

# The Textile Mercury:

A Representative Weekly Journal for  
Spinners, Manufacturers, Machinists, Bleachers, Colourists, and Merchants,  
In all Branches of the Textile Industries.

Vol. III.—No. 87.

SATURDAY, DECEMBER 20TH, 1890.

PRICE  
THREEPENCE.  
Annual Subscription, 120 Post free.  
Six Months " 60  
Three " 30  
For Foreign Subscriptions, see first column below.

BACK NUMBERS of the *Textile Mercury* WANTED for the following dates:—Nov. 23rd, 1889; Dec. 7th, 1889. Apply Publishing Department, *Textile Mercury*, 23, Strutt-st., Manchester.

## The Textile Mercury.

OFFICES: 23, STRUTT STREET, MANCHESTER:  
MARSDEN & Co., Publishers.

LONDON OFFICE—121, NEWGATE STREET, E.C.:  
Mr. C. VERNON, Representative.

NEW YORK (U.S.A.) OFFICE—95, DUANE STREET,  
NEW YORK CITY  
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\*.\* 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 Their names will not be published unless requested.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 office, 23, Strutt Street, Manchester, early in the week in order to receive attention in the next issue.

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All communications to be addressed to the Office of THE *Textile Mercury*, 23, Strutt Street, Manchester.

## Current Topics.

### COMMERCIAL ASPECTS OF INDIAN MANUFACTURING INDUSTRIES.

Indian mail advices from Bombay to the close of November report an improving and advancing state of the market for cotton press and mill shares. The *Times of India* says that—

Colaba Land and Mill shares have been in strong request, and have improved to Rs. 600. Port Canning has advanced to Rs. 365, at which they close firm. Press shares have been steady, and have improved about Rs. 5 in some cases. A few transactions were reported in New Berars at Rs. 534, in New Indians at Rs. 934, in Colaba Press at Rs. 369, in Prince of Wales Press at Rs. 385, and in Mofussils at Rs. 430 and Rs. 424. Albert Press (Kurrachee) have improved to Rs. 825. Mill shares have been in strong request and have advanced about Rs. 25 in most cases. Business was reported in Alliance at Rs. 465 and Rs. 470, in Anglo-Indians at Rs. 70 and Rs. 71, in Coorlas at Rs. 455, in Framjee Pettis at Rs. 460 and Rs. 465, in Hindostan at Rs. 790, in Jewraj at Rs. 790 and Rs. 800, in Khataos at Rs. 560, in Pettis at from Rs. 1,160 to Rs. 1,180, in Mazagons at Rs. 110 and Rs. 112½, in New Great Easterns at Rs. 680, and in Orientals at from Rs. 350 to Rs. 375. Morarjees have advanced to Rs. 1,570. Empress Mill shares have improved to Rs. 525. James Greaves, Connaughts and Leopolds have been in demand at Rs. 535, Rs. 530, and Rs. 175 respectively. The Howard and Bullough Mill shares are steady at Rs. 520. The Imperials are firm at Rs. 360. The Queen Mill shares have advanced to Rs. 715. The City of Bombay and the Ripon Mills are steady at Rs. 885 and Rs. 1,080, respectively. The David Mill shares have improved to Rs. 475. The Lakhmidas Mill shares have advanced to Rs. 850. The Jamshed Mill shares have risen to Rs. 285. The Swadeshi Mill shares have improved to Rs. 380.

At the close the feeling for most of the mill shares was very strong and the tendency upwards. "It is highly satisfactory" observes our contemporary, "to see that our mills are at present making splendid profits, and that the industry is once more in a flourishing condition. Cotton, yarn, coal, and cheap money, but especially the first, have all been in its favour. This is becoming gradually known and attracting the attention of investors. Large purchases are being daily made, and it is generally believed that the shares will before long rise considerably in value in view of the coming handsome dividends. This, of course, relates to our well-conducted mills." The news from Calcutta is to the same purport:

In cotton mill scrip there is nothing fresh to report, no shares having changed hands during the week. The prospect before our local industry is now better than it appeared some months ago, as although the markets abroad do not yet show any real sign of improvement, our local yarn market is firmer, and rather better prices can be obtained, which give fair results with the cheaper cotton now obtainable. Jute mill stock continues in practically the same position, and there is no change in prices. The Central Jute Mill is reported to be doing very well. During this week the following shares have changed hands:—Centrals at 98; Howrah, preference shares, at 100, ordinary shares at 85; and Budge Budge at 107, ex-dividend.

News of this kind ought to make some impression upon such men as "Demos" Fielding and others who along with him are conducting the wages agitation in this country in such an exasperating manner that it will need very little more to induce the transfer of further large amounts of English capital to India, where it can be used under conditions free from the legal restrictions and working-class espionage to which it is subjected in this country. It is certain that the declaration of the large dividends which are confidently expected will give rise to another boom in Indian mill building, and it is quite probable that it may also witness the beginning of a transfer of capital by Lancashire spinners and manufacturers, on a much greater scale than has hitherto been witnessed, to our Eastern dependency.

### OVER-TIME IN THE KIDDERMINSTER CARPET TRADE.

The weavers of Kidderminster have for a considerable period opposed the practice of working overtime, and as this opposition takes a tangible form through the medium of their Association the manufacturers are often placed in an embarrassing position, especially when there is a rush of orders for prompt delivery. In fact, it is frequently stated that a good deal of trade has left the town for the North, owing to the manner in which Kidderminster is handicapped in this respect. About eighteen months ago a resolution was passed by the Weavers' Society in favour of giving overtime a trial for twelve months. At the expiration of that period the men reviewed the position, and considered from the experience gained of the working of the overtime system whether it would be advisable to sanction its further continuance. The result of their deliberations was an expression of the opinion that overtime was good neither for masters nor men. At a body meeting held on May 13th the following resolution was passed, of which, it was believed, every manufacturer had a copy, as well as the shop secretaries:—"That members of the society be not allowed to work overtime in future, and that no other person go on the looms after the weavers have left them." An old sore having thus been re-opened, the opportunity for a conflict between masters and men was not long in presenting itself, an instance having occurred last week in connection with Messrs. John Brinton and Co. The firm informed the Shop Committee of the weavers that they intended working overtime, but it was at once pointed out that the operatives could not run their looms unless their organisation gave permission. Messrs. Brinton replied that there were so many orders obliged to be got out by the end of the year, that the machinery would have to be kept going beyond the usual hours. The committee again stated



that they could not work without the sanction of the body, and after further interviews with officials of the society and the manager no arrangement was come to. A note was afterwards received by the manager from Mr. Brinton, stating that there were some pressing orders for completion this year, and that it was decided to run the Brussels looms overtime till 8 p.m. The note requested the manager to inform the weavers' shop secretary in the usual way, the overtime to continue for ten nights, and to conclude on December 23rd. On that intimation being received a meeting of the weavers employed on the firm was held, and a resolution passed that they would not work overtime. A good many looms had been standing idle, and the weavers therefore could not see the necessity for overtime. The men now asked the body meeting to decide what should be done in the matter. On the men refusing to work overtime, 14 or 16 young men and one man, were got together and worked the previous night, all the young men being over 21 years of age. The men that morning called attention to the way their looms were left, but still that evening another lot of youths had been put on to work overtime. The men had done all they could, and now it was for the society to say what should be done. The unanimous feeling of the meeting was that the resolution of May 13th, declining to work overtime, should be strictly adhered to. Ultimately, as will be seen in our "News in Brief" columns, Messrs. Brinton gave way. The employers, we believe, chafe under the restrictions imposed by the men's association, and if the latter cannot see its way to strain a point occasionally the masters may be driven to take joint action for the purpose of ending a state of things which would not be tolerated in other textile districts where the operatives' unions are much more powerful than that of the chief carpet centre.

#### DAMP COTTON.

The frequent complaints made this season of the extent of damp in cotton are beginning to induce the belief that other causes than natural ones have been at work to bring this about. First it was Uplands, and so heavily has this class of cotton been damped that it has gone quite out of favour with the trade, which has turned its attention to Texas cotton. This has been done to such an extent that Texan varieties stand at a premium of 4d. per lb. because they are believed to be dry. It seems as if even this was about to prove a delusion, for a spinner writes us that on Saturday last "he dried some cotton out of a bale of Texas which lost over 15 per cent." Natural moisture, *plus* that which may be derived from any rainfall that is ever likely to occur during harvest operations, rarely if ever exceeds 8 per cent.; if the amount passes this figure there is good reason to suspect that the cotton has been stored for improper purposes in a position exposed to the weather; or, what is more likely, has had moisture added to it for fraudulent ends. The same complaints have been made regarding some of the South American cottons, and the widely-spread sources of the complaint almost preclude the belief that the mischief can have a natural origin. In these circumstances it is incumbent upon spinners to carefully examine and test their cotton supplies, even in every bale and to press home charges and claims for damp wherever and whenever such can be justified. It is sometimes stated in relation to matters theatrical that "Shakspeare spells ruin to the theatrical manager." We do not pretend to

know whether this is or is not true, not being versed in such things. We are, however, prepared to affirm that "damp cotton" spells ruin to a spinner, and if he should carelessly use such cotton throughout a season he would find a heavy adverse balance on coming to make up his books. And he may further assure himself that as long as he is willing to buy damp cotton without protest it will be provided for him. Once let cotton planters in America, Peru, Brazil, Egypt, or India, become convinced that the English spinner will accept water with his cotton and pay for it at the same rate, then he may depend upon being abundantly supplied therewith. It is high time a conditioning house was established, as on the Continent, to deal with these matters. Why do not cotton brokers, spinners, and manufacturers combine to establish and maintain a first-class conditioning house, provided with every facility for making tests on either a small or extensive scale as may be required? This would speedily lead to more honest dealing in many respects, as it would result in contracts having included in them a conditioning clause. When the falsification was certain to be rendered useless on account of its sure detection it would cease, as frauds have ceased in certain other fields of commerce. If any gentlemen are willing to entertain the consideration of this suggestion and will communicate with the editor of this journal, he will take such steps as will bring them together for the purpose of consulting how the idea can be best carried into effect.

#### THE CONDITION OF TRADE AT OLDHAM.

Our Oldham correspondent writes: "A glance at the year's trade of the town shews that every branch has been at full stretch. Full time has been worked, and overtime at the machine shops has been necessary to cope with the deliveries. Indeed the year has been a most prosperous one, and the spinners will shew a better balance sheet than last year. Out of 100 spinning companies eight only have adverse balances standing against them. It is anticipated that in another six months, unless some unforeseen circumstances should arise, not a single company in Oldham or district will have a *minus* balance. It will undoubtedly be a grand time when the word '*nil*' is obliterated, and the rate percentage substituted, and this seems within measurable distance."

#### SWEATING IN INDIAN MILLS.

The conditions under which the Lancashire and Indian cotton trades have to work in the future are resolving themselves into a question of pressing urgency. The report of the Commission, which has just been issued and is about due in this country, and on a few particulars of which to hand by telegraph we commented last week, will not abate the public interest felt in the matter, especially in these districts. It is high time, if the vast amount of wealth invested in the cotton trade in this country—which, be it borne in mind, cannot possibly be withdrawn—is to be preserved, that those owning it should awake to the fact that it is in serious danger of destruction. As holding the destinies of India and the welfare of its people in our hands, we are bound to see that they are governed with the same regard for their welfare as we claim for ourselves at home. On this ground we are justified in demanding the application of the textile Factory Laws of this country to the mills of India. But we are further bound by the instincts of self-preservation to demand that the trade in that country shall not be conducted

under privileges denied to it in this, and which would in a short time most certainly be destructive to the existence of the parent industry. In connection with this matter, we would earnestly direct the attention of our readers to the communication in another column from Mr. Holt S. Hallet, a gentleman thoroughly well versed in the subject. It is a lucid exposition of the facts, and if they do not rouse the English trade to action in self-defence we fail to imagine how otherwise it can be done.

#### THE EFFECT OF THE M'KINLEY TARIFF ON THE EARNINGS OF ENGLISH OPERATIVES.

This country is now beginning to suffer from the effects of the drastic piece of tariff legislation recently enacted in the United States. Most of us of course expected as much, but it has not hitherto been possible to gauge the extent to which any particular industry would be affected. Thanks, however, to the courtesy of several gentlemen connected with the Bradford trade, we are able to form a fair idea as to the manner in which the great Yorkshire centre has been affected by the McKinley Tariff. The situation is undoubtedly serious, and it is to be feared that the approaching Christmas will be but a joyless time to thousands whose sufferings may be traced directly to the influence mentioned. Bradford, from the character of its staple trade, must of necessity always be amongst the first to suffer from such causes. It has endured many hardships in the past, but has eventually contrived to weather the storm, thanks to the ability of its manufacturers. Each difficulty, as it has arisen, has been surmounted by the action of those affected, who have striven successfully after the attainment of a higher degree of excellence. Such men as Sir Titus Salt, S. C. Lister, Briggs, Priestly, Arthur Hind, and others have produced goods which could not but command the attention of foreign buyers, and shipping houses like the Henrys and the Dunlops have been able to keep up the exports of the town. With reference to the present crisis, Sir Henry Mitchell thinks that the returns for December will shew a greater decline in American shipments than was marked in November and the previous month. The loss during the last quarter of the year in trade with this market alone will probably amount to £300,000 or £700,000, which means about £150,000 less being paid in wages. Of from 3,000 to 4,000 men dependent upon wool combing for their livelihood, it is estimated that not half are now employed. Their wages for full employment range from 17s. to 22s. a week, but not one out of ten or twenty reaches the top figure just now, and those who do earn this maximum have to work about sixty-three hours a week for it. Four or five of the largest firms have entirely ceased night labour, besides shortening the day hours. Everything is at present against the workmen. In illustration of the difficulties with which the combers and washers have to contend, it may be stated that at Messrs. Isaac Holden and Sons' Alston Works a system has been introduced by which a man is to mind three combs instead of two, as has formerly been the case; Messrs. Holden, Burnley, and Co. have only twelve combs going out of the ninety-six on their premises; and a Thornbury firm recently reduced the wages of its men to the extent of 4s. at one stroke, though they still had to work the same number of hours. These are not special cases, but merely instances of what is going on through that department of the trade. One thousand members of the 2,000 included in the Bradford Wool Sorters' Society are un-



employed. With the exception of a few of the hands engaged at one firm there are no alpaca or mohair sorters working full time, and in the dyeing trade there is a serious depression. It will be admitted after these facts have been considered that the anticipations formed in these columns some time ago as to the industrial outlook at home were well founded. We think that the activity of the past few years has received a check, and that during 1891 the manufacturers of Yorkshire will have an up-hill struggle. Periods of calm are of course to be expected in all trades, and it is admitted that they are frequently due to causes quite beyond human control. It may sometimes happen, however, that these results are directly due to the tariff legislation of foreign nations. Such being the case, it seems almost criminal on the part of our public men and others interested to allow such a measure as that now under the consideration of the French Government to be passed without the most vigorous protests. Looking at the starving operatives of Bradford, who will say that this country would not be justified in bringing foreigners to their senses by the adoption of measures which have already been suggested to in these columns!

#### A VERY ANCIENT INDUSTRY.

One brief allusion in the New Testament has made Thyatira known all over the civilised world as a centre of the dyeing industry in ancient times. This evidence has been confirmed by inscriptions, several of which mention its guild of dyers. It seems that amidst all the manifold decay and change which have been at work in that region during many centuries, this form of industry has managed to survive in the city of Lydia even up to the present day. The recently published memoirs of Dr. Somerville, the remarkable Scottish missionary, who died last year, contain a note to the effect that traces of dyeing are still to be seen in the streets of Lydia. Should trade and commerce ever flourish again in that now neglected district, perhaps its ancient glories will be revived, and "Lydia purple" be once more one of the highly-prized products of the East.

#### THE SITUATION AT THE MANNINGHAM MILLS.

Efforts made with the object of effecting a compromise having failed, the employés of this vast undertaking have decided to strike. Another burden will therefore be imposed upon Bradford, which has already sufficient troubles. The Standing Committee representing the weavers waited upon the directors on Tuesday, those present being Mr. J. Reixach, Mr. W. Watson, Mr. B. T. Gibbins, and Mr. H. G. Tetley. Mr. J. Lee, the secretary to the company, was also present. The workpeople's committee numbered about thirty persons, and represented all the classes of workers concerned—weavers, pickers, and winders. Mr. Reixach produced figures showing the average earnings of the operatives, but his statistics were questioned by the weavers, who stated that in many cases they represented wages paid during exceptionally busy periods. Finally Mr. Reixach said that the directors were willing to strike an average for any twelve months extending from January to December, or even for two years if necessary. Inquiries had been made of one of the best firms in Bradford, and the directors were assured that the ordinary wages paid by any firm ranged from 13s. to 13s. 11d. per week. The wages for a full week would be 14s. 6d. or 15s. The directors had taken an average of the wages earned during the twelve

months which he had indicated, in the fancy weaving department at Manningham Mills, and they found that the average was 55 per cent. higher than the fancy weavers were getting elsewhere. The figures had been carefully extracted from the books, and if it should be found afterwards that any mistake had been made the directors would always be open to reconsider the matter. Under the proposed reductions he calculated that for a full week's work the weavers of "split-ups" would be able to earn from 20s. to 21s. per week. The "single-mantle" weavers would be able to earn 16s. to 17s. per week, and those who worked the 25in. plush looms would earn about 21s. per week. These figures referred to the women. The "seal" weavers—who are men—would earn about 25s. per week. The velvet weavers' wages would be 21s. to 22s. per week. No satisfactory arrangement was come to at the meeting, and at one o'clock the committee made their report to a meeting of the workers of the velvet department, which took place during the dinner hour. At night the Strikers' Committee issued the following manifesto:—

#### AN APPEAL TO WORKPEOPLE.

Fellow-workers.—We, the employés engaged in the silk, seal, and velvet departments of Manningham Mills, stand face to face with the proposed reduction, which is of a unique character. Our employers, who for years have, by a process of reductions, brought our wages considerably lower than they were five years since, now confront us with a proposal to again reduce our wages from 12½ to 30 per cent. on the weavers, from 20 to 25 per cent. on the warp dressers, and 15 per cent. on the spoolers and winders. Having gone carefully into some averages produced by the weavers, pickers, warpers, and the spoolers, we find that our wages average for fifty weeks in the present year for weavers 17s., and this has only been accomplished by working overtime a matter of six months of the year. We also find, from the same source, that the warp-pickers have earned an average of 14s. 5d. The spoolers and those working in the same industry have averaged 11s. 8d.

In the face of these low wages we are of opinion that we should be doing not only an injustice to ourselves but to the whole textile industry in the West Riding of Yorkshire by accepting the proposition. We earnestly appeal to you for help. Help us to fight against this enormous reduction. Our battle may be your battle in the immediate future. We trust, therefore, that in our present state of need and disorganisation you will liberally support us.—We remain, yours most respectfully,

THE COMMITTEE.

It is unfortunate that the matter in dispute should thus be left to the arbitrament of a strike. Many of the workers affected are only a week from want, and it is doubtful whether, in the present condition of Bradford trade, the result of street collections will be enough to assist 1,100 operatives to exist while no longer earning wages. For the shareholders of Lister and Co., Limited, the prospects of dividends in the immediate future are also, we should imagine, rather dismal.

#### CASHMERE AND ITS SHAWLS.

Perhaps the most delightful place on the face of the earth, if we may give credence to travellers and poets, is the far-famed vale of Cashmere, in Northern India. It is one of the protected Indian States. Not long ago somewhat considerable was heard about its ruler and his difficulties, but these have now subsided. The valley of Cashmere is the seat of the manufacture of the famous shawls of that name, which for a hundred years or more were perhaps the most prized of all textile fabrics. They were, indeed, so highly valued that they have occasionally been used for the payment of tribute, and have for a long time been deemed amongst the most suitable articles which the native Princes could offer as presents to the Empress and rulers of India. For many years

past, however, the manufacture of these shawls has been a decaying industry, owing probably to the extinction of many of the native Courts, and the decline therewith of the barbaric splendour associated with them. We learn from Allahabad, under date November 24th, that though there has been a sudden development of trade between British India and Cashmere, it has been accompanied by an equally rapid shrinkage in the exports of shawls, as during the last four years the decline has been to the extent of 6½ lakhs of rupees. This is a great falling off for an industry that at the best was never, comparatively speaking, a large one. All lovers of the beautiful in textile art would see its extinction with regret. We hope that day is far distant.

#### THE GERMAN-ENGLISH COMMERCIAL LANGUAGE OF BERLIN.

It may not be generally known that, with the object of pushing German trade with our colonies, certain publications printed in English—of a kind—are issued from Berlin for the supposed benefit of our kinsmen abroad. These triumphs of German linguistic ability are intended to direct the attention of Canadians, Australians, and others to the benefits which they are informed would accrue by buying the productions of the Fatherland. We have no doubt that readers of such publications will find matter of interest therein—not because of any yearning desire to purchase silks that disappear by spontaneous combustion, cutlery that assumes the form of a wavy or angular geometrical figure after use, or any of the choice specimens of Continental ingenuity that are sold so freely to the guileless stranger, but for other reasons. It is the literary style adopted by these pen-pushing people of Berlin that constitutes their principal charm. We present a few choice specimens culled at random from a recent issue of one of the journals referred to. The first relates to a "Ladies' Goods Weekly Report," which is preceded by a heading particularly requesting "that our contemporaries will *duly acknowledge* trade reports and other original matters taken from our columns." The report commences in a very spirited fashion. Observe, please, the grace and freedom of the writer's style, and the confident manner in which he uses our English language:—

Farewell winter season! Its posthumous fame is short! Hardly anything done, everything tried and much swaggered. We find ourselves in full spring season.

German editors presumably are sometimes out of season. In the present instance it will be noticed such is not the case. As to dress material, "there are received plenty and large orders for spring, . . . and the wholesale merchants place continually subsequent orders. "Continually subsequent orders" is good.

In black mantles were bought the perlerino styles, trimmed with mohair lace, dull and half dull.—For the German collections is busily worked. Principally jackets with square and round roll shawl styles trimmed with silk or embroidery, are bought further fitting jackets with gentlemen revers in fancy material.

Colonial houses wishing to lay in a supply of "gentlemen revers in fancy material" will have to go to Berlin for them: and in order that the outside world may understand that this country is itself dependent upon the Fatherland, it is stated that—

In cheap articles are worked loose jackets with laced revers, one button for fastening it separating in front at the lower end. Quite plain coat jackets of light coloured cloth are also worked (and ordered for England).

And with reference to dress goods "England sent the first orders;" while as to foreign trade



"the English intercourse claims the principal interest." It is added that—

Orders, received so far, from England particularly embrace black jackets of coatings, corkscrews, Cheviotfoules, combed yarn diagonal-material, principally the roll style with peau de soie put on the revers.

"Very much one-coloured Cheviots" are also favourites, and—

In material for dust cloaks have been taken up in England the check, impregnated worsted yarn materials as also impregnated beiges, squared colour in colour, worsted material with fine, manicoloured, silk stripes one coloured worsted material with large bomb—dice—and anchor-patterns.

There is a wealth of language, and not always a poverty of meaning in other reports that appear in the same issue, but from these we have not space to give further extracts. Whatever may be the general opinion as to the value of such publications there can be no mistaking the fact that our Teutonic kinsfolk are adepts at abuse where England is concerned, if we may judge from certain remarks which are made by the gentleman who speaks of himself as "being in full spring season."

#### THE DEPRESSION IN THE YORKSHIRE TRADE.

As an example of the difficulties which the woollen manufacturers of this country, and of Yorkshire especially, have to face at the present time, we may mention that a few days ago a Bradford firm made a few sample warp lengths of cloth in various colourings and designs, the preparation of which was a rather expensive matter. The goods were intended for the South American market, and calls were made upon the Manchester shippers with the object of securing orders for them. The styles were greatly admired by the exporters, but the almost invariable remark was to this effect:—"We are sorry we cannot do anything. Your patterns would please our South American clients greatly, but in the present condition of affairs we cannot increase our commitments on account of that market." Many importing houses on the other side whose credit has always been of the highest character know very well that it is useless to send their buyers here just now, as merchants would not trust them. It is evidently useless, where such a state of things prevails, for manufacturers to bother their brains about new designs. The inability to do a trade is due to no fault of their own, but simply arises from the scarcity of money in South America. Yorkshire spinners are to-day accepting prices for yarn which a few weeks ago they declined as unremunerative, and it is evident that many of them are booking orders at rates which leave them no margin, and in some cases result in loss, simply for the purpose of keeping their machinery going.

#### THE WAGES SETTLEMENT AT OLDHAM.

The wages question as affecting the male card and blowing-room operatives and the females in the blowing-room has been amicably settled, thanks to the initiative movement of Mr. R. Bagley, chairman of the Oldham Master Cotton Spinners' Association. It appeared as though there was to be a strike, inasmuch as these operatives had given in their notices to cease work, and these were to terminate on the respective pay days this week. On Monday Mr. Bagley opened up negotiations with Mr. George Silk, secretary of the local Card and Blowing-room Operatives' Association, and proposed an advance of 7½ per cent., to be paid on the first pay day in January, and 2½ per cent. on the first pay day in April. The same evening a hastily convened meeting of the Council of the Card-room Association was held,

and as it appeared they were equally anxious to avoid a resort to a strike, they proposed in return the acceptance of two shillings advance of the ten per cent. to be paid on the date suggested, and the remainder in April. These terms were submitted to the employers at a meeting on Tuesday evening, and unanimously accepted. As the arrangement seemed somewhat ambiguous, further conferences took place with the view of putting the terms in more intelligible form than the round sum of 2s. could represent, as the wages of some of the operatives in question ranged from 13s. or 14s. up to 24s. or 25s. per week. It was agreed that the advance should be a penny on every shilling received in wages, which represents 8½ per cent., and on the first day in April they would receive the remaining 1½ per cent., thus making the 10 per cent. advance. It will be seen that by the compromise thus effected there has been a little giving way on both sides, and thus the possibility of a cry of victory has been avoided. We, however, would have much preferred to see a frank and full concession of the request for an advance if circumstances warranted it rather than the bigging over straws when the golden grain had been given away. The moral effect would have been decidedly better, and would much more have justified an appeal for similar considerate treatment in return when circumstances require it.

## Articles.

### THE PROPOSED AMENDMENTS TO THE FACTORY ACT.

"A Trades Unionist" contributed to the columns of our daily contemporary, the *Manchester Examiner*, on Thursday, an article on the Bill which the United Textile Factory Workers' Association is promoting. From it we gather that the association has practically thrown overboard all the fruits of the labour of the joint conference between its representatives and those of the employers. We cannot, however, be sure of the details until the Bill is printed, which has not yet been done. The "Trades Unionist" has had the advantage of writing with a draft or copy of the Bill before him, and has therefore just given as much and as little of its terms as suited his purpose—that of making it appear how sweetly reasonable he and his fellow associates are in the demands they make upon their employers. The original suggestion for a conference between the promoters and opponents of the Bill came from the M.P.'s assembled to meet the operatives' representatives at the Westminster Palace Hotel early in the spring of the present year. These gentlemen were naturally anxious to evade the responsibility of either supporting or opposing the proposal laid before them in the House of Commons, and deemed it best to let the two parties fight out their differences in a private room of the hotel, whilst they assisted as spectators. The impracticable and unjust characters of the Bill was sufficiently shewn in our columns at the time, and when its clauses came to be discussed in the conference they collapsed at once before the searching criticism directed upon them. The injustice and folly of the proposals could not be defended, and the delegates who were sent to interview the members sat and watched their destruction almost as silently as a row of lay figures in a sculptor's studio. In fact the Bill was so mauled that when it came out of the *mêlée* its parents could not recognise their bantling, and

when taken back all its connexions disowned it. The Bill, as is well known, was abandoned.

Before proceeding further we have a few remarks to offer upon the conduct of the Lancashire members in suggesting a conference upon the matter between the operatives and employers. As we have observed, it was an attempt to evade certain contingencies that were, no doubt, present to their minds. But it was much more: it was an unconstitutional proceeding, highly improper at all times, though perhaps in the present discreditable condition of politics it might be excusable. Legislation by private conference is both reprehensible and dangerous, as it deprives the properly-elected representatives of the nation of the opportunity of having the merits and demerits of a Bill discussed before them, and of voting upon it as their wisdom may dictate. It is not enough for the promoters of a Bill to step forward and say that a measure is unopposed, the details having been settled beforehand between the parties whose interests it will mostly affect. Under such a procedure as that, anything might be smuggled through, and we might awake some morning and find that our most valued rights and liberties had been abrogated. We trust, therefore, that in future the Lancashire members will face their duties and responsibilities like men, and not by a conspiracy of either silence or weakness sacrifice the country's best interests.

The conference between the parties, as observed above, resulted in most of the mischief being eliminated from the Bill, but there were one or two points on which no agreement could be come to, and these were remitted to two official representatives of the opposing parties. The "Trades Unionist" is discreetly silent upon these points, but for the advantage and edification of the public, they may as well be stated again. Substantially they were the following:—1st, a proposal by the employers that for offences against the factory laws by the operatives, the latter should be responsible instead of, as under the present law, the employer. To this, however, the strongest objection was expressed by the representatives of the workpeople, who would far rather when they have done a wrong that somebody else should suffer the punishment. This sentiment is a beautiful exemplification of the notions of morality that prevail in our spinning mills and weaving sheds. The most casual glance at this point, as well as the closest investigation, would justify the demands of the employers, and feeling this they insisted upon it. But no! Such a valuable means of harassing employers must not be surrendered. In order to combat the demand and compel its withdrawal, Mr. Birtwistle, on behalf of the operatives' leaders, advanced point number two—the proposal of a clause specifying that every person employed in the textile trades and paid by the piece should have delivered to him or her along with such work such particulars thereof as would enable them to ascertain at what rate they were being paid. This proposal reappears in the Bill just introduced by Sir Henry James, if we may trust "Trades Unionist's" article. It appears to be a perfectly fair one on the face of it as now put forward, and that is why it has been advanced in that form. As stated, it is perfectly superfluous, as the warp tickets accompanying each warp—which are given to weavers, and have been, all along the line, during a century past—supply all the particulars required with the exception of one or two which are special to the weaver, and are imparted to him by the overlooker, such as the counts of weft he shall put



into the warp, the picks, heading, etc., and these are all it concerns the weaver to know, and all that is necessary for him to secure proper payment. It will be seen that beyond the statement in "Trades Unionist's" article, when the specific description of particulars required is examined, what are demanded beyond those already given are simply for inquisitorial purposes, and will afford no help whatever to Mr. Birtwistle in securing just treatment for his clients. We will not on the present occasion discuss the other points referred to in the article we have commented upon, as it can be done with more advantage when the text of the Bill is before us.

Finding that they could not have their own way, says our "Trades Unionist," "the workmen's representatives felt that they must submit the matter to their Council. This led to a resolution to drop the employers and to try what could be done without them." What they are endeavouring to do, so far as we can gather from the article, is to revert to and pass their former proposals as they had been embodied in their Bill first brought forward. Their reason for this is that they believe they can coerce the Lancashire representatives into supporting their measures by significant hints that they control a large amount of voting power, which can, if necessary, be arrayed against them. We trust, however, that this attempt to introduce trans-channel practices into English constituencies will be resented. Should the Lancashire members prove wanting in the courage necessary to perform their duty, then the trade must appeal to the common sense, and ask for the support, of those members who are not amenable to such unjust and improper coercion.

#### THE ADVANCE OF WAGES.

The Oldham and Bolton master cotton spinners have, after very little pressure, conceded the advance of wages demanded by their employes. We reaffirm our statement that the advantage apparently enjoyed by the employers in the margin shewn between cost of production and selling prices is not as great as it seems, mainly because of two factors to which due weight has hardly been accorded. The first of these, at the date when the demands were originally made, was that the then existing engagements, which were considerable, had been entered into and provided for in cotton on the basis of a lower margin than the quotations of that day shewed. These of course have been diminishing, and so far as they have diminished and spinners have succeeded in maintaining their prices this has disappeared. But another adverse factor, and one of a more enduring character, has since come strongly into view: that is the quality of the crop, which is decidedly inferior to the preceding one, being very wasteful and damp. To procure cotton of proper character in staple, quality, and dryness, as compared with the standard samples, a premium of almost if not quite 1d. per lb. over the official quotations must be paid. This is a serious drawback, especially as it will in one or two of its aspects, endure throughout the season. We do not however, bring these facts forward as arguments against giving the advance, but as in a sense justifying the hesitation that has been shewn in making the concessions demanded. The almost unprecedented manner in which yarn producers have maintained their prices so far in the face of the heavy decline in the raw material, has also been a great help to procure the grant of the demands made by the operatives, as it has demonstrated to the spinner himself the great

strength of his position. Assured of this, he has had no further hesitation, and has made the concessions with as much grace as could be expected from average human nature.

The two great centres above mentioned having thus settled the matter, it will follow as a matter of course that the smaller centres will do the same, unless some very special circumstances exist to prevent it. And in some localities there are such. In the Yorkshire cotton spinning districts there is very serious depression. The Yorkshire mills exist mainly for the supply of the Bradford market with two-fold warps for the manufacture of Bradford union cloths. This market is utterly disorganised by the McKinley Tariff, and the business of the Yorkshire cotton spinner is suffering accordingly. What is to be done in a case of this kind? It is useless to reply that they must sell their yarn in Lancashire. They have not the connection, and one cannot be formed in a day. When a new spinning is brought into the market, or an old one is diverted into another channel, it must be sold at less than its intrinsic value in order to induce buyers to try it, when, if it be found all right, confidence is inspired, and purchases are repeated. Every establishment must pass through this experience, which is of longer or shorter duration according to the skillfulness or otherwise with which the business is handled. It will, therefore, be a hardship to extort the advance from those who spin for the Yorkshire doubling trade. Indeed one eminent spinner observed to us that he would prefer to close his mill altogether rather than be compelled to pay it. While this is the case, we readily admit the difficulty there is in discriminating even in a case of this kind. It must, therefore, be left to the good sense and consideration of the mutual interests of the parties chiefly concerned to settle it upon terms that will be satisfactory to both.

We have a few words in conclusion to offer upon the matter. In the future, when a period of depression comes round again, as assuredly it will, the conduct of the employers in conceding the advance as freely as they have done should be remembered to their credit, and reciprocated without the turmoil and contention attendant upon strikes. We are sure that, for the interest and credit of the manufacturing districts of Lancashire, no one would care to see a repetition of the disorders of 1878, but these things are liable to recur when adverse times are met by a dogged and blind obstinacy that refuses to take cognizance of altered circumstances. We would again suggest that it would be well, in the absence of exciting circumstances and whilst all parties are in the best of tempers, to take into consideration the practicability of establishing a system by which the advances and reductions of wages shall be automatically regulated on the lines laid down in these columns a few weeks ago. This would most assuredly avoid all risks of the costly and injurious disputes that have been too frequent in the past relations of employers and employed in the cotton trade.

## Foreign Correspondence.

### TEXTILE MATTERS IN THE STATES.

NEW YORK, DEC. 6TH.

The financial atmosphere is still clouded, and general distrust prevails. Interior banks, in order to be prepared for the worst, have been compelled to withdraw their balances from this

city. The banks discourage all loans for speculative purposes, legitimate business interests claiming all their attention. The fall in the Bank of England rate had a most beneficial effect here, and all rates, which were from 4 to 6 per cent. a few days ago, fell to 4 per cent. Distribution at most of the leading dry goods centres has been checked owing to the slowness of payments, which renders the position of merchants a very unsatisfactory one, and puts a damper upon the efforts of "drummers" to sell. Business failures reported to Bradstreet's number 321 in the United States this week, against 233 last week, and 281 this week last year. Canada had 27 this week, against 36 last week. The total number of failures in the United States from January 1st to date is 9,501, against 10,653 in a like portion of 1889. Had it not been for the panic of the past few weeks the comparison would have been much more favourable. As it is, however, the figures are not discouraging when one considers that there have been so many influences at work this year to disturb the course of legitimate trade.

The returns published by our Bradford (England) Consul as to the exports from his district to this country have been awaited with interest, as they shew pretty accurately the effect of the McKinley Bill upon certain foreign goods generally. Cloths costing not more than 1 dol. per yard formed the bulk of worsted imports before the new tariff was formed. It is almost impossible to ship them now, so that manufacturers on your side will have to devote attention to goods of a higher value than those named. Buyers of foreign spring goods have now returned. Their purchases have been considerable, but not up to those of last year, for reasons which will be obvious. Neither commission nor jobbing houses are doing much just now. A large number of changes, however, have taken place, as is usual at this time of the year, new travellers, buyers, and salesmen having been appointed, and accounts transferred from one agent to another.

Mr. J. W. Barker, a native of Kidderminster (England), but a resident in this country since 1882, has invented a novelty in rugs, which has been placed on the market by Mr. Harrison Townsend, of Norristown, Pa. The fabric is known as "Brocaline," and shews figures in high relief similar to French velours. It is made in materials similar to the Wilton rugs, or in silk and finer worsteds if desired. A very handsome effect is obtained by weaving the ground in silk, the result being a high-class furniture covering. Mr. Barker, who is the manager at Townsend's mill, has filed applications for patents in the United States, Canada, and Europe.

The silk trade is quiet. Manufacturers find that the weakness of raws renders it more difficult for them to obtain better prices for finished goods. There is not, however, so strong a desire to sell and repeat as was the case before autumn, and the fact that some of the needier small houses have dropped out of the business makes it all the better for those remaining. Joseph Hartley, ribbon manufacturer, of Paterson, N.J., who has been in business for eight years, is in the hands of the sheriff, having confessed judgment for 4,955 dols. to W. H. Higgins, his selling agent. He had previously given a chattel mortgage of 8,701 dols. to J. L. Ottenhoff. Liabilities estimated at 33,000 dols., nominal value of assets, 40,000 dols. The total liabilities of Messrs. Nightingale Brothers and Knight are now estimated at \$81,000, and the actual assets (including \$13,600 for machinery), at \$34,000. No arrangement has as yet been come to between the firm and its creditors, an offer of 50 per cent., to be paid within five years, having been refused.

The largest shipment of raw silk from Yokohama has been by the S.S. "City of Rio de Janeiro," which left Yokohama for San Francisco in the first week of November. The "City of Rio de Janeiro" carried 1,194 bales, destined for this market. Up to November 7 the total exports of raw silk from Yokohama for the season have been only 7,271 bales, against 20,176 bales for the corresponding period of



1889. The exports of waste silk do not show such a decided falling off, having thus far been 7,239 bales, against 7,719 bales in 1889.

The Kerr Thread Co. of Fall River, Mass., are having erected the Howard and Bullough machinery they ordered with Riley and Gray of Boston, including revolving flat carding engines, electric stop-motion drawing frames, slubbing, intermediate, roving and jack frames. The latter firm also supplied them with Horrocks' stop-motion drum spoolers.

Messrs. Stephens Bros., of Greeneville, Tenn., are open, it is said, to purchase a plant for a woollen mill.

**FRENCH FOREIGN TRADE.**—The Paris correspondent of the *Times* telegraphs:—The November trade returns show a falling off as compared with last year, with the exception of the imports of manufactured goods, which are 47,000,000*fr.* against 46,000,000*fr.* The imports of raw materials fell from 184,000,000*fr.* to 176,000,000*fr.*, the exports of the same from 82,000,000*fr.* to 63,000,000*fr.* The exports of manufactured goods fell from 18,500,000*fr.* to 16,000,000*fr.*

## Designing.

### NEW DESIGNS.

#### NOVELTIES IN WOOLLEN AND WORSTED DRESS FABRICS.

Though the novelties produced in woollen dress cloths have of late been many and varied, there seems as yet no indication that the ground is anything like exhausted. This week a new type of design claims attention—a type which is likely to come much into vogue in the coming year, and which we should recommend our readers to experiment with in all possible ways.

The structure of the cloth may be best described as plain, or two-and-two twill, with an extra slubbing weft introduced to form the figure. The more ordinary makes of these cloths will probably have a reversible pattern of some simple type developed, but users of three or four hundred machines may well undertake the production of more elaborate styles, since

open setts are effective in this case, giving a large repeat of pattern.

The following is a suitable sett for the production of the structure indicated in *Designs 213* and *213a*.—

Warp.	Wefts.
All 40 sk. woollen,	2 pick 40 sk. woollen,
11's reed 4's.	1 pick 20 sk. slubbing (woollen).
	50—60 picks per inch.

The slubbing must be of good quality, and have sufficient twist to ensure its weaving well.

Figure is an elaborate effect, designed for this type of material. The development for a 384 machine is shown in *Design 213*, and sixteen picks of this design are fully developed in *Design 213a*, the introduction of the slubbing pick between every two ground picks being clearly indicated. In section A the slubbing is shown on the surface, in section B at the back, but tied to the face cloth, and in section C the slubbing would simply float at the back, which is not at all a desirable condition, since, if it be bound, it adds to the firmness of the texture. Probably the best way to treat the binding of the slubbing is to regard it as an extra weft, which may be taken through to the back of the cloth as required, but, of course, when it runs at the back care should always be taken to bind it so that it does not show on the face.

Figure 50 if developed in the above sett, will give a pattern about 8½ inches on a 384 machine for 384 ÷ 44 = 8½ inches.

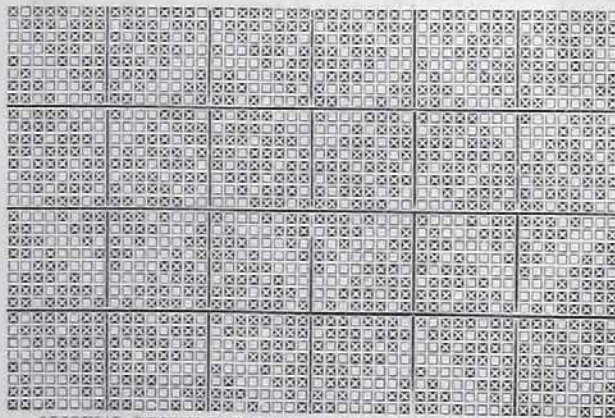
#### ORIGINAL DESIGN FOR UNION CLOTHS.

We give an original design for union cloths, linen and cotton, which are at present enquired about, in heavy, medium, and light makes. The weave is on nine shafts, with two separate drafts, Nos. 1, 2, and Nos. 1, 2 working plans. The draft No. 2 makes the number of ends in each heald equal, and either of the working plans may be used with it; in fact, a practical and ingenious weaver, by drafting and various twills, can easily produce an enormous quantity of changes and variety of effect. We would suggest as a basis to work upon a 30 reed, 2 in a dent, or more plainly, 60 ends on one inch, and 40 picks per inch for stripes composed of 12's cotton, 16's linen, for a heavy type of cloth,

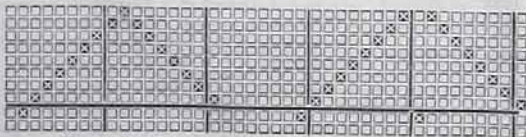
or 16's cotton, 20's linen, weft 12's cotton. It would be better in the stripe arrangement to have separate beams for the linen and cotton warps. The colours: blue cotton and white linen, brown cotton, white linen, dark green cotton, white linen, pink cotton, white linen; weft: 12's cop weft; the patterns 3, 4 and 4, 6 and 6, 9 and 9, 18 and 18, good trousering patterns for the export trade. Checks need not have the warps on separate beams, because the linen weft will equalise the strain on the linen warp. The following details will be found useful for dresses, aprons, blouses, and many other purposes:—Cotton warp and weft, 16's and 25's linen for warp and weft; 36 reed, two in a dent, or 72 ends per inch, 72 picks per inch, weft. A very superior and most durable fabric would be the product of these details. Patterns of warp:—

- 36 blue cotton, 36 white linen; weft the same pattern.
- 36 brown cotton, 36 white linen; weft the same pattern.
- 36 dark drab, 36 white linen; weft the same pattern.
- 18 pale rose, 18 white linen; weft the same pattern.
- 18 dark myrtle, 18 white linen; weft the same pattern.
- 9 tan, 9 white linen; weft the same pattern.
- 6 coral, 6 white linen; weft the same pattern.
- 6 royal blue, 6 cream colour linen; weft the same pattern.

It will be seen that an almost unlimited range of patterns may be obtained in all the fashionable shades and tints. The design is also well adapted for all-cotton fabrics, or mixed goods of silk and cotton. As a rule, the designs which we give are of almost universal adoption, as we consider it worse than useless to give figures, designs, and patterns that are restricted to one class of fabric only. It is highly important that manufacturers should have at their disposal weaves from which the greatest possible variety may be obtained at the least expense, and where the accidentals in the pattern sections of a range may turn out capital samples of the unsought-for. By these simple though effective means we consider we are doing our best to make this journal fulfil the rôle of a public and practical educator.

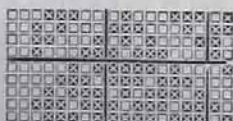


ORIGINAL DESIGN FOR UNION CLOTHS, LINEN, AND COTTON.

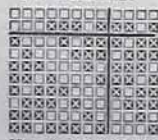


No. 1 DRAFT.

No. 2 DRAFT.



No. 1 WORKING PLAN.

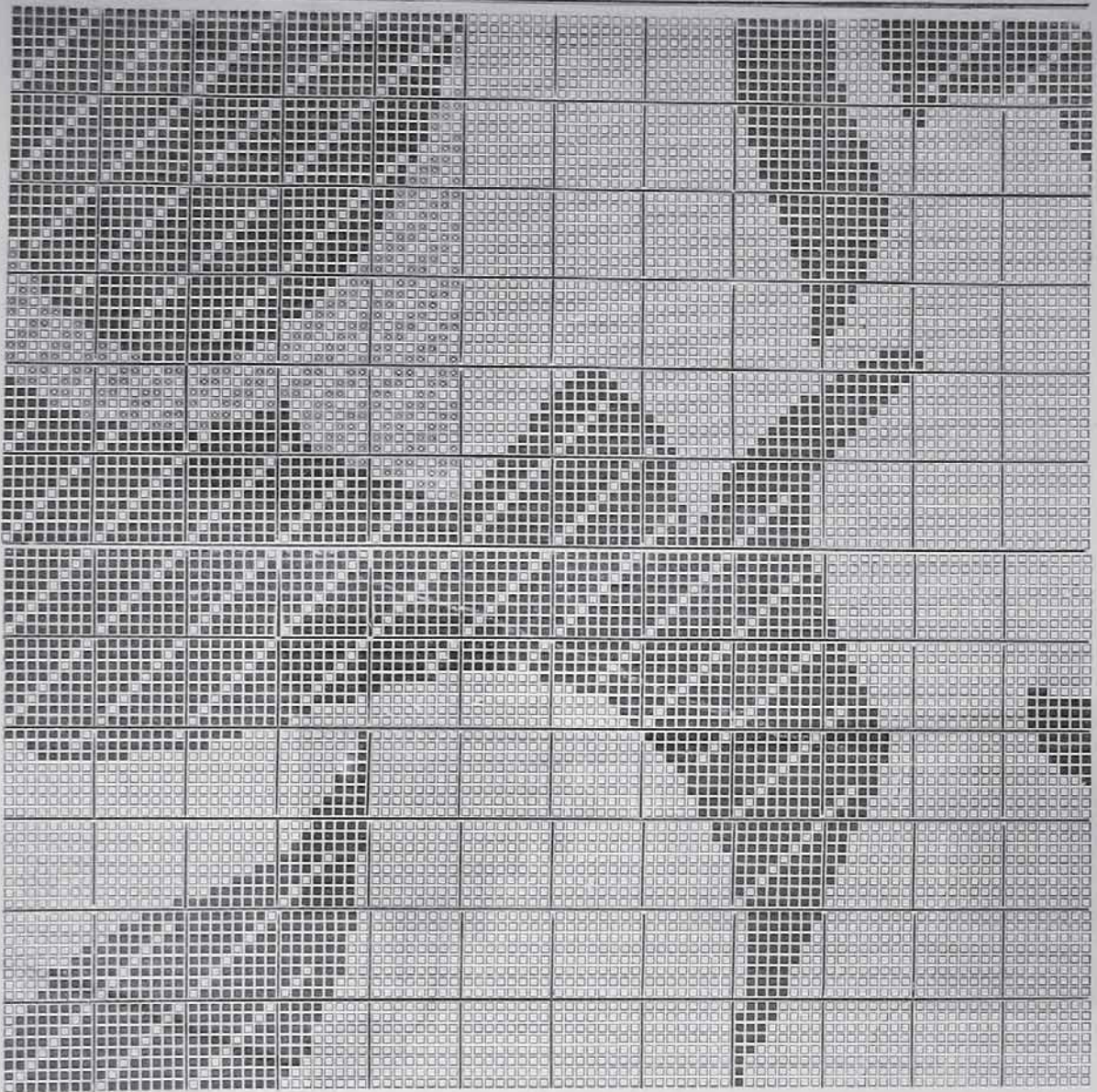


No. 2 WORKING PLAN.

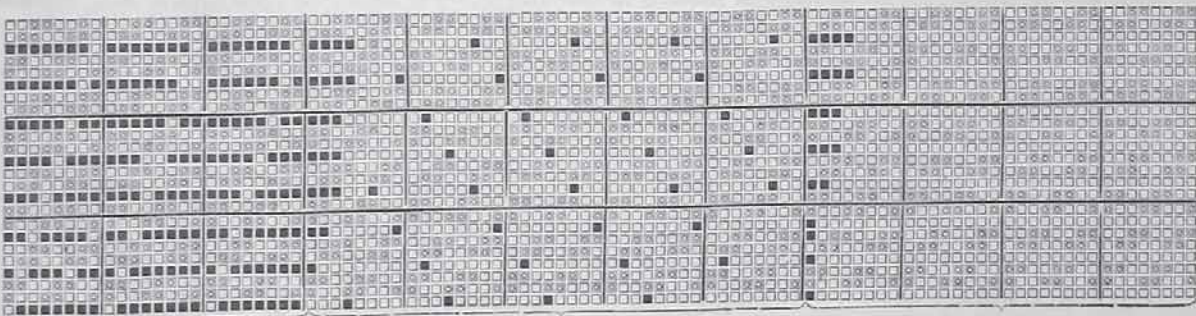


FIGURE 50.





DESIGN 213.



DESIGN 213a.



## Machinery and Appliances.

### IMPROVED YARN STRETCHER.

MESSRS. J. AND E. ARNFIELD, GLOBE IRON-WORKS, NEW MILLS, NEAR STOCKPORT.

We have recently had occasion to remark upon the desirability of eliminating 'kinks' or 'snarls' from yarns in the hank when doffed from the reel, or in the various processes of treatment undergone in bleaching, dyeing, and printing. Persons dealing with yarns in these processes know well how the difficulties arise, and the trouble there is in overcoming them. The old hand process of shaking them out was unsatisfactory, not only from the time it occupied, but also from many imperfections. It has, therefore, in these mechanical days naturally enough been very generally superseded by machines.

We have pleasure in bringing before the notice of our readers a machine for this purpose constructed by Messrs. J. and E. Arnfield, engineers, of New Mills, near Stockport. Our illustrations very correctly exhibit its general appearance. It consists of a pair of strong well-proportioned uprights, at the top of which is fixed the driving gear. About the middle of the height of these uprights a pair of specially-shaped heaters is attached, from which the hanks of yarn are suspended. Working in slides below these heaters is a pair of octagonal rollers keyed on one shaft, and so connected to the driving gear that although the rollers readily slide up and down the wheels are always properly in gear. About the middle of the shaft at the top of the upright is a sprocket wheel, to which is connected a suitable brake-chain, at the lower end of which is a connecting rod jointed to the shaft upon which the octagonal rollers are keyed. Upon the shaft carrying the sprocket wheel is a pair of fast and loose pulleys, driven from the shaft below, and a brake pulley.

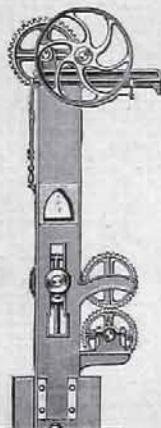
The yarn stretching process is as follows:—When commencing operations the belt is on the fast pulley and the brake is out of gear, thus causing the sprocket wheel to revolve and draw up the octagonal rollers to their highest or any other suitable position, which can be varied to suit the requirement of the yarn being treated. The instant the rollers have attained the height of their upward traverse, a neat automatic arrangement removes the belt to the loose pulley, and at the same time puts the brake upon the gear, thus holding up the rollers while the attendant puts the hank of yarn over the heaters. When the hanks are in position the strap fork and brake lever, which are connected, are gently shifted, thus permitting the weight on the box below to draw down the rollers and stretch the yarn as required.

The machine is exceedingly simple, not liable to get out of order, and has received the highest approbation that can be accorded by practical men—that of extensive adoption. One of the machines, with only a girl or a boy to attend to it, will stretch from 1,000 to 1,200 lb. of yarn per day. A steam pipe,  $\frac{1}{2}$  in. in diameter, is quite sufficient for serving the heaters. In some cases the latter and rollers are covered with copper to prevent oxidation.

Messrs. Arnfield, who are extensive makers of bleachers' and finishers' machinery, may be

relied upon for comprehending the requirements in a mechanical line of any of these industries, and for supplying them in the most satisfactory manner. They will be glad to afford any further information that may be desired on communication with them as above.

AN IMPROVEMENT IN WOOL-WASHING.—Some interest has recently been aroused in another addition to the already long list of recent improvements in wool-washing. The machine to which we refer is the invention of Mr. William Eastwood, and has been perfected by him in conjunction with Messrs. A. Ambler and Co., woolcombers, of Hollings Mills Bradford. In some respects the machine is a departure from the types of machine in common use. The machine itself is really very simple. It consists of a cast-iron tank or "bowl," about 12 ft. long and 3 ft. wide, very similar to the bowl of the ordinary fork washing machine. This bowl is, however, simply used as a reservoir for containing the sud, and the wool never enters it at all. Above the bowl, and extending over the whole length of it, is a shallow trough about 2 ft. wide. Into this trough at one end the wool is fed from a continuous travelling apron, as in the ordinary machine. As it passes into the trough before mentioned it goes under a fall of soap and water which is pumped up by a small centrifugal pump from the bowl beneath, and is allowed to fall upon the wool in the form of a shower. In the trough are four heavy square cast-iron boxes about a foot deep, the other dimensions being less than the width of the trough. These boxes have perforations in the bottom and are suspended by short



IMPROVED YARN STRETCHER.—MESSRS. J. AND E. ARNFIELD, NEW MILLS.

chains passing over pulleys from a bar attached to the framework above. By the oscillation of this bar the boxes are alternately raised and lowered. The current of water from the end of the trough at which the wool enters towards the other end carries the wool with it, and as the wool goes under the boxes it is pressed by them, the boxes being worked in pairs, so that the wool is alternately squeezed and again soaked several times in its passage from one end of the trough to the other. In fact, the whole process may be likened to the picturesque method of washing clothes adopted by the lassies in the Highlands, who paddle them in the washtub with their feet. As the pressure on the boxes is only sufficient to drive the air and sud out of the wool without matting it, the fibre emerges in a beautifully loose and open condition. Indeed, with this machine it is possible to wash whole fleeces, and even cotts, without in any way breaking them up. The wool as it leaves the trough is carried to the next machine over a perforated brass screen, which allows the dirt and water to fall through it into the bowl below. In this bowl the scum and grease rise to the surface, and as the sud for washing the wool is drawn from below the surface level, the accumulation of grease is never again intermixed with the sud, to the detriment of the wool. Very much of the difficulty of dyeing some goods is believed to be due to the almost absolute impossibility of getting rid of the grease from pieces, caused by the washing of the wool under the ordinary system, and it is claimed that in this respect the machine offers advantages over the system in general use. Three of the machines, which are built by Messrs. Taylor, Wordsworth and Co., of Leeds, are in operation and may be seen at Hollings Mill.—*Bradford Observer*.

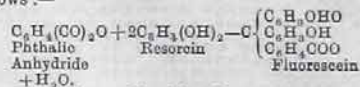
## Bleaching, Dyeing, Printing, etc.

### THE COAL-TAR COLOURING MATTERS.

(Concluded from page 395.)

#### THE FLUORESCIN COLOURS.

When resorcin and phthalic acids are heated together combination takes place, water is eliminated, and a new body known as fluorescein is formed. This reaction is represented as follows:—



Fluorescein is a yellowish red, somewhat crystalline, powder, only slightly soluble in water to a yellow solution, and more freely soluble in alkalis. The alkaline solutions have a bright green fluorescence, hence the name fluorescein. This characteristic feature is so strong that one part of fluorescein dissolved in a little alkali and 2,000,000 parts of water, imparts a strong fluorescence. It was used in producing the fairy fountain in the Chemical Section of the Jubilee Exhibition at Manchester in 1887.

Fluorescein is capable of dyeing wool and silk yellow, but the colour being fugitive, it is not much used for this purpose.

When fluorescein is treated with nitric acid under proper conditions, bromine or iodine, substitution products are obtained, which form a series of brilliant colours much used for dyeing silk and wool, and which are known as the

#### EOSINS.

Eosin A is the tetra brom fluorescein  $\text{C}_{20}\text{H}_4\text{Br}_4\text{O}_5$ ; it also goes under a variety of other names. Erythrocin is the tetraiodo fluorescein  $\text{C}_{20}\text{H}_4\text{I}_4\text{O}_5$ . Eosin BN is brom nitro fluorescein; Rose Bengale is tetraiodochloro fluorescein. Phloxin is tetra brom trachlor fluorescein. There are other eosins made and used. It may be mentioned that these bodies have slightly acid properties, and the commercial products are usually the alkaline salts of the fluorescein compound. The eosins are characterised by the fact that their solutions, especially the alcoholic, have a strong fluorescence, generally some shade of green; the spirit-soluble eosins possess this property in the greatest degree; eosin B has it the least. The solutions are precipitated by acids. Metallic salts, such as lead acetate, sulphate of alumina, or zinc sulphate, precipitate the eosins, giving brilliantly-coloured precipitates, which find extensive use as the basis of pigments for painting.

Eosins can be used to dye silk, wool, and cotton, giving a great variety of shades, from a yellowish scarlet to a crimson, which are very brilliant. Eosin A gives the yellowest, and Rose Bengale the bluest shade; safrasin, phloxin, Eosin BN, and the methyl eosins are intermediate. Silk is dyed in a bath of boiled-off liquor, and after dyeing, a bath of acetic acid is used to brighten the shades. Wool is dyed in a bath containing alum or acetic acid.

Cotton requires to be mordanted with alumina acetate or stannate of soda, if yellow shades be wanted, and with acetate of lead if blue shades be required. The shades on wool and silk are very bright, and are fairly fast to washing, but not to light. On cotton, although bright shades can be got, they are not fast to washing, and are fugitive to light.

#### ALIZARINE COLOURS.

This is a very important group of colouring matters. The majority of them are derived from the coal-tar hydrocarbon anthracene,



C<sub>14</sub>H<sub>10</sub>, but some so-called alizarine colours do not come from that substance, and are only called alizarine colours to get a little prestige for fastness, etc., alizarine being one of the fastest colours known.

Alizarine is the colouring principle of the madder plant (*Rubia tinctoria*), in which it exists in small quantities, and to which it owes the power of producing those fast reds for which the madder plant was used.

The madder plant was the subject of much research on the part of English and Continental chemists, and its chemical constitution is pretty well known. Endeavours were made to obtain the colouring principle, alizarine, from artificial sources. W. H. Perkins, in England, and Graebe and Lieberman, in Germany, both succeeded in discovering methods of obtaining it from anthracene, an hydrocarbon, which exists in great abundance in coal tar. To-day artificial alizarine is almost exclusively used in the arts of dyeing and calico printing, and not only is alizarine obtained from anthracene, but the researches of the chemists have obtained a series of colours of great value on account of their fastness.

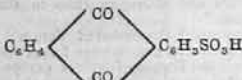
Alizarine is prepared from anthracene by the following series of reactions. First, the anthracene is heated with a mixture of bichromate of potash and sulphuric acid, whereby it is converted into a body called anthraquinone. This is then heated with fuming sulphuric acid, and is thus converted into sulphonic acids. On fusing these with caustic soda alizarine is obtained. Care has to be exercised in the process, because of the possibility of forming bodies known as flavopurpurine, anthrapurpurine, and purpurine, which have similar dyeing properties to alizarine, but give different shades; the manufacturer can obtain either of these products just as he requires them. The following formulae shew the relationship of all these bodies. Anthracene has the formula



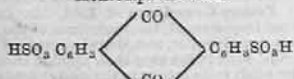
On oxidation the two middle hydrogen atoms are replaced by oxygen, forming anthraquinone,



The sulphonic acids of this body have the formulae

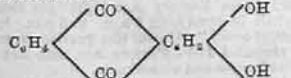


Monosulphonic acid.

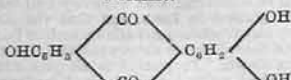


Disulphonic acid.

On fusion with caustic soda these sulphonic groups are eliminated, and alizarine or the purpurines are formed.



Alizarine.



Purpurines.

Purpurine, flavopurpurine, and anthrapurpurine have the same composition.

Alizarine is called dioxanthraquinone, the purpurines are trioxanthraquinones, and the tetroxy and the pentoxanthraquinones have recently been introduced for dyeing purposes.

The alizarines are true types of what Bancroft called the adjective colours, i.e., they require a mordant to fix them on the fibre, and they give different colours with different mordants. They

have slight acid properties; the compounds they form with the alkalies are soluble, and give highly-coloured solutions with water; with nearly all other metallic bases they give insoluble coloured lakes; many of these are very bright and permanent. The process of dyeing with the alizarine colours consists essentially in forming these colour lakes on the fibre. The fibre is first mordanted with the required mordant—alumina for bright reds, iron for dark purples, a mixture of the two for chocolates, and chrome for dull reds. This last mordant is mostly used in wool dyeing, good results not being obtainable with it on cotton.

The alizarine colours are sent out in the form of pastes containing 20 per cent. of the dry colour. It has been found that when these colours are dried they do not mix readily with water, and thus the full dyeing power is not developed, and there is more tendency to the production of stains and uneven dyeing.

By treatment with sulphuric acid alizarine is converted into a sulphonic acid; this is soluble in water and comes into commerce as Alizarine S, and finds extensive use in wool dyeing.

Besides alizarine and the purpurines other colouring matters are obtained from anthracene. Anthracene brown, anthragallol, is isomeric with the purpurines, and is therefore a tri-oxanthraquinone C<sub>14</sub>H<sub>8</sub>O<sub>3</sub>(OH)<sub>3</sub>. It is obtained by heating gallic acid with phthalic acid; the product is a dark brown paste and dyes wool mordanted with chrome dark browns, which are fast to light, acids, and washing. Alizarine orange is prepared from alizarine by treatment with nitrous gases; it is nitro-alizarine, C<sub>14</sub>H<sub>8</sub>O<sub>3</sub>(OH)<sub>2</sub>NO<sub>2</sub>. This dyes oranges on alumina-mordanted fibres; on iron-mordanted fibres it gives violets. Alizarine blue is obtained by heating nitro-alizarine with glycerine. It has the formula C<sub>14</sub>H<sub>8</sub>NO<sub>3</sub> and is related to quinoline, being in fact the quinoline, as it is called, of alizarine. It dyes wool mordanted with chrome fine navy blues, very fast to light, acids, and scouring, and is in fact one of the fastest blues known. Alizarine blue not being soluble in water, even dyeings with it are rather difficult to obtain; it has however been found that it is soluble in bisulphite of soda, and that this solution can be used for dyeing and gives very uniform and fast shades. This bisulphite compound is known as Alizarine Blue S.

Alizarine green and alizarine-indigo-blue are prepared from alizarine blue by treatment with fuming sulphuric acid, and are sent out in the form of their bisulphite combinations. They dye mordanted wool, fine deep shades of blue-green or greenish blue, very fast to light, etc. Alizarine Bordeaux is the tetra-oxanthraquinone, and has only recently been applied in dyeing. It gives violet shades. Alizarine cyanine R is the pent-oxanthraquinone, and dyes fine navy blues on mordanted wool. Alizarine black is a derivative of naphthalene; it is called naphthazarine, and has been known for some time, but its value as a dye-stuff has only lately become known. It gives a good black on chrome-mordanted wool, of rather a brown tone, but very fast to light and other injurious influences.

Galloflavine, gallein, alizarine yellow, and anthracene yellow resemble alizarine in being adjective colours and dyeing mordanted fibres, giving fast and useful shades.

BLEACHING BY ELECTRICITY.

(Concluded from page 374.)

The interpretation of the various chemical reactions which take place during the electrolysis of the chlorides is difficult, though the formation of hypochlorites by the action of the chlorine liberated at the positive pole upon the alkali generated at the negative pole seems a probable explanation. This does not, however, explain the great bleaching power of the solution, which has no relation to the actual amount of chlorine as hypochlorite that it contains. This abnormal property is not easy of explanation, but perhaps the following, although not proved, may be the cause:—The water is decomposed at the same time as the chloride, and there is formed ozone; or rather the oxygen liberated contains ozone. This body is somewhat soluble in solutions of alkaline chlorides, and especially

so in magnesium chloride; it is a well-known bleaching agent, and has been proposed to be formed and used for that purpose. Another product that might be formed during the electrolysis of the liquor is hydrogen peroxide, but its absence in the electrolysed solutions has been noticed; if present it would exert bleaching properties, it being one of the best bleaching agents known. Dutet has observed that in the electrolysis of alkaline chlorides the volume of oxygen liberated is much less than one half that of hydrogen; this is explicable if part of the oxygen is converted into ozone and is dissolved in the solution. From an investigation of the properties of the liquid the author came to the conclusion that alkaline peroxides were present. These are endowed with oxidising powers, and are unstable bodies—a fact which has hitherto prevented their isolation. Now these unstable peroxides may be bleaching agents, and we are aware that one of the conditions of the electrolysis of the chlorides is the alkalinity of the liquid potash and soda for the alkaline chlorides, magnesia in the case of the Hermite process. To this hypothesis may also be added the far more probable one of the formation of unknown oxides of chlorine, which may have strong bleaching properties. The chemistry of these bodies is still obscure. It is, indeed, possible that there may be some sort of incompatibility between the formation of all these products by electrolysis of the chlorides; for instance, it is well known that ozone is rapidly destroyed in the presence of chlorine, but what is the resultant body and what are its bleaching properties are not known; but the mixture of gases resulting from passing electric sparks through a mixture of oxygen and hydrogen has been proposed as a bleaching agent.

The important question in connection with all electro-chemical bleaching processes is whether or not they give superior results to bleaching powder, and their relative cost. A comparison is given below between the ordinary chloride of lime process and the Hermite process, using a mixture of the chlorides of magnesium and sodium, these figures being taken from a pamphlet recently published by M. Hermite.

An "electrolyser" produces in 24 hours the equivalent of 100 kilogrammes of dry bleaching powder, 10 horse-power being required; the price of 100 kilos. of bleaching powder is given as 20fr. to 22fr. In those places where water power is available, the equivalent of this quantity of bleaching powder is stated to cost 5fr. 22c., a saving of 80 per cent., as the cost of labour is the same in both cases. Where steam has to be employed the cost is given as follows:—

10 horse-power for 24 hours consuming	
240 kilos. of coal, at 20fr. the ton	4fr. 80c.
30 kilos. of sea-salt, at 5fr. the 100 kilos.	1fr. 50c.
6 kilos. of magnesium chloride at 12fr. the 100 kilos.	0fr. 72c.
Interest and depreciation on the electric plant	5fr. 00c.
	10fr. 2c.

In this estimate an economy of 50 per cent. is worked out; even if more inferior coal was used and less efficient plant there would still be a considerable saving. The process has therefore been adopted in many bleaching works, and has attained more success in the bleaching of paper than in that of cotton.—A. RIGAUT, in the *La Lumière Electrique*.

SOME new red-violet to grey-black colouring matters, which are derivatives of di-methylaniline, have recently been patented in this country. They are obtained by heating aniline with hydrochloric acid, and adding hydrochlorate of nitrosodimethylaniline; the reaction is rather violent. The mass is then heated to 120° C., and from the melted mass the colouring is obtained by simple purification processes. It has a dark brown tint, dissolves easily in water to a blue-red solution, and dyes mordanted cotton a washable grey blue. The temperature to which the reaction is carried on has some influence on the colour of the product: at about 100° C. red-violet dye-stuffs are formed, and at 150° grey-black dye-stuffs. These new colouring matters are fast to washing, acids, and light, and are therefore likely to be very useful.



## Letters from our Readers.

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

### PROPOSALS OF THE INDIAN FACTORY COMMISSION.

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

Sir,—In the telegrams of *The Times* Calcutta Correspondent, published on the 4th and 6th inst., it appears that the native gentlemen who formed the Indian Factory Commission are of opinion (1) that children should be allowed to commence working full time in Indian mills at 14 years of age; (2) that protection should not be granted to young persons from 14 to 18 years of age; (3) that the hours for women should be fixed at 11; (4) that full time on the shift system is not too severe for children of from nine to 14 years of age; (5) that in mills not working by the shift system children should be restricted to 6½ hours daily work; (6) that the working of mills from dawn to dusk should be allowed to continue; (7) that factories may work on a Sunday following a festival holiday; (8) that factories not working the shift system should stop work for 30 minutes about midday; (9) that wages should be paid monthly in Bombay. The Commissioners, in concluding their report, say:—"It would be, in our judgment, a great calamity if, by any injudicious recommendations or unnecessary restrictions, the prosperity of these industries was endangered."

I need not point out that the selfsame objections which are now urged against the English Factory and Workshop Act being applied to India were formerly brought forward against every Factory Act laid before Parliament in this country. Such cries as "serious obstacles to the working of factories," "driving trade from the country," and "taking bread from the mouths of operatives" raised in the past to prevent the moral, educational, and physical welfare of the operatives from being guarded by factory legislation, have long since been scouted by the universal reprobation of public sentiment. The Commissioners have, however, as they plainly own in their report, had their judgments seriously biased by these cuckoo cries, which are once more raised by Indian manufacturers and millowners. The value of their report is, therefore, solely contained in the account of the evidence which was laid before them, which, although sparse, vividly portrays the wretched condition of the overworked Indian operatives, and the universal infringement of the provisions contained in the present India Factory Act.

The Commissioners appear to agree with the Government of India that the Bengal factory system of working operatives in shifts is admirable; and they propose that the mills shall be still allowed to continue working from dawn to night, and they see no reason why children should not be employed full time in the shifts. Let us consider what this preposterous proposal implies. What dawn to dusk means for operatives working that time in an Indian mill is shown plainly in a table contained in a recent Parliamentary Blue-book on Indian factories, where it appears that the engine in June commences at 5 a.m. and stops a 7-15 p.m. This gives an average work-day of 14 hours 15 minutes at the hottest period of the year. In December the engine starts at 5-45 a.m. and stops at 5-55 p.m., giving a work-day of 12 hours and 10 minutes. The average working day throughout the year in an Indian mill working from dawn till dusk is 13 hours 12 minutes, or 3 hours 12 minutes longer than rules in England; and no Saturday half-holiday is granted in Indian factories in full work. The hands in a Bengal mill are divided into four shifts, which I will term A, B, C, D. In June, A, B, and C work together from 5 a.m. to 9 a.m.; A, B, and D work together from 9 a.m. to noon; A, C, and D work together from noon to 3 p.m.; and B, C, and D from 3 p.m. to 7-15 p.m. The engine runs all day with the exception, perhaps, of a few minutes for cleaning. A works continuously for 10 hours without a rest; B works seven hours without a rest, and 1½ hours in all; C works 7½ hours without a rest, and 1½ hours in all; and D works 10½ hours without a rest. It is all very well to talk of some of the jute mills which work the shift system running, owing to slack demand, for only four days in the week; what we have to consider is what they would do under circumstances when the demand exceeds their power to supply. In the India factory inspectors' reports of 1888 I find that a woollen mill in the Punjab runs from 5 a.m. to 1 a.m.—i.e., 20 hours a day—using two sets of hands, and that a jute mill

in Bengal had been working for several weeks from sunrise to about 10 p.m. The Bengal shift system renders factory inspection a farce, as it prevents the inspector from checking how many hours any one operative has been employed. It is cruel in allowing no interval of rest, no break in the 11½ hours' labour of half the operatives, and it allows the other half of the operatives no interval in six hours of their work. In England it has been proved by experience that it is necessary for the health of children that their labour should be restricted to five hours a day, and that that period of labour should be divided by at least half-an-hour's interval for rest; and it has been found necessary for the health of young persons between the ages of 14 and 18, and of women, to restrict their hours of labour to 10 a day, and to allow breaks in that time amounting to 1½ hour at least, so divided that no spell shall exceed four hours without a break of at least half-an-hour long. The Bengal system enables the manufacturers to make the most of their machinery at the expense and ruin of the operatives.

I will now turn to the proposals of the India Factory Commissioners. They suggest (1) that the age for children be fixed in the new Act at from nine to fourteen, instead of from seven to 12 years, as under the present regulations. With reference to this, I would point out that the English Factory Act is about to be amended, in accordance with the regulations sanctioned by the Berlin Conference, so that no child shall be allowed to work in our factories and workshops under the age of 12 years. In England children from 14 to 18 years of age are not allowed to work for more than ten hours a day on five days of the week, and for more than six and a half hours on Saturdays, while by proposal (2) lads between these ages are to remain altogether without special protection in India, and may work 14 hours a day, or 98 hours a week, if a Sunday's work is done in lieu of a native holiday happening in a previous week. By proposal (3) women are to be allowed to work 11 hours a day, notwithstanding that four of the officials acting as factory inspectors in India had declared in their reports in 1888 that no adult, man or woman, ought to be employed in an Indian mill for more than nine hours in any one day. In a previous letter I have shown that Dr. Lumsdaine, the Sanitary Commissioner in Bombay, after inspecting 22 of the cotton mills, had given his opinion that the working hours for men should be restricted to nine, for women to eight, and for children to five hours. In the same letter I quoted from Lord Cranbrook, the Secretary of State for India's speech in 1879, shewing that in that year the ten hours proposed for women by the Bombay Government included one hour for meals and rest, and the working time proposed was only nine hours. The atmosphere in Indian factories is considerably hotter and far more impure than that in English factories. How is it possible that women should endure work for 11 hours in what Mr. Arthur Arnold terms "the terrible atmosphere of a Bombay factory" when 10 hours is as much as they can undergo without injuring their frame and health under much more favourable conditions in a Lancashire mill? Even in England, where women's work hours are restricted to 56½ hours a week, it has been found that the death-rate is considerably higher amongst women employed in textile factories on machinery than amongst female operatives otherwise employed, and that the higher mortality amongst the children in English factory towns is ascribed to the conditions under which their mothers labour. The proposal (4) that children from nine to 14 years of age should be allowed to work full time if worked in shifts, as in Bengal, 9½ hours in winter, and 11½ hours in summer, half of the children without any interval of rest, is simply outrageous. Even in such a backward country as Russia children under 12 years of age are excluded from working in textile factories, and children from 12 to 15 years of age are restricted to eight hours' daily labour, and may not work more than four hours continuously. The Berlin Conference determined that the actual work of children from 12 to 14 years of age should not exceed six hours a day, and should be broken by a rest of at least half an hour. There can be no reason whatever why this humane regulation should not be applied in India, where the children are now being permanently injured, stunted, and crippled by overwork. The proposal (5) that children working in factories not running on the shift system should be allowed to work 6½ hours a day has been made so as to enable the Bombay manufacturers to work their operatives 14 hours a day, with half an hour's interval for rest and meals during the summer months. The latter proposal (6) for working the adult male operatives from dawn to dusk has been generally condemned by all medical men who have been consulted by the Government, as well as by the vast majority of Government officials acting as

factory inspectors. In 1885 no fewer than 11 of the officials acting as factory inspectors stated in their reports that dawn to dusk was too long a time for any operative to be allowed to work, and that the hours run by Indian mills ought to be limited by legislation, so as to protect adult males as well as women and children from the excessive labour they now undergo. Four of these inspectors declared that nine hours a day should be fixed as the maximum time for men to work in the factories. Dr. Lumsdaine reported in 1878 that men should not be allowed to work more than nine hours in the mills; and Sir Theodore Hope stated before the Viceroy's Legislative Council, when the Factory Act of 1881 was being considered, that "nine hours should be the authorised period of employment, including an aggregate of one hour's interval for rest and recreation subject to the restriction contained in the English Act against more than 4½ hours' continuous work without an interval of at least half an hour." If the Government of India requires further information upon the necessity for fixing the period of labour for young persons and adult males, let them turn to the report of Surgeon-Majors Lyon, Grey, and Waters, who in 1884 were nominated by the Government of Bombay to form a sanitary commission to examine the health and condition of the operatives in the city of Bombay. In their report these medical men stated that—

"We think it very desirable that the daily working hours of these mills should, both in the interest of the general health of the operatives and with a view of preventing accidents from working in rooms insufficiently lighted, be defined by law; and that, further, in the interest of the general health of the operatives, it should be compulsory to allow certain periods of rest in the day and a certain fixed number of holidays—say four per month."

I may further point out that a memorial which was forwarded to the Bombay Factory Commission of 1884 by 5,500 operatives begged that "work in the mills should commence at 6-30 a.m. and cease at sunset," and that at a meeting of about 10,000 operatives in Bombay only last year a memorial containing the same request was sanctioned and forwarded to the Viceroy in Council. Unless the period for labour is fixed for the Indian mills, no factory Act can possibly prove effective, and this was laid stress upon by the Bombay Factory Commission of 1884, who stated in their report that—

"The only way to enforce the statutory limitation of nine hours for children's labour not being exceeded is to fix a period of employment for such. It is quite evident that on visiting a mill, say at 6 o'clock in the evening, it would be impossible for an inspector to say with certainty whether a child, then working, had been employed the prescribed nine hours in the 12 or 13 that the mill had been running. If the law has been hitherto obeyed, such is ascribable more to willingness on the part of the owners and managers than to the effect of supervision."

It was through the period of time not being fixed that children last month were found working full time in all the Bombay factories except one which were visited by the India Factory Commission. I may further note that, in their evidence before the Bombay Factory Commission of 1884, Mr. Jones, the trained inspector of factories, three of the mill managers, a mill owner, and the chairman of the Mill Hands' Association gave their opinion that the period for adult male labour in the mills should be fixed between 6 a.m. and 6 p.m., as is the case in England. In my letter which appeared in *The Times* of April 2 readers would notice that Lord Cranbrook, when Secretary of State for India, in April, 1879, laid stress upon the fact that the then proposed India Factory Act "provides that the mills shall be open from 6 a.m. to 6 p.m. for six days out of seven." Unless this proviso is entered in the amended India Factory Act, that Act must prove ineffective and unworkable.

The unreasonableness of proposal 7 is evident when it is considered that Saturday half-holidays are not granted in India, and that the English Factory and Workshop Act allows, besides Sundays and half Saturdays, six extra whole holidays to the working classes. Proposal 8 is altogether insufficient. The English Act allows two hours' intervals of rest between 6 a.m. and 6 p.m., and one and a half of those hours must be fixed as breaks in the working hours. The latter provision is likewise sanctioned for young persons and women by the Berlin Labour Conference. Why proposal 9 should be sanctioned for Bombay when wages are paid weekly in Bengal, as in England, is simply unaccountable, particularly when it is well known that payment by the month instead of by the week forces the operatives into the hands of the money-lenders and thus impoverishes them. The only advantage that the practice can have for the manufacturers is that they can draw interest on the money which



showing to the operatives. It is to be hoped that the Government will shortly lay the report of the India Factory Commission, together with the evidence taken before it, on the table of the House of Commons, and thus give members of Parliament and the public at large a chance of learning about the fearful disclosures made before the Commissioners by youthful operatives in the factories at Bombay and Cawnpore. Nothing can show more clearly than this evidence the urgent necessity of applying the regulations contained in the English Factory and Workshop Act throughout our Indian Empire, and the strong advisability of fixing the period of work in the mills so as to provide due protection to every operative in the country.—I am, Sir, your obedient servant, HOLT S. HALLETT, 20, Hyde Park-place, W.

### A SILK MANUFACTURE FOR IRELAND.

(To the Editor of *The Textile Mercury*.)

Sir,—I find that in last issue of your journal I am credited with speaking at the meeting of the Shipley Textile Society on the recent introduction of the woollen trade into the congested parts of Ireland. The industry of which I spoke was the "home-spun" industry as instituted by Mrs. Ernest Hart, to whom, some three years since, I had the pleasure of listening in Leeds. Her story of difficulties overcome and objects attained was indeed well worth hearing, and it occurred to me then that there were strong reasons for supposing that an Irish silk industry might be established on a firm basis, notwithstanding the apparent necessity of importing the raw material.

Mr. Dawson, at the meeting referred to, spoke of a company which was formed to undertake silk cultivation in Ireland. Though this was a failure, it is not yet proved that there is absolutely no chance of rearing the silk-worm in Ireland, and if only this could be accomplished there seems little doubt that the unutilised human hands of Ireland, properly trained, could produce costly silks which might compete in price and design with French goods.

In the current issue of *The Textile Mercury* an account appears respecting the continued migration of the silk industries of the large French towns to the country, thus evidently proving the superiority of manual labour.

Is it not possible, then, that even if the importation of silk to Ireland be necessary, yet the manual labour at command may totally counterbalance this? Skilful training would of course be necessary, but the experience which has already been obtained in the successful introduction of the woollen industry should prove of inestimable service.—I am, yours, etc., ALONER F. BARKER, The Salt Schools, Shipley, Dec. 16th.

### DAMP COTTON.

(To the Editor of *The Textile Mercury*.)

Sir,—If spinners do not personally look at every bale of cotton they use this year they will bitterly regret it. Even Texas cotton, for which a farthing a pound premium is being paid because it is dry, is now coming in damp. I have to-day dried some cotton out of a bale of Texas which loses over 15 per cent. There is a patent oven sold now to test damp in cotton and in yarn. No spinner or manufacturer should be without it, and should use it for every purchase. The result will astonish them.—Yours, etc., A SPINNER, December 19th.

### ANSWERS TO CORRESPONDENTS.

M. and C. (Nottingham).—We are very much obliged for your suggestion, and trust to be able to adopt it, at least to a certain extent, early in the new year. The matter available for such treatment differs very widely in the two materials. In cotton the means for collecting statistics are highly organised, giving acreages sown in the different countries of production, careful notes on the progress of growth, and exhaustive and elaborate statistics of receipts and distribution. Very little of this exists in the wool trade, and therefore prevents its being treated in the same elaborate manner. Almost every country in the world contributes something to the annual supply, but in very few is the amount recorded, and without all such statistics it will be obvious that forecasts are made with difficulty.

Messrs. Henderson and Company's silk and fur stores, High-street, Dundee, were partially destroyed by fire on Tuesday.

## News in Brief,

FROM LOCAL CORRESPONDENTS AND CONTEMPORARIES.

### ENGLAND.

#### Accrington.

At Accrington Petty Sessions, on Wednesday, Messrs. Tootal and Kershaw, calico printers, Baxenden, were summoned for four breaches of the Factory Act. A fine of 10s. and costs was imposed in each case.

#### Ashton-under-Lyne.

Mr. D. G. Isherwood has resigned his position as manager of the Cavendish Spinning Company, and Mr. Walker, of Stalybridge, has been appointed to the vacant situation.

#### Blackburn.

The monthly statement issued by the Blackburn district of the Operative Cotton Spinners' Association shows that the number of spinners in the district who are members of the association is 1,079, and that the non-union men only number 133. Last month the income was £210 3s., expenditure £188 2s. 4d., and the association is now on a sterner financial basis than it has been for many years.

At the Borough Court, on Monday, Messrs. Wm. Thompson and Co., cotton manufacturers, of Park Bridge Mill, were summoned in ten cases for employing women during meal hours—at 5.35 p.m. on the 21st ult. Mr. Polding appeared for the defendants, and in mitigation of a penalty gave as an excuse that a strap had broken, and the manager being engaged with this did not notice the time. Moreover, the manager's watch was a little slow.—Defendants were fined 20s. and costs in the first case, and costs in the other cases.

At the Blackburn County Court, on Monday, a spinner named Charles Shellington sued Messrs. John Fish, Limited, for £2 wages, in lieu of notice. Mr. Riley appeared for the plaintiff, and Mr. Brothers for the defendant.—The plaintiff worked at the defendants' Waterfall Mill, Blackburn, and was discharged by the spinning master for "dashing" or fanning his creels instead of brushing them. A notice was put up, signed by the manager, forbidding "dashing" in the mill. The plaintiff said this had only been up a week when he was discharged, but the spinning master said it had been up a fortnight, and that before the notice was posted in the mill he spoke to the men individually about it.—His Honour said that it was clear that fanning was forbidden.—The plaintiff disobeyed the lawful orders of his employers, who were therefore entitled to discharge him.

The President of the Blackburn Chamber of Commerce (Alderman H. Harrison) at a meeting of the Chamber on Wednesday afternoon alluded to the proposed new French tariffs, which, he said, were so important that every manufacturer should give them his earnest consideration. England did a large trade with France, sending them £30,000,000 worth of produce and manufactured goods a year; but the tendency was to protect French home labour and agriculture, no matter what the consumer might say. On English yarns and textiles the proposed alterations were very numerous and hostile, and the tariffs with respect to machinery would be prohibitive.—Mr. Holt Hallett, on the motion of the President, seconded by Mr. Peters, was elected an honorary member of the Chamber in recognition of his services to English Commerce, more especially in exposing the atrocities of the Indian factory system.—The President read a resolution asking that the same protection that had been granted by the Factory and Workshop Acts of England should be accorded to the working classes of India, which it was intended to bring before the Associated Chambers of Commerce. He proceeded to show that industrial establishments were being rapidly increased in number in India. In 1887 there were 103 mills and 2,421,290 spindles, but now there were 137 mills and 3,274,196 spindles—an increase of 34 mills and 600,000 spindles. In 1887 there were 18,636 looms; now there were 23,412. The weight of cotton used in the same time had increased from 2½ million cwt. to 3½ million cwt., which represented an increase of 33 per cent. in three years. There were at present employed in the cotton industry 102,000 people, against 67,000 in 1885. This extension, though rapid, would be permanent, no matter what Factory Act might be introduced into India. The Indian journals had referred to the English opposition as being hostile to Indian industry; but that was not true. They felt not one jot or particle of opposition to the factory industry of India, but they did pro-

test against any industry being fostered upon the lives of little children and women, upon the blood and sinews of the men who had to work in the mill stoves and dust-holes of the cotton ginning workshops of India.—It was decided to request Mr. Coddington, M.P., to move at the opening of Parliament that a report of the evidence given before the Factory Commission in India be printed and circulated as early as possible.

#### Bacup.

The death is announced of Mr. Thomas Best, cotton spinner, of this town.

#### Bolton.

The Mutual Cotton Spinning Co., Limited, have just awarded the order for furnishing their new mill with machinery to Messrs. Dobson and Barlow, Bolton. The mill will contain about 100,000 spindles.

The spindle and fly makers employed in Bolton are agitating for an increase of wages, varying in different departments from 20 to 5 per cent. The employers assert that the state of trade will not allow the advance sought. The executive of the men were in conference for six hours on Saturday, with the result that it was decided to submit a further proposal to the masters before finally closing the negotiations.

Mr. W. Nicholson, of Kendalmer, Bolton, who died late on Saturday night, at the age of 69, was one of the best-known bleachers in the county, although he had for some time retired from active business. He was 36 years connected with Messrs. Blair and Sumner, of Mill Hill, Bolton. He was at the time of his decease a member of the Bolton Town Council, on which he had served for nearly eleven years. He was also a Freemason, and a generous donor towards the different charities of the craft.

#### Bradford.

At the County Court, on Tuesday, before Judge Gates, Q.C., Henry Edward Foster, lately carrying on business as a spinner and manufacturer, at Prospect Mills, Thornton, applied for his certificate of discharge under the Bankruptcy Act. The Official Receiver (Mr. J. Arthur Bines) reported that the debtor had omitted to prepare balance-sheets, that he had continued to trade after knowing himself to be insolvent, that he had contracted debts without having reasonable ground of expectation that he would be able to pay them, and that he had contributed to his bankruptcy by unjustifiable extravagance in living. The application was opposed on behalf of the trustee; but his Honour decided to grant the certificate, subject to its suspension for two years.

#### Burnley.

Early on Tuesday morning a fire broke out in the oilroom at Mount Pleasant Mill, Burnley, occupied by Messrs. Dilworth Harrison and Brothers. The mill includes weaving, warping, and winding. The operatives had only just got to work when the alarm of fire drove them hurriedly from the place. The fire spread through the warehouse, where there were two months' stores of cloth. It afterwards extended to the winding-room. The damage, estimated at several thousand pounds, is covered by insurance.

#### Colne.

Mr. Wm. Marsden, cotton manufacturer, of Pave Mill, Trawden, near Colne, died suddenly on Tuesday evening at his residence, Trawden Hall. Mr. Marsden was elected a member of the Trawden Local Board (one of the oldest urban sanitary authorities in Lancashire) when it was established, and for many years held the position of chairman of that body. He was also for a long time the representative of the township of Trawden on the Burnley Board of Guardians, and his death will create a vacancy on that body. Deceased was 74 years of age.

#### Church.

At Church Sessions, on Thursday, a weaver named Mary Birtwistle, for whom Mr. Withers (instructed by the Weavers' Association) appeared, sued Mr. William Hoyle, manufacturer, of Church, for 13s., wages due. The money claimed was for "time in hand." Plaintiff had been ill, and whilst she was off work another person had been engaged in her place. The claim was allowed by the magistrates. Mr. Hoyle put in a counter-claim for damages sustained by reason of the looms being stopped for a time. This, however, was disallowed, the magistrates being of opinion that the woman was under no obligation to send word that she was ill, seeing that there was no such condition in the rules.

#### Darwen.

Work was suspended at Messrs. Baynes Taylor's New Mill, Darwen, on Monday morning until breakfast-time, owing to the gas-pipes having become frozen and it being found impossible to light the gas.



## Derby.

With the object of establishing a school of embroidery in Derby, an exhibition was opened by the Mayor (Mr. A. Seale Haslam) in the Mechanics' Institute. Specimens of art needlework were on view from the schools at Leek, Donegal, Macclesfield, and Mountmelock, together with a reproduction of the celebrated Bayeux tapestry. The original of the latter was worked by Queen Matilda, and illustrates the Norman Invasion. The reproduction is by Mrs. Wardle, and a number of Leek ladies. The Mayor gave an interesting history of the art of embroidery, and said that he saw no reason why the art should not attain great distinction in Derby.

## Heckmondwike.

A meeting has just been held here in connection with the proposed manufacturing company to take over Crystal and Union Mills, which have recently been closed by Messrs. F. Kelley and Sons. It is stated that there is a strong probability of the company being formed. Two or three firms have also been approached with the view of forming a carpet manufacturers' syndicate.

## Huddersfield.

A fire broke out on Wednesday at the Holme Mills, Bradley, owned by Messrs. Mellor Bros., cotton spinners, through friction of a spinning mule. It was speedily extinguished, though not before damage to the extent of nearly £700 was done.

## Kidderminster.

The question of overtime or no overtime has again been forced to the front, and the result of the matter is a further proof of the power which concentrated labour possesses over capital. The subject has been raised at the works of John Brinton and Company, Limited. It appears that the firm have certain orders on hand which they were anxious to complete before Christmas, and in order that this might be accomplished notice was given the weavers employed by the firm on Wednesday last that from that day until the 23rd inst. the engine would run two hours at night overtime. This was however directly contrary to the resolution passed last May by the Weavers' Association, which peremptorily forbade the men working after the ordinary factory hours, and in consequence of this the weavers declined to remain at work. Messrs. Brinton were firm in their determination, and a number of youths who act as assistants to the weavers were put on to the vacated looms. Without loss of time a special body meeting of the weavers was called, and at one time it appeared likely that a general strike was imminent, but upon a deputation waiting upon Messrs. Brinton things assumed a more amicable shape, and in the end the masters gave way. It is quite likely that before the present season is over this question, which is a sore one, will have to be settled more decisively, and that the employers themselves will require to have a voice in the settlement, as they naturally feel it hard not to be able to work when urgent necessity arises, as it often does.

## Kirkham.

On Monday evening the directors of the Fyde Manufacturing Company held a meeting, at which it was decided to allow Mr. Luke Park, the weavers' secretary, to examine the sorts woven and the prices paid in their mill. This action on the part of the directors brings the pending dispute to an end.

## Leeds.

Early on Monday morning a large portion of Messrs. James Baines and Son's Victoria Worsted and Yarn Mills, Horbury, was destroyed by fire, and damage to the extent of £10,000 to £12,000 resulted. Several fire brigades attended and prevented the flames spreading to other parts of the mills, but it was nearly five o'clock before the fire was subdued. The premises are insured.

## Leigh.

Lord Lilford has contributed £500 towards the fund for the erection of a technical school and public library at Leigh. It is estimated that the total amount required will be £6,000. The premises already given represent a sum of £3,250, exclusive of £1,000 which the Trustees of France's Charity have intimated their intention of giving.

The new engine erected in the Avenue Mill, belonging to Mr. Wm. Guest, has been christened "Adelaine." It is a compound horizontal tandem Corliss, of 250 i.h.p., with a boiler pressure of 80 lb. to the inch, running at a speed of 65 revolutions per minute. The high pressure cylinder is 13 in. in diameter and the low pressure 27½ in. It is driven by ropes. The engine has been constructed by Messrs. J. and E. Wood, Bolton, and is an excellent specimen of their workmanship.

The twistors and drawers employed at Messrs. Jones Bros. and Company's Bedford New Mills, have

for some time past been dissatisfied with their rate of pay, and a fortnight ago sent in a list of prices to their employers. No satisfactory reply being received the Executive of the Amalgamated Society instructed the men to ask for a definite answer by Wednesday evening. The manager then gave the men a new list, and an increase of a 30th part of a penny per 1,000 ends. This, however, is not considered satisfactory.

## London.

At the London Court of Bankruptcy, on Tuesday, an application for discharge was made by Jabaz Walker, woollen merchant, Coleman-street, and formerly of Wall-court, City. The failure occurred in 1887, the liabilities being returned at £23,084, and assets which have realized £6,718. Mr. P. C. Willis appeared on behalf of a relative, and charged the bankrupt with fraud in connection with certain bill transactions. Mr. Registrar Linklater held that fraud was proved, and refused the discharge.

On Tuesday the first meeting of creditors was held under the failure of John Locke, cloth and wool-merchant, 15, Heddon-street, Regent-street. The receiving order was made upon the petition of Messrs. J. and R. Archibald, tweed manufacturers, Devonvale, Tillicoultry, N.B. The accounts filed showed gross liabilities £25,575, of which £19,058 is unsecured, and assets £5,322 18s. 8d. The Chairman stated that the bankrupt had succeeded to his father's business, which had been established 50 or 60 years ago, in 1867, when his father died, and that in 1869 the debtor's share of the capital was from £12,000 to £13,000. Up to 1886 the trading was successful, but in that year he was compelled to call his creditors together, when a composition of 13s. 4d. in the pound was accepted. He now attributed his failure to continuous falling-off of the capital and loss of trading since 1886. There was no offer, and it was resolved to wind up in bankruptcy.

At the Bankruptcy Court on Wednesday, the first meeting of the creditors under the failure of Petrus Mondor, silk importer, of Falcon-square, London, and of Lyons, was held before Mr. Leadham Hough, official receiver. The debtor petitioned the court in November, returning his gross liabilities at £104,471 16s. 7d., of which £66,329 17s. is unsecured, and assets £28,942 13s. 1d. He attributed his failure to loss through defalcations by his cashier, to bad trade, bad debts, and to depreciation in the value of freehold and leasehold properties. The defalcations of his cashier, who absconded, have been ascertained at present to be £4,471. The net loss on the trading since 1887 upon gross sales amounting to £692,608 is returned at £7,518. Only in one year, 1888, was a profit made, and that amounted to £988, upon gross sales amounting to £166,329. The debtor proposed a composition of 8s. 2d. in the pound, with Mr. Percy Mason, accountant, as trustee. The proposal was agreed to, the chairman stating, in reply to Mr. R. Raphael, on behalf of the creditors, that as to the commercial morality aspect of the case he should have to report upon that hereafter.

## Manchester.

It is expected that business on our Exchange will be suspended on Wednesday evening, the 24th inst., till the following Monday morning. The Liverpool cotton market will be closed from 4 p.m. on Wednesday, 24th, until Monday, 29th, and from 4 p.m. on Wednesday, 31st December, until Monday, 5th January, 1891.

We deeply regret to announce the death of Mr. Charles Rolfs, machinery merchant, of this city. Mr. Rolfs came over from Germany when a young man, and has been resident here ever since. For many years he held a responsible position in the late firm of Aders, Proyer, and Co., since the dissolution of which he has carried on a machinery business on his own account. He died on Wednesday, aged 64 years.

At the City Police-court, on Wednesday, the following persons and firms were summoned and fined for permitting the emission of black smoke from the chimneys of their respective works:—Messrs. George Norris, Midwood, and Co., New Wakefield-street (fourth offence), £5 and costs; Mr. Seth Joy, wool and flock manufacturer, Greaves-street, Knott Mill (first offence), 21s. and costs; Messrs. Adam and George Murray and Co., Limited, cotton spinners, Union-street, Ancoats (first offence), 21s. and costs; and the Jackson-street Spinning Co., Limited, London-road (fifth offence), £10 and costs.

## Middleton.

Mr. Henry Kay, silk manufacturer, of the firm of Kay and Co., Middleton, died on Tuesday. He was a Liberal in politics, taking a prominent part in local and imperial affairs. He had been for two years a member of the Town Council, and was chairman of the Watch Committee. Mr. Kay was

a member of the Reform Club Committee. He was connected with the Primitive Methodists of the town, and a supporter of many religious works.

## Oldham.

The building contract for the Ellen-road Mill Company has been let to Messrs. E. Taylor and Co., of Littleborough.

Mr. Joseph Whitehead, carder at the Ash Mill Company, has been appointed manager for Mr. William Taylor, Vale Mills, Chadderton.

The directors of the Royal Mills Company have placed an order in connection with the new mill with Messrs. Ashworth Bros., of Manchester, for carding engines and card clothing.

Messrs. Asa Lees and Company have obtained an order to renew some of the mules for Messrs. Lord, Hampson, and Lord, fine spinners, Bolton.

The order for a pair of steam engines for the Pearl Mill has been given to Messrs. Buckley and Taylor, Castle Ironworks, Oldham.

Mr. George Gee, of the Milton Spinning Co., Heywood, has been appointed carder at the Broadway Spinning Company.

Reports are current of the formation of spinning companies (one each) at Ashton, Failsworth, and Middleton Junction. It is thought that mills built now will cost considerably over 22s. per spindle. The Ashton company is to be known as the Minerva, and the mill is to hold about 80,000 spindles.

Mr. Hilton Greaves (of the firm of Messrs. Greaves and Co., cotton spinners and manufacturers, Oldham) performed the ceremony of christening one of the steam engines of the Moss Spinning Co., Rochdale, on Saturday afternoon. He named the engine "Rochdale," and stated that No. 2 engine was to be christened "Oldham" by a Rochdale gentleman. He remarked that might be taken as a sign of the kindly feeling which should exist amongst them, and a return compliment to Oldham.

Mr. S. Buckley, J.P., the Mayor of Oldham, and head of the firm of Messrs. Buckley and Taylor, engineers, attended Divine service on Sunday morning, at the Springhead Congregational Chapel, with which he was connected in early life. At the conclusion of the service the congregation assembled in the School, where he was presented with an address as a mark of the appreciation with which his high attainments in commercial life and his long and valuable public services in Oldham were recognised.

The question of providing a technical school for Oldham is not to be allowed to lie dormant, and at the meeting of the Chamber of Commerce on Monday Mr. S. K. Platt (who presided) made the following important statement respecting it:—"The Corporation have decided that they will take the matter of technical education in hand under the Act passed last year. They have approached the School Board to ask if they would find the machinery for carrying out the project. The School Board are willing to undertake it, and the question now is which are the most suitable premises to secure for the purpose. Overtures have been made to the trustees of the Science and Art School as to the terms on which those premises can be acquired. The trustees have not met yet, but after they have done so and come to a conclusion, whatever it is, the Corporation will be informed, and will take further steps. It is now in such train that the scheme will be carried out, and I don't think it is necessary for the Chamber to take any further action affecting the question."

## Preston.

It is very remarkable that Preston, eminent as it is always admitted to be as a cotton spinning and manufacturing centre, should have done so little towards the development of its leading industries on the joint stock principle so popular in South Lancashire. We believe there is only one firm of any note in the town organised on this plan, namely, the Preston Spinning and Manufacturing Company, Wellfield-road. This has not hitherto been a very brilliant success, and perhaps that fact may have had something to do with the backwardness of Preston in this movement. Its prospects, however, are, we believe, decidedly brightening under the more enlightened policy its directors have pursued during the past year or two. Some twelve or eighteen months ago they refurbished their card-room department, introducing 60 Patent Revolving Flat Cards, made by Messrs. Howard and Bullough, of Accrington, which have done something very considerable in the way of improving the prospects of the concern. Encouraged by this result the directors, after a severe competition extending over a period of twelve months between ring frames of various makes placed in their mill, have given an order for 60 new frames to Messrs. Howard and Bullough. These are to be supplied with the makers' patent



spring spindles, which in the trial frame have done very good service. It is confidently anticipated that if the Wellfield Mill should realise the expectations of its future that have recently grown up, it will lead to the formation of other companies in Preston.

#### Ramsbottom.

The death is announced at Butt Hill, Prestwich, of Mrs. Grant, widow of Mr. William Grant, of Nuttall Hall, Ramsbottom, a member of the family of Daniel and William Grant, the famous "Cheerybie Brothers." Mrs. Grant was well known in Prestwich and Ramsbottom as a liberal giver to various charitable institutions, and had been a handsome donor to the restoration of Prestwich parish church.

#### Stalybridge.

On Monday morning, at Harrison's cotton mill soon after the machinery had been started, several of the weavers were seen to stagger at their work in the alleys and finally to drop to the ground. They were removed into the open air, and the majority of them quickly recovered; but some of them had to be sent home. The explanation assigned is that there had been a serious escape of gas. The weaving shed in which the unusual occurrence took place was closed until noon, and work was then resumed.

#### Tyldesley.

The new system of payment by indicator which was commenced last week at Messrs. J. Burton and Sons' cotton mill has so far proved very satisfactory.

#### SCOTLAND.

#### Dunfermline.

The death was announced on Monday of Mr. James Alexander, of Balmule, senior partner of the firm of Messrs. James and Thomas Alexander, linen manufacturers, Canmore Works. Mr. Alexander was a native of Dunfermline, and has been associated with the staple industry of the city from early boyhood. He was a J.P. for Fifeshire. Deceased was upwards of 50 years of age, and was unmarried.

#### Glasgow.

Mr. Robert Steel Lang, sole partner of the firm of R. S. Lang and Co., manufacturers, 70, Union-street, appeared for examination in bankruptcy on Monday before Sheriff Lees. On the application of the trustee the examination was conducted in private.

The following table gives the value and destination of the exports of cotton and linen goods from the Clyde for last week, and also the totals of the previous week. The first line refers to cotton goods and the second to linen:—

India, China, Canada.	W. Indies & South America.		Continent.		Totals previous week.
	£	£	£	£	
94,245	5,972	7,194	735	538	105,084
551	12,759	205	297	—	13,752
					118,836

#### IRELAND.

#### Belfast.

The subject of technical education was ably dealt with on Monday evening by the Mayor (Mr. C. C. Connor) and Mr. James Musgrave, chairman of the Harbour Commissioners, at the annual meeting of the Belfast Technical School. The school, although performing an excellent work, is quite insufficient to meet the demands made upon it. The movement in aid of this class of education, however, is growing all over the kingdom, and the Mayor was justified in expressing the willingness of the Corporation to impose a rate on the city for that purpose. We trust that we shall soon see, by whatever means it can be accomplished, a technical school conducted on a scale somewhat in keeping with the progress of the city.

#### Limerick.

The death is announced at Batoum of Sir Peter Tait, late proprietor of the Limerick Army Clothing Factory and other large concerns. The deceased was three times Mayor of Limerick, and was knighted by the Lord Lieutenant of Ireland. He unsuccessfully contested the representation of the Shetland and Orkney Islands about 12 years ago. He was one of the principal south of Ireland merchants, and the largest contractor in the kingdom for the supply of clothing for the British troops as well as for several Continental armies. The deceased, who was in his 62nd year, had lately resided abroad.

The Augsburg Coloured Goods Weaving Company, formerly L. A. Riedinger, has declared a dividend of 6 per cent. for the financial year 1889-90, against 7 per cent. for 1888-9. The diminished prosperity of the company is attributed to the outbreak of influenza, a shortening of the hours of labour, and advanced coal prices.

## Miscellaneous.

### MESSRS. DOBSON AND BARLOW'S FOREMEN AND CLERKS' ANNUAL DINNER.

About 70 of the foremen, under foremen, and heads of the office departments at Messrs. Dobson and Barlow's machine works, assembled on Saturday evening, at the Swan Hotel, on the occasion of the annual dinner. Among the company were Mr. T. H. Rushton, J.P., and Ald. B. A. Dobson, J.P., principals of the firm, and during the after proceedings they supported the chairman (Mr. H. S. Forrest), Mr. W. Higginson occupying the vice-chair. Letters of apology for non-attendance were read from Mr. Sam Mason, junr. (English representative of the firm), and Mr. E. Gillow.—The Chairman then offered a few remarks, concluding by submitting the toast of "The Queen and the Royal Family," a verse of the National Anthem following.

Mr. R. C. Tonge, in proposing the principal toast of the evening, "Success to the firm of Dobson and Barlow," said it was one in which not only they who were present were interested, but their families and the town at large also. (Hear, hear.) All the foremen were particularly interested, and very much depended upon their efforts whether the firm succeeded and continued to do so as in former years. Of course, much depended upon the principals, Mr. Rushton and Mr. Dobson; they were fully equal to the occasion. In fact, ever since they mounted the box of the coach it had gone on with greater success than was ever known before. (Hear, hear.) Mr. Rushton and Mr. Dobson had the privilege, too, of being not only simply abreast of their competitors upon the road, but of being fully a neck ahead. (Cheers.) One great cause of success since Mr. Rushton and Mr. Dobson took the reins of office was that they were practical men. They had "served their time," had worked as workmen; they had gone through all the various branches of the business in connection with the establishment in Kay-street. Having done so, they were in thorough sympathy with all around them; they understood what was wanted. In all their dealings, again, they were exceptionally honourable; they had a reputation for being straightforward. The speaker went on to refer to the very excellent character of all the machinery made by the firm, and urged all to greater efforts in the works.—The toast having been drunk with enthusiasm.

Mr. Rushton rose to reply, and was received with loud cheers. He thanked those before him, in the first place, for the invitation to be present that night. He quite endorsed all that Mr. Tonge had said with reference to the machinery made and that they were constantly securing a better footing in all parts of the world. It was gratifying to know they had had a year of peace and happiness. (Hear, hear.) More machines had been turned out also than in the previous year, and a considerably larger amount had been paid in wages than in any previous twelve months. (Applause.) This must be pleasing to those employed as well as to the firm. Nor did the matter end there—it must be of great benefit to all Bolton. (Hear, hear.) He could only hope that this increased success would continue. He thought the hope would be realised, because they had a certain amount of work with which to begin the New Year, and he thought the prospects were such as to warrant him in saying that when they met at their next annual dinner they would be able to lock back and say the twelve months had been as prosperous as was the year 1890. (Applause.)

Mr. Dobson responded also, and was very heartily greeted. Having confirmed what had already been said as to the high excellence of the machinery made, Mr. Dobson adverted in special terms to the newly improved Comber, and to the very favourable reception with which it was being met, and continuing, remarked that business in the present day was a very rough road indeed. Ordinary competition was a sufficient difficulty without anything else, and it ought to be the object of everyone at Kay-street Works, principals and employes—and he hoped it would be—to smooth down the rough edges, that everything might go on as well as was possible. (Hear, hear.) Friction inside should be avoided, attention should be paid to details, there should be oiling at the right time, and the outside difficulties would be met all the more readily. He was pleased to state, however, that only within the last few days, when he was abroad, a cotton spinner of very great experience, one who had tried the machinery of other firms, had told him that Messrs. Dobson and Barlow had made more progress towards perfection in machinery during the last

ten years than had any other firm. (Loud applause.) And to show he meant what he said, this gentleman gave him (Mr. Dobson) an order for a further supply on the spot. He could say this, that he never had a pleasanter tour on the Continent than that just completed, that was from a technical point of view, because he had not heard a single complaint as to Messrs. Dobson and Barlow's machinery in all the mills he had visited. (Cheers.) With Mr. Rushton, he hoped to say a year hence that peace and prosperity had continued, that they had gone on improving until it was universally admitted they were making the best machinery in the world. (Hear, hear.) He did not see why they should not do this. There was no higher intelligence in any works than was found at Kay-street, Bolton. Mr. Rushton would spare no pains, and for his (Mr. Dobson's) part he was willing to go the longest journey that he might secure orders for the united benefit of all engaged. That they were doing something for the town was shown by the fact that not less than 15,000 persons were directly interested in the success of the firm of Dobson and Barlow. He did not wish to speak egotistically, but as the matter had been mentioned, he might say there was no firm that stood higher in honourable dealing than that of Dobson and Barlow. (Cheers.) Mr. Rushton and he (Mr. Dobson) wished to deal honourably and frankly with their employes and with all men, and they hoped the employes would never hesitate to trust them, and they should be met in all things that were reasonable and good, whatever the cost and trouble. (Hear, hear.) This mutual spirit was one that must bring its own reward, and might it long continue among them. (Loud applause.)

The remaining toasts were "The foremen," proposed by Mr. THURGOOD, and responded to at some length by Mr. J. OS. CLARSON; and "Our clerks," submitted by Mr. W. I. BROMLEY and acknowledged by the VICE-CHAIRMAN. An excellent programme of vocal and instrumental music and recitations was gone through.

THE Shanghai correspondent of the *London and China Telegraph* writes as follows to that journal:—"I have just received a trade circular from a firm in Manchester. It weighs, with its post-office half-penny wrapper, just about one-third of an ounce, and could not have weighed more than half an ounce when posted fresh from the press. Now, I am charged four cents for that same circular. I should like to know who is responsible for this state of things. I can send from Shanghai to any country in the Postal Union any newspaper, circular, or other printed matter weighing when posted one ounce and three-quarters for the small charge of one cent, through the American, French, and German consular post-offices at this port, and I fail to see why it is not possible to do so through a British post-office."

THE WHALEY BRIDGE PRINTING COMPANY, LIMITED.—In the Chancery Division of the High Court, on Wednesday, before Mr. Justice Chitty, a petition for the winding up of this company was heard. The company was incorporated in 1876, and one of its objects was "to sell, demise, let, or otherwise dispose of the property of the company or any part or parts thereof." The nominal capital consisted of £50,000—5,000 shares of £10 each. Of these about 2,650 had been allotted and fully paid up. On the 25th of November, 1890, a resolution was unanimously passed at an extraordinary general meeting of the company, authorising the directors to sell the property of the company by private contract in one or more parcels or parcels, and for such price or prices as they might think it advisable to take. The following day three shareholders, holding altogether 130 shares, put the present petition on the file, alleging *inter alia*, that many of the shareholders objected to the property being sold in the way proposed, and stating their belief that a larger price would be procured if there was a sale in the open market. The petitioners submitted that it was "just and equitable" under section 79 of the Companies Act, 1862, to wind up the company compulsorily. They were supported by other shareholders holding 355 shares. Mr. Byrne, Q.C., and Mr. Emden, for the petitioners, contended that a proposed sale by private contract by the directors was *ultra vires*, and that that circumstance and the other circumstances alleged would, if proved, entitle the petitioners to an order. Mr. Maclean, Q.C., and Mr. L. Ryland, on behalf of the company; and Mr. Frank Evans, on behalf of shareholders holding 1,700 shares, and creditors whose debts amounted to over £21,000, opposed the petition.—Mr. Justice Chitty said that, even if the proposed sale by the directors was *ultra vires*, that was not a ground for winding up the company. Nor was any ground for winding up even alleged in the petition. The petition was therefore dismissed with costs.



The Vienna correspondent of the *Daily News* telegraphs:—A wealthy widow, Frau Kathi Hoffmann, has left her fortune to the weavers of Vienna. Masters and men are to have equal right to the interest of the money if they can show that they are in urgent need. The charitable lady's husband earned his fortune with the loom.

**NEW MILLS IN BRAZIL.**—The British consul at Bahia writes:—Among the recent industrial improvements in Bahia the following are worthy of notice:—First, the mill at Plataforma of the Comendador Brandão, erected under the supervision from first to last of Mr. J. S. Stewart, C.E., and completed in 1885. It works up some 250 tons of cotton annually, imported from the neighbouring provinces of Alagoas and Parahiba, at an average cost of £25 per ton. The mill comprises 7,000 spindles, and turns out excellent work in coarse and fine cotton cloths and calicoes, striped, checks, and blue drills and dungarees, damask napkins, counterpanes, towels, stockings, and socking, all of which find an immediate sale in the province, the factory being unable to keep pace with orders. Some Englishmen, besides the resident engineer, Mr. Stewart, are employed and live in and about the mill, the cost of living being from 1s. to 2s. 3d. per diem. The hours of labour are ten per diem. The fuel used is coal from England, costing from £2 5s. to £2 12s. per ton.—*British Consul at Bahia, August 28th, 1890.*

**WOOLLEN IMPORTS INTO TURKEY.**—A considerable change appears to be going on in the qualities of woollen goods imported into Turkey. The finer qualities are being discarded, and the consumption of coarse and cheap descriptions is rapidly increasing. Two reasons for this alteration are given by the Vienna correspondent of the *Economist*. In the first place, the higher classes in the Ottoman Empire are discarding the national costume and are adopting European dress, for which commoner qualities of cloth can be used than those required for the former. Secondly, the growing poverty of the Turkish population compels them to spend less upon their clothing, and one form which the enforced economy assumes is that of using lower-priced materials. So marked has been the effect upon the woollen industry of Austria that the manufacturers of fine cloths at Brünn and Reichenburg whose goods have hitherto been extensively exported to Turkey are compelled to reduce production, whilst the makers of cheap woollens at Biala in Austrian Silesia are doing a rapidly augmenting trade with Turkey. But another cause of the diminished demand for the higher kinds of Austrian cloths is stated to be the competition of English manufactures. Of all kinds of woollen and worsted manufactures exported from the United Kingdom to Turkey the value amounts to about £500,000 per annum, or about 2½ per cent. of the whole value of our exports of these goods.

DRAPERS have something to be proud of in the fact that the first petition presented to Parliament in the English tongue came from "the Folk of the Mercery of London" in 1387. Previous to that time the French of the conquering Normans had been invariably used, and, as most people know, is still retained in the form of Royal assent to Bills which have safely run the gauntlet of both Houses. Another curious fact, in which we can find direct interest, is that many of the words we use in trade are included in the remnant of the Celtic—or Keltic—language of our earliest forefathers which remains to the mixed speech in which we express or conceal our thoughts. When we talk of ribbons or buttons we use words which were current before the Saxons came to stay in this country, or the Romans invaded it. Clout, welt, darn, gusset, gown, rug, mop, tenter, mesh, bag, pillow, and cradle are to be found in this fair inheritance, with other terms relating to household work and cookery. This is explained by the Rev. T. U. Cross to be due to the defeat and dispersion of the Celtic tribes by the Saxons, who then took to wife the deserted women, by whom these words were taught to their children and preserved for us. In the same way not a single word relating to agriculture is of French origin, and there is only one—prow—relating to seamanship which is not English also.—*Warehouseman and Draper.*

## Textile Markets.

### COTTON.

MANCHESTER, FRIDAY.

As we anticipated last week, the difficulties blocking the way of a settlement of the wages question have been removed by the concession in full by the employers of the demands made upon them. It is very satisfactory that the period of

prosperity in which the trade finds itself has not to be interrupted by a conflict between the parties most interested in its continuance. The position of the employers, though undoubtedly good, looks considerably better on paper than it is in fact. The difference, however, is not so great as to have precluded the concessions demanded from being made. Seeing the readiness and the goodwill manifested in giving the advances when circumstances really warrant them, it may be hoped that the kindly feelings thus shown will be reciprocated at some future time when a period of depression comes round and the operatives are called upon for a corresponding sacrifice. At present the prospects of the trade are on the whole satisfactory, the worst portion being the manufacturing branch, which has not yet succeeded in securing its share of the recent decline of the raw material. The shadow of the coming holiday season is beginning to be visible in several departments of the market. The home trade houses are holding aloof, and so are manufacturers in their purchases of yarns. A dull trade so far as buying and selling are concerned will rule for the next fortnight.

**COTTON.**—The week under review opened with a continuance of the full demand at which our report left it last week. Prices exhibited a tendency to advance, and Egyptians secured an improvement of ½d. The tone, however, speedily fell off, and the second half of the week saw the demand decline to comparatively small dimensions. Egyptian varieties became heavy, and were freely offered, buyers being enabled to purchase at ½d. to ¾d. below official rates. On Wednesday Americans became the turn worse, and one or two varieties declined ½d. The rates, however, show no change from those of last week, except in Middling fair, which is ½d. dearer. Brazilian has been in good request at full rates. Peruvian has met with moderate enquiry at previous rates. In East Indian a fair business has been transacted on the basis of former prices, except in Tinnivelly, which is advanced ½d. Futures have oscillated almost daily during the week, but the range of movement has not exceeded 3 points. The result of the week's work in them is that they are 2 points lower for December and December-January, 1 for January-February, unchanged for February-March and March-April, but ½ a point higher for April-May, 1 for May-June to August, 1½ for August-September, and 2½ for September-October.

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

	Import.	Forwarded.	Sales.	Stock.	Actual Export
American	117,063	74,093	37,460	557,690	6,736
Brazilian	14,543	4,493	2,890	33,110	—
Egyptian	14,596	6,411	2,630	69,810	50
W. Indian	225	892	1,400	15,890	755
E. Indian	34	2,799	7,070	169,640	1,391

Total. 146,451 88,687 51,450 846,140 8,942

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

	G.O.	L.M.	Mid.	G.M.	M.F.
American	43½	5	5½	5½	5½
					M.F. Fair. G.F.
Pernam	5½	6½	6½	6½	6½
Ceara	5½	6½	6½	6½	6½
Paraiba	5½	6½	6½	6½	6½
Maranhão	5½	6½	6½	6½	6½
					Fair. G.F. F.G.F. Gd.
Egyptian	5½	6½	6½	6½	6½
Ditto, white	6	6½	6½	6½	6½
					Fr. F.F. G.F. F.G.F. Gd. F.G. Fine
M.G. Broach	4½	4½	4½	4½	4½
Dhollerah	3½	3½	3½	3½	3½
Oomra	3½	3½	3½	3½	3½
Bengal	3½	3½	3½	3½	3½
Tinnivelly	4½	4½	4½	4½	4½

\*Nominal.

**YARNS.**—For yarns there has been a slight increase of enquiry for descriptions made from American cotton. The business put through has been at steady prices, or at the best with not more than a slight inclination in favour of buyers. Though more enquiry has been met with, hardly an average business has been transacted. In export bundles the demand continues slow, and not much business has been put through. In Bolton counts only a slow demand has been experienced, rates however being steady. The remarks are intended to apply more particularly to the ordinary business usually passing on 'Change. In the newer phase of buying forward for delivery several weeks or months hence, more has been transacted, as several lines of fair weight have been put through, mostly at slight concessions from current rates. On the whole, however, business cannot be considered as active.

**CLOTH.**—In the various sections of the cloth market little change has taken place. A trifle more enquiry has been met with for shirtings, Mulls, and jaconets continue in the same condition, and the same may be said of the various classes of bordered goods. South Lancashire printing goods are unchanged and meet with little demand. Barnley goods are very heavy, and are not being sold equal to production. The heavier classes of cloths for shipping continue without alteration, both in demand and prices. Domestic and home trade goods are in little request, and are not likely to be much enquired for until the stock-taking has been concluded. Taken all through the market is very steady, and buyers will not be justified in looking for lower prices unless some important change takes place in circumstances.

## WOOLLENS AND WORSTEDS.

### BRADFORD.

The wool market is very quiet, transactions being of the most limited description. At this period business is, of course, usually slack, but this year there is a greater feeling of depression than usual, owing to various causes of a quite exceptional character.\* Spinners buy wool with extreme caution. English lustras and demi-lustras are very quiet, and present prices are regarded as remunerative. Mohairs and alpacas are without appreciable change, and for Botany wools and tops there is scarcely any enquiry. Spinners find it impossible to keep machinery fully employed, and they are willing to-day to accept prices which a few weeks ago they would have absolutely declined. Mohair and Botany yarns are in slow demand. The piece trade is slack, and as far as local productions are concerned the home markets have not been so satisfactory to manufacturers this year, many of the Bradford merchants having been large buyers of Scotch goods, which are enjoying a spell of prosperity just now. Many looms are idle.

\* These are dealt with at some length in "Current Topics,"—*Ed. T.M.*

### Huddersfield.

Business has not been brisk this week, the attendance of buyers being limited. Merchants do not seem to care about placing any repeats for spring, while winter goods are scarcely looked at. There is not much doing in any class of goods with the exception of fancy worsteds and serges, which are going well in the United States, notwithstanding the heavy duties. This fact is looked upon as an encouraging symptom, showing as it does that so long as we can offer high-class fabrics the Americans will buy them. Huddersfield should, therefore, be able to keep up a respectable Transatlantic trade. The Canadians are not operating to any extent, and for the Continent there is not much doing. The cold weather has enabled distributors to clear off more overcoatings and cloths for winter suitings, and this, it is hoped, will influence favourably the orders for 1891 winter goods. Machinery in the town is not yet fully employed, and many of the operatives are only working short time.

### LONDON.

Messrs. H. Schwartz and Co., in their report dated 13th December, say:—

The fifth series of London sales of Colonial wool, which commenced on the 25th ult., closed to-day, the catalogues having comprised:—

	Fifth Series.	Fifth Series.	Total catalogued.
	1890.	1889.	1890.
Sydney	46,741	43,883	308,128
Queensland	19,419	34,733	117,766
Port Phillip	33,799	36,834	352,588
Adelaide	7,747	18,497	74,649
Tasmania	708	563	25,023
Swan River	1,856	691	26,376
New Zealand	18,028	12,951	279,450
			365,822
Australasian	127,670	146,792	1,082,584
Cape	21,174	14,039	189,005
Total catalogued	148,844	161,401	1,272,159
			1,283,820
Actually sold of	134,000	149,000	1,171,000
First hand Wool			1,236,000

The fresh arrivals amounted to 123,500 bales (93,000 Australian and 29,700 bales Cape) of which 11,500 bales were forwarded direct. The total of first-hand wool actually available, including old stocks, was 146,000 bales, of which 134,000 bales have been sold (54,000 bales for home consumption and 80,000 bales, including 1,000 to 2,000 bales for America, for export) leaving 12,000 bales to be carried forward to next year.

The chief feature of the market was the new season's wool, of which about 60,000 bales have appeared in the catalogues (against 106,000 bales in the fifth series last year). Speaking generally, the clip is uneven and disappointing. The Victorian wools, of which but few were offered, seem good,



and so do the Adelaides. But the bulk of the Riverina stocks are, with few exceptions, thin in growth and unusually burry. The Queensland wools, too, of which a fair quantity had appeared in October, have belied expectation; their character turning out harsh and unsatisfactory in the working.

The sales opened with a general decline of about 10 per cent. on all merino wools. Australian grease receded a full 1d. per lb., and on this basis the bulk of the supplies has been sold. During the later part of the series a distinctly better tone set in, and 1d. per lb. was recovered.

Scoured wools have ruled on the average about 1d. to 1½d. lower than in October. They have fluctuated but little, and have no share in the improvement of grease wools at the close.

The moderate supply of crossbred sold at about 5 per cent. reduction; the fall in the case of slipes being rather larger.

Cape wools ruled for grease ½d. to 1d. for Western fleece, and for snow whites 1½d. below October closing rates.

Animated and general competition marked the last week, and the sales close firmly, leaving the market well cleared of old stock.

The following shows the supplies and deliveries of Colonial wool during the year as compared with last:-

	1890.	1889.
<b>LONDON MARKET.—</b>	Bales.	Bales.
Held over from December	5,000	5,000
Net imports for the five series	1,178,000	1,238,000
	1,183,000	1,241,000
<b>Home consumption</b>	522,000	552,000
<b>Export</b>	649,000	687,000
—Total sold	1,171,000	1,239,000
—Held over	12,000	5,000
<b>DIRECT PURCHASES.—</b>		
Home consumption forwarded direct	148,000	132,000
Foreign " forwarded via England	125,000	168,000
" " direct imports	250,000	129,000
	523,000	429,000
<b>TOTAL CONSUMPTION.—</b>		
Home consumption	655,000	701,000
Continental "	373,000	427,000
American "	48,000	67,000
Total deliveries	1,076,000	1,195,000

The quantity sold in London is smaller by 65,000 bales than in 1889, but as the direct purchases show an increase of 62,000 bales, the total deliveries to the trade are practically the same. The shares of the home, the Continental, and the American consumption are 39, 58, and 3 per cent., against 41, 54, and 4 per cent. in 1889.

Messrs. Schwartz and Co. give additional details of the total imports from the Colonies and the River Plate States, showing an aggregate supply of wool of 2,016,000 bales, against 2,116,000 bales in 1889, or a decrease of 100,000, composed entirely of River Plate wool. The Colonial supplies remain unaltered; there was indeed an increase of about 75,000 bales in the old Australian Clip, but about 60,000 bales of the New Clip being delayed in shipment, have failed to reach these sales in time, and the remaining 25,000 bales are neutralised by an equivalent decrease in the Cape production.

The commencement of the first and second series of next year has been fixed for Tuesday, the 27th January, and Thursday, the 2nd April.

In the case of the first series there is no restriction of quantity; and for the second the arrivals are limited to 400,000 bales.—Bank rate 5 per cent.

GLASGOW.

Messrs. Ramsey and Co., in their report dated December 16th, say:-

**WOOL.**—The wool market is without animation this week. Any business doing is only of a retail character. The near approach of the Christmas holidays is having an effect on the market, and buyers are unwilling to increase their purchases of raw material in face of stock-taking. This continued quietness has a weakening influence on values, but holders are firm, and are more inclined to wait the turn of the year than to accept any reduction at present.

**SKINNERS.**—The supply keeps full for the season, and a large proportion is of very prime quality. Values are firmly upheld at even fully late rates.

FLAX AND JUTE.

DUNDEE TRADE REPORT.

WEDNESDAY, 17th Dec., 1890.

The quiet tone of the market continues, and in no department is there any marked change on the week. A fair business is passing in jute at about the rates current a week ago.

Flax is rather easier to buy, and spinners having fair stocks are still shy. Riga K is offering at 118 10s. to 119.

Jute yarns are unchanged. Some large export orders are placed this week, and makes of the best warps are very firm. Common wefts are easy to buy at 1s. 2d. for 8lb., but good yarn is rather dearer than cheaper, and delivery is difficult to be had.

Flax yarns are in fair demand, especially good warps. Tows are very dull, and the heavy sizes as well as common light wefts are the turn cheaper.

Jute cloth is affected by the proposal to run full time in India.

America is especially quiet, and except for special goods of standard qualities the prices tend against makers. Heavy goods are also affected, and are decidedly weaker.

Lincus are quiet. The English houses are preparing for stock-taking, and in consequence there is not much doing in the home trade. The Dundee fancy jute trade is brisk, and buyers are pressing for delivery. This applies to the best make of carpets and rugs, which are now made in beautiful designs and in colours that do not readily fade.

Makers of twines, cords, and ropes are very busy with orders on their books well into next spring.

DRY GOODS.

MANCHESTER.

There is a brisker trade passing than is usual at this time of the year, and merchants have been able to recover a portion of the ground lost during the disappointing weather that checked business earlier in the season. It is probable that the turnover this year has been equal to that of last. In some important individual instances a larger trade has been transacted during the preceding twelve months than in 1889, but with others there is not such a cheerful report. Patterns of the new spring dress goods are now in the hands of distributors. There is no marked change in the designs, which are similar to or modifications of those that were sold during the present year. With reference to French goods, about which readers of *The Textile Mercury* will naturally prefer to hear, it may be stated that with the exception of self-coloured plain makes their prospects in this market are not very bright just now. We believe that many looms on cash-meres and merinos in France are idle, owing to the slowness of the demand, and the unremunerative character of the trade on the basis of the prices at present offered by buyers. *Foutés* have been for some time taking the place of cashmeres. Scotch goods are now enjoying more than the usual amount of popularity, and they have injured the sale of Bradford and Continental makes in the home trade. Carpets are quiet, and in linoleums there is, practically speaking, nothing doing. Travellers have now returned from the road, and are at headquarters arranging details of the business programme for 1891. In linens there is nothing doing, and jute goods are also quiet. Prices of yarns, however, keep firm, and even tows are stronger. Under these circumstances the position of manufacturers, if their statements to the trade here are to be credited, will become still more unsatisfactory unless they can obtain an advance from buyers to compensate them, at least in part, for the increased cost of production.

HOSIERY AND LACE.

NOTTINGHAM.

There is no change to report in the condition of trade here, which will not display any additional features of interest this side of Christmas. Neither for home nor foreign account is there much doing. Curtain machinery is not fully employed, although the curtain branch is still the least depressed section of the trade. Many curtains, however, are sent to Nottingham to be finished which are made in Scotland and other districts, and there is much competition to secure orders. Prices generally are low, and very often long credit has to be given. The rivalry amongst manufacturers of fancy millinery laces is likewise very keen, the supply of the goods being in excess of the requirements of purchasers. The Valenciennes style continues to be one of the most popular. In the common classes of millinery goods only a moderate business is being done, and there is no improvement in the sale of embroideries and crochet trimmings. Many Lavers frames are standing idle. The demand for most varieties of silk goods is quiet, but more is expected to be done in the new year. Plain net makers are indifferently employed, and the prices realised do not leave much

margin for profit. There is no quotable change in the value of silk or cotton yarns, and the local demand is dull. The hosiery trade remains in about the same condition as of late, and business is not satisfactory. The hope is still expressed by manufacturers that we shall see a revival in the demand for lace after the new year in fashionable circles. The material will, it is prophesied, be used more extensively for trimming and millinery purposes.

LEICESTER.

It is considered that the outlook has now become more promising, although the turnover is still limited. Buyers however pay the prices asked more freely, and the enquiries made are more numerous. The most prevalent feeling appears to be that the prices have reached as low a level as can be expected. The business done is very healthy and regular in character, while the supplies in spinners' hands are so very small that any improvement would be felt almost immediately. Deep-stapled fleeces made 23s. to 24s. per tod for half-hog and awe wool of good quality; superior descriptions, 25s. to 26s. per tod; choice lots, including a large proportion of Shropshire fleeces, 26s. to 27s. per tod; and inferior 21s. to 22s. per tod. Colonial wools sell steadily, and prices are better maintained. The yarn market is slightly brisker, but the orders are small and for immediate delivery. The hosiery trade is fairly active, stocks have been greatly reduced, and the prospects are much brighter. A good business is doing in elastic web fabrics, cords, braids, and dress banding for home and Continental markets.

THE KIDDERMINSTER CARPET TRADE.

With Christmas and the end of the year so close, it is scarcely necessary to say that during the past week orders which have come in are neither numerous nor weighty. No movement of importance can or is expected to take place now this year, and all the firms' travellers have practically ceased plying the market, and are turning their steps homewards for the brief period of rest. As is generally the case just on the eve of a spell of holiday, there is no backwardness in the number of orders marked urgent; coupled with this is the fact, and this is a very pleasurable feature in the trade, that several manufacturers, who have for the last two or three months been running their machines short time almost purely out of sympathy for their workpeople to help them over the festive season, have commenced working full time, and this is giving something like a busy air to things. The hopes of manufacturers are now centred on the new year. Whether the expectations with which it is looked forward to will be realised no man can foretell, but the outlook is considered most favourable.

Joint Stock and Financial News.

COTTON COMPANY'S REPORT.

BRUNSWICK SPINNING COMPANY, Mossley:—Profit six months, £1,210. Dividend, 10 per cent per annum.

NEW COMPANIES.

CUMBERLAND HOSIERY COMPANY, LIMITED.

Registered by R. Jordan, 120, Chancery-lane, with a capital of £2,000 in £10 shares. Object, to acquire the business of a hosiery manufacturer, carried on by F. R. McConnel, at Denton Hill, Carlisle.

JOHN HAWKINS AND CO., LIMITED.

Registered by Phelps, Sidgwick and Bible, 18, Gresham-street, E.C., with a capital of £10,000 in £10 shares. Object, to carry on business as cotton spinners, manufacturers, etc. John Hawkins is appointed managing director, with a remuneration of £250 per annum.

CHARLES KERSHAW AND SONS, LIMITED.

Registered by C. Double, 14, Serjeants'-inn, Temple, with a capital of £15,000 in 25 shares. Object, to acquire the land and cotton mills at Mossley, Yorkshire, known as Valley Mills; to carry on business as spinners, doublers and manufacturers. There shall not be less than three nor more than seven directors. The first are R. S. Buckley, J. Mayall, and J. Burgess. Qualification, 10 shares. Remuneration to be determined in general meeting.



**GREAT HARWOOD UNION MILL BUILDING COMPANY, LIMITED.**

Registered by R. Jordan, 120, Chancery-lane, with a capital of £15,000 in £100 shares. Object, the acquiring of mills, land or buildings at Great Harwood, Lancashire. The first directors are D. Birtwistle, R. Mercer, T. A. Dobson, J. Gordon, R. Hartley, James Gran, and Thomas Mercer, all of Great Harwood. Qualification, £100.

**THE COMBINATION LOCK AND CHAIN-STITCH SEWING-MACHINE AND ATTACHMENT SYNDICATE, LIMITED.**

Registered by Waterlow and Sons, Limited, London-wall, E.C., with a capital of £6,000 in £1 shares. Object, to acquire patents and inventions in connection with the manufacture of sewing machines and attachments. The first directors are A. C. Oakes, P. G. Bate, W. F. Fair, L. E. Blacke well, and C. J. Hill. Qualification, £50. Remuneration, £1 ls. each for every board attendance.

**JAMES KIPPAX AND CO., LIMITED.**

Registered by Waterlow Brothers and Layton, 24 and 25, Birch-in-lane, E.C., with a capital of £30,000 in £10 shares. Object, to acquire the business of a manufacturer carried on by James Kippax, at School Hill, Bolton; to buy, sell, and deal in cotton, wool, and other fibrous substances. The first subscribers are:—

- |  |   |
|--|---|
| J. Kippax, Bolton.....                               | 1 |
| J. B. Crompton, Earlesmere, Heaton, near Bolton..... | 1 |
| F. W. Mason, 32, Chorley New-road, Bolton.....       | 1 |
| R. Crompton, Earlesmere, Heaton, near Bolton.....    | 1 |
| W. A. Harper, 20, Nelson-square, Bolton.....         | 1 |
| T. Brandreth, 42, Thomson-street, Stockport.....     | 1 |
| A. F. Seed, 2, Bates street, Longsight.....          | 1 |
- All the regulations of Table A apply.

**S. HIGGINBOTHAM AND CO.**

Registered in Scotland and having its offices in Glasgow, this company has a capital of £120,000, divided into 3,000 preference and 8,400 ordinary shares of £10 each, the latter being sub-divided into four classes, Class A consisting of 2,000 shares, Class B 2,000, Class C 3,400, and Class D 1,000 shares. Object, to adopt and carry into effect an agreement for the acquisition of the property and assets of Charles Todd and Higginbotham, calico printers in Glasgow, and of S. Higginbotham, Sons and Co., merchants and calico printers in Glasgow, and other property and effects; to carry on the business of calico printers and merchants in Glasgow or elsewhere, in all their branches; to purchase or acquire land, houses, manufactories, buildings, steam engines, boilers, and machinery, and other property and privileges necessary or convenient for the purposes of the company, and to erect buildings and machinery; to carry on business as land proprietors; to amalgamate with other companies; to borrow money; to invest funds, etc. The first subscribers are:—

- |   |   |
|---|---|
| J. S. Higginbotham, merchant, Springfield Court, Glasgow..... | 1 |
| A. S. McClelland, C.A., 115, St. Vincent-street, Glasgow..... | 1 |
| C. J. Higginbotham, merchant, Springfield Court, Glasgow..... | 1 |
| C. Ker, C.A., 115, St. Vincent-street, Glasgow.....           | 1 |
| R. K. Higginbotham, merchant, Springfield Court, Glasgow..... | 1 |
| C. T. Higginbotham, merchant, Springfield Court, Glasgow..... | 1 |
| W. S. Byres, cashier, Springfield Court, Glasgow.....         | 1 |

The directors shall be seven in number, and the first are to be Charles Titus Higginbotham, James Samuel Higginbotham, Charles James Higginbotham, Robert Ker Higginbotham, Hayward Porter, merchant, Manchester; A. S. McClelland, C.A., and Charles Ker, C.A. Qualification, 20 shares. Remuneration: To the four first-named directors, who shall be the active managing directors, at the rate of £200 per annum each to C. T. Higginbotham and J. S. Higginbotham, £400 to C. J. Higginbotham, and £225 to R. K. Higginbotham; to the remaining three, who shall be consulting directors, £200 each per annum.

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Registered by Rowcliffe, Rawls, and Co., 1, Bedford-row, W.C., with a capital of £500,000 in £5 shares. Object, (1) to insure any description of property against loss or damage by fire, or any other casualty or accident; (2) to insure against death or injury to health or limb by accident or misadventure; (3) to assure payment during sickness or incapacity arising from any such accident or misadventure; (4) to insure employers or traders against

liability for injuries to persons whether in their employ or not; (5) to carry on the business of a guarantee company in all its branches, and in particular to issue policies guaranteeing the fidelity of persons filling, or about to fill, situations of trust, and to guarantee the payment of rents and the performance of contracts of all kinds; (6) to reinsure or in any way provide for the liability of the company, wholly or partially, upon any assurance, guarantee, or contract granted or entered into by the company; (7) to transact all kinds of insurance and re-insurance, not being life insurance; (8) to acquire the business of the Equitable Fire Insurance Company, Limited; (9) to acquire the business of the Equitable Guarantee and Accident Company, Limited; (10) to undertake and carry out the liabilities of the Equitable Fire Insurance Company, Limited, upon or in connection with a contract of re-insurance or indemnity made by that company with the South British Fire and Marine Insurance Company of New Zealand and the National Fire and Marine Insurance Company of New Zealand, dated September 29. The first subscribers are:—

H. Harrison, Stanley, Blackburn.....	1
J. Lees, Werneth Grange, Oldham.....	1
J. Bamford, Thornlea, Oldham.....	1
R. Scott, Bowdon, Cheshire.....	1
F. M. Bowman, West Mount, Halifax.....	1
R. Thompson, Bramley Meads, Whalley Range.....	1
D. R. Paterson, 11 and 13, St. Ann's-street, Manchester.....	1

There shall not be less than three nor more than 20 directors. The first are H. Harrison, R. Lord, E. H. Buck, J. Lees, R. Thompson, and B. J. Lake. Qualification, 200 shares. Remuneration to be determined in general meeting.

**Gazette News.**

**PARTNERSHIPS DISSOLVED.**

Wood and Grimshaw, Byron-street Mill, Millwright-street, and Park-place, Leeds, woollen manufacturers.

Isaac Senior and Company, Dewsbury, yarn spinners and dyers.

Hutchinson and Co., Stamford-street, Nottingham, hosiery manufacturers.

**WINDING UP NOTICES.**

The Acre Mill Company, Limited, Haslingden. The Equitable Fire Insurance Company, Limited, Manchester.

**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.

**SEN TO 13TH DECEMBER.**

19,982. M. HIGGINSON, Manchester. Counter-driving for mules, etc.  
19,994. W. G. DEMP, 19, Port Hall-road, Brighton. Hosiery cardboard laced together by continuous binders.

20,047. E. HOLDING and J. HOLDING, 13, Meadow-street, Wheelton, near Chorley. Let-off motions in looms.

20,055. G. SIMPSON, 96, Buchanan-street, Glasgow. Mechanism for cutting and binding or securing sample pieces of cloth fabrics in sets or bunches.

20,098. H. H. LAKE, 45, Southampton Buildings, London. Knitting machines. (*Byfield Manufacturing Co., U.S.*)

20,139. J. W. FIELDING, 8, Quality Court, London. Looms.

20,202. J. ROBINSON, Sunbridge Chambers, Bradford. Pattern surfaces for looms.

20,205. T. W. HARDING, Tower Works, Leeds. Flat teeth for rag and other waste tearing machines.

20,209. J. WILSON and R. HUTCHINSON, 32, Pelham-street, Nottingham. Knitting machines.

20,210. S. WHITELEY and T. W. STEAD, Commercial-street, Halifax. Machinery for finishing dyed and undyed fabrics.

20,211. G. KEARTON, 13, Temple-street, Bir-

mingham. Grinding the flats of revolving flat carding engines.

20,219. C. L. JACKSON and M. RALPH, 8, Quality Court, London. Picking motion of looms.

20,220. C. L. JACKSON and M. RALPH, 8, Quality Court, London. Stopping motion for looms.

20,241. W. BENSON, 45, Southampton Buildings, London. Machine for winding threads on brass bobbins used in lace machines.

20,257. A. H. BRIGGS, 27, Kirkgate, Bradford. Scouring, drying, and stretching mohair, alpaca, and such like wools and yarns.

20,259. W. W. BOTTOMLEY, 4, Yorkshire-street, Rochdale. Scouring, sizing, drying, and winding machines.

20,267. A. AMBLER, S. AMBLER, and F. AMBLER, 55, Chancery-lane, London. Cleansing, treating, or washing of wool and like animal fibres, and apparatus employed therein.

20,269. P. BRIGGS and O. HOFFMANN, 128, Colmore Row, Birmingham. Apparatus for moistening air.

20,274. E. KNECHT, 239, Moss Lane East, Manchester. Mordanting mixed goods of cotton and wool.

20,293. P. P. CRAVEN, 115, Cannon-street, London. Spinning frames.

20,334. D. BARNETT, 62, St. Vincent-street, Glasgow. Apparatus for treating textile vegetable substances to obtain fibres.

20,353. W. C. McBRIDE, 151, Strand, London. Machines for cleaning vegetable fibre.

20,358. J. V. EYES, 6, Bank-street, Manchester. Frames for spinning flax.

20,359. J. V. EYES, 6, Bank-street, Manchester. Paper tubes for cops and pirns and apparatus for their manufacture.

20,365. G. H. BRIGGS and W. H. DENTON, 8, Quality Court, London. Open shed double lift jacquards.

**SPECIFICATIONS PUBLISHED.**

- |  |
|--|
| 18,311. CORDIER, 1889. Embroidering machinery. Is. 11d.                                  |
| 18,772. DOUGLAS. Finishing textile fabrics. 8d.  |
| 19,043. BULLOCK. Spinning and doubling cotton.   |
| 20,466. FORTUNE and BENTHAM. Gill boxes, etc. 8d.  |
| 20,879. ROTHWELL HOSEY COMPANY, Ld., and ROTHWELL. Self-fitting hosiery. 6d.             |
| 23,905. REMY. Treating fabrics with gases, etc. 8d.                                      |
| 1890.  |
| 822. TETLOW. Textile machinery. 8d.  |
| 825. ALBERT. Drying textile materials. 11d.  |
| 922. HOLDEN and ASHWORTH. Winding yarns, etc. 8d.  |
| 953. HART and BAYNES. Carding engines. 8d.   |
| 1,010. EDWARDS ( <i>G. Joseph's successors</i> ). Purifying machine for cotton, etc. 8d. |
| 1,062. KNOWLES, S. and J. Producing a22 colours on cotton, etc. fibre. 8d.               |
| 1,125. EYES. Spinning flax, etc. 8d.   |
| 1,808. IMRAY ( <i>Soc'y. Chem. Industry in Basle</i> ). Colouring matter. 4d.            |
| 5,847. WOOD. Fibrous material. 8d.   |
| 15,481. LAKE ( <i>Butterfield</i> ). Looms. 8d.  |
| 16,700. WHITIN. Spinning or twisting machinery. 6d.                                      |

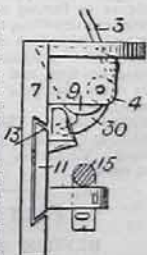
**SECOND EDITION.**

- |   |
|---|
| 1886.   |
| 5,307. ASHWORTH, G. and E. Carding-engines. 8d. |

**ABSTRACTS OF SPECIFICATIONS.**

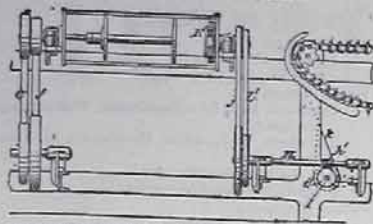
11,039 July 2, 1889. Looms. W. TAYLOR, 5, South-street, Faddock, Huddersfield.

*Web stop-motion.*—The web feelers 9 are raised and lowered by the action on an incline 9 on their boss 4 of a cam-plate 11, which slides in grooves in a bracket 7 on the lay-board. A spring-rod 15 is connected at one end to the plate, and passes at its other end through a swivel bearing secured beneath the breast beam, so that as the lay moves the plate 11 reciprocates. When the web falls the feelers 9 fall into a slot in the lay-board, whereupon the part 9 engages with a snick 13 on the plate 11, and obstructs the latter. The rod 15 is then moved, against the action of its spring, and made to operate a knocking-off bar, which shifts the driving-strap and stops the loom. When the web is intact the plate 11 is not obstructed, and the rod 15 remains clear of the knocking-off bar. Arrangements are described to omit either a sliding or an oscillating knocking-off bar. A tail-piece 20 on the boss 4 works on an under cam surface of the plate 11 to ensure the descent of the feelers. The plate may have a pendulous instead of an oscillating motion. 34d. Patent opposed. Case not yet decided.





**11,048.** July 9, 1899. **Spinning.** J. F. W. STARR, Dartmouth Rope Works, Halifax, Nova Scotia, Canada.

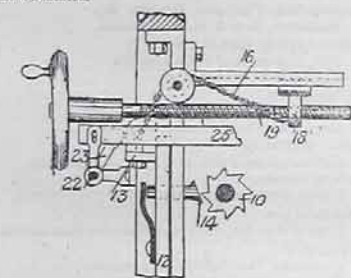


**11,048.** July 9, 1899. **Spinning.** J. F. W. STARR, Dartmouth Rope Works, Halifax, Nova Scotia, Canada. The flyer and spindles are driven by the belt, and the chain gills are driven from the shaft II by worm and belt gearing *a, b*, the shaft II being driven by the belt from the boss of the flyer; the capstan E is also driven from the shaft II by the belt *f*. If desired, spur and bevel gearing may be used between the shafts II and I. *64d.*

**11,047.** July 10, 1899. **Looms.** W. DAWSON, Faldedge Mill Shuttle Works, Burnley.

**Shuttles.**—For threading purposes a metal cone, with a rib and shoulder, and terminating in a hollow stem, is provided in a cavity in the shuttle. The web is passed around the cone, and deposited in a vertical slit in the shuttle leading to the eye. The tips are formed with hollow spikes driven into annular recesses in the shuttle; shoulders on each side of the tips prevent them from cutting the pickers too much. The tongue pivot is mounted in slots in the side walls of a metal chair, and may be adjusted by screws, as required, a spring keeping the peg up. The peg shank may be formed with equilateral sides with two transverse pin holes, to admit of turning when one side is worn. To ensure regular tension of the web a spiral spring, or an elastic tube, pushes the cop forwards against a spring awl, a bush protecting the cop bottom. The Provisional Specification states that metal shuttles have wooden pegs driven into holes in the sides to prevent the metal touching the reed. *64d.*

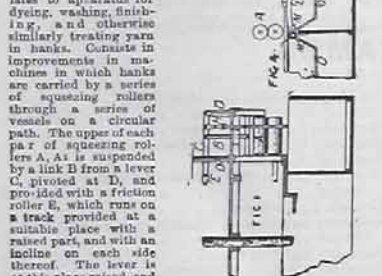
**11,049.** July 10, 1899. **Doubling and twisting frames.** M. WAZNER and E. LOMONOTOFF, Prospect Mills, Wibeay, near Bradford.



**Hard twist on starting, preventing.**—The stop rod 22, which carries the rod 25 for supporting the trap levers, is held in the required position when the frame is stopped by means of fingers 23 thereon resting against a projection 15 on a slide 12, which is held in the raised position by a catch 14 and ratchet wheel 10, the latter being connected by suitable gearing with the tin roller or other part of the machine. When the frame is started the trap levers continue to be supported by the rod 25, until the catch 14 is released by the ratchet, when the slide falls and the trap levers are supported only by the tension of the threads. On stopping the frame the slide is raised into its highest position by means of a check 16, nut 18, and a screw rod 19 provided with a hand-wheel. *64d.*

**11,048.** July 10, 1899. **Dyeing, washing, etc.** T. O. ARNFIELD, New Mills, near Stockport.

**Bank machines.**—Relates to apparatus for dyeing, washing, bleaching, and otherwise similarly treating yarn in banks. Consists in improvements in machines in which banks are carried by a series of squeezing rollers through a series of vessels on a circular path. The upper of each pair of squeezing rollers A, is suspended by a link B from a lever C, pivoted at D, and provided with a friction roller E, which runs on a track provided with a raised place with an incline on each side thereof. The lever is at this place raised, and with it the roller A, so that the banks may be replaced by fresh ones. The banks are prevented from leaving the rollers by a bent arm G, which is pivoted to the frame, and connected also by a slotted link H, with the lever C, so as to be moved away from the rollers when the changing of banks is being effected. To keep the banks immersed winches M, M (Fig. 4) passing through them are mounted on levers L, pivoted on the rotating frame F. The levers also carry rollers N, which run on a track O, provided with inclines near the divisions between the vessels, in order to facilitate the transfer of the banks from one vessel to the next. *64d.*

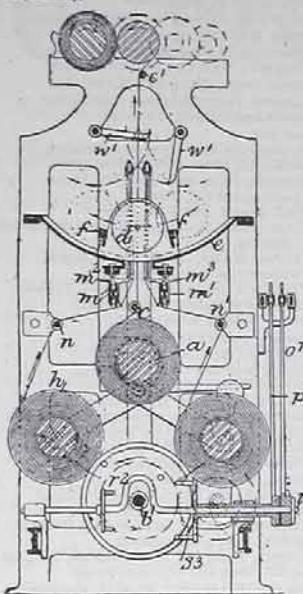


**11,152.** July 11, 1892. **Spinning.** W. FAOST, Roomfield-lane, Todmorden.

**Feeding trucks for cotton openers and the like.**—The semi-circular upper part is made of corrugated iron, the corrugations being arranged transversely, and to facilitate cleaning

the grids are formed upon doors either at the sides or bottom of the trunk. *64d.*

**11,277.** July 13, 1899. **Loom.** R. CROSSLEY, 115, Acricing-road, Burnley.



Alternate warp threads are let off from a beam *a* and pass vertically over the guide rods *c, c* to the sand-roller. The other warp threads are let off from bobbins *d* mounted in carriages provided with tension springs. The carriages are moved to and fro on guides *e* between the first-mentioned (stationary) threads by masher bars *f*, operated through rods from special tappets on the main shaft *b*, and engaging with the notched ends of the carriages at the required times. The web threads are drawn from two large beams *h* resting on drums on the shaft *h*. The threads pass over rods *n, n*, and through guides on the carriers *m, m*. These carriers are moved alternately across the loom on rails *m, m*, from side to side, and insert the wefts in the two sheds. The carriers are operated through cords from picking sticks *o, p*, mounted respectively on a shaft *q* and a sleeve thereon, which are worked by pins on plate wheels on the shaft *b* acting on the pins *r, r*. The web is beaten up by rocking combs *s*, and the sand-roller is driven by ratchet and change gearing from a cam-worked lever, the cloth beam resting on the sand roller, with its ends rolling on fixed inclines. The details may be modified. *64d.*

**11,312.** July 16, 1899. **Card-setting machines.** W. WATSON, Haughton Dale Mills, Denton, Lancashire.

Relates to mechanism for feeding into card-setting machines wire which is partly of one section for one part of the loom, and of another section for the remaining portion. The jaws *c, d* of the nippers by which the wire is carried forward are prevented from coming closer together by an adjustable plate *f*, which projects slightly below the fixed jaw *d*, the space between the jaws being such that they can readily grip the thicker parts of the wire, but allow the thinner parts to slip between them. The jaw *c* is operated in one direction by a spring *e*, and in the other through the lever *o* by a tappet acting on the stud *a*. The feed lever *e* is traversed along its spindle in the ordinary or any suitable manner, the jaws *c, d* sliding over the thinner parts of the wire, and taking against the shoulders of the thicker parts, and so feeding the wire forward. The jaw *c* is in its lowest position during the return movement of the nipper. *64d.*

**11,326.** July 15, 1899. **Carding-engines, etc.** J. W. OLDROYD, Grünberg, Silesia, Germany.

**Driving Condenser bobbins.**—In order to avoid the slipping of the condenser bobbins, and also to strengthen the driving drums, the latter are made with corrugated instead of plain surfaces as is usual. *64d.*

**11,380.** July 16, 1899. **Looms.** J. GREENWOOD, 25, Pine-street, Bury, and J. ASHWORTH, 2, Parsonage-street, Bury.

**Shedding motions.**—The tappets F, which operate the usual treadle levers D, are formed with concentric parts *a, b*, so that they always touch the bowls G, and give a positive and regular shedding motion. The Provisional Specification describes an arrangement in which long and short shedding levers are employed, the short ones being fitted and pivoted to the long ones, by which arrangement the bowls are kept in contact with their tappets. *64d.*

**11,345.** July 15, 1899. **Cleaning cotton seed.** E. SHRADOWS and J. C. BARRETT, 44, High-street, Hull.

Relates to a machine for cleaning and polishing cotton seeds after the fibres have been removed by previous treatment. *64d.*

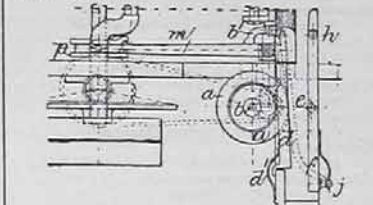
**11,382.** July 16, 1899. **Bleaching, dyeing, etc.** G. B. SHAWLEY, 23, Blackfriars-street, Salford.

**Bank machines.**—Relates to machines for bleaching, soaping, washing, finishing, sizing, dyeing, or otherwise analogously treating cotton, linen, woolen, silk, or other yarns, tapes, and the like, in the bank. Consists in a roller supported loosely upon two rollers, rotated by gearing from a main shaft. The banks are placed on the first roller, and are traversed along it by travelling hooks, so as to pass through tanks containing the treating liquids, and to receive a double squeeze between the rollers. *64d.*

**11,383.** July 16, 1899. **Fats.** C. LAUBNER and C. FROBELMANN, North German Wool Carding and Worsted Yarn Spinning Factory, Delmenhorst, near Bremen, Germany.

In obtaining wool grease from wool-washing waters or the like by means of reagents, a water absorbing agent (such as chloride of sodium or magnesium), is added to the solution before distillation. *64d.*

**11,401.** July 16, 1899. **Looms.** H. HOLZNER, 15, Alma-street, M. HERTON, 134, Friargate, and O. O'NEILL, 1, Weston-street, all of Preston.



**Picking-motion.**—A rapidly-revolving disc *a* on a vertical spindle *b*, carried by the lay-sword, projects through an opening in the back-board *d* of the shuttle box. The shuttle is pressed against the disc by a bowl *e* on a lever *f*, and is thereupon ejected or picked through the shed. The lever *f* is moved on its pivot *A* at the required times by the action, through a lever *m*, arm *h*, and spindle *j*, of a cam *p* on the tappet shaft. The spindle *j* is driven through belt-gearing from a vertical shaft, which is turned by bevel gearing from the tappet shaft. The driving mechanism may be arranged so that the speed of the disc is maintained during the starting and stopping of the loom. The back board *d* may be hinged and provided with a spring *g* to serve as a swell. The parts may be modified. *64d.*

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<b>Cotton Driving Ropes:</b> Hart, Thomas, Blackburn. Mellor, John, Manchester.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Cotton Waste, Engine Waste, &amp;c.:</b> Mellor, John, Manchester.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Cutters (Spiral) and Ledger Blades:</b> The Smith's Patents Co., Sheffield.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Crystalline:</b> Wells, M., & Co., Manchester.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Gold and Silver Wire:</b> Makinson, E. and W. G., Preston.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Driving Ropes, Bandings, &amp;c.:</b> Hart, Thomas, Blackburn. Mellor, John, Manchester.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Drying Machinery:</b> Whiteley, Wm. & Sons, Huddersfield.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Dust Fuel Furnace:</b> Donkin, B. and Co., London.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Emery Filletting:</b> Dronsfield Brothers, Oldham.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Engines:</b> Arnfield, J. & E., New Mills, Stockport. Goodfellow, Ben., Hyde. Musgrave and Sons, Ltd., Bolton.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Engine Packing:</b> Mellor, John, Manchester.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Engineering Work:</b> Bransby Foundry and Engineering Co., London. Hoyle, E., and Sons, Limited, Halifax.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Fire Hose:</b> Reddaway, F., & Co., Pendleton.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
<b>Furnace Bars:</b> Bransby Foundry and Engineering Co., London.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
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<b>Hydro-Extractors:</b> Broadbent, Thomas, and Sons, Huddersfield.	<b>Machinery (Sizing, Filling, &amp;c.):</b> Dickinson, Wm., & Sons, Blackburn. Livesey, Henry, Limited, Blackburn. Riley, J. H., and Co., Bury.	<b>Sizing and Filling Preparations:</b> Adley, Tolkien, and Co., Blackburn. Eastwood, James, Manchester. "Gloy" Manufacturing Co., London. Grimshaw Brothers, Clayton, Manchester.
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