided whereby drives, admission to piers, boating, etc., could be enjoyed at reduced charges.

As will readily be understood, the organization of three excursions on so large a scale involved much forethought and detailed labour, and the results have reflected the greatest credit upon the executive committee, while, to crown all, the clerk of the weather kindly lent his co-operation, and at the three centres it was accordingly gloriously fine.

The railway arrangements were entrusted to the London and North-Western Co., and Great Moor-street station presented an animated spectacle on Saturday morning. The officials had made every preparation, and Mr. Atkinson and his staff were rewarded in the fact that all the departures and returns were promptly timed without hitch of any description. There were four trains for Llandudno, the first steaming out at 3.30, and the last at 4.15. The Morecambe train left at 5.30, and that for Blackpool at 5.45. All the Llandudno trains reached their destination between 6.30 and 7.15, and the others made equally good runs. To the great majority of the trippers Llandudno opened out new scenes, and the picturesque beauties of the Great and Little Orme's Head, the delights of the Happy Valley, and the lovely marine views presented from the pier, were all sources of undisguised delight. The characteristics of Morecambe and Blackpool are better known, and those who made these resorts their haven for the day were equally fortunate. Every form of amusement was entered into by the men, their wives, and sweethearts, and the day was all too brief. Every man and boy appeared to realise that the reputation of the firm in some measure rested on his individual good conduct, and no breach of decorum marred the proceedings. Though neither of the heads of the firm could accompany the trips, Mr. Alderman Dobson, J.P., being abroad, and Mr. T. H. Rushton, J.P., in London, they were cordial in their expressions of good will, Mr. Dobson wiring from Milan on Friday, "Best wishes for to-morrow. Fine weather. Happy day." The first of the return trains was from Llandudno, and reached Great Moor-street at 9.45. The others came up in due order, and there was not the slightest mishap. It should be mentioned that members of the Committee were scattered about different portions of the train both going and coming, but their services were never needed, and during the day there was no necessity to restrict the movements of any of the trippers, who wandered "at their own sweet will."

It was only to be expected that as soon as news of the proposed excursions became known in Bolton there should be a great number of enquiries from mill managers, spinning masters, carding masters, and others, many of whom had been brought up with the firm, while others use the machinery supplied from the Kay-street works. These gentlemen wished to accompany the excursions, and in order to accommodate them a special train was chartered from Trinity-street Station at 1.15 in the afternoon, tickets also being available by the 1.45, on which 400 were conveyed to Blackpool, each receiving 2s. in addition to the railway ticket. This was another successful feature, and was the means of gratifying a great many relatives and friends of the employes who could not accompany the early morning trains. About a hundred of this latter party organised a combined tea at the Railway Station Hotel, Blackpool, at which speeches were delivered returning thanks to Messrs. Dobson and Barlow for their kind consideration, and expressing every hope for the continued prosperity of their gigantic concern. Mr. J. T. Ainsworth called for a vote of thanks to be proposed by Mr. James Marsh, who thanked them most heartily on behalf of the company for the way in which they had recognised them during the centenary celebration. Mr. Demaine and Mr. Fishwick also added their testimony to the feeling of appreciation for the courteous manner with which they



were always treated by the firm. Mr. W. Higginson, representing the firm of Messrs. Dobson and Barlow, was requested to convey the thanks of those present to Mr. Rushton and Mr. Dobson. Mr. Higginson, in replying, said he should have great pleasure in conveying to the firm the kindly observations which had fallen from those present. He knew that the sole desire of the firm was that those who partook of their hospitality should thoroughly enjoy themselves, and they would be best repaid for what they had done by finding that everybody had had a pleasant out, and were perfectly satisfied.

Whilst the thousands were enjoying themselves abroad, the unfortunates compelled to stay at home were not forgotten, the sick, aged, and disabled employees all receiving mementoes of the centenary. During the day the neighbourhood of Kay-street was gay with bunting. Flags floated from the works, whilst streamers were stretched across the street from many houses. The celebration will, no doubt, be the means of yet more firmly cementing the good relations existing between employers and employed.

On Saturday afternoon next there will be a great

gathering in the yard of the works, in continuation of the celebration, when the workpeople will make several valuable presentations to the heads of the firm. These are seven in number, and have been subscribed for by all the hands. They include a handsome illuminated address to the firm, together with illuminated albums to both Mr. Rushton and Mr. Dobson; a silver punch bowl to each gentleman, and diamond bracelets to Mrs. Rushton and Mrs. Dobson. This centenary marks a unique epoch in the industrial history of the town, and on all hands the heartiest congratulations have poured in, including many telegrams from different parts of the world.

MOZAMBIQUE.—Mr. H. H. Johnston's report on the trade of Mozambique tells a doleful story of the decay of commerce in the Portuguese possessions. A falling off in both exports and imports, and an increasing and, apparently, hopeless deficit in the colonial accounts, although every possible article is taxed and surtaxed, are facts which form a significant and sufficient commentary upon the claims of Portugal to be a great colonising power in East Africa.

## Designing.

### NEW DESIGNS.

#### MANTLE CLOTH.

Figure 21 is furnished for application either to mantle cloths or to dress fabrics. The construction of the design first claims consideration. It is very evident that the square has occupied a prominent position in the planning out of the pattern, consequently the same arrangement of figures is repeated four times to obtain the full figure. A figure like this, in which the geometrical basis is so apparent, requires very careful development, as too strong a contrast between ground and figure would prove offensive; thus probably the best materials to use here would be a non-lustrous worsted or woollen yarn for the ground, with lustrous worsted or mohair for the figure, or, to reverse the positions, a lustrous or semi-lustrous ground with dull figure of

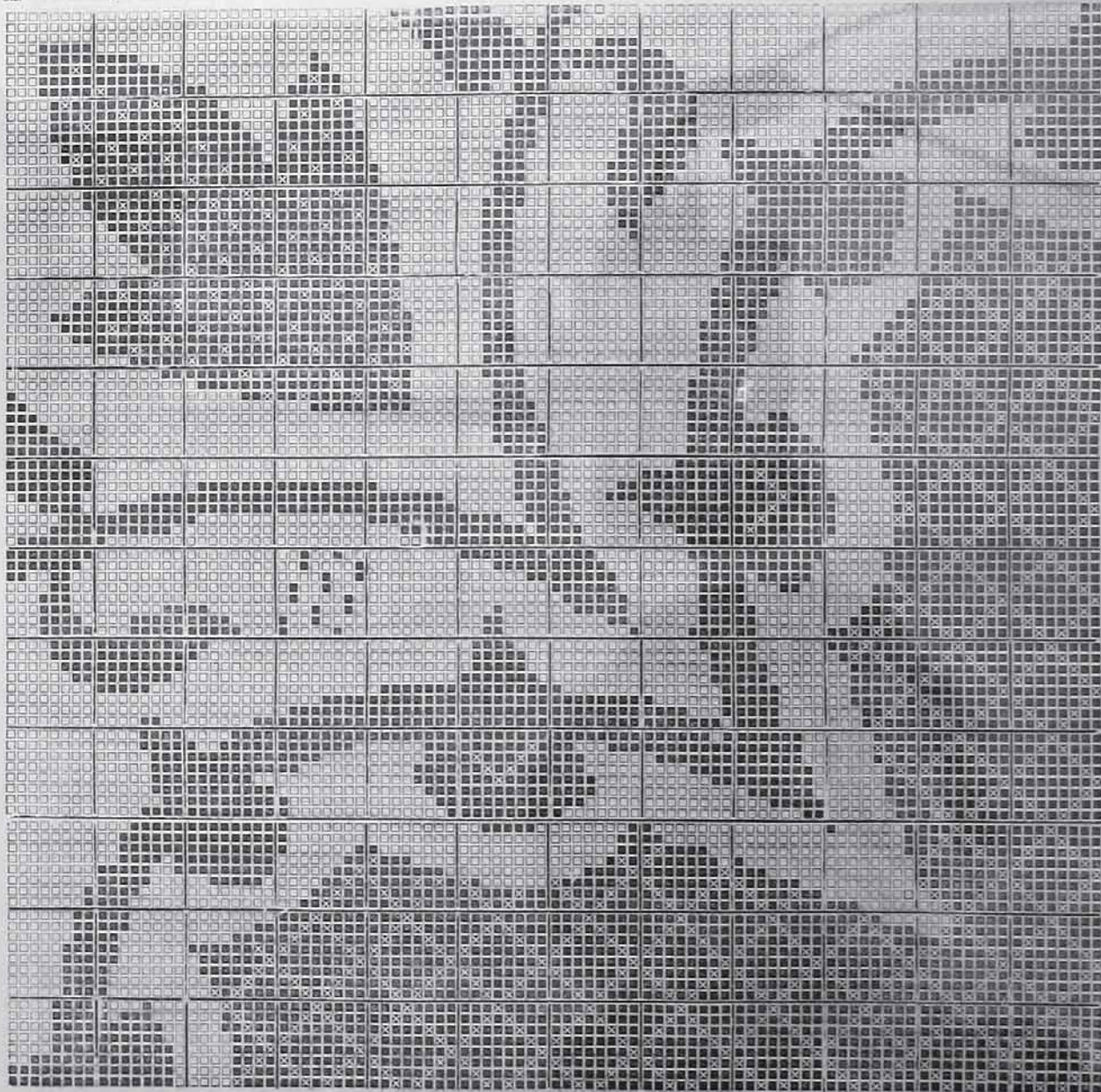
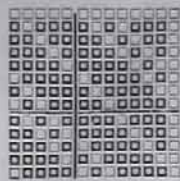
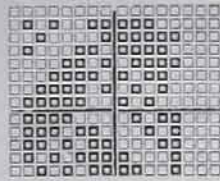


FIGURE 21a.

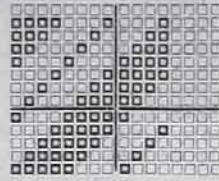




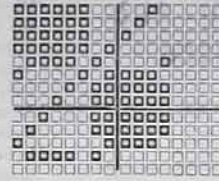
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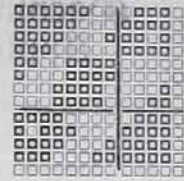
NO. 2.



NO. 3.



NO. 4.



NO. 5.

PEGGING PLANS FOR FANCY DRESS STRIPES.

woollen would prove effective; or again, the two methods may be used in unison.

Figure 21a is furnished to give an idea for the development of the above design. One quarter of the square, i.e., one quarter of the complete design, has been divided into four squares by four, or in other words 16 squares; and just one quarter of this, i.e., four squares, is represented by 96 threads and 96 picks; thus the full design will occupy 384 threads by 384 picks.

As a matelasse made to the following particulars a good effect should be obtained.

Warp,  
All 2/40's cotton,  
18's reed 2's.

Weft,  
1 pick 20 sk. woollen,  
1 " 10's rustro worsted, mohair, or alpaca.

In this case the pick of woollen weaves plain with the ground to form a firm cloth, while the mohair floats almost entirely on the surface, the flushes being broken in order to define the figure. The chief thing to remember here is to employ a ground that flattens the mohair, since the figure as developed here will stand out, owing to the long flushes.

Another system of development is to employ a fairly fine set worsted warp and to use two wefts, a dull woollen weft forming the large figure developed in squares of seven, and a bright lustrous yarn, mohair or alpaca, forming the sprays of leaves, etc., while the semi-lustrous

worsted forms the ground, interweaving on the buck-skin principle as indicated.

SILK DRESS FABRIC.

As a silk fabric to be used simply for panelings for edging dresses, etc., Figure 21 should prove very effective. The buck-skin ground

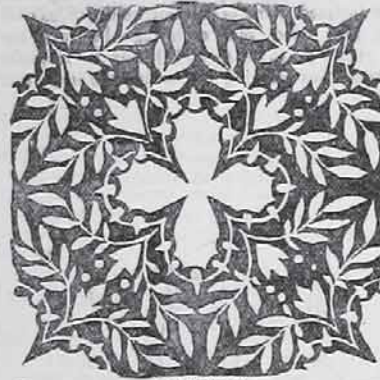


FIGURE 21.

should be put in as indicated, and a very fine silk warp very closely set should be used with two thickish silk wefts of different colours for figuring the two portions of the design as pre-

viously indicated. Thus the warp forms the ground, being tied in sateen order successively by first one figuring silk and then the other, there being in this case no extra figuring weft and consequently no waste.

FANCY DRESS STRIPE IN LINEN, COTTON, SILK, OR MOHAIR.

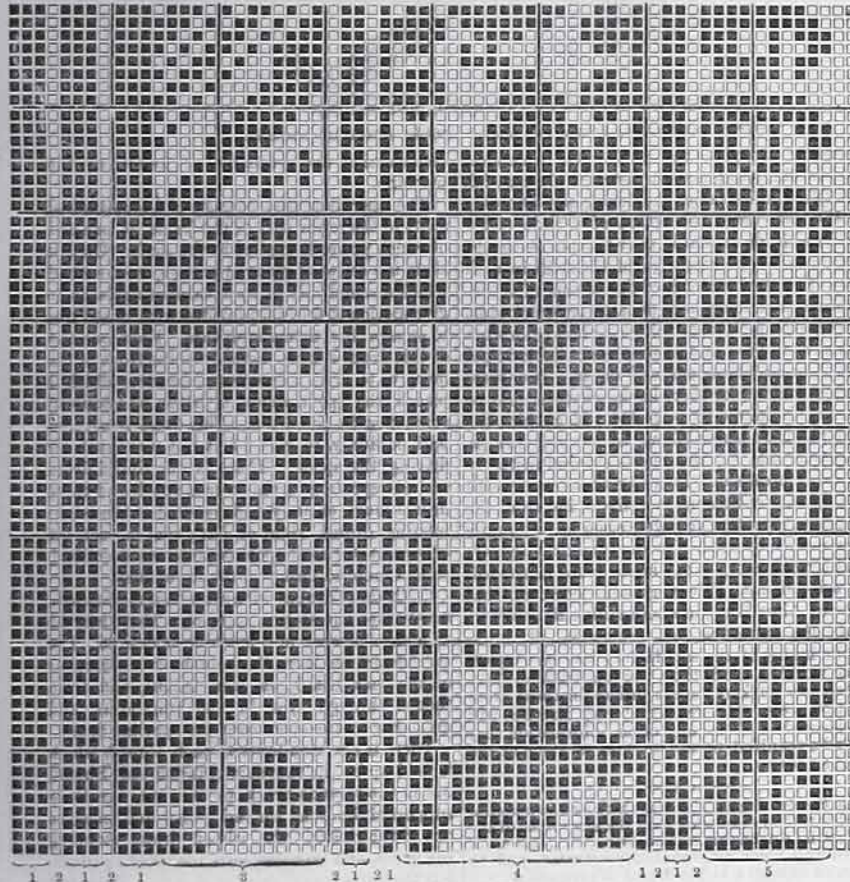
We give five different pegging plans, although the number may easily be increased. Straight over draft, on 12 shafts, and 4 for plain stripe, 48 reed, two and four in a dent. The plain stripe, 56 ends of light drab, two in a dent, on the four plain shafts, and 60 ends of sapphire blue, 2 in a heald, 2 healds per dent, on 12 shafts; total ends in pattern, 116. The plain stripe 40's twist two-fold cotton, and the fancy or blue stripe 40's single cotton; weft 40's linen, all white, 56 picks per inch. Each stripe ought to be on separate beams. It will be quite evident from a short study of this class of striped pattern that reed, number of ends, picks, and counts of yarn may be varied almost beyond calculation. The materials may be cotton, linen, silk, alpaca, mohair, etc.; and, so far as figure is concerned, a slight variation in the draft would produce a great number of changes. The plain stripe might be made into a cassimere twill or a canvas cloth; then any amount of changes may be had in the colours or shades of warp and weft; in fact a more useful class of cloth for developing variety could scarcely be put into a loom, and it is becoming day by day a fashionable favourite in all kinds of materials, self and coloured, woven grey, then bleached or piece dyed. The weft or warp flush of the fancy stripe may be preferred, but this is scarcely a matter of any importance, because the tie can soon be altered or the under side of the cloth be brought to the upper surface when desirable. In our next issue we intend to give one or two attractive patterns which ought to be in demand towards autumn.

DHOOTIE DESIGN.

From Salem, Madras. The figures at bottom denote colour: No. 1, red; 2, yellow; 3, the light type green, the dark type Turkey red; 4, light type white, dark type Turkey red; 5, good bright blue. Distance between the borders (two in this case, one at each selvage same as design) 37 inches, each border 1 1/2 inches; total width 40 inches; 48 ends on inch; in plain cloth, 48 picks per inch; weft and warp 40's; length: 3 yards 22 inches; weight: 11 ounces. This cloth commands an extensive sale in every bazaar throughout India; both pattern and colours are good, particularly the red, and in imitating Indian cloths our home manufacturer cannot be too careful in the choice of coloring matter, if there is little let it be good. The texture of the cloth almost counts as nothing compared to purity of colours.

OXFORD SHIRTING.

No. 1.—Plain cloth in a 72 reed, or 72 ends per inch, two in a heald, one heald per dent, 72 picks per inch, two in a shed, warp and weft 20's. Pattern: 2 bright blue, 2 white, 2 blue, 2 white, 2 blue, 2 white, 2 blue, 2 white, 2 blue, 16 white, 2 bright red, 2 white, 2 red, 2 white, 2 red, 2 white, 2 red, 2 white, 2 red, 24 white; total ends in pattern, 76; checking, the same as warp pattern. The two in a shed can easily be effected by the use of a selvage catcher, and at the opposite side from the shuttle boxes.—No. 2.—Plain cloth, in a 56 reed 3 in a heald, one heald per dent, or 84 ends on an inch of 20's twist, and 36 picks of 10's weft; one shuttle, bleached white; stripe pattern: 24 bleached white, 6 blue, 6 white, 6 blue, 6 white, 6 blue, 24 white, 6 red, 6 white, 6 red, 6 white, 6 red; total ends in pattern 108.



INDIAN DHOOTIE.

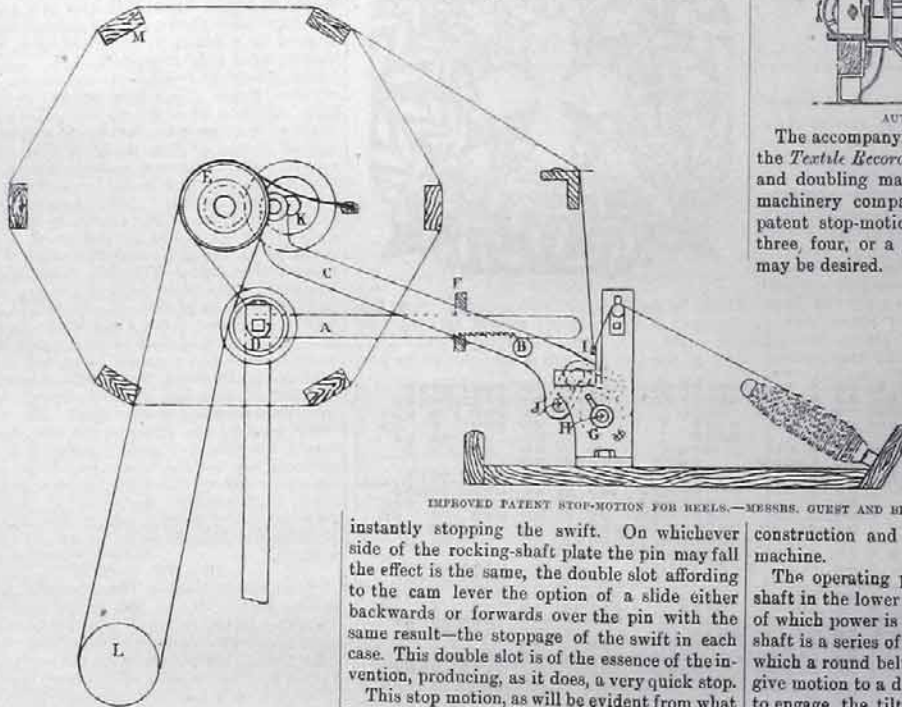


## Machinery and Appliances.

### IMPROVED PATENT STOP-MOTION FOR REELS.

MAKERS: MESSRS. GUEST AND BROOKES, PHOENIX IRONWORKS, POLAND STREET, MANCHESTER.

The question of the correct reeling of yarns was, in a small way, for a long time a troublesome and unsolved difficulty. Like others of greater magnitude it has however yielded to the efforts of inventors. Depending as it did mainly upon the invention of a suitable stop-motion, it is natural to suppose that inventors would proceed on well-known lines to achieve their purpose, though naturally there would be variations in the results arrived at. And such was the case. We have much pleasure in placing



the details of one of these before our readers. It is the joint invention of Mr. Thomas Coleby, yarn merchant, and Messrs. Guest and Brookes, machinists, both of Manchester, and has just been patented.

The stop-motion, as we have seen it at work, is applied to the type of reel well known as the "Coleby" reel, but is capable of adaptation to any other make. The accompanying illustration and description will clearly explain its construction and action.

In the illustration A indicates the rack bar or setting-on handle; B, the little circle beneath, the lifting pin; C, the cam lever; D, jockey pulley with brake attached; E, pulley for driving one swift; F, rack bar bracket; G (shewn in dotted line), the crank; H, rocking-shaft lever; I, thread wire; J, angular slot in cam lever; K, crank wheel; L, swift. With this description of the parts it will be easy to follow the course of its action.

The yarn is arranged in any of the usual convenient methods, and each thread is passed

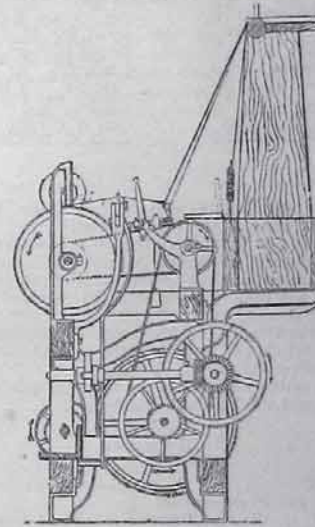
through its thread wire over the guide and upon the reel. On the breakage of a thread or the exhaustion of a cop, the drop-wire, which has been sustained by the tautness of the thread, falls down, forming an obstruction in the path described by the movement of the rocking-bar plate carried upon the extremity of the levers indicated by the letter H, which extends the length of the swift. The result is that its movement is arrested, and with it that of the pin on the end of the crank G, which, whilst the reel is in work, maintains its position in the apex of the angular slot. This pin being brought to a stand, and the cam lever, in the extremity of which is the slot, having its movement continued by the revolution of the cam wheel, is pressed forward as usual the inclined plane of the slot being forced over the now fixed pin, elevating the rack bar or starting handle A, and lifting it from its detent, thus bringing into action the brake, and

instantly stopping the swift. On whichever side of the rocking-shaft plate the pin may fall the effect is the same, the double slot affording to the cam lever the option of a slide either backwards or forwards over the pin with the same result—the stoppage of the swift in each case. This double slot is of the essence of the invention, producing, as it does, a very quick stop.

This stop motion, as will be evident from what has already been said, is simple, not liable to get out of order, efficacious, and cheap. It ensures correct lengths for every hank, whatever may be the length desired to be reeled. It enables the reeler to use cheaper labour, as, however careless the reeler may be, the reel is stopped instantly on every breakage. It is a great favourite with the operative, because it relieves her from the incessant attention required when no automatic stop motion is used. To our practical readers it is not necessary to say more, as its merits will be self-evident. We may add, however, that Messrs. Allen Bros., in whose mill at Radcliffe we had the pleasure of seeing it at work, spoke highly of the satisfactory way in which it was working, and they, we understand, have given the makers repeat orders for these stop-motion reels. Messrs. Guest and Brookes will be pleased to afford any other information that may be required, on application to them at the above address.

In Sweden during last year there was no material addition to or deduction from the magnitude of the industrial establishments of the country, but all of them were much more generally occupied, and as a result enjoyed a higher degree of prosperity.

### IMPROVED AUTOMATIC SPOOLER.



AUTOMATIC SPOOLER.

The accompanying illustration, derived from the *Textile Record*, shows an improved spooling and doubling machine, made by an American machinery company. It is provided with a patent stop-motion. It can be used for two three, four, or a greater number of threads, as may be desired. The section shows clearly the

construction and principle of action of the machine.

The operating part consists of a longitudinal shaft in the lower part of the frame, at one end of which power is applied to the shaft. On this shaft is a series of grooved pulleys, from each of which a round belt or cord extends upwards to give motion to a drum provided with raised ribs to engage the tilting stop-bars. From one end of this drum a cord extends to the front of the machine to drive a spooling drum, over which is placed the spool, which is driven by frictional contact with the drum. This drum is covered with corduroy, to give a soft but sure touch for driving the spool. There is one ribbed drum and one spooling drum to each spool, and these drums move entirely independent of the neighbouring drums, right or left; that is, each set of drums for each spool is driven as described, from a grooved pulley in the lower shaft.

Each set of drums, with attendant mechanism, constitutes one section or block. There may be as many "blocks" in a machine as desired. The threads are led from the bobbins over glass pins on the back board, as seen in cut, and from thence through eyes in the stop-levers and guide-bar to the spool over the spooling drum.

There is one stop-lever to each thread, which is held up by the tautness of the thread. Should one of the threads break or run out, the lever supported by that thread drops and engages one of the ribs on the ribbed drum, stopping the drum, and consequently the spooling drum, but the stopping of this set of drums does not



affect any of the other drums, which continue running. Each stop-lever is provided with an adjustable balance weight to regulate the lever to the strength of any thread. The guide-bar has a traverse motion, to secure the even winding of the thread on the spool.

As a specimen of how this class of machines is being made in America, this description may interest our readers.

## Bleaching, Dyeing, Printing, etc.

### NIGRISINE.

M. Baumann, in a communication to the Mulhouse Society, states that this body was discovered by M. E. Ehrmann, and is made by the St. Denis Colour Company. It is sent out in the form of a black powder, entirely soluble in water, acetic acid, and hydrochloric acid, 1,000 parts of boiling water dissolving 80 parts and acetic acid of 11° Tw. 100 parts of the colour. The best solvent is a mixture of equal parts of water and acetic acid. Alcohol only dissolves a very small quantity. The aqueous solution is of a reddish grey hue, changing to blue grey on addition of acid. Concentrated sulphuric acid dissolves it with a grey solution, which, on diluting with water, turns first reddish grey, then blue grey. Nitric acid rapidly oxidises the colour and turns it brown red.

Hydrochloric acid and tin crystals reduce the solution to yellow, which deposits a brown precipitate on diluting with water, the liquor remaining bright yellow. Zinc dust and acetic acid reduce the colour to a yellow, but on the addition of an oxidising agent or by exposure to the air, the original colour is restored. Alkalies precipitate nigrisine base from solutions in the form of a black powder insoluble in water but soluble in acids. Solutions of alkaline salts, such as barium chloride and sodium chloride, also precipitate nigrisine.

Nigrisine will find employment to a large extent in calico printing because of its purity of shade, its solidity, and the variety of shades that can be produced by combination with other basic colouring matters. It gives grey tints, from pale to dark, of great purity.

The following colour mixture can be used for printing:—

	Pale Grey.	Dark Grey.
Nigrisine	10 parts	40 parts
Acetic acid, 11° Tw.	200 "	200 "
Water	250 "	250 "
Tragacanth liquor	500 "	500 "
Tannin	20 "	80 "
Tartaric acid	15 "	15 "

By adding more tartaric acid the shades are rendered more blue. Nigrisine can be fixed direct on bleached cotton without tannin with a good result but of a redder tone. The following colour may be used:—

Nigrisine	40 parts
Acetic acid, 11° Tw.	200 "
Water	250 "
Tragacanth	500 "
Tartaric acid	15 "

After printing, the pieces are steamed and well washed with soap. With chrome mordants most solid results are got, the goods being printed, steamed, and soaped. The above recipes give equally good results on silk, cotton, and wool.

For dyeing, nigrisine can be used directly on bleached cotton. The goods are treated in a bath of the colouring matter, then dried and steamed; or they may be passed without drying into a bath of potassium bichromate of 1 part in 200 of water; or the cloth may be mordanted as usual with tannic acid and tartar emetic.

An American patentee has invented a new process and a new machine for finishing fabrics. The cloth is first brushed on each side by suitable brushes, and then passed over stretching rollers, whereby it is stretched. It next passes through stiffening or sizing rollers, from which it again passes over stretching rollers, being afterwards hot pressed, and finally made up.

### RECIPES FOR PRINTERS.

The following are mostly translations from foreign sources. We do not guarantee the results from these recipes, but give them for the purpose of showing our readers what their foreign competitors are doing:—

#### YELLOW OR VIOLET ON SILK.

Dye the silk with any aniline violet in the ordinary way, then print on a colour made of thickening zinc powder, bisulphite of soda, and xanthine. After printing, steam and wash.

#### ALIZARINE YELLOW ON COTTON.

Prepare a colour of  
800 ozs. thickening for alizarine,  
200 " alizarine yellow paste,  
200 fluid ozs. acetate of chrome, at 50° Tw.  
Print, dry, steam for 1 hour, and soap well. This colour resists soaping and light.

#### ORANGE ON SILK.

Boil a thickening of  
10 lb. starch,  
7½ gallons water.  
Add, while boiling  
2-4 lb. Mikado orange,  
according to shade. Stir until cold, then add  
15 lb. sulphocyanide of alumina, at 28° Tw.,  
2½ gallons of dextrin liquor (1 in 2).  
Print, steam for half an hour at about 7 lb. pressure, pass through weak soda bath, wash and dry.

#### PUCE ON COTTON.

Rub into paste  
13½ lb. starch, with 4 gallons of water.

Add  
1 gallon acetate of alumina, 18° Tw.,  
19½ lb. gambier,  
1½ " magenta,  
1½ gallon acetate acid, 11° Tw.,  
3½ lb. logwood extract, 35° Tw.,  
1 quart tragacanth liquor,  
½ lb. glycerine,  
½ " olive oil.

Boil well, stir till cold, then add  
4½ gallons chlorate of chrome, 30° Tw.  
Print, steam, and soap.

### AZO-TURKEY RED.

This is being offered to Continental dyers, not in a prepared form the same as magenta, ready for dyeing direct on the fibre, but the materials for its production on the fibre are sent out with full instructions for use. These materials consist of naphthylamine hydrochlorate and beta-naphthol. The cloths to be dyed are padded through a solution of beta-naphthol, made by dissolving 1,440 parts in 1,600 parts of soda lye of 29 per cent. strength, at about 60° Tw., and 5,760 parts of hot water; and when the naphthol is completely dissolved, 20,000 parts of water are added. The cloths after padding in this solution are dried, and are then passed into a solution made fresh as wanted as follows:—1,430 parts of beta-naphthylamine are rubbed into a smooth paste with 1,000 parts of hydrochloric acid of 32 per cent. strength, and 20,000 parts of water are added; the whole mass is boiled for 20 minutes, and then allowed to cool. Next, 2,200 parts of hydrochloric acid are added slowly and with constant stirring, and also about 8,000 parts of ice, broken up into small lumps; to the cold mass is now added 765 parts of nitrite of soda, previously dissolved in 5,000 parts of water with constant stirring. The solution so obtained is filtered rapidly, and 2,800 parts of acetate of soda and sufficient ice-cooled water as will make up the total volume of the liquor to 100,000 parts are added. The cloth prepared as above with the naphthol is entered into this bath, worked until the shade is developed, rinsed in water, soaped with a weak soap liquor, which causes it to have a bluer tone, again rinsed in water and finally dried.

A fine red is obtained, which although not quite equal to Turkey or alizarine reds in fastness, yet is very resistant to light, air, acids, and alkalies. This process appears to resemble very closely Holliday's patent for vacanceine red, which is produced similarly. We should

judge that these processes of producing colour on the fibre are growing into favour on the Continent. The results are good if the processes are carefully carried out, and fast colours rivaling alizarine in fastness and brilliancy can be obtained; but in this country they seem to be neglected.

### NEW TURKEY RED OIL.

This is made as follows:—Castor oil is gradually mixed with 15 per cent. of its weight of sodium hydrate in a 15 per cent. solution, and the mixture is allowed to stand for 24 hours; then it is boiled for one hour; dilute sulphuric acid is now added, and the mass boiled until the oil separates clear on the surface. The oil, or rather fatty acid, is now treated with a quantity of soda or ammonia insufficient for complete neutralisation. The mass at first becomes opaque and white, then suddenly clears, and like Turkey red oil, now produces an emulsion with water, furnishing a thin solution as clear as water. This product is an acid soap, which, as compared with neutral soap, contains about one-quarter the amount of alkali only. If by dilution with water and a further addition of alkali, the clear solution ready for oiling be prepared from it, another acid soap is obtained, which contains about half the alkali of a neutral soap.

In experimental dye-trials the application of the new product produced a more even, fuller, and purer shade than ordinary Turkey red oil. The liquid is more frothy than ordinary oil, but this doubtless could be remedied by modifying the treatment.

### SUMAC EXTRACT.

According to Bruehl, in the *Textile Colourist*, extract of sumac is made in three ways:—1st, by cold extraction; 2nd, by extraction by boiling in open boilers; 3rd, by extraction by boiling in closed apparatus under high pressure.

The cold extraction process gives the best results, although it does not give the greatest yield of extract, 32.5 per cent. against 56.97 per cent. under pressure, and 48.7 per cent. boiling in open vessels; on the other hand it contains the largest proportion of tannic acid (the most valuable ingredient of the extract), 28.7 per cent. against 19.5 per cent. in extract made by boiling in open vessels, and 15.8 per cent. in closed boilers. The cold extraction process is therefore the best, and should be used in preference to the others.

That the results of extraction under high pressure should be the worst might naturally be expected. It is well-known to dyewood extractors that, under the influence of long-continued boiling, or of high temperature, extracts do deteriorate; for that reason methods of extracting under a vacuum are coming extensively into use.

M. Bruehl does not seem to have worked with vacuum apparatus; at all events, in his articles on extract making he does not mention the process.

### WATER IN DYEING.

Every dyer knows that water is of great importance in dyeing, and upon its state of purity depends its fitness for such purpose. It is only in rare cases that water occurs in a state approaching chemical purity, as it usually contains more or less foreign matters, which consist either of insoluble mechanical impurities, such as sand, vegetable, animal, and other substances—present usually in small quantities—and soluble impurities. Mechanical impurities are rarely of much consequence; if, however, they are so abundant as to be likely to cause spots and stains they are easily removable by filtration.

The dyer is, however, chiefly concerned with the ingredients dissolved in the water, such as lime salts, which exert a great influence on his results. Besides lime salts, magnesium salts are also of frequent occurrence and exert a similar influence; iron is rarely present, but it has a most injurious influence on most dyeing processes. Other metallic salts occur in waters more rarely; alkaline salts, such as common salt, chloride of potassium, sulphate of sodium and potassium commonly occur in most natural waters, but their influence in dyeing is nil. Lime salts are present in most natural waters in comparatively large quantities; they consist generally of the carbonate and sulphate, the relative proportions varying very much. Carbonate of lime (or magnesia) is insoluble in pure water, but is



soluble in water containing carbonic acid, what is sometimes called the bicarbonate of lime (or magnesia) being formed. All natural waters contain carbonic acid, and such in flowing through the soil take up the carbonate of lime (or magnesia), and thus become charged more or less with that body. Naturally the more highly charged with calcareous matter the soils, the more lime the water will dissolve. When water which contains the soluble carbonate of lime (or magnesia) in solution is boiled, it loses its carbonic acid, and, its solvent being gone, the carbonate is precipitated out in an insoluble form, a phenomenon familiar to every owner of boilers by the resulting formation of scale. The sulphate of lime (or magnesia) is present in all waters, but unlike the carbonate it does not lose its solubility if the water is boiled.

Lime and magnesia salts impart to water what is termed "hardness," which is of two kinds—permanent, due to the sulphate of lime and magnesia which it contains; and temporary hardness, due to the carbonates. When hard waters are used for dyeing, especially the alizarine dyes, the effect of the lime salts, especially of the carbonate, is that the dyes form with the lime coloured lakes which are deposited on the fibres in a loose condition; on washing these are washed off and the dyed fibres lose depth and brilliancy. To remedy this defect it is necessary to neutralise the carbonate of lime by adding acid to the dye bath. Acetic acid is the best to use for this purpose. The acetate of lime which is formed is readily soluble in the water and is not affected by boiling. A small excess of acetic acid is not at all injurious, as it exerts no solvent action either on the mordant or on the colour lake produced on the fibre by the dyeing process. The quantity of acetic acid to be added depends upon the quantity of carbonate of lime in the water; usually from one to two quarts for every 1,000 quarts of water used will be found sufficient.

In the preparation of soluble oil, the sulphating of the castor oil has to be so conducted that the glyceride is completely decomposed without too high a rise of temperature (in order to avoid the development of sulphurous acid), and without exposing the oil too long or too short a time to the action of the sulphuric acid. If the reaction be too short, the decomposition of the glyceride is not complete; if it act too long a time the oil is over sulphated, and does not mix easily with water, produces turbid solutions with alkalis, and gives a duller shade when used for dyeing.

**DIRECT BLACK.**—A French patent has been taken out for direct black on various fibres. For wool it consists of solid logwood extract 50 parts, coppers 50 parts, soda 3 parts, and acetic acid 3 parts. If the liquid logwood extract be used less soda is required. The coppers and extract are dissolved in as small a quantity of water as possible, the soda is added to the acetic acid, and then all the solutions are mixed. Eight parts of the mixture are used for every 100 parts of wool; and the dyeing is done in the usual way.

**BLEACHING TUSSAH SILK.**—Descriptions of processes for bleaching Tussah silk frequently appear in the foreign textile journals. The following, by M. Girard, is one of the latest. The silk is first passed through a bath of hydrochloric acid to remove calcareous constituents, and next into a solution of soda crystals, or of caustic soda of about 3° Tw., after which it is washed. It is then treated once or twice with a weak bath of hypochlorite of ammonium (prepared by double decomposition from solutions of bleaching powder and carbonate of ammonia); then into weak hydrochloric acid; after which it is washed, and allowed to steep in a weak bath of peroxide of hydrogen, rendered alkaline with ammonia for 24 hours. An improvement would be to allow the silk, after steeping in the hypochlorite bath, to lie exposed to the air for 12–24 hours, taking care that it remains wet all the time.

A NEW yarn dyeing machine has been patented in this country by an American inventor, Mr. G. H. Craven, of Philadelphia. It consists of the ordinary rectangular dyer's vat, round which is constructed the machine proper, a part of this being arranged overhead on suitable standards. The working part of the machine consists of four pairs of endless chains, arranged along the sides of the vat, above it and down each end from the upper part of the

machine to the top of the vat. The yarn is hung on staves or rods, and other weighted rods with flanges are hung in the lower end of the hanks to keep them tight and from becoming entangled. By means of fingers carried by the endless chains on the sides of the vat, these rods are carried from one end to the other. At the same time, by means of a spur wheel and a rack, a revolving motion is given to the hanks. When the rods have reached the end of the vat they are lifted out of it by fingers contained on another pair of endless chains and carried up to the overhead portion of the machine, where they are received by another pair of endless chains and carried forward to the front end of the machine, where the fourth pair of chains receives them and carries them back into the vat ready to go through the cycle again. This motion is continued until the dyeing is completed, when by a suitable contrivance the hanks are allowed to accumulate on the upper part of the machine to drain. The vat is emptied of the dye liquor, water is run in, and the movements of the yarn are begun again to wash the hanks. The rods can easily be emptied and filled with yarn while the machine is in use.

## Foreign Correspondence.

### TEXTILE MATTERS IN INDIA.

(FROM OUR OWN CORRESPONDENT.)

BOMBAY, 20TH JUNE 1890.

In England the passing of the Limited Liability Acts had the effect of immensely increasing the number of manufacturing concerns throughout the country, as the share capital was distributed into sums that gave the smallest of small capitalists the opportunity of becoming partners in paying concerns, without any additional risks beyond their investments. In India the effect has been much the same, but it has surely reached its lowest level in the establishment of the Bengal Spinning and Weaving Company, Limited, the board of which is now appealing for funds in order to carry out the enterprise. In this company the shares are to be Rs. 25 each in value, one rupee of which is to be paid on application, and the remainder to be paid by monthly calls of Rs. 1 each. The capital is fixed at the modest sum of 10 lacs and remunerative dividends are to be expected. The Board of Directors has been formed, and, for the time being, is largely made up of pleaders. It, would, therefore, be interesting to know how much of the share capital they have themselves subscribed, and what are also the pecuniary risks of the agents.

Up to the present the fall of rain in the agricultural districts has been small, and the plants consequently have had time to take root before being almost flooded out. There is, however, every prospect of a good monsoon, and a satisfactory crop may be expected. Owing to the large yield of last season the stock of Indian cotton has been large, with prices low, so that the mills have had a remunerative year. Of course the China market has been dull, and the margin between the raw material and manufactured articles has not been so great as it otherwise would have been.

India is not, nor never has been, famed as a woollen manufacturing country, owing to the insufficient yield of staple and its inferior quality. The raw material is quite unsuited for almost anything but coarse goods such as rugs and blankets, and these are, of course, only needed in the few cold districts and by the coolies in the monsoon. The chief source of consumption is the Government, and the contracts are eagerly looked after and generally fairly distributed among the small band of producers. The result has been that the woollen mills have not been successful, and have gradually gone out of existence or been transformed into cotton concerns. One large concern at Cawnpore was lately altered in this way, and it is now rumoured that one of the two new concerns in Bombay is already almost at a

standstill. This is a fact to be regretted, and reminds one of the time-worn exclamation of "Water, water, everywhere, but not a drop to drink." There is certainly an enormous field of consumption for woollen goods in India, but none of it is to be had by local producers. Flannels and suitings could find a ready sale, and these could be made by importing good machinery from England and wool from Australia, but the experiment has not yet been properly tried.

Mill management in India is quite a different matter from what it is generally supposed to be in England. The impression at home is that when a manager goes to India he goes to a life of ease and indolence, where he will be unfitted in a short time for either physical or mental exercise. A greater fallacy than this never existed, at least so far as the present time is concerned. In the early history of the manufacture such may have been the case, but in these days of keen competition and native energy such a course would not be tolerated. A manager's work in India begins at 5-30 a.m., and continues until 6 p.m. every day, in a temperature sometimes as high as 110° Fahr. and over. Saturday afternoon and Sunday holidays are in many cases unknown to him, a week's work being a week's work to the utmost limit. He is expected to have a perfect acquaintance with every machine in the mill, and to know exactly what each spindle and loom is producing, and how they stand in comparison with other mills. His yarns must bring the same price per lb. as those of other concerns, and if it shows any depreciation in the published list of prices he must be able to give satisfactory reasons for the falling-off. He is expected to keep himself informed on all new inventions or improvements introduced in England, so that an early trial may be made of their efficiency, and when new machinery is ordered he is expected to act as his own erector. He must look into and decide on all the petty disturbances and disputes which (in an Indian mill) are as numerous as the sands on the sea shore, and must submit to all sorts of annoyances that cannot even be imagined by those at home. In many mills he has no European assistants, and has therefore the whole care and anxiety of managing perhaps 1,500 to 2,000 natives who know not a word of English. A manager in India, therefore, receives a training which would fit him for the most arduous and delicate post of the kind in England. He is not behind the times in the matter of machinery, for in no town in the world—not even in Lancashire—is the machinery more advanced, nor are new inventions so readily taken advantage of as in Bombay.

### TEXTILE MATTERS IN THE UNITED STATES.

NEW YORK, JUNE 25TH.

The half-year closes with that quiet tone which generally pervades the trade at such periods, and jobbers have not done so much this week as formerly. European hosiery and gloves have been in fair demand, and prices are firm on account of the lowness of stocks here and abroad. The jobbing houses have now about completed stock-taking. Importations continue to be heavy, and the last two or three weeks of June are among the heaviest on record, last week's values of imports having exceeded those of the corresponding week of last year by over one and three-quarters million dollars. These heavy imports tax the Custom House facilities to the utmost, and some complaint is heard about slow work. This time, however, it is not the fault of the Custom House people, who do their best to expedite business, but they cannot do two week's work in six days. One hears occasional complaints on account of the excessive stocks of certain grades of foreign goods which are now being accumulated, and the fear is expressed that future prices may not be on such a remunerative level as many imagine. Ribbons of foreign make have not been inquired for so freely of late, and all the season orders appear to have been placed. Chemnitz is shipping unusually large quantities of goods to this market, cotton hosiery being one of the principal items. American buyers now visit this important Saxon centre regularly.



The imports of foreign dry goods into this port for the week ending June 26th, 1890, and since January 1st for the last three years were as follows:—

	1888.	1889.	1890.
	dols.	dols.	dols.
Entered at port . . . .	2,014,463	2,088,589	3,689,900
Thrown upon market	1,923,690	1,916,078	3,172,437
Ent'd for consump'n	1,497,522	1,633,786	2,659,032

IMPORTS OF DRY GOODS SINCE JANUARY 1ST.

	1888.	1889.	1890.
	dols.	dols.	dols.
Entered at port . . . .	64,491,121	68,680,829	74,741,937
Thrown on market	63,879,099	68,362,188	73,524,768

The most striking differences in these figures is that shown by a comparison of the imports during the past week with those of the corresponding weeks in the two previous years.

The following circular has been issued to the stockholders of the H. B. Clafin Company:—

To the Stockholders of H. B. Clafin Company:—  
We have the pleasure of calling your attention to the following certificate:—

NEW YORK, June 16th, 1890.

The undersigned have personally examined the prices of the merchandise which has been transferred to The H. B. Clafin Company, amounting to six million two hundred and sixty-seven thousand one hundred and fifty-six and 30-100 dols. (6,267,156 80dols.), and believe that the valuations are just, and in many cases the merchandise could not be replaced as low as invoiced. The bills receivable, amounting to seven hundred and thirty-two thousand eight hundred and forty-three and 70-100 dols. (732,843 70dols.) cash value, have been discounted at the rate of five per cent. per annum.

The endorsement of the old firm of H. B. Clafin and Co., in our opinion, renders certain their prompt payment at maturity.

(Signed) CHAS. S. SMITH,  
WM. L. STRONG,  
HOWLAND DAVIS.

These items, with real estate valued at two million dollars, make aggregate assets on nine million dollars, now in possession of The H. B. Clafin Company.

THE H. B. CLAFIN COMPANY,  
by John Clafin, President.

The textile schedules of the McKinley Bill still receive the vigorous support of the Republicans, and the cause of the promoters has been materially assisted by the reports that if the measure becomes law, several Irish linen firms will establish mills in this country. Several German manufacturers, it is reported, also contemplate this step, and preparations are being quietly made by American manufacturers to increase their works and to run on the lines of textile goods receiving increased protection under the McKinley Bill, and a large increase in our textile production may be looked for if the textile provisions of the bill are adopted.

Several millions of dollars will, almost immediately on the passage of the Bill, be put into the linen industry. There is a party in Philadelphia who proposes to start works, and a company in Paterson, N.J., which will do likewise. There are also several companies being organised in the West. The Renfrew Co. at Adams purposes to add linens to the products, and companies which are now manufacturing linen threads, etc., will probably begin weaving linens also. A large Irish manufacturer is negotiating for a site, power, etc., at Manchester, N.H., and another foreign manufacturer, one of the largest and best known in the United Kingdom, has announced his intention to parties in this country of starting in the manufacture of linens here.

A sample of cotton cloth woven on a three harness twill has been forwarded to *Wade's*. It was made in Shanghai, China, by Mr. Danforth, who has been five years in China organising and starting his mill. His carder is Christopher Morgan and his spinner George Horton.

Speaking of the American cotton industry, a local journal, which is strongly protectionist, says:—

If we take the price of grey cloths and cotton to-day and compare them with those of a third of a century ago, we will find cotton selling 3 cents a pound higher, and print cloths, calicoes and gingham, and all cotton goods ruling at 2 and 4 cents a yard less. We can only account for this difference through the improvement made in machinery and the manner of operating it, all of which tend to lessen the cost of

production. All classes of cotton goods are cheaper here to-day than they are in any other country of the world, when we take quality and other things into account. A good print at 6c. a yard, and a fine gingham at 8c., with a discount to the trade, must be considered a cheap article of female dress, as compared with the prices in vogue for them when we depended on foreign looms to supply our wants. Standard sheetings and heavy brown drills, worth 6½ and 7c. a yard, are as good articles for the price as can be made in any country, and our bleached muslins at 8 and 11c. a yard cannot be excelled.

Considering that the authority from which the above extract is taken has frequently referred to dear labour here as the reason why the States cannot produce as cheaply as Europe, these latest remarks seem somewhat inconsistent. If cotton goods can be manufactured more cheaply in New England than abroad, why impose a tariff?

## News in Brief,

FROM LOCAL CORRESPONDENTS AND  
CONTEMPORARIES.

### ENGLAND.

#### Ashton.

The profit of £2,275 18s. 8d., made by the Guidebridge Spinning Co., Limited, is augmented by a sum of £18 10s. 5d., which is put down as bonus received from the Cotton Buying Co., Limited. A dividend of 1s. 3d. per share is being paid, yet the shares stand at a discount for reasons best known to the share brokers.

The shareholders of the Guidebridge, at their next meeting will be required to consider a notice of motion by Mr. B. Berry, Corporation street, Manchester, as to whether the directorate shall be changed from five to seven. The Company has for a long time done well with a board of five, and no doubt the shareholders will be inclined to let well alone.

#### Barrowford.

The new weaving shed and warehouse at Newbridge, Barrowford, are rapidly approaching completion. The principal buildings are now roofed in. This shed will be let in divisions, on the room and power principle, as have been all others recently erected in this neighbourhood. There seems to be a want of operatives' dwellings in the vicinity, but when manufacturing operations begin this want will no doubt attract the attention of builders.

The subsidence which some time ago occurred at the new works of the New Room and Power Company, at Newbridge, and affected the frontage of the engine house, has now been remedied, and as no further mishap of the kind is anticipated re-building operations have been commenced. Owing to the extremely soft nature of the soil the contractors have had considerable difficulty in arriving at a proper foundation, and much labour has been expended and care exercised, especially in the foundation for the chimney, the approximate weight of which when completed is 300 tons.

#### Bingley.

On Thursday a fire broke out in the boiler-place attached to the wool warehouse at the bottom of Russell-street, belonging to Messrs. Jonas Sharp and Sons, manufacturers. The damage amounts to perhaps £150 or £200.

#### Blackburn.

Mr. Alderman Henry Harrison, J.P., Stanley, has handed a cheque for £100 to the secretary of the Board of the Blackburn and East-Lancashire Infirmary in aid of the Nurses' Home fund.

It is stated by a Rawtenstall correspondent that Mr. Eli Heyworth, cotton manufacturer, Blackburn, has again been asked by the Rosendale Liberal Association to oppose Lord Harrington, and it is expected that he will accept the invitation.

Miss Ada Thompson, daughter of the late Alderman James Thompson, was married at St. Philip's Church, on Wednesday afternoon, the bridegroom being Mr. W. H. Watson, solicitor, Southport. Alderman Thompson was a cotton spinner and manufacturer, who died a few years ago. In his time he wielded a powerful influence in the town.

The monthly meeting of the Blackburn Technical School Council was held in the Town Hall, on Monday evening, Mr. Eli Heyworth, president, in the chair. There was a large attendance. The minutes of the various committees were confirmed. The council authorised considerable changes in the school arrangements for the next session, and, when published, they will be found to give students con-

siderably increased facilities, especial encouragement being given to the weaving department. The new scheme includes, in addition to an all round reduction of fees, a number of scholarships for successful students.

#### Bradford.

The late Mr. James Bottomley, of Farfield House, Buttershaw, worsted spinner and stuff manufacturer, appointed as executors of his will his sons, Mr. Thomas Bottomley, Mr. Joseph Bottomley, and Mr. James Mortimer Bottomley, and bequeathed to his wife, Mrs. Hannah Bottomley, £150 and the use and enjoyment of his plate, pictures, furniture, and household effects, which, subject to her life interest, he bequeathed to his son, Mr. James Mortimer Bottomley. The rent of such house as Mrs. Bottomley may choose for her occupation is to be a charge on the testator's estate, and he bequeathed to her also £600 a year for her life. Subject as above, the testator left all his property, the personal estate being of the net value of £44,875 14s. 6d., in equal shares to his three sons.

Last week the students of the Technical College went to Lincoln, and were conducted over the waterworks of that city by Mr. Teague, the engineer, in the morning, the extensive works of Messrs. Robey and Co. being visited in the afternoon. Mr. G. F. Charnock, C.E., headmaster of the department, accompanied the party in each case. The students of the chemistry and dyeing department visited the corduroy dyeing and finishing works of Messrs. T. and T. N. Worrall and Co., at Hebdon Bridge, and the extensive calico print works of Messrs. Salis Schwabe and Co., at Middleton, near Manchester. On each occasion the students were accompanied by the headmaster, Dr. E. Knecht. The visits were highly instructive and interesting, and at all places the party was received and treated with the utmost courtesy.

Messrs. S. Bottomley and Bros., Limited, is the title of a company that has been formed to acquire as a going concern the business of Messrs. Samuel Bottomley and Brothers, mohair and alpaca spinners and manufacturers, of 22, Swaine-street, and Buttershaw mills, Bradford, Yorkshire. The business was established in 1842 by Messrs. Samuel, Thomas, and James Bottomley. Owing to one of the partners wishing to retire, and in order to enable the partners generally to dispose of their property by will, or otherwise, it has been decided to convert the concern into a limited company. Subscriptions are invited for 5,331 6 per cent. cumulative preference shares of £10 each, 5,331 ordinary shares of £10 each, and 1,400 ¼ per cent. mortgage debentures of £50 each, together £176,680. The preference shares will be entitled to a cumulative preferential dividend of 6 per cent. per annum. The average profits for three years ending 31st March, 1890, were £23,299 8s. 11d., and taking this average as the basis for the future, there remains a surplus, after meeting debenture and preference charges as well as 8 per cent. on the ordinary stock, of £7,249 8s. 11d., available for appropriations to the general reserve fund, or for further dividend on the ordinary shares.

#### Brierfield.

It will no doubt be interesting to the many friends of Mr. Price William Hartley, a former resident of Brierfield, to learn that he has been the recipient of a very handsome writing desk and silk handkerchief from the spoolers and warpers under his charge at the Montreal Cotton Company's mill, Valleyfield, P. Q., Canada. Mr. Hartley went to Canada five years ago, and took charge of the cloth room in the above mills. Since then he has been advanced to the position of designer, and in addition was made overseer of the spooling and warping department, and that he has made many friends amongst his helpers, the above present goes far to prove.

#### Cleckheaton.

The following is the trade report of the Chamber of Commerce for June:—"Wool, worsted spinning: A very quiet month has been passed in anticipation of the June series of London wool sales, which opened on the 24th ult., prices generally being lower than at last series. There is no improvement to report in the demand for yarns. Cards: Taking the trade all round, it is only in a moderate state, though one or two places are fairly busy. The flannel trade remains quiet for the season of the year. Merchants have been waiting for the price of wool at the current London sales. Machinery and engineering: June has been rather a quiet month, and very few orders have been placed. Chemicals: There has been only a quiet trade throughout the month. The dyeing trade is generally quieter."

#### Colne.

At a meeting of the creditors of Mr. Watson Bracewell, cotton manufacturer, Foulridge shed,



(670 looms), near Colne, held on Tuesday, a small committee of creditors was appointed to investigate the estate and report thereon to a future meeting. The liabilities are stated to be about £24,000.

#### Dewsbury.

A meeting of the Chamber of Commerce was held in the Town Hall, on Wednesday, Mr. Joe Haley presiding, when a letter was read from Mr. T. F. Firth, who is in Harrogate, stating that the Mayor of that town had intimated to him that he would gladly welcome the Associated Chambers of Commerce to Harrogate in the autumn. He (Mr. Firth) felt sure Heckmondwike would subscribe £250, and if each of the four Chambers, Dewsbury, Batley, Morley, and Cleckheaton, would emulate them they need not hesitate a moment. Several members stated that Dewsbury had already taken an active part in trying to persuade other Chambers to join in the expense of inviting the Associated Chambers to Yorkshire, but had received little or no support. The secretary was instructed to reply to the effect that Dewsbury were prepared to do their share in entertaining the Associated Chambers if financial arrangements could be made with other Chambers in the Heavy Woollen District.

#### Farnworth.

Mr. Wm. B. Crompton has resigned his place as sub-manager of Messrs. S. F. Armitage's No. 2 Mill, in order to accept the place of manager for Mr. W. Crippin, of Patricroft. On Wednesday evening last the winders, weavers, and overlookers at Messrs. Armitage's met together on the engine stopping, and presented Mr. Crompton with a handsome writing desk, suitably inscribed, as a token of good will. Mr. Wm. Watson Martin has been appointed to the vacant post.

Messrs. Rothwell Bros., cotton manufacturers, of Walkden, are this week dissolving partnership. Mr. Edwin Rothwell being reported to be keeping on the Linny-shaw Mill, and Mr. W. A. Rothwell the mill at Boatshed, recently acquired from Messrs. Rylands. The change is said to be made in order to provide for the introduction of sons of the respective brothers into the business. The mills are closed for stock-taking until Monday next.

#### Great Lever.

At the latter end of last week a fire broke out at the mill of Messrs. Winder and McKeand, cotton spinners, Weston-street. The fire brigade turned out with a full complement of men. It was confined to the fifth pair of mules on the third floor, the automatic sprinklers, with which the mill is fitted, checking the progress of the fire to a considerable extent. Only one pair of mules was destroyed, but the two floors beneath were considerably damaged by water. The fire was caused by friction. The damage is estimated at over £1,000 covered by insurance.

#### Guiseley.

Trade is good, and likely to remain so for some time, one mill working night and day.

Messrs. Holroyd, Horsfield, and Wilson, engineers, Leeds, have supplied Messrs. J. J. L. and C. Peate, Nunroyd Mills, with one of their continuous cloth-pressing machines.

Messrs. Lee and Crabtree, machine makers, Shipley, have lately supplied the Spring Head Mill Company with eight new plain looms, to take the place of some old ones sold out.

#### Heckmondwike.

The quarterly meeting of the Heckmondwike Industrial Co-operative Society was held at the Central Stores, on Saturday; Mr. B. Hepworth (president) in the chair. The principal item on the programme of business was a suggested subscription from the funds of the society to the building fund of the Dewsbury Technical School. Mr. S. Wood moved that the society should make a donation of £50. He pointed out that Messrs. T. F. Firth and Sons, Limited, had contributed £50, and it would not do for the co-operators to be behind them.—Mr. P. S. Cooper seconded the motion, and Mr. T. Redfern supported it.—Mr. M. Johnson moved, and Mr. James Green seconded, that no subscription be given, but that a sub-committee be formed of members of that society to consider whether or not anything could be done towards providing technical instruction for the youth of Heckmondwike and Liversedge.—Mr. W. H. Fearnley said that when the rules of the society were altered some time ago an attempt was made to get a proviso inserted by which the society could do something in the direction of education for their members. The attempt failed. He was glad that there appeared to be indication of a turn for the better. As a society, they were a hundred years behind the times in the matter of education. He suggested that they should make a start by offering, say, £250 towards the for-

mation of a technical school for the Spen Valley.—Mr. Wood, in replying, said in consequence of the comparative sparseness of the population in the valley a technical school could not be successfully managed. Even if they could support a school, they would have to send students to Dewsbury to study the higher branches of technical subjects.—The motion on being put to the vote was defeated. As only "for" and "against" were put, the question fell through without any practical result, Mr. Johnson's amendment for the formation of a committee being shelved.

#### Kidderminster.

Messrs. Tomkinson and Adam have generously given £100 towards the expenses of the firm trip to Weston-super-Mare.

At a meeting of the shareholders of Messrs. W. B. Purdey and Co., Limited, held on Monday last, the liquidation of the estate was decided upon. It is stated that the machinery has been sold to members of a well-known firm, and that by the sale the estate has been materially and favourably affected, and that after 20s. in the £ has been paid to the creditors, a surplus will remain. The whole of the stock, including 350 pieces of Brussels, will be sold by auction on an early date.

On Saturday the funeral took place of Mr. James Holmes, one of the oldest representatives of the Kidderminster carpet trade. The deceased gentleman was 94 years of age, and was one of the most respected manufacturers of the town in the old days, long before the power-loom was even thought of. He was, when a young man, an "out-rider" under old Mr. Thomas Lea, and being a man of great push and enterprise, he frequently visited the Continent, and was very successful in bringing home business to Kidderminster. He was present when the great fire occurred at Leipsic, and displayed so much gallantry and presence of mind that his services were publicly recognised. After the close of the great strike in 1823, he entered into partnership with Messrs. Butcher and Worth (the fathers of the present Mr. Augustus Butcher, who is now with Mr. Thomas Lea, M.P., and Mr. T. B. Worth, carpet manufacturers at Stourport). The firm traded under the appellation of "Butcher, Worth, and Holmes," and their works were in Callows-lane. After some time the firm dissolved partnership, and Mr. Holmes started by himself upon premises in Mill-street. He had also a place for the manufacturing of tapestry carpets upon a piece of ground opposite. As his business developed he had works erected at Worcester Cross, which now belong to Mr. H. R. Willis. Things did not prosper so well with him here and he gave up, and the works were taken by Messrs. John Crossley and Sons. He then retired from business, and has up to his decease lived as a private gentleman.

#### Macclesfield.

Mr. Edward Wild, velvet cutter, of Irk Mill, Lutzley Brook, and High-street, Shaw, near Oldham, who is extending his business, is reported to have taken the Sobo Mill, Macclesfield. No doubt this step has been taken owing to the improvement which has set in the velvet trade.

#### Manchester.

The General Committee of the United Cotton Spinners' Association, which numbers about 70 cotton spinners, have been invited by the directors of the Manchester Ship Canal Company to visit the works on Wednesday next.

Sir Henry James has fixed Wednesday next in London for the conference between the representatives of the operatives and employers on the amended Factory Bill.

The much-coveted Mercer Scholarship of £30, given to the candidate who comes out highest in the Honours School of Chemistry at the Victoria examination for B.Sc., has fallen to Mr. Samuel H. Davies, a student at Dalton Hall, Victoria Park, Rusholme. Mr. Davies obtained at the same examination the Leblanc Medal for technological chemistry. Miss Helen T. Neild, daughter of the principal, has just been recommended for the Clothworkers' Exhibition of 50 guineas a year for three years, tenable at Girton.

At the Manchester City Police Court, Wm. Finney Thompson, of no settled occupation, was charged with theft of pieces of silk and other articles, belonging to Mr. W. Turner, agent, Mosley-street, and Mr. H. Wolstenholme, Chatham-street, Piccadilly, the property in the former case being valued at £9 and in the latter at £10. The prisoner obtained the goods by means of bogus orders, and afterwards disposed of them in various places. He pleaded guilty, and was committed for three months.

We regret to record the sudden death of Mr. Edward Simpson, the Master of the Manchester Royal Exchange, which occurred on Tuesday at Blackpool, where the deceased gentleman had gone

to spend his usual summer holiday. Only on Thursday last Mr. Simpson was present at the usual monthly board meeting of the managers of the Royal Exchange, and was then apparently in excellent health, but on Tuesday was seized with an apopleptic fit, which terminated fatally in the course of a few hours. Mr. Edwin Simpson's connection with the Manchester Royal Exchange extended back to the period when business was carried on in the old building, and he has filled the position of Master for 27 years.

A correspondent of the *Manchester Guardian* states that much uneasiness is felt in Manchester with regard to the possible result of the negotiations which are understood to be going between Lord Salisbury and M. Ribot on the question of Tunis. The French are, it is said, endeavouring to represent the commercial relations of Great Britain with Tunis as very much less important than they really are; and the manner in which Manchester goods especially are sent to Tunis, namely, by transshipment from Malta, rather favour this piece of strategy. At the present moment there are orders being executed in Manchester on Tunisian account to a very large amount. We have a commercial treaty with Tunis which gives us ample security if it can be maintained; and the correspondent is anxious that Lord Salisbury should be apprised of the enormous error he would fall into if he allowed this treaty to lapse. No doubt much more will be heard of this matter hereafter.

At the monthly meeting of the Council of the Technical School, Mr. H. Rawson in the chair, it was reported that 3,520 students had been enrolled during the session, as compared with 3,322 for the same period last year. Visits of the day students in engineering and spinning and weaving had been made during the past month to the works of the following firms, viz.:—Messrs. Laird Brothers, shipbuilders Birkenhead; the Mersey Forge Co., Limited, Liverpool; and London and North-Western Railway Company's works at Crewe; Messrs. Howard and Bullough's, Accrington, makers of textile machinery (on two occasions); and Messrs. Lancaster and Co., Accrington. Arrangements were made with Dr. A. Liebmann, M.A., for a course of thirty lectures during next session on coal-tar products, dealing with raw materials, hydrocarbons, bases, phenols, derivatives of these compounds, colouring matters, nitro and nitroso compounds, azo compounds, etc., and colouring matters of unknown constitution; and for a course of thirty lectures in technical and commercial analysis, including logarithmic, volumetric, and comparative methods, analysis of drugs used in bleaching, dyeing, and printing, analysis of drugs used and produced in the coal-tar industry, analysis of materials used and produced in the alkali and sulphuric acid, fat and soap, and mineral oil industries. The thanks of the Council were given to the before-mentioned firms for permission to visit their works, and also to Messrs. Meredith-Jones and Sons, of Wrexham, for the gift of a case shewing the process of roller leather manufacture and of covering rollers for spinning machinery.

#### Morley.

A meeting of the Chamber of Commerce was held on Tuesday, Mr. E. F. Scholes presiding. The President introduced the question of the Chamber joining with the West Riding Chambers' Committee in the formation of a Board of Conciliation and Arbitration for the heavy woollen district, and said that the result of the arbitration in the recent gasworkers' strike at Leeds was very favourable for the formation of such a Board. On the motion of Mr. A. Barrowclough, seconded by Mr. A. Sykes, it was resolved that the Chamber send representatives to the next meeting of the Provisional Committee on Boards of Conciliation and Arbitration to be held at Dewsbury, with power to say that the Chamber would join such Board if formed, and if the representatives considered the arrangements made for its formation satisfactory. The Secretary read a circular from the Association of the Chambers of Commerce informing the Chambers that Her Majesty's Government had appointed a committee to consider the approaching expiry of various European commercial treaties, the probable effects of such expiry, and the arrangements which might be made in lieu of those treaties upon British trade, and to report thereon from time to time. The committee would, it was understood, take such evidence concerning particular trades which might be affected as they might deem desirable, and the Secretary would be happy to receive any information which the Chamber of Commerce might consider useful.

#### Nelson.

The Bradley Room and Power Company have arranged the "foot-path" difficulty with the local authorities, and satisfactory progress is being made with the work of building their shed.



## Nottingham.

It is rumoured in London that the success of the Silk Exhibition is likely to result in a much more interesting and beautiful show next season—one of English lace, which has been famous too long to need encomiums. But fickle fashion has for the moment deserted it, and the effects of this desertion are disastrous to Nottingham and other lace-making centres. A lace collection would reveal treasures of exquisite Honiton, and that fairy fabric, English point, whilst a section would certainly be devoted to the wonderful machine-made imitations so perfect in finish and so artistic in design as to be well worthy of the most fastidious wearer. It rests with the Nottingham manufacturers to translate into fact the rumours in London.

## Oldham.

The new offices of the Oldham Card and Blowing Operatives' Association have cost nearly £2,500.

It is reported that a plot of land at Glodwick has been taken with the object of building a spinning mill, for which purpose it is expected a company will shortly be formed.

The Cotton Buying Company has a profit on its transactions of £1,900, from which the directors recommend the payment of a bonus to members of 7s. per £100 of purchases.

Messrs. Buckley and Taylor, Oldham, have obtained the order for the steam engines for the Elm Mill Company; Messrs. W. Whittaker and Son, Oldham, the mill-gearing; and Messrs. Tetlow Bros., Hollinwood, the boilers.

The mills of the Werneth Spinning Company were closed from Friday right until Wednesday morning to allow of alterations to be carried out in connection with the driving department, by Messrs. Buckley and Taylor, of Oldham.

Messrs. Platt (old works), and the Elm, East, and Ridgefield Spinning Companies, and Messrs. Lees, and Wrigley, Greenbank Mills, have placed orders with Messrs. Green, of Wakefield, for their economisers.

It has been agreed upon that the fixed holidays in the Oldham cotton trade shall be—Christmas Day, Good Friday or Easter Monday (optional), Whit-Friday and Saturday, and Wakes Saturday and the following week, giving a total of eleven days for the year.

Attempts are about to be made to reconstruct the directorate of the Bankside Spinning Company, which for some years has shewn indifferent results. The other week the Company premises sustained considerable damage by fire.

We understand that Mr. G. O. Griffiths has been appointed to the secretaryship of the Oak Spinning Company, in place of Mr. James Heaton, resigned. Mr. Griffiths has for some time acted as assistant secretary, so that he is fully acquainted with the duties appertaining to the office.

The directors of the West End Mills Company have purchased Bent Grange Mill (which some time ago was seriously damaged by fire), seven cottages adjoining, and about 5,189 yards of land at a low price, at the moderate price of £1,120. This step has been taken with a view of making certain improvements in the company's property.

Messrs. Wood, of Manchester, and Mr. John Burgess, of Mossley, are supplying the ironwork required in connection with the erection of the Pine Mill, while Messrs. Squire Ashton and Sons, Oldham, are executing the joinery work, etc., and Messrs. Buckley and Taylor the steam engines. From what we learn the directors consider that the mill will be erected at a very cheap rate, and at nothing like the prices which have been stated of late. Since the rise in value of materials and labour it is computed it will cost about 25s. per spindle to erect mills at the present time. If the Pine Mill is erected at a less figure, then the directors and shareholders will have no cause for complaint.

Some weeks ago three directors of the North Moor Spinning Company were called upon by the shareholders to resign their position, owing to having assisted in promoting the Pine Mill Company, and the subject was also mentioned of the manager having given his countenance to the same undertaking, but he announced that he had relinquished any official connection with it. It is now threatened that similar action will be taken at the forthcoming meeting of the Werneth Spinning Company, the manager of which is a director of the Pine, as also are some of the directors. Will this censuring of directors, however, prevent mill floating? It may check it a little, but the salary of £1 per week, now stipulated by the new companies, is a considerable inducement to "plurality."

## Preston.

On the 4th inst., the workpeople employed at the Tennyson-road Company's Mill, presented a marble

timepiece, with ornaments to match, to Mr. Rogerson, late secretary and salesman. Mr. Rogerson has been connected with the Tennyson-road Mill for 12 years, and has now entered business on his own account at Blackburn as a cotton manufacturer.

We are pleased to learn that a more amicable feeling has grown up in the minds of the Preston Operative Cotton Spinners' Association, which has admitted of a settlement being made of the strike at Messrs. Hartley Bros., Shelly-road Mills, on terms that are mutually satisfactory. The arrangement was completed on Wednesday.

## Pudsey.

The district coroner held an inquest on Wednesday afternoon, at the Park Hotel, on the body of Mr. Thomas Cooper, manufacturer, Radcliffe-lane, who was found dead in a first-class railway carriage at Stanningley Station on Tuesday afternoon. Evidence was given that the deceased had to run very hard to catch his train, and that he had suffered from diabetes and asthma, and it was believed that the hurrying to catch his train had accelerated his death. Deceased was fifty-one years of age. A verdict of "Found dead in a railway carriage from natural causes" was returned.

## Todmorden.

Messrs. Wilson Bros., Limited, Cornholme Mills, have just added a new compound horizontal engine, having all latest improvements, supplied by the Ebor Engineering Co., Littleboro'. It was started by the head of the firm, Mr. J. H. Wilson, in presence of the manager, contractor, and a few friends, and is giving every satisfaction. The firm are adding a new chemical works for the carbonisation of waste wood, which is expected to be at work soon.

The firm of Messrs. Barker and Crabtree has been dissolved, and the business divided into two firms namely—Messrs. L. Barker and Sons, who will carry on business at Crow Carr Ings, Friths, and Dan Croft Mills; and Messrs. W. Barker and Sons, who will carry on business at Wadsworth Mill. Both firms are filling machinery with material, which had to be emptied on account of dissolution. Mr. Chas. Crabtree, Fernay Mill, is restarting a number of looms.

## WALES.

## Rhyl.

On Friday, the 4th inst., Mr. Benjamin Littler, of Bodhyfryd, Rhyl, died very suddenly at his residence. Mr. Littler, who died possessed of enormous wealth, was born at Greenfield, Holywell, when the century was quite young, his father being a working lead miner. At a very early age he was employed at the mills of the Cotton Twist Company there, at a weekly wage of 1s. 6d. After undergoing this drudgery for some years, he entered the service of his uncle, a miller in the neighbourhood of Rhyl, and subsequently returned to his native place, where he opened a grocery business. Prosperity attended his undertakings, and he soon became established as the largest grocer in the Principality, having shops in almost every town, besides large corn and other mills, from which his business places were supplied.

## SCOTLAND.

## Bridge of Weir.

The old mills that have been standing empty here for the past 10 years, which were used formerly as cotton mills, are fast disappearing. It was settled some time ago by the proprietor (Dr. Barbour, of Edinburgh) to dismantle them. Workmen have been engaged for some time back in pulling down all the machinery, lead, etc., to be got, and soon there will be nothing but the bare walls left.

## Dunfermline.

A return has just been issued showing the value of Dunfermline linen and cotton goods exported through the American Consul's office at Dunfermline during the quarter ending 30th June, and the corresponding quarter of last year. The following are the figures:—

	1889.	1890.
Linens:		
April .....	£17,608 14 11	£15,407 9 5
May .....	17,506 10 1	23,752 3 9
June .....	26,742 9 7	49,844 0 5
	£61,857 14 7	£88,003 13 7
Cottons:		
April .....	£875 9 1	£612 14 5
May .....	665 6 8	822 5 7
June .....	2,689 0 6	1,941 0 9
	£4,229 15 10	£3,376 0 9

These figures shew an increase in linen goods to the extent of £21,145 19s., and a decrease in cottons of £853 15s. 1d. The increase in linens is unprece-

ented in the history of the Dunfermline trade with the United States, and is no doubt in a great degree attributable to the excitement which prevails over the Tariff Bill now before the Senate. At present the tariff on Dunfermline goods is about 35 per cent., but should the new protective proposals become law, it will be from 55 per cent. to 60 per cent.

## Dundee.

Dr. Alexander Campbell has been appointed to the office of surgeon under the Factory Acts, held by the late Dr. Greig.

On Wednesday afternoon a fire broke out in the winding department of Messrs. D. J. W. Baxter and Co.'s mill, Hawkhill. The fire brigade had to be summoned, and before the flames were extinguished a large quantity of yarn was destroyed and a portion of the machinery damaged. The loss is covered by insurance.

## Forfar.

The bleachers on strike at Forfar Bleachfield Works called on their employer, Mr. Moffat, yesterday week and requested payment of the 16½ hours' lying time which was due them after they left work on the previous Friday. Mr. Moffat readily paid the men, but informed them that he had no intention of taking any of them back to his employment.

## Hawick.

A public meeting was held here on Tuesday night, when addresses on the subject of Trade Marks for Hosiery were delivered. A deputation from Sutton-in-Ashfield, Nottinghamshire, strongly maintained that the fraudulent sale of machine-made hosiery as hand-made was ruining the hand trade both in the Midlands of England and in the South of Scotland. They maintained that the only remedy lay in legislation by which manufacturers would be compelled to stamp all hosiery, so as to enable purchasers to know whether they were buying genuine hand-made articles or only those made or partly made by machinery. A motion was unanimously and enthusiastically passed in support of Mr. Broadhurst's Bill to amend the Merchandise Marks Act of 1887 in this respect. There was a very large attendance of stocking-makers.

## Langholm.

The woollen mill at the corner of Buccleuch square, formerly occupied by Messrs. Byers and Sons, has been transformed into a hall to be used for public meetings, entertainments, &c.

## Paisley.

No less than £3,053 has now been collected for the purpose of erecting a bronze statue in memory of the late Sir Peter Coats.

Saturday was observed as the annual trades' holiday in Paisley. Most of the principal works, including the Anchor Mills and the Underwood Thread Mills, were closed.

## Miscellaneous.

## FLAX CULTURE IN BELGIUM.

(Continued from page 430, June 21st.)

In Flanders, and throughout Belgium as well, the seed is of secondary importance, and therefore to obtain as fine and strong a fibre as possible the flax is pulled before it is fully ripe, or when it is just beginning to turn yellow, coarse flax ripening earlier than fine. The work is done (or begins usually) the last week of June, sometimes a little earlier, for, as the old proverb runs, "C'est Juin qui fait le lin" ("June makes the flax").

The flax is pulled with great care, the ends being kept very even, and the straw laid in handfuls upon the ground, a line of straw first being laid down which serves to bind these handfuls when a sufficient quantity has been pulled to tie. When put into stooks to dry, the seed ends being tied together, the bottom ends are opened out, giving to the stook the appearance of an A tent. After drying in the stook the handfuls of straw are then tied into small bundles or "beets" and piled, something as cordwood is piled in this country, two poles being first laid upon the ground to prevent injury to the bottom layer by dampness, and two poles driven at each end of the pile to keep the "hedge" in form.

In piling it is the custom to reverse the beets in alternate layers; before the top layer is put on a row of beets is laid lengthwise near the edge of the pile, so that the top layer will be given the proper slant to shed the rain. The flax is left in this position for several weeks, and then either retted very soon or put into immense stacks, or sometimes into sheds, to remain till spring. I found a great diversity of practice in different sections in the method of handling the flax after pulling and before the retting. The practice detailed above pertains to Flanders



more especially, while in the Brabant and elsewhere a very different practice prevails.

M. De Vuyst, of the State agricultural inspection, with whom I visited a flax-growing locality in the Brabant, informed me that the seed is usually removed soon after the flax is pulled. A common method of accomplishing this is to draw the heads through a hutchel or comb of square iron pickets some fifteen inches high. These pickets are about half an inch wide at base, and, as they are pointed at the top, the spaces between them grow narrower as the bottom board into which they are driven is approached by the head of the bundle of flax straw, and the seed capsules are detached. When the seed vessels are dry, they are threshed with a instrument made from a square block of wood, either flat on the bottom or fluted to form coarse teeth, a curved handle being mortised into the top. In a scutch-mill near Gembloux I witnessed two other methods of getting out the seed, this being accomplished in the first instance by means of a machine with large crushing-rolls, the ends of which were free at one side of the piece of mechanism, in such manner that only the heads of the flax could be passed through, the bundle of straw remaining uninjured in the operator's hands. Two or three times passing through sufficed to crush the capsules and clear the seed perfectly. The other method was to go over the straw with a heavy roller upon a slatted floor, through which the seed and chaff fell. In Courtrai the seed is usually maulled out with the contrivance described above. This is done in sheds for the most part or on floors, though I have seen the work going on out of doors at the side of the highway, or on the stone paving in front of the peasants' cots.

There are three systems of retting practised in Belgium, the dew retting most commonly followed in the neighbour of Brussels, and in the flax district I visited near Gembloux; the retting in crates anchored in running water (*rouissage au ballon*), as practiced in the River Lys, in Flanders, and the system of plunging the flax straw into pools or cisterns as soon as pulled, which pertains in the Waes country and some other sections. The dew retting need not be described here, as it is the usual practice in our own country, giving an uneven and least valuable product of all methods of retting. In the pool retting the pits or reservoirs are dug some months in advance, so that the loose earth will have been washed from the walls and they will be clean. They are of varying dimensions, and are sometimes divided into several compartments by partitions; these are formed either of boards or walls of sod, or of earth, the bottom being very clean. Sometimes alder fagots are placed with the flax to influence its colour, slight differences in colour depending upon many things, all of which are taken into consideration by the operator. The first process is to secure the seed, as has been described, after which the flax is again bound up into small bundles, which must be neither too tight nor too loose, so that the water will penetrate them freely after they have been placed in the pits. To keep the bundles under water they are covered with a layer of straw, on which sods, or in some localities stones or boards, are placed. Precisely how long the flax should be allowed to remain in the water must be determined by the operator; five to ten days is the range, the quality of the growth itself, the weather, and other circumstances all being considered. A farmer learns by experience when the flax is sufficiently retted to raise, though tests by breaking a few stalks from time to time must be made. After being "washed out" or "taken out of the rot," and while still wet, the straw is spread upon the neighbouring fields to dry, or in order that the process of retting may be completed; the precise duration of time necessary for this operation is also determined by various circumstances. By breaking a few flax stalks or rubbing them between the palms of the hands, however, the farmer can judge pretty nearly when the crop should be housed.

The Courtrai method of retting is the most interesting, though not as important to us, for (presumably), there is no River Lys in America, and if there were one, it would not be desirable to use it for retting flax. There is but one Lys in Belgium, a dark and murky stream, with sullen flow, its waters an indescribable greenish hue, and its odour as pronounced as its colour, yet to its banks come the flax of this entire region, by the wagon-load, by the car-load, and even by railway trains of twenty to thirty cars, loaded like hay, though in the regulation bundles, and covered with large oil cloths or tarpaulins. I shall never forget my first walk up the Lys on a bright September afternoon in company with M. Fredericq D'Hont, director of the Communal Laboratory of Agricultural Chemistry, Courtrai.

But three miles of the right bank of the river was traversed, though the flax industry occupies its

banks for 20 miles. On both sides of the narrow stream, reminding one of a canal more than a river, though there was no tow-path, back for 50 rods or more, and so far into the distance as the eye could reach, one saw only flax. There were the immense stacks containing tons and thatched as carefully as the roofs of the peasant cottages. There were acres of "hedges," as the "cord wood" piles are called, and long lines of the big bundles made up ready for immersion, while farther back in the fields were the opened bundles or beets, tied at the top and spread apart at the bottom in circular form, like bell-tents, the plan always adopted for drying the flax that has been immersed. This is the manner of packing the bundles for immersion. Crates or frames of wood are used, having solid floors of boards, the sides being open. These measure about 12 feet square and perhaps a metre in height, or a little over a yard. First a strip of jute burlap is carried around the foursides, on the inside, coming well to the top rail of the crate. This is to strain the water, or to keep out floating particles of dirt which would injure the flax by contact with it. The bundles, which measure 8 to 10 inches through, are composed of beets laid alternately end for end, so that the bundle is of uniform size throughout. They are stood on end and packed so tightly into place that they can not move, each crate holding about 2,000 to 3,000 pounds of straw. When a crate is filled the entire top is covered with clean rye straw and launched and floated into position in the stream. It is then weighted with large paving blocks or other stones until it has sunk to the top rail, when it is left for the forces of nature to do the remainder. The time of immersion is from four to fifteen days, dependent upon temperature of the water and of the air, quality of flax and other influences. There are several delicate tests which indicate when the flax should come out, although the near approach of the time is made known by the self-raising of the crate out of the water (often a foot or more), caused by the gases of decomposition.

When ready to remove, the crate is floated opposite a windlass, and there are many along the shore, the chain attached, and the affair pulled half way up the bank, when the bundles are at once removed. The big bundles are taken back to the field and are now broken up and again put into the form of the little bell-tents described above. This work is done by boys, who show great dexterity not only in spreading and standing up the little bundle when it is first opened for drying, but in the subsequent operation of turning the tent completely inside out, so that the straw that was shaded in the interior may be subjected to the air and sunshine and the drying be accomplished evenly.

After this drying process is completed, the flax again goes into the big bundles for a second immersion, and I was told sometimes a third, though rarely. This work begins in September and continues until too cool to ret the flax advantageously. Then it begins again in March and continues until all the flax has been retted. Much of the unretted flax is carried over to the next year in this manner. Not only is it thought to improve the flax in quality, but it is better for the producers, enabling them to hold their product for good prices when the fall prices are low.

Formerly the farmers did the principle part of retting, selling their crop to the merchants in the form of fiber. I was told that this custom no longer prevails, the work now being carried on wholly by the flax merchants, who either buy the pulled straw of the farmer or purchases the standing flax, in the field, his own employes doing the pulling. When the farmer does the pulling he hauls the crop to the Lys, unless he wishes to hold it over, securing the market price that prevails at the time. Many flax merchants are also owners of scutch mills, and have charge of the entire manipulation from the time the crop is ripe until the lean fiber is sold.

I visited one of the scutch mills in the little hamlet of Waverlyhem, and witnessed with pleasure the entire process of converting the clear, glistening, almost white straw, into the beautiful semi-golden line fibre which distinguishes the flax of western Flanders. This rude machinery was run by steam, the brake being a primitive affair, with simple fluted rollers, but which did their work perfectly, however, largely due to the splendidly-prepared fibre which the operator had to work upon.

There is little hand scutching in Belgium at the present day, although the scutching machines in general use are of the simplest form. Through the centre of the mill is arranged a line of scutching berths before which, or rather in which, each operator stands. A single shaft runs through the structure from end to end, and at each berth is arranged a breaker-wheel, or simple iron frame (called a "wiper-ring"), to which is affixed the beating-blades, made of wood. These are about 3

feet long and four or five inches wide, there being ten blades to each wheel.

These arms or blades revolve at the rate of 300 to 400 revolutions per minute, dependent upon the quality of flax being cleaned, and moved parallel with an upright partition of iron or wood, in which there is a wedged-shaped opening, the lower edge being horizontal and a little above the centre of the shaft. The "boon," or broken woody portion of the straw, and the dust are carried back by the whipping action of the beaters or blades, as the broken flax is projected through the wedge-shaped opening, and falls into the deep space beneath. As a handful of flax is beaten or "buffed," first one end and then the other, a certain amount of fibre is whipped off, known as scutching tow, or in Irish scutch-mills as "codilla." This should not be confounded with the tow proper, which results from dressing or hackling the cleaned fibre, nor with the product of the western tow-mills in our own country.

When the handful of flax has been properly buffed, it is snapped or shaken and passed to a second man, who finishes the operation of cleaning on another wheel. Then it is ready for the hackler. But as these operations pertain rather to the manufacturer than the farmer, they need not be considered at greater length here. The agricultural operations of the flax industry, as conducted in Belgium, have been described thus minutely because they illustrate, or rather emphasize, to the fullest degree, the necessity of high cultivation and skill and careful management in the production of this fibre. And while it is hardly possible that our farmers will ever take such pains with, or put so much hard labour into, the growth of this crop, the Belgian practice affords many hints which may gradually lead us into a practice essentially American, which will in time produce good results, with an economy of time, from the employment of labour-saving appliances.

Through such practice, and from the fact that our labourers are quicker than the labourers of foreign countries, and more ingenious in inventing "short cuts" in the attainment of an object, we need not be so much at the mercy of the under-paid labour of Europe, after all.

Here are some of the prices paid for labour in the flax fields of the Brabant, gleaned from an interview with a large grower and scutcher near Gembloux: workmen in field, 2-50 francs per day, not boarded (equal to 50 cents American money); women 1-50 francs (30 cents); weeders, boys 80 centimes, and women 1-25 francs per day (15 to 25 cents); spreaders (when flax is dew-retted), boys at various wages, from 75 centimes upward, and women 1-50 francs. Seed was quoted by the 100 kilograms, at 24 francs (approximately 4-75 dollars, for 220 pounds). Belgian "blue flax," dew-retted, 80 francs per 100 kilograms (8 cents per pound), though it is estimated that these prices are too low to pay. Russian flax retted under the snow is sometimes sold in Belgium at 75 francs per 100 kilograms, or a half-cent less per pound than the above. Naturally, the production of the cheaper grades of flax is declining under this competition.

#### THE COTTON INDUSTRY IN AUSTRIA-HUNGARY.

The following remarks upon this subject are contributed by Mr. Ivan Levinstein to the June number of the Manchester Chamber of Commerce *Monthly Record*.

The condition of the cotton industry in Austria during the latter half of the year 1889 and the first five months of 1890, has been, on the whole, very unsatisfactory. Not only has the cost of production been increased by the new law, which has come into force, limiting the working day to eleven hours, but also the hope of a less fierce competition in the markets through diminished production has not been fulfilled, as almost all spinners and manufacturers of Austria-Hungary have increased the number of their spindles and looms. Notwithstanding an enhanced cost of production and an advance in cotton, further concessions have had to be made by spinners, and especially is this the case with regard to the prices of 36's warps and 42's weft, whilst in that of woven fabrics manufacturers have been in no better position.

The adverse market and the low prices which Austrian Spinners have had to accept, have exercised also an unfavourable influence upon the import of English yarns. From the table below it will be seen that so far as Austria is concerned this has been declining ever since 1887, and although statistical data are yet wanting for 1889, it may be assumed with certainty that the import of yarn for the past year has further gone back.



**IMPORT OF COTTON YARN INTO AUSTRIA-HUNGARY IN 1887 AND 1888.**

	1887	1888
I.—Single or two-fold (grey)..... lbs.	599,540	340,100
(a) Up to 12's .....	1888	3,680,000
(b) Above 12's to 29's .....	1887	3,020,800
(c) Above 29's .....	1887	15,082,200
.....	1888	14,110,000
II.—Single or two-fold (bleached or dyed)..... lbs.	150,000	119,000
(a) Up to 12's .....	1887	352,000
(b) Above 12's to 29's .....	1888	329,000
(c) Above 29's .....	1887	692,500
.....	1888	614,600
III.—Three or more fold (grey, bleached, and dyed)..... lbs.	345,000	388,900
.....	1887	388,900
.....	1888	388,900

Of considerable interest are the strikes which have taken place during the last month. These cannot fail to have an important bearing on the future development of the Austrian cotton industries. Their primary cause may be found in the demand of the workpeople for an advance of wages. The result was only a partial success. In some sections of the empire an advance was granted, in others the demand was not responded to by the employers. The Bohemian operatives, who have hitherto worked at what we should consider starvation wages—weavers not being able to earn more than 5 to 7 shillings per week, with eleven working hours per day, spinners making from 5s. to 10s. per week—succeeded, in most places, in securing an advance varying from 10 to 15 per cent. On the other hand, the workpeople employed in the cotton industries of Lower Austria (whose wages are already from 25 to 40 per cent. higher than those earned by the Bohemians) were not able, in consequence of the bad state of trade, to obtain any advance whatever.

The demand of the operatives for a further reduction of the working hours from eleven to eight hours per day met with a refusal from the employers in all parts of the empire. The strike movement was organised and led by the so-called Social Democrats, and the stoppage of work proceeded almost in every instance in an illegal manner, the men ceasing work without giving the requisite notices. It is unfortunate that the Austrian Government during these strikes showed a most extraordinary weakness in ignoring the breaches of the law on the part of the men—a weakness for which Austria may have some day to pay dearly in more than one respect. This singular and shortsighted policy of the Government has caused a great deal of dissatisfaction and misgiving amongst the manufacturers as well as the traders of Austria, and it is therefore not surprising that Austrian manufacturers are disinclined to invest more capital in new enterprises, and many would only be too glad to withdraw their capital from industrial employment, if they were only able to realise their property, even at a considerable sacrifice.

The Government of Hungary is making the greatest efforts to promote the establishment of manufactures, and is holding out strong inducements for the encouragement of manufacturing industry. By a law passed at the commencement of this year, exemption from taxes for the term of 15 years will be granted by the Hungarian Government to all who establish in Hungary any enterprise of this kind. It will also supply land, buildings, and other materials on very favourable terms and prices.

By its initiation, an Industrial Bank, furnished with special privileges and rights, has been founded for the purpose of advancing money to existing establishments, or to those which may hereafter be set on foot; and, by the usual banking and discounting business, of facilitating and assisting manufacturers and traders. In furtherance of this desire to encourage industry and trade, the Hungarian Government also contemplates, by introducing special exceptional tariffs, to make Fiume the principal shipping port in the monarchy, a proceeding which may perhaps seriously affect the prosperity of Trieste. It is further the intention of the Hungarian Government to grant special privileges to the founders of a colonial company; and, as a further illustration of the earnest desire of the Government to draw trade to Hungary, it supports, in every way, the "Adria" Shipping Company, partly by subvention and partly by preferential rates on the Hungarian State railways. In any other Government contracts also, preference is to be given to goods manufactured in Hungary. By means of these efforts on the part of the Hungarian authorities it is not at all unlikely that they will succeed before long in developing a considerable manufacturing industry, and, possibly, even at the expense of Austria.

The production of which is called artificial or rag wool constitutes an important industry for Germany. The raw material consists of old remains of flannel,

woollen tissues, tailors' leavings, old woollen yarn and rags. Statistics show that for the last 8 or 9 years Germany has imported about 6,000,000 kilos. of these goods, and has exported annually 14,000,000 kilos, or 140,000 tons of shoddy of the manufactured article. The interference in 1880 with the importation of Cheviots into Germany has in a very large degree shackled the trade between England and Germany in what is called artificial wool, which was employed for the manufacture of waterproofs. Berlin and Saxony alone have maintained this industry.

**GASSING YARNS.**—At the Chancery Court of Lancashire, sitting at St. George's Hall, Liverpool, on Monday, Vice-Chancellor Bristowe presiding, the case of Dobson v. Corrigan and Co. was heard. It was an action to restrain the defendants from infringing a patent (No. 2,430 of 1888) for frames for gassing yarns. The application now made was for judgment in default of defence. Counsel for the plaintiff said he had an affidavit by the plaintiff's solicitor proving that the statement of claim had been delivered and served upon the defendants, who had through their solicitors asked for a month's further time to deliver their defence. That time was given, and expired on June 26. It was also proved by affidavit that the notice of motion had been served on June 30 on the defendants, with a copy of the minutes of the order asked for by the plaintiff. Several breaches of the patent were stated in the particulars, and it was also alleged that the defendants had infringed the letters patent by making gassing frames comprising the plaintiff's improvements. The plaintiff complained particularly of sales to five firms specified in the particulars. The minutes asked for an injunction to restrain the defendants during the continuance of the patent, or any extension thereof, from using, exercising, selling, causing, or permitting to be sold or exercised the invention described in the specifications and drawings, or any gassing frames made in the manner described in the plaintiff's specification, and for a reference to the Registrar to inquire what sum of money should be awarded to the plaintiff in respect of any damage sustained by the plaintiff up to the date of the order from the manufacture, sale, or use by the defendants of any apparatus infringing the patent; also that the defendant company do pay the money so found within 20 days after the service of the Registrar's certificate; and also for the delivery up for destruction of all articles or machines in the defendants' possession being an infringement, and for payment of costs. An order was granted as prayed.

**Textile Markets.**

REPORTED BY OUR OWN CORRESPONDENTS.

**COTTON.**

MANCHESTER, FRIDAY.

As yet the Council of the Operative Weavers' Association have found themselves unable to accept the new list to which we have previously made several references. It is still under discussion, and there is little doubt felt that it will ultimately be agreed to. So far as it was possible to preserve a strictly equitable line it has been done, and the hesitation that is felt arises more from disappointment of the unduly sanguine expectations that in the new arrangements the operatives were to score a distinct advance. Many districts will do so, but there are some few in which the operatives will have to make some concession. East Lancashire, as is well known, is the great weaving centre, and of this centre Blackburn may be said to be the central point. Trades-unionism has long been very strong in these districts, owing to the fact that the most able leaders and organisers of the operatives have always dwelt there. In other districts of Lancashire there have not been the same facilities nor the presence of the same organising power. Hence the coherence of the workpeople in wages disputes has been much less, with the consequence that wages are somewhat lower. The new list is expected to rectify all these inequalities.

**COTTON.**—On Friday last the market lost tone from that of a few days previously. Futures gave way 2 to 2½ points, though spots were sufficiently strong to maintain their position. Saturday is always a quiet day, unless under very exceptional circumstances, which were not present on this occasion, so futures were again the turn easier for old crops, but new were unchanged. Monday inaugurated a steadier feeling, which made way very slowly for a day or two, but on Wednesday became more distinct. Futures, which had been gradually hardening, advanced 1½ to 2 points for old crops, new ones not sharing in the improvement owing to anticipations of a good Bureau report. On Thursday, under the

influence of a good trade demand, spots (American) were advanced ½d., which carried middling to 6½d. Futures for the week are 2 points higher for near positions, but for distant ones are ½ to ¾ lower. There has been a slow demand for Brazilian at unchanged rates. Egyptian is in moderate request at prices which, after a little irregularity, have again become steady. Rough Peruvians are lower by ½d. to ¾d., but smooth sorts are partially ½d. dearer. East Indians are in fair request at steady rates, with the exception of the lower grades of Dhollerah, which are partially ½d. lower. The following particulars of the business of the week are from the official report issued by the Liverpool Cotton Association:—

	Import.	Forw'ded.	Sales.	Stock.	Actual
American ..	6,897	50,190	37,660	501,430	378
Brazilian ..	989	1,420	37,310	—	—
Egyptian ..	450	3,953	2,270	52,240	166
W. Indian ..	806	407	660	8,080	131
E. Indian ..	2,861	4,237	5,040	233,590	833
Total ..	17,514	59,776	47,050	832,650	1,508

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

	G.O.	L.M.	Md.	G.M.F.	M.M.
American ..	61*	63*	64*	66*	68*
	M.F. Fair, G.F.				
Pernam ..	6½	6½	6½	6½	6½
Ceara ..	6½	6½	6½	6½	6½
Paraiba ..	6½	6½	6½	6½	6½
Maranhm ..	6½	6½	6½	6½	6½
	Fair, G.F. Gd.				
Egyptian ..	7	7	7	7	7
Ditto, white ..	7	7	7	7	7
	Fr. F.F. G.F. F.G.F. Gd. F.G. Fino.				
M.G. Broach ..	—	—	—	5½	5½
Dhollerah ..	4	4½	4½	4½	5½
Omra ..	4½	4½	4½	4½	5½
Bengal ..	—	3½	3½	3½	4½
Tinnivelly ..	4½	—	5	5½	—

\* Nominal.

**YARNS.**—For yarns the demand has only been very quiet, but prices have been steadily maintained. Quotations remained unchanged from Friday last, and the variations that have taken place have been more in tone than anything else. For bundle yarns for the export trade there is only a very quiet enquiry, and the aggregate of the trade that is passing is much below the average amount. Bolton yarns are quiet all round and doubled yarns are in a similar plight. Owing to the activity of cotton during the last day or two, spinners have been worse to deal with, but there is no appreciable increase in the demand.

**CLOTH.**—The demand for cloth is of limited dimensions, and very little change can be discovered in any of the sections. Some business is spoken of as having taken place on Indian account for forward delivery, but though this includes a few parcels of fair magnitude the aggregate is not much. The enquiry for China is likewise comparatively insignificant, and the business that is passing is small. Manufacturers, however, hold firmly to their prices, and are content to wait the development of events. The hardening of cotton and yarns is making them still worse to deal with.

**WOOLLENS AND WORSTEDS.**

BRADFORD.

The impression seems to prevail that the worsted trade has taken a turn for the better, although just at the moment signs that this welcome change has taken place are not numerous, and, indeed, are difficult to distinguish by any except keen observers. Business is still hampered, owing to the widely divergent views of buyers and sellers. Although at the London sales an advance in wool was registered, the demand here for English and Colonial descriptions is limited. Mohair and alpaca appear to be in more active request also, and mohair yarns have of late been inquired for more freely by foreign buyers. There is very little change to report in piece goods. Home-trade houses are purchasing to a fair extent, but the American demand has fallen off. Eastern markets are slightly brisker, but prices are unsatisfactory.

HUDDERSFIELD

Fancy worsteds are principally engaging the attention of manufacturers, but new contracts have not been entered into freely of late. Cheap tweeds are still moving off readily, but in the home and colonial trade spinners are fairly well employed, but complaints are heard as to unsatisfactory business in certain quarters. The piece trade still suffers from the unfavourable influence referred to last week, and until better weather sets in very little improvement can be looked forward to.

ROCHDALE.

There is a firmer feeling, and quotations for flannel tend upwards, although not much is doing. The mills are all fairly well engaged.



## LEEDS.

Contracts for winter and spring are being entered into largely and a better feeling prevails, prices being steadier. Worsteds are in better request, and this may be in part accounted for by the increased attention which has been paid by certain manufacturers to the production of tasteful designs. Serges and soft woollens, however, have not receded in popularity, producers being extremely busily employed. Printed meltons are moving off freely, and there are frequent inquiries for novelties in tweeds.

## LONDON.

Messrs. Schwartz and Co., in their report dated July 9th, say:—

The following gives the total available and the quantities catalogued and withdrawn up to yesterday:—

	Available. Bales.	Catalogued. Bales.	Withdrawn. Bales.
Sydney.....	84,000	21,656	1,606
Queensland.....	22,000	7,882	564
Port Phillip.....	61,000	21,861	2,409
Adelaide.....	21,000	5,829	771
Tasmania.....	22,000	9,528	554
Swan River.....	14,000	6,675	274
New Zealand.....	127,000	68,887	3,493
Cape.....	49,000	16,879	1,449
Total.....	400,000	149,287	11,220

The tone in the sales has greatly improved during the last four or five days. There is much keener and more general competition, and prices, as compared with the lowest point of the first week of the series, show the following advance:—  
On Australian merino greasy wools ½d. to 1d. per lb.  
" " scoured " ½d. " 1½d. "

Among greasy wools good medium Sydney and Port Phillip and the best Adelaides show the improvement most, while it is less pronounced in the ordinary New Zealand wools. Of scoured descriptions the better classes have advanced ½d., the extreme rise of 1½d. touching chiefly the low-priced inferior sorts, which at the outset were very depressed.

Crossbreds of superior quality continue in good demand, and the best lots command full prices, but coarse descriptions have turned in favour of buyers.

Capes sell firmly at an advance of ½d. for grease, and of ¾d. to 1d. for scoured on opening rates.

The question of the amount of supplies likely to be available in September being of interest at this moment, we have gone carefully into the matter, and though it is, of course, impossible as yet to speak with certainty, we yet think that the gross new arrivals can hardly exceed 180,000 bales. Deducting about 25,000 bales for transit wools, we have 155,000 bales net, to which would have to be added the wools held over from this series. Bank rate 4 per cent.

## GLASGOW.

Messrs. R. Ramsay and Co., in their report dated 8th July, say:—

Wool.—There is no change in the wool market this week. Owing to the broken weather, wool has not been coming forward so quickly. A fair demand continues without change in value.

SHIRT SKINS.—The supply has been well maintained, and mostly of good qualities. Competition was active, and former rates fully maintained.

## FLAX AND JUTE.

## DUNDEE TRADE REPORT.

WEDNESDAY, JULY 9TH, 1890.

Our market continues languid, and there is very little disposition either on the part of sellers or buyers to operate till after the holidays.

Jute is rather easier. Firsts for September steamer are done at £15, but there is not a large business passing.

Flax remains without change at £18 to £19 for Riga K. Tows are very dull, and low offers are not declined.

Jute yarn is quiet in all grists, except in 1 len, which remains firm at 1½d. to 1¾d. 8lb. cops are done at 1s. 4½d. to 1s. 4¾d. Hessians ordinary Dundee are quoted a shade under 2d. for 10½oz. 40in. But buyers must note that the difference between this price and that for fine white wide goods is greater now than it has ever been before, as fine jute is relatively much higher.

Flax yarns are quiet. Some of the larger firms are busy, and the quotations in current lists of prices do not indicate the real price at which first rate warp yarn can be bought. For example, first quality 5lb. tow is quoted at 1s. 7d., while the best firms refuse to enter excellent business at 1s. 9d. The difference in point of fact between

yarns of first-rate reputation, both jute and flax and other spins is now very marked. The increase in the wages of factory operatives compels manufacturers who wish to keep their hands in good humour to buy only prime warps.

Wetfs are very quiet, especially common tow wetfs, and bleachers are offering prices which even at the low rates for tows, leave very little indeed for spinning this class of yarn.

Linsens are in fair demand. All the looms are engaged, but competition is keen for new business. Arbroath remains well employed, especially in the lower classes of heavy goods.

Fife, and especially Dunfermline, continues very busy in their beautiful fancy linen industry.

Dundee fancy jute goods are in fair request, while makers of cords, ropes, and twines are unusually busy.

## MANCHESTER.

There is no visible change in the condition of the trade, orders being still difficult to secure. Quietness still prevails in the warehouses, without much prospect of an immediate alteration for the better. The linen thread trade is not, however, so dull, and some of the mills in Scotland are very busily engaged, and cannot deliver to time. Lille reports received on Friday stated that there was a fair amount of business in flax at firm prices. Country stocks were exhausted. Transactions in Russian flax had fallen off, prices, however, being unchanged. Yarns have advanced, and the firmness of the market is maintained in all departments. Jute yarns are also in good request at firm prices, fine numbers being principally inquired for. More is doing in linsens, buyers having commenced their regular visits.

## DRY GOODS

## MANCHESTER.

There has been a good deal doing this week, and on Tuesday some of the large warehouses were extremely busy in almost all departments, even the heavy branches being actively engaged. The formation of "Haslams, Limited," by which name the amalgamated concern of John Haslam and Co., Limited, and Lowe, Latham, and Co., will in future be known, has been freely discussed. Both houses, who are well and favourably known in the trade, transact an extensive business with the United States. Many American buyers have been here of late. Mr. F. B. Dale, of Sweetser, Pembroke, and Co., has returned home. Mr. Dunham, of Dunham, Buckley, and Co., arrived at Liverpool by the "Teutonic" on her last trip. The same steamer, which returned to the States on Wednesday, carried several buyers on their way home. The carpet trade is quiet, but it is anticipated before long that there will be a somewhat unusual spell of activity in this branch, as the leading concerns in the trade are preparing to compete with one another more vigorously by introducing various novelties. New looms are spoken of in certain quarters, and we hear that a well-known firm is about to introduce a striking novelty.

The accounts of the home trade limited are awaited with much eagerness, but particulars as to the result of the operations carried on during the first half of the year have not as yet been published. We are, however, able to give particulars concerning Messrs. J. F. and H. Roberts, Limited, who will declare an interim dividend of 7½ per cent. The profits amounted to £3,336 19s. 9d., which, with £3,774 5s. 6d., brought over from last year, makes an available total of £7,111 5s. 3d., which £4,641 is to be carried forward.

## NOTTINGHAM.

Common qualities of curtains and costume nets (which are made in curtain frames) are in extensive demand, but other departments of the lace trade are dull. In the fancy branches there is very little to report, and Lavers machinery is not well employed. Valenciennes laces are still popular, and Point de Venise, Malenes, and Duches continue in request. Silk chantilly still sells. The plain cotton net trade is unsatisfactory, profits being extremely small.

## THE KIDDERMINSTER CARPET TRADE.

In the Brussels department of this trade business is reported as somewhat quieter even than usual at this period. Probably this is in a measure due to stock-taking, which is still engrossing attention, and there is no doubt too that the very unsummerlike weather is not having a beneficial influence upon trade.

Whether a change in the atmospheric conditions, and stocktakings out of the way, would lead to much improvement in matters remains to be proved, but although a fair number of "repeats" are coming daily to hand in almost every direction, shortness of orders is becoming more and more evident, and machinery all round is running with less regularity than a few weeks ago. In the rug and heavier class of goods trade, manufacturers continue fairly well employed, and the demand for Axminster is well maintained.

In the wool market transactions are conducted with caution and confined within conservative limits, as spinners are not yet in the market to replenish their stocks. Although spinners keep their spindles in pretty good employment, this is with business outside the carpet trade. Inquiries for carpet yarns have fallen off in sympathy with the demand for the manufactured goods, and there is quite an absence of new business moving.

## Joint Stock and Financial News.

## COTTON COMPANIES' REPORTS.

HEALEY ROYD SELF HELP SOCIETY (Burnley).—Profit three months, £235. 446 looms and no spinning.

SANDY GATE COMPANY (Burnley).—Dividend, 6 per cent. per annum for past six months. 430 looms and 18,000 spindles.

OXFORD MILL COMPANY (Burnley).—Dividend, 10 per cent. per annum. 578 looms and 21,156 spindles.

KEIGHTLY GREEN COMPANY (Burnley).—Dividend, 8 per cent. per annum. 33,378 spindles and no looms.

HILL TOP COMPANY (Burnley).—Dividend 4 per cent. per annum. 22,320 spindles and 655 looms.

HARGREAVES-STREET COMPANY (Haslingden).—Profit six months, £1,000. 1,420 looms and no spinning.

LANESIDE COMPANY (Haslingden).—Profit, six months, £100. 760 looms and no spinning.

HASLINGDEN COMMERCIAL COMPANY.—Loss £200, six months. 1,748 looms and no spinning.

BERRY COMMERCIAL COMPANY.—Profit six months, £640. Dividend, 10 per cent. per annum. 745 looms and no spinning.

CAVENDISH (Ashton).—Profit, three months, £370. Share capital, £23,330. Loans, £60,979. Spindles, 72,360 (82 568 T and 89,792 W). Plant three months ago, £68,267. Mill fireproof. Company formed 1884.

HIGHER MILL COMPANY (Rawtenstall).—Dividend, 9 per cent. per annum. 19,350 spindles and 630 looms.

MOORFIELD (Shaw).—The profit is £1,019, and a dividend of 1s. 6d. per share will be paid. The share capital is £56,000 and loan £25,362. The fixed stock is valued at £59,391, and there are 35,796 twist and 36,240 welt spindles.

CLOUGH (Springhead).—Profit, quarter ending July 5, £746, or 25 per cent. on share capital.

HOLLINGHEAVE MANUFACTURING COMPANY (Burnley).—On Saturday the chairman announced that after writing off all registration fees, interest, and depreciation, there would be sufficient profit to pay a dividend of 15 per cent. per annum.

STUBBS COMPANY.—Profit, six months, £1,340. Dividend, 9 per cent. per annum. 750 looms and 31,000 spindles.

RAWTENSTALL COMPANY.—Loss, three months (two mills), £37. Spinning and weaving.

LOSTOCK HALL SPINNING COMPANY.—Profit, six months, £3,710. Dividend, 7½ per cent. per annum, and £607 carried forward. 55,000 spindles.

HOWEBRIDGE SPINNING COMPANY (Atherton), will pay a dividend for the ensuing half year at the rate of 10 per cent. per annum.

ATHERTON SPINNING COMPANY will pay 7½ per cent. per annum.

MATHER LANE SPINNING COMPANY (Leigh), will pay 12½ per cent., this amount having been paid for several years.

## NEW COMPANIES.

## THE LANURA COMPANY, LIMITED.

Registered by R. Jordan, 120, Chancery-lane, W.C., with a capital of £20,000 in 25 shares. Object, to carry on the business of spinners, weavers, &c., in accordance with an agreement, made June 24th, between J. Whiting, J. E. Whiting, and W. Whiting of the one part and W. D. Field of the other part, and to acquire the business carried on under the above title. There shall not be less than three nor more than seven directors. The first are T.



Shaw, R. B. Hopkins, and W. E. Wilton. Qualification, 20 shares. Remuneration to be determined in a general meeting.

W. E. BUCKLEY AND COMPANY, LIMITED.

Registered on the 1st inst., with a capital of £100,000, in £10 shares, to acquire the business of bleachers and finishers, carried on at 63, Faulkner-street, Manchester, by Mr. W. E. Buckley and Co. The subscribers are:—

- W. E. Buckley, Bowness, bleacher ..... 1
  - J. Bremond, jun., Birch, near Hopwood, bleacher ..... 1
  - R. Wood, Poulton-le-Fylde, calico printer. . . 1
  - J. A. Twist, Leeds, chemical manufacturer 1
  - B. Horst, Ilkley, York., chemical manufacturer ..... 1
  - W. B. Wright, C.E., Rosslyn, Ealing ..... 1
  - J. J. Wooler, Pendleton, manager ..... 1
- The first three subscribers are appointed directors; qualification, 10 shares. The company in general meeting will determine remuneration. Registered office, Pilsworth, near Bury.

**Gazette News.**

**PARTNERSHIPS DISSOLVED.**

- J. A. Tannahill and Co., Basinghall-street, London, woollen merchants.
- Lund and Sons, Leicester, hosiery manufacturers.
- William Cumming and Company, Huddersfield, woollen merchants; as regards John T. Davies, Middleton and Howell, Norwich, hair-cloth and brush manufacturers.
- Denton and Laycock, Booth-street, Bradford, stuff merchants.
- Revis, Brewin, and Marriot, Wollaston-street, Nottingham, machine builders.
- Garnide and Andrews, Halfmoon-street, Manchester, cloth agents.

**Patents.**

**APPLICATIONS FOR PATENTS.**

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

Where Complete Specification accompanies Application an asterisk is suffixed.

**JULY 1ST.**

- 10,135. J. J. MANN, 4, St. Ann's-square, Manchester. Cutting pile fabrics.
- 10,152. E. HOLLINGWORTH, Market-place, Huddersfield. Harness mechanism of looms.
- 10,159. C. HAHLO, C. E. LIERRIECH, and T. HANSON, 71, Ash-grove, Bradford. Jacquard machines used in weaving handkerchiefs, etc.
- 10,195. C. D. ADEL, 28, Southampton-buildings, London. Apparatus for effecting figured weaving. (*Sächsische Webstuhl Fabrik, Germany.*)

**JULY 2ND.**

- 10,218. G. H. HODGSON, Central Chambers, Halifax. Operating the picking sticks, and sliding the picking tappets of looms.
- 10,220. J. WORNALD and G. WASHINGTON, Commercial-street, Halifax. Jacquard harness looms.
- 10,221. W. G. HANNA, 24, Wellington-place, Belfast. Holding cloth in machines with endless chains, for stentering, stretching, or finishing.
- 10,230. J. BRIERLEY and E. BRIERLEY, 4, York-shire-street, Rochdale. Ring temples.
- 10,237. READ HOLLIDAY and SONS (Ld.), and P. R. E. DEIDLER, 55, Chancery-lane, London. A mono-sulpho acid of alpha naphthol.
- 10,240. READ HOLLIDAY and SONS (Ld.), and P. R. E. DEIDLER, 55, Chancery-lane, London. Azo colours.
- 10,248. J. P. BAYLY, 18, Fulham-place, Paddington, London. Wire-operating devise for pile-fabric looms. (*W. Kothe, U.S.*)

**JULY 3RD.**

- 10,285. T. J. HUTCHINSON, 70, Market-street, Manchester. Removing grease and fatty matters from textiles.
- 10,297. F. F. ABNEY, Saledine Nook, Huddersfield. Stamping, embossing, or printing marks, patterns, or initials on the selvages or lists of woollen, cotton, silk, or other knitted, or woven, or felted fabrics.
- 10,323. W. HUTCHINSON, 6, Bank-street, Manchester. Apparatus for boiling, scouring, or cleansing textiles.
- 10,324. W. HUTCHINSON, 6, Bank-street, Man-

chester. Apparatus for use in treatment of cloth with bleaching liquors, etc.

- 10,325. W. HUTCHINSON, 6, Bank-street, Manchester. Drying cloth, etc.
- 10,326. W. HUTCHINSON, 6, Bank-street, Manchester. Hydraulic presses for pressing, bundling, or baling cloth or other textiles.
- 10,328. H. S. CHORPER and W. BIRKS, 23, Southampton-buildings, London. Embroidery machines.

**JULY 4TH.**

10,349. S. BROWN, 5, John Dalton-street, Manchester. Shuttle boxes of looms.

**JULY 5TH.**

- 10,396. F. A. BLAIR, Gala Dye Works, Gala-shield. Washing, bleaching, scouring, mordanting, and drying yarns or slubbing in the bank
- 10,407. A. AXTHORUS, 8, Quality-court, London. Letting-off motion for looms.
- 10,426. J. KNIX, 96, Buchanan-street, Glasgow. Machines for making fishing nets and other mesh fabrics.
- 10,429. H. SANDERSON, 22, Southampton-buildings, London. Fringe-ball trimming machines.
- 10,446. M. D. STYLES and K. BRODERICK, 33, Southampton-buildings. Stockings and socks.
- 10,448. BROOKE, SIMPSON, and SPILLER (Ld.), and A. G. GREEN, 21, Cookspur-street, London. New azo colouring matters.

**SPECIFICATIONS PUBLISHED.**

1889.

- 9,904. BURN. Treating cotton fibres, etc. 11d.
- 11,098. ARNFIELD. Dyeing yarn, etc. 8d.
- 11,452. STOTT. Testing Yarn, etc. 8d.
- 11,653. LONG. Knitting machines. 8d.
- 12,585. WILKINSON. Looms. 8d.
- 12,652. WARRINGTON. Looms. 8d.
- 12,866. SHORROCK AND HACKING. Looms. 6d.
- 13,343. LAKE (*Kalle and Co.*). Quinazoline derivatives. 6d.

1890.

- 1,968. BOOTH AND BEAUMONT. Condensing silvers of woollen, etc., fibres. 6d.
- 5,285. KELLNER. Bleaching vegetable fibres. 8d.
- REPRINTS (with alterations).
- 1888.
- 12,299. MICHAELIS and others. Gig mills. 8d.
- 1889.
- 4,565. LEIGH (*Williams*). Colouring matters. 6d.
- 17,147. MORT. Figured cloths. 6d.

**ABSTRACTS OF SPECIFICATIONS.**

2,112 Feb. 6, 1889. **Spinning.** W. R. SIDEBOTTOM, Heston Norris, Lancashire.

*Spindles and their apparatuses.*—The lower part *b* of the bobbin is made cylindrical, and takes over a cylindrical block, or into a cup *d*, carried by the spindle, the bobbin resting on the bottom *st* of the cup or on a suitable flange, and being carried round with the same. The upper part of the bobbin is formed to take over the point of the spindle as shown. By means of this invention flanged bobbins may be used on ring spinning and doubling frames. [84d.]



2,116 Feb. 6, 1889. **Making tapes, braids, etc.** E. BRADSHAW, 159, North Sherwood-street, Nottingham.

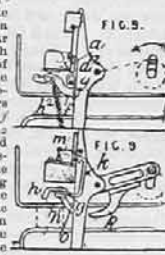
Tapes, braids, or ribbons, of any required width or colour, are made on ordinary twist lace machines. One course of the braid, etc., is made at each revolution of the machine. [84d. Drawings.]

2,186 Feb. 7, 1889. **Looms.** J. A. HINCHLIFFE, Dandy Dale, and B. RO'S, Ringley-street, Bradford.

The streamers from the jack levers and heads are connected by means of chains passing over the guide pulleys. [64d. Drawings to Specifications.]

2,202 Feb. 7, 1889. **Looms.** J. JOCKES, 60, Peter-street, Manchester.

*Loom reed motion.*—A reed-holding bar is arranged to slide vertically between the lay and a bar bolted thereto. This bar carries brackets *st* (Fig. 5) which are slotted to receive the ends of levers *f* pivoted to brackets on the lay. A specially mounted stop-rod *g* carries lugs with fingers which enter slots in the levers *f* and are connected by springs *so* to the lay swords. The stop-rod carries also fingers *k* (Fig. 9) passing through the back of the shuttle-boxes, and *L* vers *h* riding upon fixed blocks or frogs *st*, the surfaces of which are concentric with the lay sword pivots. When the crank is at its back centre the riders *h* are on the blocks *st*, the fingers *k* are just clear of the shuttle *m*, and the reed-holder is held up. When the lay moves forward the riders leave the blocks, but are then held up by the shuttle, which receives the pressure of the fingers *k*. If, however, the shuttle is not in the box, the springs turn the stop-rod forward, and the levers *f* and reed-holder are pulled down, thereby releasing the reed; as the lay moves on, one of the riders *h* operates the mechanism for stopping the loom. In order to support



the reed-holder after the pick and to relieve the shuttle from the pressure of the springs as whilst it is being picked a pair of curved arms *o, p* are provided on the stop-rod and crank arm as described in Specification No. 2,012 A.D. 1889. Some of the parts may be modified. The Provisional Specification describes an arrangement for drawing down the reed-holder positively. [84d.]

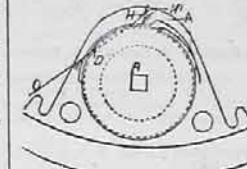
2,225 Feb. 7, 1889. **Laces, cords, etc.** L. TURNER, Deacon-street, Leicester.

Constructing laces, cords, or flexible tubes, such as fire-hose, or strands of braid plaited together in any suitable braiding-machine. The strands may be made of silk or other suitable material. In the case of cords a core may be employed, and in the case of fire-hose the tube may be made of two or three concentric layers, and the pipe made watertight by indiarubber. [64d. Drawings.]

2,226 Feb. 7, 1889. **Woven fabric.** L. TURNER, Deacon-street, Leicester.

The fabric is applicable for tapes such as are employed in cylinder printing machines for driving and other bands, and as sacking for bedsteads, etc. Yarns consisting of braided threads are employed as warp and weft, or as the warp only, spun yarn being employed for the weft in the latter case. [64d. Drawings to Specification.]

2,268 Feb. 8, 1889. **Lace-making.** A. PARSONS and E. WHITWORTH, both of Nottingham.



To enable the bobbin *B* to be wound without removing it from their carriage *A*, a small catch or feed-piece *D* is provided to engage with the thread *C*. A slit in the edge of the bobbin, or a slitted carrier or driver by the side, may be substituted. The eye *E* is slitted to the edge of the carriage, as shown at *H*, to allow

it to be threaded at the same time as the winding is started. The bobbin may run on small friction wheels, mounted in the carriage. [84d.]

2,293 Feb. 9, 1889. **Drying textile matters, etc.** J. STORRAY, Turcoing, Nord, France.

For determining the amount of moisture in textile matters, etc., the substance is suspended from the arm of a balance in a chamber, through which a current of hot air is passed. The chamber is formed by five concentric cylinders, the spaces between 1 and 2, and between 3 and 4, being filled with insulating material. Air enters from outside through a perforated gallery and a ring valve to the space between the cylinders 4 and 5, and mixes at the bottom of the apparatus with hot air admitted by a valve. The air escapes through tubes. [84d. Drawings.]

2,290 Feb. 8, 1889. **Knitting.** T. J., and J. K. KIRKMAN, all of Bell-street Works, Arkwright-street, Nottingham.

*Straight bar machines.*—In making broad rib fabrics an extra pressing bar is dispensed with by employing short-bearded frame needles alternately with the bearded machine needles. Between the latter are points or beardless needles, to which the loops are temporarily shifted for narrowing purposes, so that each narrowing is effected during two or more revolutions of the cam shaft. Plain or rib tops are run on both the frame and machine needles by first transferring loops to all the machine needles by an ordinary transfer bar, and then placing the loops also upon all the frame needles by another point bar. The old loops and new loops are then knocked over the needles consecutively. [84d. Drawings.]

2,307 Feb. 9, 1889. **Drying yarns.** R. H. REARD, W. KENNEDY, and J. MALLON, all of York-street Mills, Belfast.

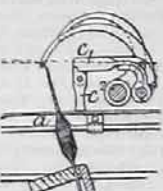
Hanks are passed over two sets of fluted rollers, which are respectively oscillated and reciprocated. The upper rollers are rotated alternately in opposite directions by worm gearing. The lower rollers are separately attached by weighted catches to beams suspended by chains and pulley gear by worm gearing. The reciprocating motion is given to these beams by levers from eccentrics on a traverse shaft. The rollers are brought down upon the top of the lower beams by bars sliding beneath the latter, and having projections to engage with the weighted catches, and the beams are raised and allowed to fall by projections of them passing over adjustable inclines. [84d. Drawings.]

2,311 Feb. 9, 1889. **Washing wool, etc.** T. BURNS, 1, Prilig-street, Edinburgh.

Relates to apparatus for scouring and washing skins, wool, and analogous material. Consists in a trough containing six or more pairs of squeezing rollers, some below, some in, and some above the liquid, the pressure being regulated by suitable springs and screws. The material, such as sheep skins, is carried by an endless band, guided by rollers, and by entry and delivery rollers, one or both of which latter is adjustable by movable bearings to keep the band stretched. The material is kept in place by a number of endless ropes passing round grooved guide rollers, one of which is adjustable to keep the ropes tight. Water flows into the trough at the delivery end, a guide roller preventing bagging of the endless band at this point. The squeezing rollers are covered by yarn, rope, or indiarubber, and are driven by gearin from the main driving shaft. A modification consists in dispensing with the endless band, and using a series of small rollers between the squeezing rollers and at the ends of the machine. [84d. Drawings.]

2,336 Feb. 9, 1889. **Spinning mules.** J. WHITEHEAD, 15, Russhorff-road, High Crompton, Lancashire.

The yarn is supported at the spindle points during the stretch by the counter-faller, which is raised by a lever *c* mounted on the counter-faller shaft, and having a hinged prop *cs* which takes over an adjustable rail *a* with inclined ends. During the outward run of the carriage the counter-faller is held in a raised position, as shown in the figure, but during the inward run it is allowed to assume its usual position, the prop *c* being forced aside by the incline on the outward end of the rail *a*. The boss of the lever *c* may be formed in two parts secured together by screws, so that it may be readily and adjustably secured to the counter-faller shaft. [64d.]





2,260. Feb. 9, 1889. Extracts, dyes, etc. E. BRANTER, Halden-road, Hull.

2,267. Feb. 11, 1889. Spinning. J. BARLOW, 55, Wilton Terrace, Ribblesdale, and J. BOOTH, Marsden-road Iron Works, both of Bolton.

2,266. Feb. 11, 1889. Ropes. C. KELLNER, 1, Bartensteingasse 8, Vienna.

2,262. Feb. 12, 1889. Finishing yarns. R. C. WILLEY, Trafalgar Mills, Kings Cross, Halifax.

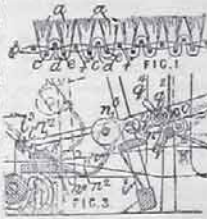
2,259. Jan. 12, 1889. Looms. J. C. FELL, 1, Queen Victoria-street, London.—W. TUCKER, East Brookfield, Mass., U.S.A.

2,255. Feb. 12, 1889. Dyeing. H. ERDMANN, Halle 3/S, Sophienstrasse 12, Germany.

2,254. Feb. 12, 1889. Looms. G. HALLIWELL, 163 Higher Audley street, Blackburn.

2,712. Feb. 15, 1889. Weaving pile fabrics. W. H. GLADDING, 7, Grange-road, Bermondsey, Surrey.

Cut pile carpets, rugs, and other fabric, and the woven tufts (Fig. 1) which form the pattern, and are bound in between the warp threads by well picked...



In the loom employed the tuft threads are inserted by tubular guides (Fig. 3) which are selected and brought into the position shown by any suitable means.

2,733. Feb. 16, 1889. Ring Spinning, etc., frames. R. A. JOHNSON, 42, Meadow-street, Moss Side, Manchester.

2,735. Feb. 16, 1889. Spinning. W. K. BLACKBURN, Phoenix Mill, Brighouse.

2,743. Feb. 16, 1889. Dyeing, Washing, etc. F. A. BLAIR, Galashiels.

2,755. Feb. 16, 1889. Knitting machines. THE NOTTINGHAM MANUFACTURING COMPANY, LTD., NOTTINGHAM.

J. GROOVES, 4, Burton-street, and J. WHATWALL, 97, School-street, both Loughborough.

The transferring points or covers 5, 4 are caused to slide in grooves 6 in their holder a by means of projecting tail pieces as shown, in order to put them separately in or out of action as required.

2,770. Feb. 16, 1889. Opening and cleaning cotton, etc. J. ANDREW, 51, West End-street, Oldham.

2,806. Feb. 15, 1889. Bleaching, dyeing, drying centrifugal circulating apparatus.—Relates to apparatus for bleaching, dyeing, drying, impregnating, and otherwise treating various materials and fabrics.

2,816. Feb. 18, 1889. Looms. J. E. CARR, 6, Violet-street, Burnley.

2,835. Feb. 18, 1889. Carding engines. J. EDGAR, Gorton, Lancashire.

2,861. Feb. 18, 1889. Bed quilts. J. N. COMBAT, 40, Chespeide, London.

PATENTS. W. P. THOMPSON & CO.

Agents for procuring Patents and Registering Trade Marks and Designs. 6, Bank St. (Exchange), Manchester, 8, Lord St., LIVERPOOL; and 323, High Holborn, LONDON.

INDEX TO ADVERTISERS' NAMES.

The Roman numerals after the names refer to the Advertisement pages. In the case of Advertisements not appearing in the current issue, the date of their last appearance is given.

Adley, Tolkien, and Co., Blackburn: v. June 21st. Barlow, H. B., and Co., Manchester: front of cover.

Guest and Brookes, Manchester: v. Hacking and Co., Bury: v. May 17th. Hall, Robert, and Sons, Bury: vii.

Pemberton and Co., Burnley, v. Pickles, Robert, Burnley: Supp. iv. June 23rd.

\* This advertisement appeared last week, July 5th; it will appear again next week, July 19th.