

January 30, 1892

MANUFACTURERS and all interested in **Drying Textile Materials or Fabrics, or in Removing Steam from Machines, Dust from Carling, or Foul Air from Gassing Rooms, etc.**, should apply to the Blackman Company, who have given exclusive attention for a number of years to **Mechanical Ventilation and Drying**, and have necessarily acquired a wide, varied, and special experience, which is placed at the service of their customers, being included in the price of the plant they supply.



**BLACKMAN
VENTILATING CO., LTD.**

TRADE MARK

LONDON, 63, FINE STREET, E.C.

MANCHESTER, 3 and 5, TOLL STREET. Telephone 856. Telegrams: "Drier, Manchester." Also at BRADFORD, GLASGOW, and BRISTOL.

The Textile Mercury.

VOL. VI. NO. 145. SATURDAY, JAN. 30th, 1892.

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

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

Editorial Notices.

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

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 Their names will not be published unless requested.

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

Publishers' Notices.

All remittances to be made payable to Marsden & Co., 23, Strutt Street, Manchester.

Copies of *The Textile Mercury* may be obtained by order through any messenger in the United Kingdom, and also from the following WHOLESALE AGENTS:—

MANCHESTER—Mr. John Heywood; Messrs. W. H. Smith and Son.

ABERDEEN—Messrs. W. and W. Lindsay.

GLASGOW—Messrs. J. Menzies and Co.

EDINBURGH—Messrs. J. Menzies and Co.

LONDON—Mr. C. Vernon, 121, Newgate Street, E.C.

SUBSCRIBERS' COPIES.—*The Textile Mercury* will be forwarded to any part of the United Kingdom, from any date, post free, for 12s. 6d. per annum; 6s. 6d. for Six Months; 3s. 6d. for Three Months.

Abroad (this paper edition): One year, 15 shillings; six months, seven shillings and sixpence; three months, four shillings.

All subscriptions payable in advance.

ADVERTISING.—"Advertising is to Business what Steam is to Machinery—the Grand Propelling Power."—*Macaulay*.

Orders for alterations in current advertisements must reach the Manchester Office not later than Tuesday morning to receive attention the same week. Serial advertisements will be inserted with all practicable regularity, but absolute regularity cannot be guaranteed.

Scale of Charge for displayed advertisements will be forwarded on application to the publishers.

ADVERTISEMENTS of Auction Sales, Machinery for Sale or Wanted; Mills, Works, Rooms, or Power, to be Let or For Sale; Partnerships; Patents for Disposal; Situations Vacant or Wanted; Agencies, etc., etc., 12 WORDS, 6d. EVERY ADDITIONAL WORD, 1d. THREE INSERTIONS FOR THE PRICE OF TWO.

These advertisements should reach the office, 23, Strutt Street, Manchester, not later than Wednesday morning to appear the same week. Remittances under 5/- may be made in Half-penny Postage Stamps.

PROFITS DURING 1891.

The publication of the balance sheets of several large trading and manufacturing companies enables one to form an estimate of the character of last year's business in the home and other trades. Operations during the period referred to were conducted under difficulties, which, in some cases, were unusually severe. Messrs. Lister and Co., for instance, had to contend against a strike of great magnitude, as well as against the losses created by a falling-off to nothing of the American demand for plush. Notwithstanding this, an available profit-balance of £45,685 was shewn, and a 5 per cent. dividend for the year paid—4 per cent.

during the first half, and 6 per cent. during the second half. These results have been achieved in 33 weeks, as during 19 weeks the men were not at work. The sale of a new kind of cloth (Bengaline, if we are not mistaken) helped to swell the coffers of the firm; and by reductions in cost of production and other economies, Manningham comes out of the 12 months' struggle much more satisfactorily than might have been expected. The Attleborough Mill has not been given up, as was reported after the termination of the strike. On the contrary, the premises have been improved, both fancy and velvet departments being in operation. This is the outcome of the persistence with which the Manningham operatives last year refused all offers of conciliation. The concern is now in a much stronger position as regards its employés, and further troubles at Bradford might drive the firm entirely away from the town. Rylands and Sons have earned over £82,000 profit, according to their balance-sheet just published. It is a matter of common talk in trade circles that these results are due more to the mercantile than to the manufacturing departments of the concern, the amalgamation of the producing and distributing elements having frequently been found undesirable. A. and S. Henry and Co. have a surplus profit for the year, together with the amount carried forward from the last account, of £94,464 5s. 2d. It is now proposed to declare a dividend on the ordinary shares at the rate of 8 per cent. per annum at the half-year ending 30th November, 1891, thus making 8 per cent. for the year. Foster, Porter and Co. pay 10 per cent., and The Fore Street Warehouse Co. 11s. on their £11 shares. The career of the last-named house, the successors of the historic firm of Morrison, Dillon, and Co., has of late years been a somewhat chequered one. Four of the most important departments have, during the past twelve months, been transferred to new buyers, who control 32 per cent. of the stock of the house, which is valued at £177,000. The unfavourable character of the summer season of 1891, when ladies bought macintoshes instead of lighter fabrics, caused much loss to merchants. On the whole, the examples we have quoted may be regarded as indicative of the results achieved by trades generally. For the present year the prospects are more favourable. The new double-pile plush project at Bradford should bring back to the town a portion, at least, of the trade it has lost. It will be interesting to watch the effect of this new cloth upon the business of Messrs. Lister, who appear on this occasion to have allowed others to lead the way in connection with improvements in plush.

AMERICAN LINEN.

The most interesting and impartial examination of the problems connected with the establishment of a linen industry in the United States that we remember seeing is reproduced in another column from the pages of the *New York Daily Commercial Bulletin*. It takes the form of an interview with a gentleman who, with another, has expended £8,000 in experiments—which sum he says they would rather have back, and be without the experience that has been exchanged for it. The remarks quoted confirm what has been said before as to the unsuitability of American-grown flax for manufacturing purposes. The new Chicago Company, which is said to have been formed with a capital of £600,000 to carry on the business in the Western city, may or may not be a reality; but in any case it does not seem probable, after what appears elsewhere in this issue, that success can attend the efforts of such concerns. American flax requires to be chemically retted, and the processes of prepara-

tion] are so [expensive that the goods [when manufactured cannot be sold in competition with European makes composed of flax retted in the same manner as that which has been followed for ages. It must be a most discouraging fact to American linen enthusiasts that the Stevens Crash Factory of Methuen, Mass., after trying the American fibre for the coarse goods it produces, gave up the attempt to use it in despair, and now imports the necessary raw material from abroad. The mill at Minneapolis was to employ nothing but American flax, but its products so far have not proved marketable—whether owing to the quality of the fibre or not cannot be said. Some few years ago some Wisconsin flax was shipped to Ireland, but the fibre was found useless for spinning. One would think that if suitable fibre could be found in the Republic the linen thread works of the Finlaysons at Grafton, Mass., the Barbours, at Paterson, and of other British firms having mills across the Atlantic, would have been using it long ago. As a matter of fact all the flax used by these firms is imported. In view of these and other circumstances it does not appear likely that, as far as the supply of native fibre is concerned, the business can be a success in the States. Nor has it yet been shewn that the manufacture of any but the commonest of linens can be carried on successfully there.

DIRECT SHIPMENTS OF AUSTRALIAN WOOL TO THE CONTINENT.

A fact of some interest, bearing upon our recent references to direct trade with the Antipodes, is that on the 16th instant the steamship *Arroyo* finished loading a cargo of 14,500 bales of wool at Sydney for consignees in Antwerp and Hamburg. This, according to the *Sydney Mail*, is the largest cargo that ever left the port or, indeed, Australia; and the time occupied in loading this enormous quantity of wool was only about 16 days. The Sydney Stevedoring and Wool Dumping Company, Limited (who loaded the *Arroyo*), which has been recently formed, is composed of a number of the most powerful buyers doing business in the local wool market, the management being in the hands of Mr. James M. Johnston, of the firm of Messrs. Balchin, Johnston and Co., Bridge-street, and it is more than probable that the operations of this co-operative enterprise will in the future lead to a marked increase in the direct trade in wool between Sydney and the Continent of Europe. The *Arroyo* will be followed in a few days by the steamship *Ariosto*, which will take about 7,000 bales from Sydney, and which in turn will be succeeded by the *Indra*. Numerous sailing vessels have also been dealt with, and the quantity of wool passed through and despatched by the new company amounts so far to over 50,000 bales. The wool trade of Sydney and of the Colony continues to expand, as is shewn by the fact that from July to December 12th the exports amounted to over 243,000 bales, as against 189,000 bales in 1890. When the mail left the demand for wool on French account was excellent, large purchasers of medium greasy produce being daily effected by the representatives of French combbers, spinners, and manufacturers. Lambs'-wool, when free from fault, was eagerly competed for at a quotable advance on last season's currency, but for faulty lambs'-wools, on the contrary, biddings were less animated, their unsuitability for many purposes of manufacture naturally limiting the area of competition enlisted for them. The paucity of coarse-haired wools in the market had contributed in preventing these descriptions from receding in value, and the few lines of crossbreds submitted for sale commanded full prices. The

large supply of burry and wasty wool coming to hand, coupled with the low rates current for such wools in London at the present time, was antagonistic to any material recovery in prices for these qualities, and, although exhibiting no further weakness, inferior lots were still comparatively neglected.

CANADIAN PROTECTIONISTS AND THE MARKS ACT.

The *Canadian Manufacturer*, commenting upon the action of the Silver Association in advocating the marking of foreign silvers, reproduces in all seriousness a letter addressed to a contemporary some time ago. The Flour Association of Great Britain, emulating the example of Mr. Wardle and his friends, is said to desire the application of the Merchandise Marks Act to the sale of bread. The proposal of the Association is that on every loaf, bun, or biscuit sold in this country, and made of foreign material, there should be stamped at intervals of not less than two inches the words, "Foreign Flour." This will enable every purchaser to distinguish such bread from that baked from British-grown and British-milled flour, and will thus enable ladies who are members of the Association, and all who have at heart that most depressed and neglected of our industries, the great landed and farming interest, to support it by their patronage. It is difficult to know whether this extraordinary proposal must be taken seriously or not; but when it is suggested that an additional mark should be employed to indicate whether the yeast used is foreign or not, to encourage support of the landed interests, the impracticability of the proposal will strike most people. The *Canadian Manufacturer*, commenting upon these suggestions, observes with sadness the painful social conditions in Great Britain, brought about by unrestricted free trade, which bear so heavily upon the working classes. It would seem from this letter that not only is foreign flour depressing the British milling industry, but the bread makers are complaining of the competition of foreign bakers, and Britain is drifting towards protection much more rapidly than the free traders are willing to admit. The assumption that the working classes of this country are suffering severely is a common one across the Atlantic; and it appears to be of little avail to correct such statements. The strain caused by foreign tariffs and foreign competition has so far fallen chiefly upon the employers and capitalists of the country, and not upon the workers. The operatives engaged in the plush trade may perhaps be excepted; but in the course of time, unless matters alter, workers in other trades will no doubt have similar experiences.

THE COTTON TRADE OF CANADA.

This considerably protected industry finds some difficulty in holding its ground. One of the natural effects of protection was pretty early encountered. There was a little spinning and manufacturing in Canada when the late Premier, Sir John Macdonald, led the country into the devious mazes of that policy which we are inclined to think has been disastrous to its best interests. Immediately on its adoption there were people ready to rush in to share, as they thought, the plunder that is always its fruit. Consequently, mills and manufactories were rushed up to an extent considerably exceeding the requirements of the sparse population of the country. The outcome of it all was that there was hardly a profit for any, even with the protection accorded. The result is general dissatisfaction amongst the proprietary. To obviate the evils resulting to them, as our readers have already been frequently informed, there have been several attempts, hitherto of an

unsuccessful character, to unite them all into one concern. Now, at last, if we may trust the *Montreal Bulletin*, a different result seems close at hand. "There is," says our contemporary, "quite likely to be a big advance in prices of cotton goods within the next week or two, in spite of the general depression in the dry goods business. The Dominion Cotton Mills Company have at length succeeded in obtaining the control of very nearly every cotton mill in the country, having recently secured the Canada and Ontario Companies' mills, and at present they are negotiating for the Gibson mills down below. As they have in some instances paid pretty good prices for the mills, and will probably have to keep part of the machinery idle, to prevent overloading the market, they will have to make the production of the balance pay for the whole. Accordingly it is very likely that an advance of 10 to 15 per cent. in cotton goods will be made within a fortnight or so." Here again is a species of protection that can no more evade the operation of natural laws than can any other like device for the same purpose. Providing that the mills are making nothing now, and could at once place themselves upon a basis that will pay 10 to 15 per cent., or an average of 12½ per cent., do the clever people engineering this scheme think, in these days, they would be permitted to enjoy it unmolested? Certainly not. Immediately their half-yearly dividends shewing that profit per annum had been paid, the fields would be full of the projection of new mills, and capital would flow in from every hand. There is no safety in these days in such attempts to monopolise a trade, especially one so well-known as cotton spinning and manufacturing, in which there are thousands of persons ever ready to adventure both money, time, and skill, providing only a slight chance of a decent return is apparent. A steady return of about 7½ to 10 per cent. in a country like Canada is probably the highest point of profit that would not tend to defeat the object this syndicate, or whatever it may be, has in view.

COTTON THREAD COMPANIES' SHARES.

It would hardly be a wise proceeding on the part of anyone to invest their money at the present time in thread companies' shares. The recent rumours concerning a split amongst the firms composing the Central Agency (formerly the Sewing Cotton Agency), have, of course, been denied; but these denials go for nothing in view of the fact that new lists are being printed, and will shortly be in the hands of agents. On the 1st February Messrs. J. and P. Coats will intimate a reduction on all classes of their thread of, on an average, 30 per cent. The 200 yards reels will be reduced from 17s. 9d. to 12s. 6d., and other qualities in proportion. It is evident that Messrs. Coats are determined to go on the principle of the hotter the battle the sooner over. Messrs. Clark, who first cut rates, reduced their price-lists 15 per cent. It is worthy of note that the thread manufacturers at present can purchase thread yarn fully 20 per cent. cheaper than twelve months ago. "The firms in the combination are Messrs. Brooks and Co., Messrs. Clark and Co., Messrs. Lister and Co., and Messrs. Coats. Messrs. Kerr are not in the Union"—runs a telegram received from a correspondent of one of the news agencies. Coats's shares have fallen heavily since rumours of a war of rates commenced, quotations being about 13½ at the time of writing. This, of course, is not a bad price for £10 paid shares, but then Coats's are an exceptionally good investment in the eyes of speculators. How the management can expect to earn 8 per cent. on their millions of capital in view of the sweeping reductions referred to will puzzle outsiders. It is, in fact, almost

certain that 1892 will not be a good year for thread manufacturers, although after the "blood-letting" process is over, matters will presumably resume their former position. Coats's have not taken their present action without good reason, and when they have disposed of the people who have had the temerity to excite their animosity, we may expect to see a return to a quieter state of things. The effect of the recent news upon Coats's shares is well illustrated by glancing at the course of prices during the past fortnight. On the 14th inst. Glasgow quotations, which may be regarded as the safest guide in connection with thread shares, were for ordinary £10 paid, 15½ buyers, the 6 per cent. cumulative preference being 13½, and the debentures (£100) 112½. On Monday last the prices of the two first-named stocks were in Glasgow 13½ and 12½ respectively, shewing a fall of about 1½ and 1½. On Wednesday there was a fractional recovery, but the figures quoted indicate how large has been the shrinkage in the market value of the shares of this great corporation, whose share capital is three and a quarter millions, in addition to two millions of debentures. The unexpected rise in quotations of Coats's shares on Thursday and Friday, when the preference advanced by no less a sum than 25s., has completely surprised merchants interested. The advance is due to one of two causes: either it is through Stock Exchange manoeuvring, or the threatened competition will be averted. It is obvious, whatever the result, that speculators have been at work, and rumours are current here to the effect that the public have been deceived, as has often been the case before, for the benefit of traders in stocks. It is scarcely likely that with such a vast capital upon which to earn interest the firm would lightly enter upon a rate war such as that which it is feared will shortly take place.

THE COTTON THREAD TRADE.

There must of necessity have been some powerful motive for the step Messrs. Coats have seen fit to take, and that motive, we believe, is to be found in the action of other concerns—whether outsiders, or members of the Central Agency, does not appear certain, so conflicting in their nature are the suggestions put forward even by men practically acquainted with the industry. It is commonly reported in the trade that Messrs. Clark and Co. (who have, we are informed, taken over the business of Messrs. Clark and Co., of the Mile End Works, Glasgow), expressed dissatisfaction some time ago with the business they were transacting, and that, in accordance with the arrangement entered into by Messrs. J. and P. Coats, Clark and Co., and Jonas Brook and Brother, when the Agency was formed, the makers of the Anchor Thread were allowed to reduce their rates for thread selling at 17s. 9d. to 15s. Below we give the quotations for several standard makes before the commencement of any reductions:—

SIX CORDS, WHITES AND BLACKS,	
Yards.	Per Gross.
1,000	72s.
500	39s.
400 (Thomas Spool)	33s.
300	24s.
200	17s. 9d.
100	9s.
50	8s. 6d.

The action of Messrs. Clark in reducing their rates led to a similar step on the part of English competitors. It was obviously impossible for Messrs. Coats to go on selling on the basis of 17s. 9d. for 200 yards, under the conditions referred to; and, once a counter move became necessary, it was determined to act vigorously, in order to teach a salutary

lesson to those who had the temerity to rouse the anger of the lords of the thread trade. Instead of merely dropping to 15s. therefore, Messrs. Coats have determined to sell at 12s. 6d. It will, of course, be necessary for others to do the same, or else their connection will pass away; and even Chadwick's, strong as is their position in this district, could not hold their own here with Coats's prices 15 per cent. below theirs. When the smaller fry have had enough, Messrs. Coats may lead the way towards the resumption of higher rates. It has always been understood in the trade that the firm would teach a severe lesson to anyone daring to "tread on the tail of their coat" by such action as that which is supposed to have been taken within the past few weeks. It is quite capable of doing this, seeing that the capital of the concern equals, if it does not exceed, that of all the other thread firms put together. Messrs. Chadwick's capital is £750,000, and that of the Clarks is probably not much more, while that of their great rival is, as we have seen, £5,750,000. Messrs. Coats have such widespread connections that they can frequently recoup themselves for losses in one market by charging higher prices in another. If they make a sacrifice at home, the difference may be compensated for by increased rates in South America, Russia, or elsewhere. To a certain extent the same may be said of a few other firms, but none are so favourably situated in this respect as the proprietors of the Ferguslie Works. Our opinion, based upon a careful examination of the situation, is that the "rate war" will not last long. The strain will be too great for either small or large firms, and now that the public have a voice, as shareholders, in the management of some of the larger concerns, it is unlikely that directors will be permitted to indulge indiscriminately in the game of "beggar my neighbour" without decided protest. Even Coats's must know that sewing cotton is year by year becoming more and more a question of value merely, and less ruled by names. This is quite natural, in view of the increase in the wholesale production of ready-made clothing. Wholesale buyers, such as those employing female labour so largely in Manchester, Leeds, Glasgow, and London, are not actuated by the sentiment which moves the individual lady buyer who buys a few reels to take home. A knowledge of this fact should cause a diminution in the pugnacious spirit which has characterised the sewing thread trade for so many years.

A NEW DEPARTURE IN CHINA.

Western civilisation has perhaps too readily assumed that everything in China is crystallised, if not fossilized, and that, "come weal come woe," no change will ever be wrought. Possibly the conditions out of which these conclusions have arisen have remained as they are, simply because no external motor of sufficient power has arisen to produce a change, or perhaps the conditions are not quite as old as they seem. Once upon a time there was hardly any trade between China and the West, but as Chinese teas and silks, especially the former, became known, a great demand arose for them, and the Celestials shewed little hesitation in meeting it. Thus the cultivation of the tea plant was greatly extended: plantations of great extent were laid down, and tea factories were erected for dealing with the leaf on the most extended scale. This wrought a considerable change in all the districts into which it was extended. But by-and-by it was found that tea could be cultivated in Ceylon, and upon the southern flanks of the Himalayas in India. Western enterprise, aided by abundant capital, entered into the business, and the result has been the

most distinguished success—but with disastrous results for China. So far as tea growing for foreign consumption goes, John Chinaman's occupation is rapidly diminishing, and threatens to fail altogether. This being the case he proves himself subject to the same conditions as other mortals, and to be very human like them. Under the compulsion of circumstances he finds himself forced to do something else for a living, and the following paragraph shews what he is trying to accomplish. It is of some interest to Lancashire, as China for a long period has been a considerable outlet for the production of its spindles and looms, and might under certain circumstances be a much greater one:—

An industry of some great importance to British trade has, it is said, rapidly grown up at Foochow. This is the manufacture of a cloth closely resembling grey shirtings, and preferred by the natives to the latter, on account of its greater cheapness and durability. When finished the cloth is 15 inches in breadth and 22 feet in length, and the machinery used, which is wholly of wood, is described as extremely simple and cheap. Thousands of persons who have been thrown out of work by the tea trade are employed in it, and the demand for the cloth is so great that the makers cannot produce it rapidly enough. If the demand is maintained and the supply should keep pace with it, the effect on the import of grey shirtings must be considerable.

So even the Celestials are impressionable to the terrestrial commonplace wants of the appetite, and, as suggested, this susceptibility may possibly result in some substantial displacement of the products of Lancashire labour. We have always thought that a much larger trade in cotton goods could be done with China, provided a popular article made from the right sort of materials could be placed before the people. But therein lies the difficulty. The Chinese, it is well known, wear cotton clothing very extensively, manufactured by themselves from native-grown cotton, out of which they make a substantial cloth, bulky to the feel, warm, and durable. This is the popular article for cotton clothing: the better grades of shirtings, such as we send them, are articles of luxury, whilst the common, heavily-sized ones are worthless imitations, used in cases analogous to those in which in this country bits of glass are made to do duty for diamonds and rubies. The poorest of all are, as has been alleged, utilised as grave clothes for the dead, by which the use of the better and more valuable native article is avoided. The initial difficulty standing in the way is that the raw material is not procurable. Chinese cotton is a very different article from American and Indian. It is harsh and rough in an unparalleled degree, so much so that even the rough cottons of South America are out of comparison in this respect, being relatively as soft as silk in the hand. Japanese cotton seems very much of the same type. Both of these cottons would be invaluable to our Yorkshire friends in the woollen trade, who wish to make unions of any percentage of mixing, could they but obtain them. But we are afraid they are inaccessible to both branches of the English trades.

THE STRIKE AT ACCRINGTON: NEW AND ARROGANT PRETENSIONS OF THE TRADES-UNIONISTS.

It seems clear from the facts that are transpiring in Lancashire that the leaders of the operatives in the cotton trade are beginning a new campaign against the employers, and as their demands have all round reached an unendurable point, the outlook for a peaceful time during the current year is not bright. A strike has just taken place at Woodnook, Accrington, in the mills of the Accrington Co-operative Spinning Company, one of the most important spinning companies in East Lancashire. It may be worth while to lay the details of this

case before the trade to shew the manner in which they are likely to be treated, unless a firm and successful resistance be made to the unjust and arrogant pretensions of the mischief-makers who assume to control and direct the operatives in their relations with their employers. A few weeks ago the spinners complained of bad spinning. The firm put the complaint before the Employers' Association, and a meeting was arranged between Mr. Joseph Watson and Mr. Mawdsley, the secretaries of the Employers' and Operatives' Associations respectively. This meeting was twice put off by Mr. Mawdsley, who at last came alone and went through the old mill with Mr. Kippax, the manager of the company. After a close investigation, taking 10 draws of the mule sides of each minder, he freely admitted that they had nothing to complain of, and would not be supported by the Association. Mr. Mawdsley subsequently called again, and went over the new mill in the dusk, just before lighting up—a visit that was evidently timed, as it is then the most difficult moment of the day for the minders to see their work. He said the work was bad against which the manager protested, affirming that that was not a proper time in which to take the test. Mr. Mawdsley, however, went down to the office and ordered the clerk, Mr. Oldham, to add 5 per cent. to the wages of the week for the preceding, the current week, and two weeks forward, and if this was not done the operatives would be brought out. Mr. Oldham, resenting this dictation, told Mr. Mawdsley that he had better take the mills over for the Operatives' Association and work them in their interests alone, and if, after paying such wages to themselves as they liked, there was anything left they might kindly hand it over to the shareholders. Mr. Mawdsley replied that the allowance must be paid as he directed. Of course the firm did not comply with the demand, and the consequence was that all the spinners tendered their notices, whilst the card-room hands, with whom there was not the slightest cause of dispute, nor from whom had there been a single complaint, did the same. This was a move evidently on the new federation lines.

A day or two after the latter had tendered their notice, namely, Thursday, the 21st inst., Mr. Edisforth, the local official having charge of the Card and Blowing-room Hands Association, and who, we believe, is also the president of the General Association, called upon the firm and put in the claim of his constituents, of which the firm had not before received the slightest intimation. Briefly stated, his demands were that the firm should pay 18s. per week for slubbers having charge of frames with 84 spindles, which is the average size. The firm now pay them 15s. 6d. per week for five days' work, the operatives playing on Saturday, owing to there being a super-abundant production. For the intermediate frame, teners on frames of 120 spindles, an average size, he demanded a weekly average wage of 21s., which is now being earned, and, in addition, the employment of a "back tenter" for each two frame-minders, the firm to pay for such back teners 11s. per week. On account of the rovers he demanded 21s. per week, and a back tenter for each two, at 11s. per week, the firm as before to pay. The present average is 20s. per week, with very easy working, owing to the preparation here again being in excess of requirement. These operatives almost come and go as they please, and are not interfered with on the above account. Coming to the cardroom, he said the can teners, girls of 13 to 15 years of age, whose duty is simply when the cans are full to break the sliver and transfer it to an empty can and carry the full one to the adjacent drawing frame, for which light duty

they are paid 9s. 3d. per week, they must have 12s. He next took up the case of the "odd" people, and said, "You have a cotton mixer who is paid a standing wage of 18s. per week. He must have 20s. The opener feeder, a young girl receiving 11s., must have 14s. 6d." The cop packers, who simply pack the cops into cans, and who are receiving 20s. per week, were ordered to be paid 24s.; and the boys, who are far the best packers, were ordered to be dismissed. This can packing is the most easy and unskilled labour of its kind. Coming next to the day labourers of the old mill, who are engaged as weekly workers at an average wage of 20s. per week, he said if the firm receive more cotton than can be put into the upper store-room the labourers must be paid 3d. per bale for moving it, which is simply wheeling it across the floor to the hoist. After this pretty round list of commands, rather than demands, he finished up with saying; "You have an operative who is not a member of our Association, and you must discharge her or our members will not start again; we have done all we can to get her to join, but without success." This is a plain unvarnished tale, as literal a statement as could be made without a shorthand writer's presence at the time to have chronicled the events as they occurred. We leave it to the trade without comment, as it needs no glossing. We have only to add that the Masters' Association sent two independent persons to examine the spinning at the mills on Wednesday morning last, who came away with the conviction that there was not the slightest cause of complaint. The notices expired, and the operatives left work on Wednesday noon and evening. If the trade do not combine to resist this attack they will deserve everything that may follow.

THE GOSPEL OF LABOUR ACCORDING TO MR. TOM MANN.

On Sunday afternoon at the Free Trade Hall, Manchester, in connection with the so-called "Labour Church," there gathered, it is said, 5,000 working men and women to hear an address from Mr. Tom Mann on "The future of Trades Unionism." As we have been disposed to regard Mr. Ben Tillett and Mr. Tom Mann as two fairly well-intentioned, if mistaken, men, we read the report of his address in one of our local daily contemporaries with some degree of interest, in the hope to find therein a justification of the impression upon our mind. We deeply regret to say we were no more successful than in a similar task undertaken some weeks ago, in a similar effort of Mr. Tillett's. The report of the speech is hardly sufficiently full to enable us to infer with certainty that Mr. Mann attributed the improved condition and circumstances of working men to-day to the influences exerted upon their circumstances by trades-unionism, but this is implied, and we don't think if we assume that he affirmed it we shall stray far from the fact. We venture, therefore, to contravene his statement in its entirety. The improvement which he claims for trades-unionism results almost exclusively from the improvements in machinery of all kinds, which have increased its productiveness and improved the working of the material in its various processes so much that the production has advanced in the various machines from 30 to 70 per cent. At the time from which we date this improvement, say 1850, and thenceforward, the working classes in most mechanical industries, and especially in the leading textile trades, were paid by the piece, and they have retained the piece prices of those early days through the improving period in machinery to the present time almost unaltered.

Hence the increase in their earnings of from 30 to 70 per cent. to-day as compared with that time. This has been accomplished not by the force of the Unions, but by the competition of the employers for labour, owing to the expanding commerce of the country. Of course Mr. Tom Mann knows nothing of this, as the circumstances of his life, until recently, have placed him quite outside the pale in which he might have acquired the information. He is, however, blamable in

posing as a teacher and leader of men when he has not taken the trouble to acquaint himself with some of the best known facts of industrial history. He is, therefore, ignorantly misleading his hearers when he appeals to them "to use the same means to obtain all things else they may want." These tools not having procured the other good things will very likely prove broken reeds when the working classes use them as advised in the effort to get the things "they still want."

Continuing, Mr. Mann said: They were justified, nay, called upon, not only to provide benefits in the shape of provision for sickness and accident and similar advantages, but to try to regulate the working hours and to get rid of some of those noxious conditions that yet obtained in workshops and factories, to attack the industrial system in its entirety, to find out where it failed, or at any rate where it required changing.

We have a certain amount of sympathy with the speaker in these utterances, but will content ourselves with pointing out that he has quite mistaken the sphere of his operations; he should have remained in London amongst the sweating dens of the East end, and the rickety tumble-down old dwellings turned into workshops. In the industrial palaces of the cotton trade he is quite out of his reckoning, and when he assumes that such statements hold good of the operative classes of Lancashire he again proves his precipitancy in assuming the rôle of teacher and guide when he has not taken the trouble to learn anything of the facts that form the foundation of his mission. Mr. Mann is a young man, and it would appear is even more juvenile in knowledge than in years.

He next pointed out that: In Great Britain there were a million persons in the workhouses, and four millions more outside, who were in a far worse condition than those inside. There were to-day very nearly a million persons who could not get regular employment, with an additional half million who could not get work at all. Many of those working got but a very small return in the shape of wages for their work, so that neither they nor their families lived in a good standard of health, and were hardly able to make the two ends meet. He was of opinion that wealth consisted in the commodities produced by labour. There were no commodities that fell down from Heaven, neither were there any shot up from Hell. (Applause and laughter.)

Here Mr. Mann comes to definite statements; let us just test their value. In using these figures it is fair to assume that Mr. Mann meant to include Ireland also. To shew our readers and the public generally how utterly rash and unreliable this class of men are in their assertions, and how grossly they are misleading those who listen to them, we will give a few figures extracted from the last report of the Local Government Board, which has matters relating to poor relief in its special keeping.

The following figures refer to all the classes of unfortunate persons needing relief:—

Classes of Paupers.	Indoor.	Outdoor.	Total.
Able-bodied males (adult)	13,748	14,974	28,722
Able-bodied females (adult)	14,086	36,036	70,122
Children under 16 of able-bodied parents relieved	13,446	154,390	167,836
Not able-bodied males (adult)	59,734	77,327	136,961
Not able-bodied females (adult)	38,720	169,877	208,597
Children under 16 relieved with not able-bodied parents, or without parents	36,118	21,574	57,642
Vagrants	5,276	276	5,552
Insane	6,891	25,572	32,463
Females	8,980	37,401	46,381
Children under 16	1,219	846	2,065
Total	198,218	582,473	780,691

* The "adult able-bodied males" relieved, included those relieved (1) on account of sudden and urgent necessity; (2) on account of their own sickness, accident, or infirmity; (3) on account of the sickness, accident, or infirmity of some member of the family, or of a funeral; and (4) on account of want of work. No less than 13,410 out of the 14,024 adult able-bodied males who received outdoor relief were relieved on account of one or other of the first three of these causes, and of the 13,748 adult able-bodied males who received indoor relief, 6,410 were temporarily disabled.

These figures represent the population of England and Wales, say 30,000,000, and it will be seen that with all classes of paupers brought into the tale, the numbers in the workhouses do not reach 200,000. What then becomes of Mr. Mann's million? But from this total of 198,218, there are at least seven classes that ought to be deducted, as their poverty or incapacity to earn their living in no wise accrue from any defect of our industrial conditions or social institutions, which it was implied by Mr. Mann was the case. These classes are all those in the list after the first three entries. The number we have thus to strike off is 158,988, consisting of men and women who

are not able-bodied, children of afflicted parents, and orphans. Under any industrial condition or social system, these totally or partially helpless waifs and strays of humanity we most assuredly shall always have with us. What community in the possession of any human sentiment could do less than provide for them? And we may further ask, what community can do more? Having disposed of these, there remain 39,230 able-bodied adult men and women and their children, of whom a proportion will enter the workhouse, owing to the causes stated in the notes to the statistics. There is another cause, in which working men and women are mainly implicated which materially helps to swell these numbers, but to this we will not more particularly refer. If we further deducted from these 39,230 cases, the 6,410 cases of men temporarily disabled, and a similar number of women, we shall reduce the total to about 26,000 persons, men and women and their dependent children.

We ought now to ask what proportion of this number have been reduced to the necessity of entering the communal refuges for the destitute whose poverty has been self-induced? Idleness, drunkenness, dissipation, ingrained vagabondage, and lives of vice amongst both sexes; these are the influences at work that supply the residents of our workhouses, as well as our jails. If we could properly estimate the number who enter the doors of the workhouse owing to these causes, we venture to say that the total of the remainder representing those who have retired there owing to the stress of our industrial systems would not amount to 500 persons. On a calm and candid reconsideration of the subject, what say you, Mr. Mann? If we are justified, and we think we are, in these conclusions, your million people who are in the workhouse owing to the cause you allege have shrunk into the very smallest dimensions.

It would be cruel to Mr. Mann, as well as a trespass on our readers' patience and our own space, to follow him amongst "the four million persons outside who were in a far worse condition than those inside." By these we presume he means those in receipt of outdoor relief. Our readers, however, can easily track him for themselves from the statistics we have given. We can agree with Mr. Mann in his further statement that "there are a million persons who cannot get regular employment, and half a million more who cannot get work at all." But instead of this arising from any defect in our industrial system as he implies, the fault is entirely in the individuals themselves. The Trafalgar Square and Hyde Park demonstrations of late years induced some benevolent gentlemen connected with Exeter Hall to establish a labour bureau in that building where the unemployed could register their names, and employers and others could obtain the services of workpeople and servants. What has been the result? Over 13,000 names have been entered, and according to a recent statement in a morning paper, of this vast number less than 700 have been found to be men who cared to work or would perform an honest day's labour if found for them. The others are street loafers, corner men, and the classes fond of masquerading in the garb of working men, and ready to "demonstrate" for any and every cause that would provide them with a pot of beer and a shilling. These men form the scum of civilised communities, and are not in that condition from any faults of our social system but from their own idle and vicious propensities. It is a disgrace and an insult in a trades-union leader to associate these men for a single moment with honest working men, whether unionists or non-unionists. If Mr. Tillett, Mr. Mann, and Mr. Leonard Hall, of the Labour Federation, are burning with zeal to elevate their fellows in the scale of society, there is an ample field for their labour in the metropolis amongst these men, and we would suggest that they are wasting their energy in spending it in Lancashire until they have brought London up to its level.

To follow Mr. Mann through the rapid task of which his hour's sermon or speech consisted would be an utter waste of time. We have waded through the report of his speech, as given in a morning contemporary, several times, in the vain endeavour to find a single statement shewing that the speaker had the slightest knowledge of our industrial systems, the relationship of capital and labour, or economical, political, or ethical truths. The search was absolutely barren, and it forces us to conclude with the expression of intense regret that, after almost twenty years' existence of the excellent system of education that now

prevails, 5,000 persons could be gathered together to listen to such rubbish. It speaks badly for either our educational institutions or the intellectual calibre of Manchester working men. If our working men, both in Lancashire and over the country, continue to follow such men as these on labour matters, they will not need to be much surprised if at an early date they find their industries destroyed, themselves without employment, and their homes ruined; the blind in this case are leading the blind, and a deep ditch is their inevitable destination.

Bleaching, Dyeing, Printing, etc.

METHODS OF WOOL DYEING.—THEIR PRINCIPLES AND PRACTICE.—II.

(Continued from page 66.)

As pointed out in the first article, the methods of applying dyestuffs to wool, or any fibre, must take into account primarily the nature of the dyestuffs themselves, and then the nature of the wool fibre must be considered, some of the properties of which have already been pointed out.

The dyestuffs, independently of the question whether they be derived from natural sources or be of artificial origin, may be roughly divided into four groups, some of which may also be subdivided again, as will be shewn later on. These groups may be named the neutral, basic, acid, and mordant dyestuffs. The first two classes are practically dyed in the same way, but as there is a considerable difference in the chemical composition of the colouring matters comprised in them, it will be best to consider them separately.

1st Method.—This method is used in applying the now large and increasing group of azo dyestuffs, which are characterised by being able to dye unmordanted cotton from a simple boiling bath. The dyestuffs that are applied by the method now to be described include such as benzopurpurine, chrysamine, chrysophenine, titan red, titan yellow, benzo brown, diamine red, diamine brown, diamine blue, congo blue, congo red, etc. The dyeing is done in a bath at the boil. If the bath contain only the dyestuffs there would be a liability for the dyeing to be uneven, to prevent which a saline compound such as salt is added. Taking it all round, salt is the best body to add, as it suits all colours very well indeed. Then come Glauber's salts, borax, and phosphate of soda, which can all be used, but, owing to their slight alkaline properties, they are not so good as neutral salts like the two last named. When these colouring matters are dyed on cotton some of them dye best in a bath containing potash or soda; but these bodies, for reasons previously pointed out, are not available in wool dyeing, and should never be used. Wool dyes best in a slightly acid bath, and this may be taken advantage of in dyeing the yellows and blues of this group by adding a small quantity of acetic acid. The reds, as a rule, are affected by acids, and therefore it is not possible to use an acid bath with benzopurpurine, congo, etc.—with the possible exception of the titan reds and scarlets and diamine scarlet, which are faster to acetic acid than the other reds of this class of dyestuffs.

Probably the best plan of dyeing these colours is to first heat the bath to about 150° F.; then enter the goods, and turn over two or three times to ensure that they are thoroughly impregnated with the dye liquor. The bath is now raised to the boil, and steam being turned off, the goods are left for about half an hour, when as a rule they will be found to be thoroughly dyed. A common method of working is to enter the goods when the bath is at about 150° F., and after raising to the boil to work for half to one hour at that heat, but the plan just described gives rather better results, and is far preferable. The dye baths as a rule are not completely exhausted, except when very pale shades are being dyed; in no case is it necessary to throw the dyebath away, but simply to add the required amount of dyestuff for a new batch; with those colouring matters which are not entirely extracted a smaller amount, generally about two-

thirds only, is required to be added, with about one-third the quantity of salt which was added to the first bath. Of course it is not advisable to keep the same bath or liquor in work from one year's end to another, but after about 20 or 30 batches of goods are dyed, to throw it away and start a fresh liquor.

As a rule it will be found that these dyestuffs are more thoroughly taken up from the bath than is the case in dyeing cotton; thus, often with the same amount of dyestuff in proportion to the material used the wool will dye rather a deeper shade than will cotton; in some cases, especially with the blues and violets, the shade is greatly different on wool from what it is on cotton, being generally redder and much stronger. While the shades are somewhat faster to light on wool than they are on cotton, they are no faster to soaping, and in some cases not so fast. What may be the function of the salt, or other such added substance, is not very clear; probably it plays the same part as do similar bodies in dyeing the basic dyestuffs. (The dyestuffs which are referred to above are all derived from coal tar.)

There are but few natural dyestuffs that have any direct affinity for wool. Turmeric, saffron, annatto, are about the only representatives, and these are not of much importance in wool dyeing by themselves, although they are sometimes used in conjunction with other natural dyestuffs, when they are applied by a process which is adapted more especially for the other dyestuff which is used.

2nd Method.—The method of wool dyeing now to be dealt with does not differ essentially from that described above, but as it is applied to quite a different class of dyestuffs, it was thought better to consider it as a second method. The dyestuffs made use of in this method are what are called the basic coal-tar colours, and it may be remarked in passing that there are no natural colouring matters having the same properties. These dyestuffs are derived from a number of so-called colour bases, such as rosaniline, pararosaniline, methyl-rosaniline, phenyl-rosaniline, and auramine base. Many of these are colourless bodies containing the amidogen group NH_2 , which imparts to them basic properties enabling them to combine with acids to form salts, and these salts have a strong colouring power. They form the commercial dyestuffs, so that magenta, saffranine, thioflavine T, auramine, benzoflavine, brilliant green, methyl violet, etc., are salts (usually the hydrochloride), of colour bases. Bismarck brown, aniline yellow, and chrysoidine are hydrochlorides of amido azo bases. All these basic dyestuffs have a strong affinity for the wool fibre, and will immediately combine with it, dyeing it in colours which resist washing, etc., to a considerable extent, although there are great differences between the various members of the group in this respect. It has been shewn that what takes place in dyeing wool with these colouring matters is that the colour base combines with the wool fibre, the acid of the dyestuff remaining in the dyebath. Although it is possible to dye wool with the basic colours from a plain bath containing water only, yet the results are not satisfactory, especially when working on a large scale, and for dyeing pale shades especially, the affinity of the dyestuff for the fibre is so great that the first portions of the goods which are entered into the dyebath have a great tendency to absorb all the dyestuff, or the larger proportion of it, so that uneven dyeing is the result, one end of the piece of cloth being darker than the other end. This defect is particularly accentuated when pale tints are being dyed, the colouring matter being completely absorbed before all the goods are entered into the bath, but it may be remedied by adding the dyestuff to the bath in small quantities at intervals during the process of dyeing. The best and most satisfactory method, however, is to add to the bath 10% of the weight of the wool of Glauber's salt or some other neutral alkaline salt, which addition almost entirely prevents any defect of uneven dyeing. How these assistant mordants act is somewhat uncertain; the explanation generally given is that they exert a slightly solvent action on the dye-stuff, and so prevent it from going upon the fibre too readily. This is scarcely an adequate explana-

tion, but in want of a better it will have to stand.

The affinity of the basic dyes for wool increases with increase of temperature. This is a property that has an important bearing on the method of dyeing, and to any person who pays some attention to theory in its practical applications it indicates the most rational method of working, which is to enter the goods into the bath cold, or, at the most, at a hand heat; then, after working a short time to get the goods thoroughly impregnated with the dye-stuff, to gradually raise the temperature to the boil and work for from half an hour to an hour longer, even if before this time the dyebath be exhausted. The reason for giving a fair length of time in the bath is to get the colour properly fixed on the fibre. The combination of the dyestuff and the fibre is a chemical one, and, as stated above, the dyestuff has to be decomposed so that the base may combine with the essential constituent of the wool fibre, while it is obvious that this decomposition and then the union of the colour base with the wool must take time, and as it is effected most easily and completely at the boiling point, it is advisable to work the goods in the bath so as to fully insure that they are given this necessary time for the chemical change to take place.

The dye-bath is generally completely exhausted of colour; but if fairly clean it need not be thrown away, but used for another batch of wool by simply adding new dye-stuff and some more Glauber's salt. After a time the bath gets too dirty to be used, when it may be thrown away, and a new dye-liquor made up.

In dyeing for pale shades it is best to add the dyestuff in small quantities at intervals during the process of dyeing, and to run the goods quickly through the bath, so as not to give the dye-stuff too much opportunity to become absorbed by a portion of the goods only.

Working according to the hints given above, the dyeing of wool with the basic coal-tar colours may be carried out in a very satisfactory manner.

(To be continued.)

HELIGOLAND YELLOW is a new direct-dyeing yellow dyestuff introduced by a German firm of colour makers, which gives fast bright yellows on unmordanted cotton.

HALF-SILK goods of cotton and silk can be dyed—the cotton black and the silk some other colour—by a process devised by Kaiser and Schultz, of Zittau. The goods are treated to a tannin-bath, and then padded in aniline black liquor of 7° to 9° Tw., aged, washed in water, and padded again in aniline salt, after which the goods are treated to an acid bath to remove the tannin from the silk, which is left in a white or yellowish-white condition, ready to be dyed with any acid-dyeing dyestuff. The details given above are scarcely sufficient to give a dyer an idea of the process and of the results which may be attained by it.

BLEACHING LIQUOR was patented by Charles Y. Tennant in 1798, and was made by passing chlorine into lime-water. A combination of the Lancashire bleachers, however, raised a law-suit, and succeeded in obtaining a decision that the patent was void on the ground of want of novelty. In the following year Tennant patented bleaching powder, which patent was not opposed, and since then bleaching powder has been in constant use for bleaching cotton. Nevertheless, at first, owing to ignorance of the best method of working with it, and the consequent damage to tendered pieces, many bleachers after a first trial discarded it to return to the old method, only afterwards to resume its use as experience was gained of its benefits.

INDIGO in dyed woollen goods may be estimated by the following process, which is described by M. de Bechi:—50 grammes of the sample of blue-dyed cloth or yarn is taken and boiled with caustic soda solution until the material is dissolved. The solution is now neutralised with hydrochloric acid, which precipitates the indigo, and the latter is then collected on the filter and washed. Next, it is treated with sodium hydrosulphite, made by

boiling bisulphite of soda with zinc, which dissolves the indigo from this solution. It is again precipitated by addition of acid, filtered, washed with water and acid, and water again and then dried. It is now dissolved by means of fuming sulphuric acid, and the amount of indigotin is determined with permanganate of potash in the usual way and the quantity of indigotin on the fibre is ascertained. The results are said to be good. Two analyses are given of the same piece of cloth—in one 2.77% of indigotin was obtained and in the other 2.50%.

Fustic contains two colouring matters, one of which is known as morin or moric acid. This is probably the true colouring matter, and by suitable means it can be obtained pure, when it assumes the form of pale yellow lustrous needles, which have the composition indicated by the formula $C_{18}H_{10}O_5$, H_2O . It is quite insoluble in water, but is slightly soluble in hot water, and freely so in alcohol. With the usual mordants it forms colour-lakes, chromium giving a yellowish brown, iron an olive green, aluminium and tin yellow. It is not readily acted on by oxidising agents. Caustic alkalis convert morin into phloroglucin—a body which is also produced in the same way from quercetin, the colouring principle of quercitron bark, which shews that between these two colouring principles there must be some close resemblances. The second colouring principle of fustic is maclurin, or morintannic acid, as it is sometimes called. This body has the composition shewn by the formula $C_{21}H_{12}O_{12}$, H_2O . It forms pale yellow crystals, which, unlike those of morin, are freely soluble in water and in alcohol. Like morin it forms colour-lakes with mordants similar in character and colours. The relationship that exists between the two colouring matters of fustic is not known. It must, however, be of a different character from that which exists between the two colouring principles of logwood—hæmatin and hæmatoxylin.

DYESTUFFS sometimes give very good results when tested on a small scale in the laboratory, and then, when tried on a large scale in the works, they come out very badly, in consequence of which some dyers look askance on laboratory trials of dyestuffs. These troubles arise in various ways. In the laboratory the dye trials are usually carried out in glass or porcelain vessels, often heated in a water bath, and thus giving a uniform heat to the dye liquor; while, on a large scale, the dyeing is done in large wooden or sometimes metal vats, heated by steam coils. The difference in the material of the vessel may in some cases have some influence, and with a steam coil in a large vat it is difficult to ensure uniformity of temperature, which is often a matter of some importance to ensure level shades in dyeing. Then again, with those dyestuffs which have a strong affinity for the fabric, there is a great tendency towards uneven dyeing. In the laboratory trials this is often overcome unconsciously by the frequent stirring to which the goods are subjected; but when the colouring matter is tried on a large scale this cannot be done, and so the colour goes on unevenly. Then again, the relative proportions of dyestuff, water, and goods, have some influence on the result, and it is not easy to ensure that the same relations exist on the large scale as on the small scale. Further, perhaps the laboratory trials are made on yarn, and the large-scale work on cloth, or the two methods may be applied to two differently woven samples of cloth, or to yarns of different twists and counts, and dyers are well aware of the fact that these differences result in different shades being obtained. With the exercise of a little judgment and care on the part of the experimenters there is no great reason why there should be any great difference between the results on a large scale and those on a small scale. The latter should always be carried on in a manner as nearly approaching to the conditions of the large scale as can be conveniently attained.

A MEETING of sheep-owners in Victoria has decided to send a complete exhibit of Victorian wool to the Chicago Exhibition.

MR. HOLT HALLETT, DR. BAHADURJI, AND INDIAN MILL OPERATIVES.

The following articles, copied from the *Din Bandhu*, a native newspaper published in Bombay, and "devoted to the interests of the working classes," is in continuation of articles on the above subject which appeared in previous numbers of that journal, and were reprinted in *The Textile Mercury* of November 28th, 1891, and January 16th and 23rd, 1892:—

No. 3.

Verification is the best mode of ascertaining the truth. We think, therefore, it is the duty of every fair critic, if he can, to go to the bottom of things and see for himself with his own eyes whether the existing condition of things correspond with what Dr. Bahadurji and our contemporary the *Bombay Gazette* maintain. We have tried in our two back numbers to shew that the mill hands are in no way better fed or better clad, and that their women do not put on jewellery on their persons. At least we do not interpret the word jewellery in the same sense as our doctor seems to do. It would have been far better and more convenient had the doctor given the names of some of the ornaments that he is pleased to term by the name "jewellery." As a rule every Hindoo woman is sure to wear some ornaments, however trifling in value they may be, on her person. She does so, or rather she is obliged to do so by the custom of the country.

The value of such ornaments ranges from a few annas to hundreds of rupees according to the means of the wearer. The women of the working classes generally wear ornaments of the value of 2 to 15 rupees the most. These ornaments chiefly consist of a *nath* or nose-ring, a *mungal-sootra*, *got-patalia*, bangles, ear-rings, etc. The two first are essential for a married woman. If Dr. Bahadurji alludes to these ornaments by his term jewellery we have nothing to say. But, if otherwise, that is to say costly jewellery worth hundreds of rupees, we protest strongly against such assertion. At the same time it must be borne in mind that there may be a very few exceptions to what we have said above, and they are hardly worth consideration.

It is quite possible that Dr. Bahadurji having at the eleventh hour been selected to be sent to England by the mill owners in order to watch their interests during the late Hygienic Congress, he might have paid so to speak a few flying visits to some of our Bombay mills in order to store his mind with facts about our Bombay mills as far as he could, to be able to represent the mill-owning interests before the Congress. If so, it is not unlikely the worthy doctor has relied on second-hand information supplied both by the Reports of the Factory Commissions and by the mill-owners, and based his arguments thereupon. We think it is very difficult, nay, impossible even, to know the true state of our mill-operatives unless one has actual experience or unless one makes it his special study. The superficial view of a thing alone is not sufficient to arrive at any precise and definite conclusions as to its real state. We are led to conjecture, therefore, that during such flying visits to some of our mills Dr. Bahadurji might have seen some of the coquettish *Naikins* or head women of the reeling rooms—very notorious creatures. And some of the equally bad reelers working on the front reels where visitors generally take their stand—a trick only known to our *Naikins*—with their peculiar bewitching airs, nice dresses, and ornaments of value. And such sight, we think, might have made impression on the mind of our professor, and led him to form a favourable opinion about their general condition. Had the doctor taken the trouble of going through all the *gullies* of the reeling room, we doubt not, he would have come in contact with many a reeler with rags and no ornaments. As a rule the fairer faces wear better dresses and nicer ornaments. And why should it be so? Here lies the mystery of the whole thing. A slight enquiry would have convinced the doctor that such ornaments could not come into their possession by honest labour. Such ornaments have their own obvious history. We reserve our remarks on this point for a future number. The extremely few well conducted wearers of a higher class of ornaments are generally the wives of head jobbers, jobbers, etc. And these articles may be valued at between 30 and 100 rupees, taken together, and such cases never exceed 10 per cent. in each of our Bombay mills. And in most cases their husbands are sure to be in debt. On the other hand, we are prepared to shew not by tens only, but by hundreds, those who put on ornaments from 2 rupees to 10 rupees worth. This surely cannot be a fair indication of their better and improved condition. It is an undisputed fact that a mill labourer, whether male or female, does not spend more than 10 rupees per annum for his or her whole year's clothing. In the face of so many facts to guide us, we cannot but say that the picture has not been simply overdrawn, but fearfully distorted. It is needless to add that our criticisms so far have been confined solely to the cotton spinning and manufacturing factories of this city.

No. 4.

What we have already stated in our previous issues is, we hope, sufficient to shew the hollowness of the arguments used by Dr. Bahadurji in his reply to the statements of Mr. Holt Hallett. Our comments will enable the discerning public to form a true estimate of the real state of things in our spinning and weaving mills on this side of India. We have so far tried to shew clearly that the description given by Dr. Bahadurji does not correspond with facts and with the account of our reelers, and that it is misleading and based on second-hand information; the arguments are one-sided and lean towards millowning interests. Whoever will take pains of going through the reasonings of the worthy doctor will not fail to see things exactly as we do. Our experience differs vastly from that of the doctor. What we maintain can be borne out by the experience of several others who have sometime or other had the chance of serving in the mills. We hold the latter better authorities in this respect since they have risen from among the mill operatives and have still the opportunities of mixing and working with them almost daily. They have served in several mills, have seen the existing condition of things with their own eyes, have experienced the excessive heat of the card room, etc., have suffered not a little from willow dust and from want of ventilation, they can say from their actual experience that they were at least quite unable "to bear any amount of heat" as Dr. Bahadurji asserts. To perspire all the day long was their lot. They were in constant fear of losing their places. If one were to ask a mill hand "*kase kaya chhalale ahe?*" or how are you getting on? would meet with the inevitable reply, "*Jato divas to opala*" i.e., passing on existence. They know many instances of forfeiture of wages with little or no fault on their part.

We are by no means surprised at the strange views taken by some of our contemporaries and also at the perfect silence observed by others on such a delicate and important subject as this. Unfortunately for the operatives impartial writers are not in a position to study and understand the true condition of the mill operatives. They can only know it from second-hand sources. Unfortunately there is not a single workman here who can ably defend his own as well as his fellow-worker's cause, and it is not easy to obtain a disinterested and able champion to represent their interests. Our politicians and young patriots are for congresses and for seats in Councils of the Indian Empire and cannot be expected to descend to such levels. We will leave the reason of this to be explained by Professor Selby, of Deccan College, who once read them an excellent lecture on their unmanly apathy and selfishness.

We will give a striking instance to-day of the capricious way in which our Bombay spinning and weaving mills have been working. It is well known that whenever some philanthropist pleads for the poor operatives urging that they do not get sufficient leisure though they work from dawn to dusk and seeks to secure a restriction of their working hours, the mill-owners raise such a loud cry as to make heaven and earth re-echo with them; they accuse the philanthropists of cruelty to the operatives by indirectly causing reduction in their earnings. Herein the capitalists would seem to shew a commendable solicitude for the workmen. Now to test their sincerity.

In the year 1890 when the China cotton market was dull and yarn could not be sold at usual prices, the Mill Owners' Association here unanimously resolved to close certain mills for eight days in a month for a period of three months. And what did they do? They met the wages of the operatives for all the days the mills were stopped. This was indeed practical sympathy for the men's reduced earnings! The short time movement of 1890 however produced wholesome effects in the long run. The last Factory Commission took note of the event, and this eventually led to the securing of four clear holidays in a month for the mill hands. The mill-owners could offer no objection since they were the originators of the "short time movement." They were brought to their senses by their own losses by making their mills work continuously. They saw their own mistake though late. The work of the last Factory Commission was thus considerably facilitated and it was no mean success notwithstanding that the honourable gentlemen composing the commission did not comply with all the demands of the Mill Hands' Association. We deem the labour of the last Commission as a stepping stone in the way of ameliorating the condition of the helpless and so long neglected operatives.

While Dr. Bahadurji and his colleagues were accusing very loudly Mr. Holt Hallett and others that they were perpetrating cruel kindness towards the operatives by trying to secure a limitation of the working hours, the China cotton market again went down and yarns would not fetch proper prices, the mill-owners felt uneasy. They could not prevent the fall in price. Again the mill-owners met in a body, passed a resolution for the "short time movement," and the poor operatives are consequently made to suffer!

Yet it would seem they are not content: reduction in

the existing rates of wages is under contemplation. A committee has been appointed to advise upon an uniform scale of reduced rates for all the mills. Of late years the mills have not been doing well and this is the only excuse for the reduction. And this is their philanthropy! There is hardly an instance in the annals of the Indian mills where the capitalists have increased wages though the mills have been making immense profits before this. The accusers of Mr. Holt Hallett and of his supporters are silent now, and have not the courage to acknowledge their mistake. It is evident that the mill-owners look to nothing but their own interests.

If the limitation of working hours is likely to cause many to starve, will not the "short time movement" do the same? Are the operatives willing to suffer the loss? Are they not complaining bitterly for less earnings? Is this the reward for their steady work of so many years? Is it their fault that the market is dull? We should be glad to learn what the worthy doctor and those whom he represents have to say regarding the present short time movement.

JUDGE HUGHES ON WORK AND WAGES.—His Honour Judge T. Hughes ("Tom Brown") presided at the first of a series of lectures under the Oxford University Extension Scheme, delivered by Mr. J. A. R. Marmott, M.A., on "Work and wages," in the Grosvenor Museum, Chester, on Wednesday night. In moving a vote of thanks to the lecturer, Judge Hughes said it was just 40 years since the English Parliament passed the Industrial Provident Societies Act, which he and those associated with him had been accustomed

to call the Magna Charta of labour in England. He was bound to say he thought in the early days of the labour movement, 40 years ago, there were more hopeful signs of its advance in the highest and best way than there were at the present day. The watchword in these days was a fair day's wage for a fair day's work, but he was inclined to think what they had to aim for now was a fair day's work for a fair day's wage. One of the effects of the great success of the movement in the past 40 years had been to reverse the position, and now it was by no means easy to get men to put their best skill and ability into their work. One of the dangers of the trade union combinations was that they did not encourage their members to give their very best work for the wages they received. Their object rather was—he did not say it had gone very far in that direction yet—but there were signs that the object of some at any rate was to endeavour to get the workman to give very moderate work for his wages, and moreover, worse than that, to prevent men from working as much as they liked or for whom they liked.

Designing.

NEW DESIGNS.

COTTON DRESS AND SHIRTING DESIGN.

We give a design which will be found useful in fancy shirtings, dress goods, etc.; 52 to the round; 100 ends of warp give full repeats; 72 ends per inch; 20's twist for warp, 72 picks per

inch of 20's weft. If the figure be developed by a 16's weft, 60 picks, a bolder effect will be produced. For a fancy shirting the ground and weft may be in light tints of China blue, or very light fawns; if woven all grey in the piece any shade may be easily obtained in the dyeing. This fabric would look charming, well bleached and finished. It is worthy of experiments in colour arrangements and varieties of counts in warp and weft; also in silk or linen materials.

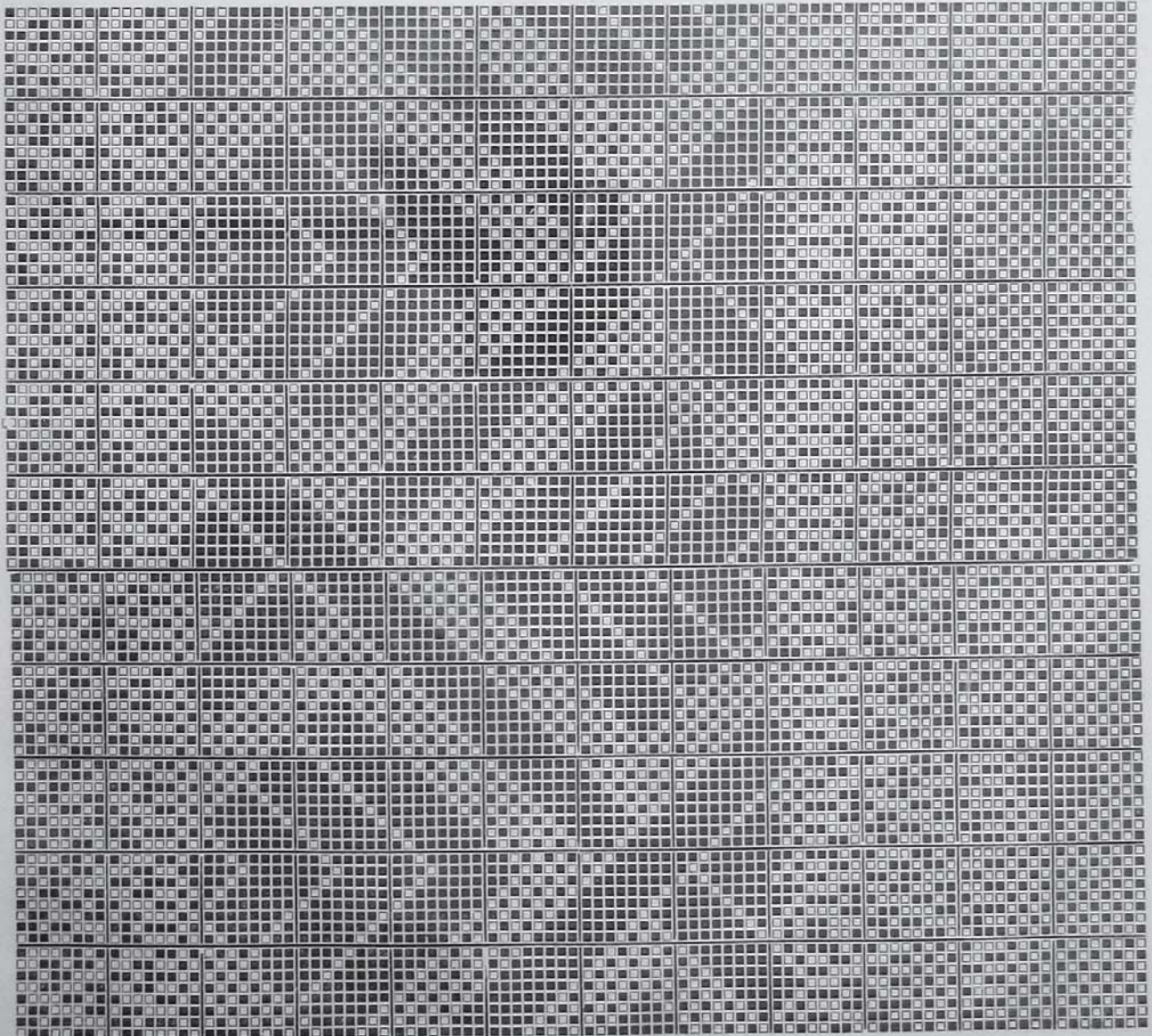
FANCY PLAIDS.

On the ordinary four-shaft twill weave, 80 ends per inch, 24's warp twist, 80 picks per inch of 24's weft, 45 inches wide, beetle finish.

1st Pattern: 8 red, 12 blue, 16 black, 4 green, 4 black, 4 green, 4 black, 12 green, 4 white, 12 green, 4 black, 4 green, 4 black, 4 green, 16 black, 12 blue. Commence the repeat from "8 of red." Weft check the same.

2nd Pattern: 4 red, 20 black, 20 apple green, 8 red, 4 dark green, 4 red, 12 green, 4 red, 4 green, 8 red, 20 apple green, 20 black, 4 red, 20 royal blue, 8 red, 4 blue, 4 red, 8 blue, and repeat from first "4 of red." Weft pattern same.

3rd Pattern: 48 royal blue, 4 black, 4 blue, 4 black, 8 blue, 32 black, 4 bright yellow, 72 light green, 4 bright yellow, 32 black, 8 blue, 4 black, 4 blue, 4 black, and repeat from "48 royal blue." Weft checking the same.



COTTON DRESS AND SHIRTING DESIGN.

Machinery and Appliances.

IMPROVED BALE BREAKER.

MAKERS: MESSRS. DOBSON AND BARLOW,
BOLTON.

The progress of improvement is gradually carrying the cotton trade nearer to, though it may never reach, the goal of perfection. The origination and concentration of the modern system of cotton manufacturing in Lancashire, far away from the fields in which the raw material is produced, necessitates its being transported hither in the most economical and advantageous manner attainable. This involves another necessity, that of compressing the material into a very small compass for facility and economy of transport. Hence it is that cotton arrives here in a state that requires several processes which could almost be dispensed with if no compression had taken place.

described above, several other incidental advantages have arisen. It was found that it not only relieved the opener from a severe strain and the cotton from injury, but that it freed the cotton from all heavy and hard foreign impurities, thereby greatly lessening the risk of fire. And, further, it considerably reduced the expenses of the older plan of hand-opening the bales, an advantage that always forms a great recommendation.

We have pleasure in presenting our readers with an illustration of this machine as made by Messrs. Dobson and Barlow, of Bolton. The machine, as shewn, consists of a lattice feed 3ft. wide, with four pairs of rollers weighted by strong spiral springs. The first three pairs are made in sections, with strong teeth. In the event of any of these teeth getting broken, the section can be removed and easily replaced, thus obviating the expense of a new roller. The last pair is coarsely fluted. Each pair is arranged to work at a different speed, the first pair being the slowest, and the rate increasing in each case up to the last. They can be arranged to give any required draught, and thus secure the best features of hand-

It is fitted with plain feed and delivery rollers to further assure freedom from risk of injury.

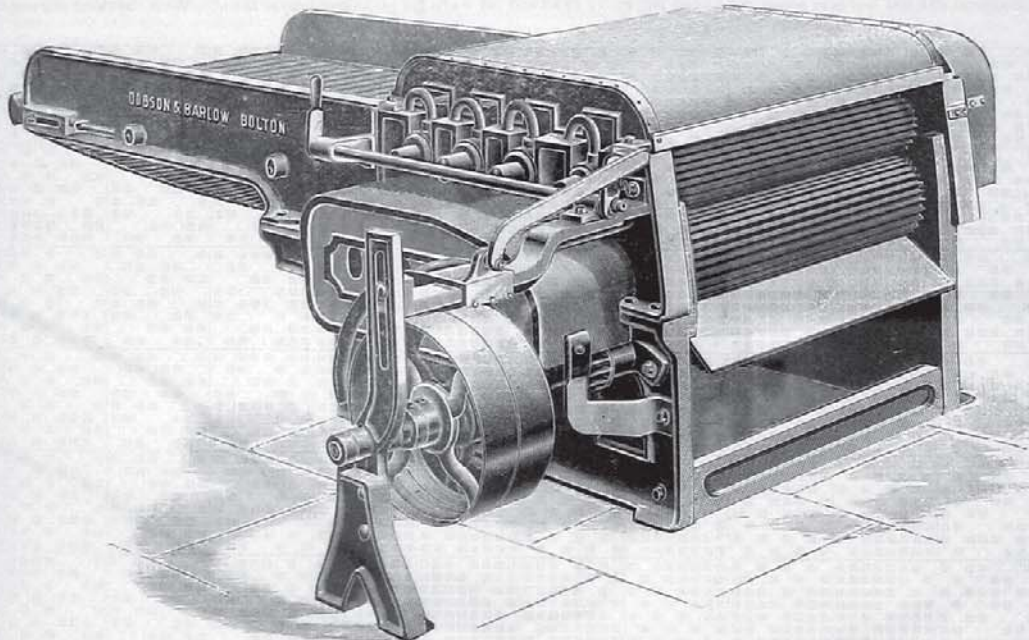
The machine, with four pairs of rollers, will open from 80,000 to 90,000 lb. of cotton per week. This exceeds the quantity that can be obtained from the other forms referred to.

Mixing lattices, 2 ft. wide, with reversing and slackening motions, can be supplied in connection with these breakers, and so arranged as to deliver the cotton at any required point. The connection between the breaker and the mixing or distributing lattices is formed by an elevating lattice, 3 ft. wide, which raises the cotton from the breaker to them.

Any further information will be supplied by the makers.

THE ELECTRIC TRANSMISSION OF POWER.

Amongst men of advanced intelligence there have long existed certain fears and hopes that generally do not trouble the rest of the world. The former relate to the possible exhaustion of the coal supplies of the earth, and especially of this country. The men of pessimistic tenden-



IMPROVED BALE BREAKER.—MESSRS. DOBSON AND BARLOW, BOLTON.

Until within the past half-dozen years the spinner contented himself with having the compressed cotton opened by hand in a very imperfect manner, relying upon the breaker opener to do all that was necessary afterwards. It was found, however, that to feed to these machines the matted lumps of cotton as it came from the bale had two bad effects: it was a severe strain upon the machinery, leading to frequent breakages which it was desirable to obviate; while another and not less important effect was the damage done to the cotton by the matted masses being brought under the influence of the beater, which, before it could loosen the fibres from one another sufficiently to detach them, necessarily inflicted considerable injury. This shewed itself subsequently in a dull and rough-looking yarn, the strength of which was also considerably deteriorated. These facts having been recognised led to the search for a remedy, the result being the bale breaker, or cotton puller, as it is variously called, which is now regarded as an indispensable machine in a well-equipped mill. In endeavouring to obviate the faults we have

pulling. It is adapted to work fair and good American and Egyptian without any risk of deterioration.

All the gearing and rollers are carefully guarded with iron covers, and ready means of perfect lubrication are provided.

For Indian and the lower grades of American cotton it is made with two pairs of toothed rollers, and a small porcupine cylinder made of hardened steel teeth rivetted on to circular rings.

The firm also make a modification of this machine, which is furnished with two single-toothed rollers, and a set of pedals under each roller. These pedals are arranged so that the thin as well as the thick places of the cotton are retained and properly separated before passing forward, and this is done across the width of the machine. The pedals are weighted with adjustable weights, so that the pressure upon the cotton may be regulated exactly to the quality and requirement of each case. This type is specially designed for working the Egyptian and the better classes of cotton, in which it is necessary to take every care of the staple,

cies of mind look with great apprehension upon the possible early eventuation of this contingency, the dreadful consequences that would arise from it in the decay of our industry and commerce, and the loss of wealth and political power that would result. The optimists put on a cheerful countenance, and declare that long before that day arrives science will have revealed other forces now lying idle in the carcase of Nature, and which man will find as much superior to coal and steam power as the latter force is to the human and animal power which it superseded. In proof of this they point to the wonders already achieved by electricity, and declare that this science has far greater things in reserve. In these views we are inclined to believe. Of course we are aware that as yet almost all the value we get from electricity is primarily derived from coal and steam, and if nothing else could be substituted, on the failure of coal it would all collapse. But electrical and hydraulic engineers look to a more sure, inexhaustible, and permanent source than this, in water-falls, flowing rivers, and the action of the tide. That they are justified in so doing is evident from recent experiments. What these are has just been concisely stated by Professor Sylvanus P. Thompson, of the

City and Guilds' Technical College, Finsbury, in a letter to *The Times*. He says:—

Those who followed the series of articles in *The Times* in September last upon the Electrical Exhibition of Frankfurt will be interested in hearing of the results which have attended the remarkable demonstration of the electrical transmission of power from Lauffen, on the Neckar, to Frankfurt, a distance of about 110 English miles.

The transmission was designed for about 100-horse power, which was taken from the rapids in the river at Lauffen by means of turbines, driving a dynamo-electric machine of the "three-phase" pattern, and transmitted to Frankfurt by three copper wires, each less than 1/4 in. in diameter, stretched from pole to pole along the route, beside the railway, through Hanau, Esselbach, and Heilbronn. At Frankfurt these wires supplied electric currents to 10,000 glow lamps, or their equivalent, or to a 60 horse power motor, and an additional number of lamps. By means of special transformers at each end of the line the electric pressure was raised to the amount, first, of 12,000 volts, then to 15,000, and later to 30,000 volts, thereby enabling large power to be conveyed through the comparatively thin wires without the great loss in efficiency which would have occurred at a lower voltage.

For three months the result of the elaborate tests applied by the jury of experts under Professor Weber, of Zurich, has been anxiously awaited. Now that the tests are completed, it is gratifying to know that the prophets of evil have been disappointed. To put it briefly, the final result is as follows:—When 113-horse power was taken from the river at Lauffen, the amount received 110 miles away at Frankfurt through the wires was about 81-horse power, shewing an efficiency, in spite of all possible sources of loss, of 72.16 per cent.

With this splendid result to encourage electrical and hydraulic engineers, it will be expected that many schemes for further developments will now be put upon an assured basis. It will obviously be a mere question of means whether, as is proposed by the electricians of Chicago, the coming Exhibition of 1893 will witness there the transmission through wires of 1,000 horse power taken from the Niagara Falls. Already electric transmission has supplanted rope-transmission at Schaffhausen. And we are yet only at the merest beginning of this new branch of engineering development.

It will thus be evident that there is just ground for entertaining high expectations of great results from this source in the future. If it be objected that in this country we have neither water-falls nor rivers from which we can hope to derive much advantage, we reply that our islands are as richly endowed in proportion to their size as any country in the world. In the flowing and ebbing of the tides around our coast there is a store of power that mankind can never exhaust, which would supply their greatest drafts upon it in a thousand-fold volume. What are often regarded as dreams of visionaries, and held to be of no value, are sometimes the provisions of genius only awaiting the development of time to become realities. The use of force derived from tidal action is one of these. What a grand advance this would mean! The most powerful, subtle, obedient, and silent force of nature will then have been subordinated to man's use and service. It will carry his voice from town to town, and his written messages from land to land; it will operate the machinery in his mills, drive his trains on the rails, and propel his ships through the seas. By its use fogs will be prevented, and blue skies assured above, and green fields beneath us; and there will no longer be thousands of furnaces belching the products of combustion into the atmosphere, poisoning and destroying the health of every one within range of their influence. We will continue to believe that this is one of the blessings that nature has in store, if not for us, at least for future generations.

THE TAXATION OF MACHINERY.—The Hand-Framework Knitters' Union have addressed a circular to various trades-unions with reference to the taxation of machinery. The circular points out that "the effect of the policy of taxing the machinery used in our great textile and other industries has been much misunderstood, and its results to the labouring classes grossly misrepresented. . . . The true interests of the working classes will be greatly prejudiced by any taxes laid upon the machinery (in other words, the tools) with which we earn our wages, and such taxation is a direct tax upon our labour.

Foreign Correspondence.

TEXTILE MATTERS IN THE UNITED STATES.

BOSTON, Jan. 14th.

The editors of the Paris papers are said to have approached the World's Fair Commissioners with certain offers to boom the project. The standard of French journalistic morality is hardly on a level with that of England. Most of your readers will probably know that much, however limited may be their general knowledge of journals and journalism. But it will surprise even such people as these to know that the Paris papers threaten to oppose the Fair unless they are "squared." If, on the other hand, they are provided with the requisite amount of what many American politicians call "soap," these guardians of liberty will condescend to speak kindly of the Chicago Exhibition. M. Jousselin, of Paris, has visited Chicago on behalf of the needy newspaper proprietors of the former city, but I have not heard that the visit has yet proved a financial success. The Department of Publicity and Promotion must have a poor opinion of the enterprise if they find it necessary to subsidise the wretched sheets, with neither circulation nor advertising patronage, which pass in Paris for newspapers. The "Arkymejan lever," as seen in France, is not calculated to move the world at all, unless it be to laughter. If subsidising is to be commenced, there will not be enough money in the country to meet the demands of the horde of claimants which will spring up on every hand. Charity begins at home, and American editors will take good care that subsidising does too.

TRADE IN 1891.

A satisfactory home trade and a slightly increased inquiry from abroad have, notwithstanding low prices, left the American cotton industry in a fairly satisfactory position as the result of the past twelve months' business. Quotations for standard makes of bleached shirtings range from 6 1/2 to 8 1/2 cents, 36 in. "Fruit of the Loom" (the production of a well-known firm whose goods are always in large demand) are 8 1/2 to 8 3/4 cents for 36 in. width. The average price of cotton ducks is now 15 to 18 cents per pound. Glove-finished cambrics commence at 3 1/2 cents for 64 x 64's and 3 1/4 cents for 58 x 60's. Below is a most interesting table, giving the prices of well-known makes of cotton goods since 1864:—

DESCRIPTION.	1864	1871	1872	1873	1874	1875	1876	1877	1878	1879	1880	1881	1887	1889	1890	1891
Sheetings.....	72 1/2	12 1/2	15	14	11 1/2	11	9	8 1/2	7 1/2	8	8	8 1/2	7 1/2	7 1/2	7 1/2	6 1/2
Merrimac Prints	50	12	12 1/2	12 1/2	11	10	8	8	6 1/2	—	8	7 1/2	6	6 1/2	6 1/2	6
Spool Cotton ..	200	80	70	70	70	70	67 1/2	65	57 1/2	55	55	55	55	47	45	45
Corset Jeans ..	52 1/2	12	13	13	10 1/2	10 1/2	9 1/2	8 1/2	7	6 1/2	8	7 1/2	6 1/2	6 1/2	6 1/2	6 1/2
New York Mills	77 1/2	22	21	21	18	15 1/2	13 1/2	12 1/2	10 1/2	12 1/2	12 1/2	13	11	10 1/2	11	10 1/2
Lonsdale	67 1/2	15	18	16 1/2	13 1/2	12 1/2	10	10	8 1/2	9	9	9 1/2	8 1/2	8 1/2	9	8 1/2

The condition of the carpet trade, so frequently referred to in my reports, is such that the creation of a foreign demand appears absolutely necessary if our mills are to be kept going. There has been a marked reduction in all classes of goods according to spring quotations, prices having dropped ever since the commencement of the break in Lowell extra supers, which from 57 dropped to 55, and finally to 52 1/2 cents. Some appear to think that prices have for the present touched the bottom level. Rates cannot go lower unless quality also suffers. Many of the carpets at present sold are, in fact, said to be composed of poor material.

VENEZUELA SAYS "NO" TO MR. BLAINE.

Americans are calling Venezuela all sorts of naughty names because its President, Senor Andueza Palacios, does not fall in with Secretary Blaine's reciprocity ideas. President Harrison, it is said, threatens to reimpose tariff taxes on the sugar, coffee, etc., of the

Latin American countries which have not negotiated reciprocity treaties. Senor Rojas Paul, a prominent Venezuelan statesman, declared in favour of reciprocity when negotiations were commenced by United States Minister Scraggs. President Palacios is said to be jealous of Senor Paul's influence in the Republic, and he issued a proclamation declaring that Rojas Paul had begun to agitate the people against the Government, pronouncing seditious speeches and sending emissaries to the interior country to work up a feeling against the present administration, and that in view of this he gave Rojas Paul twenty-four hours in which to leave the country for ever. Dr. Paul was placed on board a steamer by detectives and shipped to Curaçoa. The champion of reciprocity out of the way, the anti-American sentiment prevailed. The followers of Andueza Palacios were instructed to defeat any attempt at reciprocity. And the propositions of Mr. Blaine were peremptorily refused.

So runs the version sent by the Washington correspondent of a New York journal. It is, no doubt, highly coloured, the object being to discredit the Venezuelan president on account of his opposition to reciprocity. The threat of the United States president, referred to above, may, however, force the Venezuelans into acquiescence with an arrangement which at present they are not disposed to accept. Against this possibly must be set the feeling of indignation created throughout South America at the bullying action of President Harrison's Cabinet in the Chilian affair. The powerful republic is not likely to make headway in the good esteem of its Southern neighbours by such conduct as that which has lately been witnessed on the part of its representatives.

News in Brief.

ENGLAND.

Accrington.

The cotton operatives employed at the Woodnook New Mill, owned by the Accrington Spinning and Manufacturing Co., struck work at noon on Wednesday, owing, they allege, to the masters declining to pay uniform wages among the card-room hands. The spinners in the Woodnook Old Mill also struck owing to the firm having declined to give them a considerable increase upon a week's work on bad material. About 300 operatives are affected. The company have offered to refer the points in dispute to the secretaries of the Masters' and Operatives' Associations. The question of the employment of non-unionists is also involved in the dispute.

Ashton-under-Lyne.

Several of the mills in this town are putting in new machinery to replace that which has gone out of date. S. H. Swire and Co., Ltd., are taking out roller and clearer cards, and putting in revolving flats of Platt Brothers and Co.'s make. At the Wellington Mill (J. H. Gartside and Co., Ltd.), four pairs of new mules, by Messrs. Asa Lees and Co., Ltd., are being put in. The Waterside Spinning Co. have put in a new revolving flat card of Asa Lees's make, which is giving good results.

Bury.

In response to a request from the Spinners' Amalgamation, the local Spinners' Association has forwarded a statement of income and expenditure for the year ending December 21st, 1891, shewing that the former amounted to £1,000 15s 1d., while the latter included: £134 19s 9d. for stoppages through bad trade, £146 15s 7d. out of work pay, £154 13s. 2d. accidents, £65 2s. 7d. strikes, £81 17s. 16d. victims, £22 lock-outs, £24 deaths, £18 emigrants and leaving trade allowances, £20 12s. grants to members in distress, £28 grants to other trades, £37 7s. 1d. to Bury Hospital, Manchester Infirmary

£3 3s., levies to Central Association £133 13s. 8d., to Bury Trades Council £5 2s. 7d.; total £979 9s., showing a nett gain of £21 6s. 1d., against £362 8s. 8½d. for the previous year. Increase of members 22; management expenses 12½ per cent.

Bradford.

The principal business at the meeting of the Council of the Bradford Chamber of Commerce on Wednesday was the election of officers for the ensuing year. Mr. James Gordon was unanimously chosen president, and Messrs. E. P. Arnold-Forster and Charles Fawcett senior and junior vice-presidents respectively. Alderman Smith Feather was elected a member of the Council in place of Mr. Charles Stead.

Bolton.

The firm of Thomas and Joseph Heaton, cotton spinners, Lostock Junction Mills and Delph Hill Mill, near Bolton, will in future be changed to William Heaton. This is a change of name only, as Mr. William Heaton has been the proprietor of the concern for the last seven years.

The engine collapsed at the No. 2 Albion Mill, belonging to Messrs. James Marsden and Sons, cotton spinners, Lake-street, Bolton, on Monday morning. The tenter had just left the engine-house, when the engine suddenly crashed down into the bed, causing an immediate stoppage of the machinery and of all operations at the mill. A new engine will be required, and during its erection the employes, who exceed 100 in number, will be idle.

Brighouse.

The silk dressers employed at Messrs. Ormerod Bros.' mills at Brighouse, who, previous to coming out, thought there would be a speedy settlement, do not see how their application for an advance is to be met at present. The men have been out nearly a fortnight, and are issuing circulars stating their grievances and appealing for subscriptions. The circular points out that nearly two years ago the men suffered a reduction of ½d. per lb. in the price of "steam waste," not because they were paid too much for it, but to assist the masters to tide over the then depression. They have worked full time till a few weeks back, and have asked several times for the old price to be returned, but it has always been refused. A fortnight ago the firm proposed to reduce nearly all the other kinds of silk, and without notice. In soliciting support the circular concludes that they wish it to be understood that should they be forced to submit to the reduction, the example will be followed throughout the trade. The Prince of Wales and Alexandra Mills are two of the largest silk mills in the town, and about 160 men are directly affected.

Barrow.

At a meeting of jute workers at Barrow on Thursday, presided over by the Rev. Henry Williamson, Dundee, the following resolution was adopted: "This meeting of jute workers is of opinion that compensation should be given to piece-workers who lose time and are subject to extra work and trouble in consequence of the unsuitableness of the material supplied to them, and wish the hon. President of the Union to bring the matter before the Committee in Dundee, as the workers in Barrow are completely discouraged with their difficulties." Mr. Williamson strongly advised them not to strike, but to wait until the jute market was in a more flourishing condition. He elicited from many of the workers present expressions of opinion as to the difficulty of working with the bad material, which required greater attention, and resulted in a lessened income.

Clitheroe.

The death of Mr. Joseph Brown, son of Mr. R. Brown, J.P., of Clitheroe, took place somewhat suddenly on Sunday from inflammation of the lungs. Mr. Brown, who leaves a wife and family, had won the high esteem of his townspeople by his genial disposition.

Denton.

The farther intrusion of the cotton trade into the hating town of Denton is likely to become an accomplished fact. The new Alpha Mill Co., Limited, has let its contracts for furnishing with machinery to the eminent Manchester firm of Messrs. John Hetherington and Sons, Limited, in whose hands it may rest assured every justice will be done to them. The plant will consist of 1 bale breaker and mixing lattices; 2 combined openers and scutchers; 4 single scutcher breakers; 4 finisher scutchers, 77 cards, 45 in. on the wire; 21 drawing frames, of 1 head of 8 deliveries 16 in. roller; 2 ditto of 3 heads 8 deliveries; 6 slubbing frames of 92 spindles, 18 in. roller, and 3 ditto of 100 spindles; 16 intermediates of 138 spindles, 19½ in. roller; and 27 roving frames, 180 spindles each, 20 in. roller, and 14 of 176 spindles each. So much for the preparation. The spinning will include rings and mules. Of the former there will be 64 frames of 344 spindles, 2½ in. gauge; and 24 mules of 1,350 spindles each, 1½ in. gauge. This gives a total of 22,000 ring spindles, and 32,400 mules, which are for woft.

Heywood.

In the Conservative Hall, Heywood, a meeting was held on Tuesday night of the members of the Heywood branch of the Card and Blowing Room Operatives' Association, to consider the question of increasing the rate of contributions. It has been decided that the different branches in the amalgamation are to increase their levies in order to build up a reserve fund, and to do this it will be necessary to increase local contributions. Mr. W. Mullin, general secretary, and Mr. W. H. Carr, of Ashton-under-Lyne, secretary to the South-east Lancashire Cardroom Operatives' Association, both spoke strongly in favour of the proposed increase, and said the employers were strong in their wealth, and if the amalgamation was to properly look after its members—who had increased during the past 12 months from 13,000 to 30,000—and protect them they must have a reserve fund commensurate with their numbers. The resolution to increase the rate of contributions was carried unanimously.

Halifax.

Mr. H. E. Greenwood, wool merchant, has been elected to the Town Council for the Southwram Ward.

Huddersfield.

A meeting of the Huddersfield Chamber of Commerce was held on Tuesday to consider the advisability of making a display of manufactured products of the district at the Chicago Exhibition. Mr. George Thomson presided, and there were only nine other gentlemen present. The Chairman stated that Mr. J. H. Sykes was unable to attend, but he had expressed himself favourable to a collective exhibition of goods being made. It was not supposed that any individual advantage would be got by an exhibition, but it was felt most desirable that there should be a display in order to keep Huddersfield products before the world. Discussion and a resolution were invited, but there seemed to be considerable apathy on the subject. Mr. Dyson moved that a circular should be issued to manufacturers who had exhibited at Melbourne inviting their co-operation, but it was not seconded, and as only four of the gentlemen present expressed their willingness to send goods for exhibition, it was decided that the Chamber should take no action, but leave the matter open to individual action.

A lecture on "Harmonious Colouring" was delivered on Saturday afternoon at the Technical School by Mr. C. H. Wilkinson. The lecture, which was of a highly technical and elaborate, but of a very interesting nature, dealt with a system invented by the lecturer himself. It explained how the seven colours, primary and secondary, of the spectrum were arranged, like the seven notes in a musical scale, the various shades of each colour being represented by various octaves. The lecturer explained a large number of charts drawn up on this principle by himself, from which it could be told at once what colours and what precise shades of colours would harmonise and what would not. The system was for the assistance of those connected with the dyeing of textile fabrics, the colouring of wall papers, and so on. At the conclusion of the lecture, a hearty vote of thanks was accorded to the lecturer, on the motion of Mr. A. Broadbent, seconded by Mr. F. Abbey, and supported by Messrs. S. Ibeson and Crowther.

Leeds.

On Tuesday evening a lecture was delivered in the Temperance Hall, Burley, by Professor Hummel, on "Theory and Practice in Dyeing," before a good audience. Councillor Lowden presided, and was supported by several local gentlemen, amongst whom were Messrs. James Midgley, Ben Haigh, A. Laycock, and Benjamin Shaw. The lecturer proceeded to trace out the discovery and development of different dyewoods and aniline colours, and shewed, by a large number of diagrams, patterns, and experiments, the superiority of the modern coal-tar colours over the old wood colours.

Mossley.

The erection of Milton Mill, Mossley, is proceeding as well as can be expected, and it is said that it will, with moderately good weather, be ready for roofing in another month or six weeks. Since the company allotted the first batch of shales a large number have been taken up, and the concern may be said to be financially strong and a safe investment for bondholders.

Nelson.

On Friday evening of last week the second destructive mill fire which has taken place in the Nelson district this month occurred, the scene of the disaster being Lomeshaye Bridge Mill, tenanted by Messrs. Steeple and Jackson. The premises consist of a warehouse, with a weaving shed behind containing 645 looms, and at right angles to this structure is another engine-house, with a mill and shed in the rear. The engine-house and weaving shed were saved, but the warehouse was gutted completely. The damage done to the buildings will probably be about £2,000, and the loss sustained by the destruction of the machinery and stock will be about £8,000, both covered by insurance.

New Mills.

At the New Mills Petty Sessions, on Wednesday, Messrs. W. S. Lowe and Sons, cotton spinners, Torr Vale Mills, were summoned for allowing ten young women to remain in a room where machinery was in motion during meal hours on the 4th December last. Mr. R. P. Arnold, inspector, proved visiting the mills on December 4th at twenty-five minutes to one o'clock at noon, and finding the machinery in motion where the women were employed. Mr. A. W. Lowe, son of the proprietor, called the manager, who stated that the engines had been stopped, but the water wheels took longer to stop, and that accounted for the inspector finding the machinery going. It was only two and a half minutes instead of five after the time. The bench fined the defendants 5s. and costs in each case, total £7. The New Torr Mills Spinning Co., New Mills, were summoned for a similar offence. A similar plea in defence was made. A penalty of 5s. and costs in each case, total £2 6s., was imposed.

Oldham.

The Earl Mill Co. have got three pairs of mules at work, and about fifteen carding engines.

It is stated that the saving effected by the tripling of the steam engines at the Boundary Spinning Co., Oldham, is over 18 tons of coal per week.

One of the mills of the West End Mills Co. is closed this week owing to repairs and alterations to the steam engines, which are being converted to triple-expansion by Messrs. Scott and Hodgson, of Guidebridge.

Mr. James Franklin, late manager of the Garfield Spinning Co., has been the recipient, at the hands of the workpeople formerly under his charge, of an elegant marble time-piece and a couple of bronze ornaments to match.

Mr. Joseph Hilton, carder at the North Moor Spinning Co., has accepted a similar appointment under the Pine Mill Co., whose new mill will shortly commence operations, and the mule overlookership has been entrusted to Mr. Samuel Leigh, of the Windsor Spinning Co.

Mr. Alexander Boyd, who is well known in the Oldham district, has been appointed secretary and salesman to the Prince of Wales Spinning Co., in place of Mr. John Wilkinson, who has accepted a similar situation at the Earl Mill Company. The former has already commenced his services.

It is reported that the members of the Oldham Operative Weavers, Reelers, Winders, and Female Warpers' Association have made a new departure in the appointment of three female members on the committee of their association for the ensuing year. The association, as is well known, consists chiefly of females, and as they had no representation on the committee, it was felt undesirable that this state of things should be continued, so that at the recent annual meeting three were selected as "committeemen" to watch the interests of their own class. It is believed that the innovation will be beneficial to the society.

We understand that the new crop of cotton is causing an amount of anxiety amongst spinners in this district, irrespective of that brought about by the unsteadiness of prices and the absence of satisfactory yarn orders. The cotton is said to be of very short staple. Speaking on this subject an Oldham gentleman gave it as his opinion that we are going to have less good stapled cotton, and he thought the reason of this was the fertilisers which were brought into requisition in the cotton states. The growth of the cotton was hastened, he said, by this means, and the consequence would be that we should have quantity but not quality. He also declared that he should not be surprised if the present crop turned out to be nine millions. These observations, at any rate, show how matters are viewed by some people.

On Friday night of last week Mr. Tom Mann, of London, paid a second visit to Oldham in connection with his candidature for the secretaryship of the Amalgamated Society of Engineers. He addressed a large meeting in the Co-operative Hall, King-street, and in the course of his remarks he advocated a more spirited policy in connection with the society, broadening out, and making it more comprehensive and capable of doing the great work which, he said, lay before it, as the embracing of many smaller societies to avoid friction with them, and federation with the large unions in order the better to grapple with the various questions affecting the iron trade. He pointed out that the number of organised men in the engineering trade was within 100,000, while those outside the unions would probably number 500,000, and here he strongly urged there was great need of missionary work, so as to bring them within the ranks of the unionists. At the close of his address a number of questions were asked, and a resolution in his favour was carried by a large majority.

Preston.

The annual meeting of the Preston and District Weavers' Association was held on Tuesday evening in the Weavers' Institute, which was crowded out. The

election of president aroused a lot of feeling, Mr. Thomas Grime, who has held that position for some years, being opposed by Mr. J. Woolley. Contrary to custom reporters were refused admission, but it is understood that on a vote being taken it was announced, amidst a scene of the wildest confusion, that the old president had been ousted by Mr. Woolley. There still remained a large amount of important business to transact; but the appeals for order made by the chairman and committee being ignored, and the persons making them derided, the meeting broke up in disorder.

Radcliffe.

Mr. Francis Hill's employes were given their annual party in the Radcliffe Conservative Hall, on Saturday evening. About 120 persons sat down to a substantial tea, after which a social evening was spent.

On Saturday evening the employes of Mr. Edwin Hardmar, of Stand-lane, had their annual party at the Whitefield Conservative Hall. A substantial tea was provided, to which about 120 sat down, and afterwards dancing was indulged in.

Ramsbottom.

On Saturday the remains of the late Mr. Thomas Greig Stark, J.P., of Rose Bank House, Stubbins, calico printer, were interred at the Bury Cemetery. The deceased gentleman, who was 63 years of age, died in Egypt on the 12th of December, and the body was embalmed and brought to England. He had not only been an employer of labour, but was a member of the Board of Directors and Vice-chairman of the Ramsbottom Paper Mill Co., and Chairman of the Ramsbottom Gas-works Co. The print-works at Rose Bank were closed for the day, the employes being paid as if at work. Twelve of the employes acted as carriers, and representatives and carriages of several local manufacturers attended, and a large number of relatives and friends were present. The funeral procession included a hearse drawn by four Belgian horses, and fourteen mourning coaches. Twenty wreaths were sent, including one from the employes at the print-works.

An agitation is now going on at Summerseat amongst the winders employed at the Brooksbottom Mills, which would appear to shew that the operatives have not the "faith" they should have in the performances of their own officials. Some two years ago, Mr. Birtwistle, general secretary to the Amalgamated Association of Weavers, spent some considerable time going into the particulars of the prices paid to the winders at the above-mentioned mills, in the course of which he paid several visits to the mills, and had a number of meetings with the operatives themselves. The result of all this study and trouble on the part of Mr. Birtwistle, and his interviews with the firm, was that an arrangement was arrived at which appeared to give satisfaction, not alone to the firm, but also to those whom Mr. Birtwistle represented. This arrangement was necessitated through the introduction of new machinery and the placing of the winders on the piece-work system. Many of the finer counts are used at these mills, and it is in regard to these finer sections that the discontent is felt, the winders now alleging, notwithstanding the fact that they agreed to the prices arranged by Mr. Birtwistle, that they are unable to earn what they deem to be sufficient wages. Their secretary has been to see the firm about the matter, but so far as is known with no definite result as yet.

Rossendale.

Mr. J. H. Maden (Gladstonian Liberal), cotton spinner, has been elected M.P. for the Rossendale Division by a majority of 1,225 over Sir Thomas Brooks (Unionist).

Stalybridge.

There are 13,782 shares of £5 each allotted by the directors of the Castle Spinning Co., Limited. Ten shillings per share has been called up. The loan account has now reached £18,000. The mill is expected to be ready for machinery in April.

Shipley.

Messrs. J. Whiteley and Sons, card-clothing manufacturers, of Halifax, have presented to the Shipley Technical Schools a case, beautifully fitted up, illustrating the various kinds of card clothing for both worsted and cotton cards.

The death occurred on Monday of Mr. Joseph Wade, in his seventy-fifth year. He was the second son of the late Mr. Joseph Wade, senior partner in the firm of Messrs. Joseph Wade and Sons, Mill-street, Canal-road, one of the oldest worsted spinning houses in the town. Up to thirteen years ago he was a partner in the firm, with Mr. E. H. Wade, his brother, by whom the business has since been conducted. A son, Mr. Joseph Wade, survives him.

A meeting of the Shipley Textile Society was held at the Technical Schools on Friday evening of last week. Mr. M. Sowden, the president, was in the chair. Short lectures were delivered by Mr. R. S. Dawson on "Wool Fibre" and by Mr. A. F. Barker on "Yarns." The lectures gave rise to an interesting

and animated discussion, in which Messrs. Anderson, White, Brayshaw, Collins, the President, and Mr. F. Bradbury (secretary) took part. At the close of the meeting a vote of thanks was passed, on the motion of Mr. Bradbury, seconded by Mr. Barker, and supported by Mr. Fry, to Mr. Sowden for his efforts in inducing the County Council to make a grant to the society from the funds in their hands for the furtherance of technical education.

Selby.

Messrs. Foxton Bros., Limited, of Selby, have purchased and removed to Selby the yarn-polishing and finishing plant, also the whole of the machinery for making blind and other cords, from J. P. Westhead and Co., in liquidation (Medlock Smallware Co.). This is one of the largest plants of the kind in the kingdom, and Messrs. Foxton intend making this class of goods one of their principal lines.

Tyldesley.

Messrs. Caleb Wright and Co., the noted fine cotton spinners of this town, who recently had one of their mills burnt down, are now erecting a large one of 80,000 spindles in its place. We are informed that the order for the whole of the cardroom machinery has been placed with Messrs. Howard and Bullough, Ltd., of Accrington. This must be very gratifying to the Accrington machinists, as Messrs. Wright and Co., who have contemplated building a new mill for a few years back, have been testing the different makes of machinery to find that most suited to their special class of work. Mr. Richard Threfall, of Bolton, has received the order to supply all the mules. This order also, we understand, has been awarded by Messrs. Wright and Co. after a series of careful tests of different makes of mules.

Winsford.

Last week, the Winsford (Cheshire) Labour Council held a consultation on the advisability of establishing a new industry in the town, owing to the depression in the Mid-Cheshire salt trade. A letter was read from Mr. George Hamlett, proprietor of the Central Salt Works, in which he made an offer to give and convey to a company or private individual about one statute acre of land, on the condition that such company or person would commence to build a cotton mill or start any other suitable industry within the space of six months. The communication also set forth that if a factory was built he would undertake to supply bricks at cost price. Close to the land was a natural run of spring water sufficient for the use of a cotton mill, as well as a reservoir capable of holding millions of gallons of water. The reading of the letter was greeted with applause, and it was decided to request traders to give their support to any worthy enterprise.

Yeadon.

The annual meeting of the Yeadon, Guiseley, and District Chamber of Commerce was held in the Yeadon Town Hall on Monday evening, Mr. Jonathan Peate presiding. The officers were appointed for the ensuing year as follows:—President, Mr. Alf. Brayshaw; vice-presidents, Mr. Jonathan Peate and Mr. S. Barraclough; treasurer, Mr. I. Moon; secretary, Mr. William Laycock.

SCOTLAND.

Glasgow.

The calico works in the neighbourhood of Glasgow are not well off for orders, and short time is probable. The prices obtained for goods shipped to the East are presently very low.

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 and China.	U.S. and Canada.	W. Indies & S. America.	Australasia.	Africa.	Continent.	Totals.	Totals for corresponding week.
£20,118	9,099	170	278	383	—	49,047	332,774
13,001	—	27	643	—	—	13,671	18,274

The following are the total values of the exports for the same four weeks of last year:—Cotton, £339,645; linen, £79,487.

IRELAND.

Belfast.

The eighth annual meeting in connection with the Belfast Technical School was held on Monday in the Ulster Minor Hall, when the prizes and certificates gained by the pupils were presented by the Mayor. Mr. James Musgrave, J.P., deputy chairman of the school and chairman of the executive committee, presided. The report, which was presented by Mr. Wm. Morton, secretary, was of a very satisfactory character.

Dungannon.

We regret to announce the death of Mr. James M'Kee Martin, of the firm of Hale, Martin, and Co.,

spinners, which occurred on Monday. Deceased was only twenty-eight years of age, and was connected with all the leading literary and religious societies in Dungannon. He employed about 300 hands.

Miscellaneous.

THE AMERICAN LINEN INDUSTRY.

The *New York Daily Commercial Bulletin* of the 16th inst. says: The report that a company, backed by Eastern capital, had been organised in Chicago for the manufacture of American flax; that a licence of incorporation had been issued to it under the name of the United States Linen Manufacturing Company; that the capital stock is placed at 3,000,000 dols., and that it had demonstrated to its own satisfaction that it can manufacture the American fibre into as good an article as that made in foreign countries, if true in detail, is of the greatest importance to both the manufacturing and agricultural interests of the country. It would be good news for both; but in light of past experiences, neither interest is likely to grow excited over it until the company actually places its production in successful competition with foreign linens in this market.

It will be remembered that during the discussion on the linen clauses of the McKinley tariff, samples of yarn spun from American flax, and of linen woven from such yarn, were brought into evidence to prove that it only required a greater measure of protection to the domestic industry to start up mills wherever flax was grown, capable of producing anything from the coarsest crash to the finest linen fabric known.

The Chicago enterprise has a clear field before it in the contest. The only mill of any pretensions built since the new tariff came into operation is the Minneapolis concern. The finest linen goods produced by it for market purposes so far are crashes, which are no advance upon what the Stevens Linen Works, Methuen, Mass., have been doing for years past. Indeed, the productions of the latter mill are still regarded in the market as superior to any other native linen fabrics. The Minneapolis mill was to manufacture only from American flax. It would be interesting to know if this determination has been adhered to. The Stevens Mills gave American flax a trial, with the result that their supply of fibre is now entirely imported. There is more than a suggestion in this that the yarn and linens displayed in Washington with so much effect in the tariff proceedings were fancy productions got up for the occasion regardless of cost or other conditions, and quite without bearing upon the industry from a practical standpoint.

A conversation which a representative of the *Bulletin* had with a thoroughly informed gentleman throws some light on the whole situation. This gentleman has been interested with another in endeavouring to prove that it is practicable to spin fine yarn from American flax on a paying basis, and consequently to create a fine linen industry here. They have had some 40,000 dols. worth of experience in experimenting and patenting results, and to-day would infinitely rather have back their money and forego their experience, if the choice were open to them. And yet they have really produced the best results yet attained with American flax. They have procured from it yarn so fine and free from blemishes as to astonish the first spinners in Ireland, and have had woven from it linen equal to the best foreign fabrics. An opinion formed at such a cost and after such results must be a valuable one in this connection. What that opinion is may be gathered from the following:—

American flax, even when it has been properly cultivated for fibre experimentally, has failed to yield fair results when the usual retting process by steeping has been followed. Other treatment was absolutely necessary to develop fully whatever merit it possessed. Chemicals were brought into use on it, and it was found that the retting was greatly accelerated thereby, and that good fibre was obtained. This discovery, it was believed, would be important enough to revolutionize the flax industry all over the world; a belief further strengthened by the results in shape of webs of fine linen manufactured at Lisburn, Ireland, from a supply of American fibre chemically retted. This linen as it left the loom was, in comparison with the fabric from Irish grown or other foreign flax, more than half bleached, and when fully bleached showed little or no loss through shrinkage, whereas the other fabric always loses something in the bleaching. These were great advantages, and it is no wonder that the inventors of the process were beyond measure elated. The results were, however, obtained experimentally and without regard to cost. When they came to be tested on a commercial basis, that is, to produce sufficient fibre of the requisite character at a price which would admit even of its sale in a raw state to

foreign manufacturers, they failed utterly. Fine American fibre so produced could not be sold here near the price at which foreign fibre can be laid down in this market. That is one opinion of this expert.

Another is that the immemorial custom of retting flax by steeping is one of the few instances where the advances of science have failed to find "a better way." And it may surprise those who have talked and written lightly upon the subject of "improved" methods of retting, to be told that in the British patent office alone there are scores of specifications of such improved methods, chemical and others, not one of which has proved other than a costly fancy to its inventor. Thus matters are brought up with a round turn. Merchandise fibre cannot be produced from American flax except for coarsest purposes, by the old process of retting; nor has any new process been devised whereby the difficulty can be overcome.

If this opinion is wrong, it remains for the Chicago company referred to above to prove it so. If, like its predecessors, the company confines itself to the coarsest goods, it will be but one more confirmation of the unnecessary harshness of the linen clauses of the McKinley tariff, and of the hollowness of the pretences upon which the duty was raised. The inducements before it to manufacture fine linens, if possible, are most alluring for a rigorous search, though this market has failed to discover a single piece of linen goods of any description selling at first hands over 13 cents per yard which is not of foreign manufacture; Minneapolis predictions and promises notwithstanding.

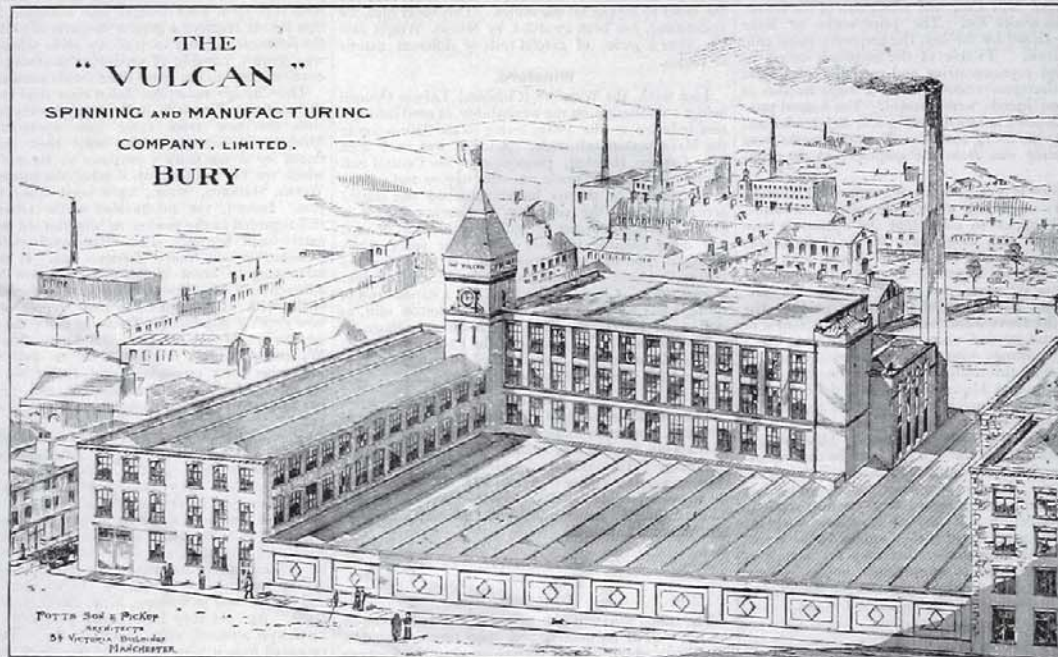
stores in height, and will contain about 40,000 ring spindles, with other necessary machinery of the best make. The weaving shed will be constructed on a new principle, with columns 42 ft. by 21 ft. apart, and to contain 530 looms of 36 in. reed space. It is claimed that the prospect of success is greatly enhanced by the fact that the company will not only use ring spindles, but manufacture their yarn on the spot. The accompanying is a sketch view of what it is intended the buildings shall be. The estimated cost per spindle is exceedingly low, and will allow the proprietors to enter the market under great advantages. Messrs. Potts, Son, and Pickup are the architects.

EXEMPTION OF MACHINERY FROM RATING.

CONFERENCE IN MANCHESTER.

A conference was held on Tuesday in the Board-room of the Manchester Chamber of Commerce, under the auspices of the National Society for the Exemption of Machinery from Rating, to consider the bill to be introduced into Parliament in the next session. Sir W. H. HOULDSWORTH, Bart., M.P., presided, and amongst those present were Mr. W. Mather, M.P., Mr. H. Shepherd Cross, M.P., Mr. R. Leake, M.P., Mr. Frank Hardcastle, M.P., Mr. J. W. Sidebotham,

and other cases that were adjudicated upon. At the same time the action of the judges, so far from clearing the law and making it thoroughly understood by the country, had only made confusion worse confounded. It was obvious, therefore, in the interests of the great industries of the country, that the matter should be cleared up so as to ensure uniformity of practice throughout the country, and that the law, if found to justify the rating of machinery, should be promptly amended, so that a new burden—which this rating practically was—should not be laid on the industries of the country. In 1883 Sir Bernhard Samuelson, M.P., introduced a very simple bill, known now as No. 1 Bill of last session. The bill was introduced and was subjected to consideration a year or two afterwards by a Select Committee. They recommended that an alteration of the law should take place, or at any rate that there should be a clearing up of the law, and suggested that legislation was required. From time to time bills had been brought into the House of Commons, and with the object of meeting all reasonable objections the promoters had modified their original proposals. Their desire was to secure what would be a distinct boon to the industrial community, and at the same time not to make any serious change in the practical mode of rating throughout the country. Last session they got their bill as far as the second reading and partly through Committee, but no further. Difficulties of various kinds had cropped up, and a year or two ago it was found, as in all great movements of this kind, that before they could make any progress



BURY REDIVIVUS.

Is Bury really awaking? It would seem so, and the fact is something upon which it may be complimented. No town in Lancashire has frittered away so many chances of making a splendid position for itself, and wealth and prosperity for its inhabitants. Of late years, had it not been for its loom-making establishments, it might almost have been wiped from the map. The projection and successful conduct of one or two joint-stock companies has, however, happily saved the classical textile town from this fate, and has stimulated further enterprise. This is evidently based on the truth underlying the old motto that "nothing succeeds like success." The town is now to the front with a new project, a ring-spinning and manufacturing concern to be called "The Vulcan," an appropriate name considering that it will be erected on the site of a once important but now extinct machine-making establishment. The prospectus which has been issued states that the Company has been formed with a capital of £70,000, in shares of £5 each, to purchase the Butcher-lane Mills of Walker and Hacking, Limited. The ring-spinning mill will be of the most modern design, fire-proof, three

M.P., Mr. W. E. M. Tomlinson, M.P., Mr. Alderman B. Robinson (Salford), Mr. Alderman Forrest, Mr. Alderman Holland, Mr. T. H. Bagshaw (clerk of the Salford Board of Guardians), Mr. J. W. Southern, Mr. W. Arrandale (president of the Manchester and Salford Trades Council), Mr. B. Armitage (Chomlea), Mr. S. Ogden, Mr. J. Thewlis Johnson, etc. Representatives of important industries were present from all parts of the country.

In opening the proceedings the CHAIRMAN said he thought he might assume from the presence of gentlemen in such large numbers that they fully realised the importance of the subject which they had met together to consider. He thought also it was scarcely necessary to give any historical sketch of the movement, or state the circumstances which led to the necessity for taking some action on the question; but he might say that up to a few years ago it was generally supposed in industrial communities and throughout the country that while the prevailing practice was to rate buildings in which industries were carried on, and, he believed, the engines, boilers, and shafting which were to be found in those premises, it was scarcely anywhere the practice to rate the machinery employed in those industries. A few years ago, however, an energetic firm of surveyors in Sunderland introduced, or at any rate began to adopt, a new system, and from step to step they carried on that system, and were still carrying it on to a very great extent. They had been upheld by decisions of the courts of law, but he did not think those decisions must be taken to go further than the parti-

cular cases that were adjudicated upon. Hence the formation of this National Association. It was absolutely necessary, if they were to do anything in the direction in which he thought some movement was required, that this Association should be supported to a very much greater extent than it had been hitherto. The fact was that they knew the question had been gradually growing. Many of those people who were deeply interested in it were scarcely aware perhaps of the steps taken in some districts, and were not familiar with the details of such cases as the Chard case, and they were living in a fool's paradise, for there was no doubt if they left the law as it stood now, step by step, gradually, in one district and then in another, all machinery would become rateable. It would then be the duty of assessment committees to act impartially and rate machinery everywhere, and not as at present rate in some places and not in others. In conclusion, the Chairman pointed out that there were two bills in existence, the one that was introduced by Sir B. Samuelson, known as No. 1 Bill, and a second bill which it was proposed should take the place of No. 1 Bill, and which was known as No. 2 Bill. The first bill proposed that there should be no rating whatever of machinery, and that only the buildings and that which produced or transmitted the motive power should be rated. The words of the bill were as follow: "From and after the passing of this Act, in estimating for the purpose of assessment to the poor rate, county rate, borough rate, or any other rate leviable upon

property rateable to the relief of the poor, the rateable value of any tenement or premises occupied for any trade, business, or manufacturing purposes, the annual value of the machinery in this section specified upon such tenement or premises shall be taken into consideration; that is to say—(1) Waterwheels, steam gas, air, and electric engines, steam boilers, and all other fixed motive powers and the fixed appurtenances thereof; (2) shafts, wheels, drums, and other fixed power machinery which transmits the action of motive power to other machinery, fixed or loose. Save as in the last section provided, no machinery, whether attached to the tenement or premises or not, shall be taken into consideration in estimating such rateable value." The second bill was worded as follows:— "From and after the passing of this Act, in estimating for the purpose of any valuation list or poor or other local rate the gross estimated rental or rateable value of any hereditament occupied for any trade, business, or manufacturing purposes, any increased value arising from machinery which is not fixed or is only fixed to the hereditament for the purpose of steadying it, and which can be removed without injury to the hereditament or to itself, and any machine which does not require any special foundation or special adaptation of the hereditament in connection with the use of the particular machine, shall be excluded, provided that the term machinery or machine for the purpose of this Act shall not include machinery or a machine used for the purpose of producing or communicating first motive power." Sir William Houldsworth reminded the meeting that many and powerful forces would be arrayed against them, and that a united and determined front must be presented by all the parties concerned if success were to crown their efforts. If the industrial classes throughout the country were united, the capitalists on the one hand and the working classes on the other, and if they determined to do what they thought fair and right, and adopted such a course as they could fairly and justly defend against all comers, the movement, he thought, would very soon take an important place in the House of Commons, and their object would be accomplished—the prevention of the imposition of a new burden on the industries of the country.

Mr. D. MARTINEAU (Sugar Refiners, London) moved a resolution adopting the first bill.

Mr. EVANS (Paper Makers' Association) seconded the proposal, remarking that although the terms of the second bill were satisfactory to textile manufacturers they might be used to the injury of those engaged in bleaching, dyeing, and engineering industries, in connection with which large machines were often fixed firmly to the ground.

Mr. F. HARDCASTLE, M.P. (representing the bleachers), spoke in support of the resolution and of the views expressed by Mr. Evans. He said they had tried in their Association to turn and twist the words of the proposed bill (No. 2) in such a way as to remove the heavy class of machinery from rating, but they felt that they had the Attorney General to reckon with. The words were intended to meet the case of brewers' vats and steam hammers, but that class of machinery found its counterparts in the appliances used in the bleaching industry.

The resolution was also supported by Mr. KING (representing the laundry trade of England), Mr. NEVILLE (representing the Calico Printers' Association), and Mr. EASTON (Liverpool).

Mr. MATHER, M.P., pointed out that the older bill had been dismissed from men's minds in Parliament, and urged that the most prudent policy to adopt would be to take the bill that was before the House of Commons last session, amending it in such a way as to get over the difficulties suggested by the gentlemen who had just spoken. Better far, he thought, would it be to get the bill passed which they had some chance of passing, and then amend it hereafter as experience dictated, than make an attempt, which he felt sure would be fruitless, to pass the first-named bill. He therefore moved as an amendment that the second bill be adopted, altered so that it would read as follows:— "(1) From and after the passing of this Act in estimating for the purpose of any valuation list or poor or other local rate the gross estimated rental or rateable value of any hereditament occupied for any trade, business, or manufacturing purposes, any increased value arising from machinery which is not fixed, or is only fixed to the hereditament for the purpose of steadying it, and which, with the foundation thereof, can be removed without permanent injury to the hereditament or to itself, shall be excluded, provided that the term machinery or machine for the purpose of this Act shall not include machinery or a machine used for the purpose of producing or communicating first motive power."

Mr. H. D. MARSHALL (Gainsborough) seconded the amendment, and after a little further discussion it was accepted by the supporters of the original resolution. When put to the vote it was carried with only a few dissentients.

A vote of thanks to the Chairman, moved by Mr. TOMLINSON, M.P. brought the proceedings to a close.

SERICULTURE AND THE PRODUCTION OF SILK IN INDIA.

Mr. N. G. Mukerji, the Government Sericulturist at Berhampur, India, is writing for the Silk Association of this country a series of articles on Bengal Sericulture. The following is his first article, which will be found of great interest:

The silk trade is stable and extensive. The only part of India where any considerable quantity of silk is grown at present is Lower Bengal, whence over 50 lakhs of Rs. worth of silk is exported every year to Europe. The trade in Bengal silk is, however, slowly declining. The countries where it is in a flourishing condition are China, Japan, Italy, and France. The industry is being successfully introduced into other countries where the climate corresponds to that of the countries just mentioned. Syria and Kashmir may be mentioned as the countries where the revival of the silk industry is fraught with the greatest promise. If India is to hold her own in the silk market, the industry must be introduced and encouraged in the Himalayan country.

The following reasons will show why the Himalayan country is best suited for sericulture:—

1. The mulberry and the mulberry cocoon grow wild and abundantly from Kashmir to Assam—i.e., throughout the whole range of the Himalayas.

2. The silk industry is mentioned in old Sanskrit literature only in connection with the mountain tribes of the Himalayas, chiefly the Poudrakas.

3. The silk trade in Lower Bengal has been artificially fostered in seats of political influence and of luxury, and the rearing has never been so successful, nor the cocoons so good as in countries naturally suited for sericulture, and traditions of the silk-rearing caste of Bengal, called Poudrikakish or Pundlas, favour the theory of the origin of the industry in the sub-Himalayan country, the land of wild elephants and of peacocks.

4. Climate similar to that of Italy, China, and the south of France prevails in the Himalayan country.

5. No other country in the world is so rich in wild silk producing lepidoptera as the Himalayan country.

6. The best Mulberry Cocoons can not be naturally grown in a country where freezing temperature for at least one week (but not extending for more than two months and a half) can not be obtained. The temperature naturally prevails in the Himalayas in the same regions where the mulberry trees abound and the annual cocoons are prolific.

As a rule it does not pay collecting wild cocoons and reeling silk out of them. In the state of nature the silk-worm is subject to the attack of birds and to inclement weather, and the quantity of the silk on a cocoon is inferior. The presence of the annual mulberry cocoon and of the mulberry tree in the wild state is to be taken as a hint that the best varieties of the European and the Chinese cocoons can be grown in the Himalayan country, and it pays much better to grow the domesticated cocoons on the most approved methods that prevail in Europe, methods that are based on experience of ages and on minute scientific researches.

Let us now compare the profits derivable from ordinary agricultural pursuits of the Himalayas and those derivable from silk rearing. The out turn from an acre of maize, rice, buckwheat, wheat, millet or mustard scarcely exceeds 15 or 20 rupees per annum. The net profit after deducting all expenses for cultivation, seed and harvesting, rarely exceeds 7 to 10 rupees per acre per annum. If mulberry trees are planted 23 ft. apart, an acre will hold 40 trees, leaving ample space in between the trees for cultivation of root crops or cereals. In four or five years the trees will grow large enough to enable one to strip their leaf for silk-worms once a year, without damaging them. Each tree will then yield 10 to 15 seers of leaf in one cutting. In ten years the tree will yield an average quantity of one maund each in one cutting; and in 20 years two to three maunds each. Assuming each tree to yield a maund of leaf, an acre will yield 40 maunds, a quantity which is sufficient for rearing eighty seers of annual cocoons, or seven seers (about 14 lbs.) of raw silk. The price of seven seers of raw silk is about 140 rupees. This is the gross out turn from an acre of land, which is used for other purposes besides silk, after a month and a half of quiet domestic labour. As reeling is not so well done as a cottage industry as in factories, the rearer will probably sell his cocoons for a rupee a seer instead of reeling them into silk himself. Still the gross out turn in cocoons alone out of one acre would be Rs. 80, if only one cocoon crop is taken and the mulberry leaf left on the trees through the rest of the year to strengthen the trees. Now the eighty seers of fresh cocoons can be obtained by using less than one chhitak of eggs, and the labour of rearing the worms when they are very young is quite insignificant if mul-

berry trees are at hand. One poor family can easily rear eighty seers of cocoons if they have forty large trees at hand. It will not interfere with their ordinary pursuits at home or in the fields, except at the last stage of the worms, when they grow very large and become very voracious. For the last ten or twelve days, therefore, the whole of the available time of a family will be taken up in feeding and cleaning the silk-worms, and it will appear to them when the cocoons are formed that by ten or twelve days' labour they have obtained a crop worth at least eighty rupees. The difference in value between silk and the ordinary agricultural crops can be best illustrated to the Nepalese, the Lepcha, or the Bhutia, by telling him that while he can buy a seer of Bhutha grain (maize) for one pice (halfpenny) he cannot get a seer of silk for less than twenty rupees. Silk is valued so much in every country, its uses are so varied, and its demand so extensive and steady that if the whole of the Himalayan country were to take up the silk industry it would not bring down the price of silk to any marked extent.

It is not to be supposed that the rearing of silk-worms is very difficult, requiring great skill, learning or practice, and that it is beyond the province of the poor mountaineer. If sound eggs ready to hatch, or, better still, newly hatched worms, are procured at a season when it is fairly dry and when leaf is fresh—e.g., in February and March—there will be no trouble about getting a successful crop. At other seasons, when there is too much rain or when it is too cold, or when leaf becomes too hard, it is not so easy to get a successful crop, and it is best, therefore, to take only one crop and make success quite sure. There are just a few things to learn about silk rearing, and when one has seen for a day or two how the feeding and cleaning are done he can do it for himself. 1. He has to procure very tender leaf for the young worms and give it very finely chopped up, and as they grow larger and larger the leaf should be stronger and stronger, and more and more coarsely cut. 2. He has to keep the worms uniform by keeping the forward worms which are first to moult in a colder part of the room, and the backward worms which require more feeding before they begin to moult are to be hastened on by giving them more food and keeping them in a warmer part of the room. 3. He has to be very careful lest he should heap up leaf over moulting worms, bury them under leaf, and cause them to take the disease called *muscardine*. 4. He has to keep the room comfortably warm throughout the rearing season. 5. He has to make some provisions for the worms making cocoons as soon as they are ready to spin lest they should waste their silk on the leaf, not finding suitable bearings where they can make cocoons. 6. He has to dispose of the litter so that it may not become a source of silk-worm disease. 7. He has to dispose of his cocoons before the moths begin to come out and make the cocoons unfit for reeling. All those subjects will be treated at length in future papers.

It is not to be supposed that the rearing of silk-worms requires space and fittings beyond the means of the poor mountaineers. Silk rearing pays best done as a cottage industry on a small scale. Rearing only a few hundred worms again is not worth the trouble for a man who does it for profit. The proper quantity of seed that one family can easily manage is one ounce meant to produce about 40 seers of fresh cocoons, which is equivalent to about 33 seers of raw silk. On no account should one family rear from more than a chhitak or two ounces of seed, which is to be considered the maximum. To rear worms for this quantity of seed requires about 40 maunds of leaf or about 40 middle-sized trees, which is the maximum number of mulberry trees which one family ought to have. If he has more he will be tempted to overdo the rearing and keep his worms too crowded. The man who rears from an ounce (or about half a chhitak) of seed, requires to have twenty middle-sized trees, each yielding about one maund of leaf: (2) two *nachans* (tray stands or shelves) each ten feet long and about six feet high, containing five shelves each; (3) 20 trays, each five feet long by four feet wide; (4) 40 pieces of netting of the size of the trays, for convenience of cleaning, and a few other things, such as a knife, a seer or two of sulphur, a seer of sulphate of copper, etc.

The total outlay will thus come to 15 or 20 rupees. If the rearing is done in March, April, or May, there will be no expense for heating up the room, and the whole operation will last only for about six weeks, there being very little work for the first twenty days or a month, when the worms are young and eat little. The pressure of work comes only during ten days or a fortnight, when the whole of the available time of the family will have to be devoted to looking after the worms. In return for what will appear to a peasant family to be only about a fortnight's work, they can reasonably expect about Rs. 40 as the price of 40 seers of fresh cocoons. If by hard labour they raise 80 seers of cocoons the profits will be still more considerable. If their crop is altogether free from disease they may derive still greater profits by disposing of their crop for seed. If they learn to select the seed with the microscope they can make still greater profits

of the selected seed. Thus with a fair amount of intelligence a man with little means may make a very decent living by taking up silk rearing and trying to do his best by it.

THE balance sheet of the Berlin-Neuendorf Spinning Company for last year shows a loss, which is covered by an appropriation from the reserve fund.

THERE is at present a sharp commercial crisis at Moscow. The manufacture of all kinds of goods has fallen off very considerably of late, only very small quantities being sent to the distressed districts, which were formerly the best customers of the Moscow merchants and manufacturers. The only outlet at present is south Russia and the Caucasus. Numerous failures have in consequence occurred, some being for considerable sums.

MISNAMED NOTTINGHAM LACES.—Many kinds of lace, the speciality of other places, are imitated in Nottingham (brought out necessarily at a lower price and in larger quantities), and, while having somewhat of the style of the original, can never be supposed by those in the trade to be "reals." Take, for example, "Valenciennes." In ordinary language, these dealt in in Nottingham are called "Vals" for shortness, while the original make would be sold as "Real Vals;" and if the seller or the buyer wished to be very precise as to Nottingham or Calais goods he would call them "Imitation Vals." The same principle applies to the imitation of "crochet" lace. That of Nottingham is much under the price of real crochet, and is distinguishable in every way from the Irish, to which it is much inferior; so that actually no buyer expects, in paying the price of one, to get the other. Tatlings, or Everlastings, or some fancy names are given to some classes of these goods, which is possibly the best plan; but the greatest misnomer in the Nottingham trade is the lace which some call "Swiss Embroideries," and which has embroidery patterns imitated in a thickish lace; but, so far as has been heard, no Swiss manufacturers object to the title, or find it interfere with their trade, the dissimilarity being so great. These are not the only misnamed goods made in Nottingham, and it is only needful to mention its "Brussels" net, and its "Spanish" shawls and laces, to shew this. How far the Merchandise Marks Act is infringed, if at all, must be left to the lawyers to decide.—*Warehouseman.*

THE CONDITION OF LABOUR IN RUSSIA.—A report from the British Embassy in St. Petersburg, which has just been issued by the Foreign Office, contains much interesting information in regard to labour questions in Russia. In that country such associations as trade unions do not exist, and the law prohibits and treats with the utmost severity all attempts on the part of the employed by means of strikes to force the employer to increase the rate of wages. The law now in force on the subject came into operation in 1886, and was intended to prevent the recurrence of disorders such as those of 1884 and 1885, which were caused by the reduction of working days in the week, contrary to arrangements which had been made, by the exaction of fines, which amounted sometimes to 40 per cent. of the total wage, and by the prevalence of the truck system. Under the present law when a workman is hired, the details of the agreement are entered in a book kept by him. In the great majority of factories the piece-work system is adopted, and it is only in a few cases that wages are paid by the day. Payment must be in money, anything approaching the truck system being strictly forbidden. In large manufacturing establishments the men are generally lodged and boarded, sometimes free of expense, sometimes at a small charge. The general condition of these lodgings is described as unsatisfactory; overcrowding, uncleanness, and lack of ventilation prevail, and the custom of boarding workpeople is declining. Wages throughout Russia are extremely low, but there is not sufficient information to enable a comparison with the wages in other countries to be made; but a Russian economist has calculated that while an English cotton spinner, working 10 hours a day, earns 70 roubles a month, the Russian cotton spinner, working 12 hours a day, only earns 19½ roubles. Until recently there was no regular time of payment in most factories, but the law now provides for regularity of payment within periods of not more than a month. Moreover, a fixed portion of a workman's wages is free from all liability for his debts. There is no law restricting the hours of adult labour, and there is a great difference in the hours of various establishments, for they vary from six to 20 hours in the same industries, and even in the same districts. In the large majority of cases, however, the hours of labour are 12 or under, and it is said that, taken all round, 12 hours may fairly be assumed to be the normal working day in Russia. Night work shews a tendency to disappear. There is no legal provision as to Sunday labour, but as a rule there is no work on Sundays or on about 28 holidays during the year, making 80 days off in all. Factory inspection exists, but, owing to the distance and difficulties of communication, as well as the absence of persons with the requisite technical knowledge, it is not in a satisfactory condition.

Tariff News.

THE FRENCH TARIFF.

A COMPARISON OF EXISTING RATES OF DUTY WITH THE ORIGINAL PROPOSED RATES AND THE RATES ADOPTED BY THE SENATE.

SILK YARNS AND FABRICS OF SILK.

ARTICLE.	Existing Conventional Tariff duties		Proposals adopted by the Senate.			
	Per 100 Ks. Fr. c.		General Tariff Duties Per 100 Kilogrs. Fr. c.		Minimum Tariff Duties Per 100 Kilogrs. Fr. c.	
Yarns of Silk.						
Yarns of silk waste (Fleuret) unbleached, bleud or dyed, measuring to the kilog. (2 1-5 lb.); Single—80,500 metres or less	s. d.	Per lb.	s. d.	Per lb.	s. d.	Per lb.
More than 80,500 metres	0 5½	120'00	0 4	95'00	0 3¾	75'00
Twisted—80,500 metres or less in single thread	0 3¾	86'25	0 6½	150'00	0 5¼	120'00
More than 80,500 metres in single thread	0 6	138'00	0 5¼	120'00	0 3¾	85'00
Yarns of silk or of silk waste for sewing embroidery or millinery: unbleached	Not mentioned in the existing tariff.		0 8½	195'00	0 6	140'00
Dyed			75 fr. additional	50 fr. additional		on duties of unbleached, bleached, or dyed.
Yarns of coarse waste silk (bourrette de soie): single	0 1	25'00	s. d.	s. d.		
Twisted	0 1¼	28'00	1 5½	400'00	1 1	300'00
			2	600'00	1 5½	400'00
Fabrics of Silk and of Waste Silk.						
Fabrics of silk and of waste silk, pure silk, foulards, crape tulle, hosiery, small-wares, and lace	Free.		Duty on the most highly taxed material of which composed. (See No. 653)			
Fabrics of waste silk, hosiery, and smallwares, bleached or not dyed or printed	0 8½	200'00	Per kilog.	Per kilog.		
Fabrics of waste for furniture, weighing more than 250 grammes to the sq. metre	0 6½	150'00	s. d.	s. d.		
Fabrics of silk mixed with waste silk	Duties on fabrics of waste, pure, unmixed.		2	6'00	1 5½	4'00
Fabrics of silk or of waste silk, mixed with other textiles most silk or waste silk	1 1	300'00	Free			
Fabrics, smallwares, and lace of silk or waste silk, with gold or silver—			Pay same duties as cotton lace.			
Fine	4	1200'00	0 11	2'50	0 8¾	2'00
Half fine or imitation	1 5¾	350'00	0 8¾	2'00	0 6½	1'50
Ribbons of silk or waste silk, pure or mixed with other textiles, most silk or waste silk—			* Only those silks will be admitted free which are of European origin, manufactured with unbleached silk and not having received any preparation by dyeing or printing.			
Velvet	1 8½	500'00	Duties on fabrics of waste silk pure unmixed.			
Other than velvet	1 5½	400'00	s. d.	s. d.		
			1 4½	3 75	1 1¼	3'00
			15'00		4 4½	12'00
Other articles of all kinds.						
Fabrics in the piece weighing to the square metre less than 75 grms.	2 8¾	7'50	2 2	6'00		
More than 75 grms.	1 9¾	5'00	1 5½	4'00		
All other articles, including clothing or parts of clothing, fitted or not	2 2	6'00	1 9¾	5'00		
All articles other than gloves with stitched work, embroidered by hand or machine or trimmed with lace or small wares	3 7½	10'00	2 11	8'00		
Fabrics and small wares of silk or waste silk, with gold and silver: fine	5 5¾	15'00	4 4¾	12'00		
Half fine or imitation	1 7	4'35	1 3¾	3'50		
Ribbons of silk or waste silk, pure or mixed with other textiles, most silk or waste silk: Velvet	2 3	6'20	1 9¾	5'00		
Other than velvet	2 2	6'00	1 5½	4'00		
Fabrics of all kinds in artificial silk: pure			Pay as chemical products, containing alcohol (see No. 282.)			
Mixed			Duty on the most highly taxed material of which composed (No. 653).			

THERE are at present it seems no houses in Mexico which deal exclusively or specially in silk goods. Four firms are named which call themselves dealers in silk, but when the matter is looked into it is found that the deal in other articles as well. In such a city as Mexico, where ladies spend large sums on the toilette, and where the great fortunes of the country are concentrated a good business might be done by an establishment devoted to the sale of silk goods.

WAGES IN MEXICO.—Writing on the subject of industrial wages in Mexico, as affecting the prospects of immigration into that country, M. Rey, French Attaché at Mexico, says: "Apart from the mining industry, the manufacture of tissues (chiefly cottons) constitutes the sole industry of any importance in Mexico. At the commencement of 1891 it employed, according to official statistics, 10,741 men, 2,489 women, and 1,859 children. Total, 15,089, or 0.13 per cent. of the population, which was then 11,632,924. The value of the manufactures of tissues is estimated at about £2,200,000. These fabrics are made principally in the States of Puebla, Vera Cruz, and the Federal District. The workmen earn from 1s. 6d. to 3s. 7d. per day, or an average of 2s. 6½d. The wage of the woman varies between 1s. and 2s., or an average of 1s. 6d.; that of the children between 6d. and 1s. 6d., or an average of 1s."

Textile Markets.

COTTON.

MANCHESTER, FRIDAY.

In its general aspects our market has undergone little change. The see-saw action of the trade in Liverpool continues, the effect being quite destructive of confidence amongst merchants and others, upon whom the activity of our spindles and looms mainly depends. It is certain that on a steady basis there is a fair prospect of a considerable amount of trade being put through, but as long as these fluctuations continue orders will only be given out in the most sparing manner possible. This, however, is a fact that Liverpool will not see, or will not be influenced by; hence a most harassing condition of things for both spinners and manufacturers. But beyond these causes of irritation both the two mentioned branches are likely to have annoyances accruing from another source. The trades-union leaders are becoming exceedingly active, and the chief leader has issued a circular to all the branch associations requesting them to make demands upon their employers for the most rigid compliance with the details of the recent Act of Parliament that came into force on January 1st. He specially urges them also to report to him or to the Home Office in London all cases of infractions of the law, such as insanitary matters, unprotected machinery, and cribbing time, in order that either he or the Government officials may take such action as they consider the case calls for. The most arrogant demands are also being made upon individual employers, and strikes are threatened in numerous instances unless the latter dismiss the few non-unionists they have in their establishments, or otherwise compel them to subscribe to the funds of the unions. In one instance it is reported they have offered to take the amount of subscription from the employer if he does not like to dismiss the individual. A large number of disputes are arising on allegations that the material they are working is bad, which, considering the fact that the current cotton crop is the best crop that has been grown for many years, simply cannot be true. The outlook for the future is exceedingly unsatisfactory, and numerous individuals would gladly retire from the trade if the opportunity could be afforded them.

COTTON.—The figures of last week's crop movements totalled only a small volume, yet there was so much hesitancy in the operations of speculators and others as to shew that though the great falling-off had actually come at last, they had not much confidence in its permanency. A fair business was done in all growths, Egyptian being strong and others steady. Futures opened weak and gradually declined, closing with a loss of 3½ points from the previous night. On Monday the market opened shewing weakness, but soon steadied, recovering the loss of 1½ points and improving upon that a further 1 to 1½ points, at which it closed. In spots, American was in moderate request at steady rates; Brazilian and East Indian were both slow but unchanged in value; for Egyptian there was again a good demand at improving prices, selling figures being quite on a par with the official quotations, after having been for some time below them. On Tuesday there was again a collapse, owing to the American reports shewing a great loss of confidence in the position. Futures opened weak upon a decline of 5 points, and subsequently lost 1 to 1½

further, at which they closed. In spots all growths were in very small request at unchanged or easier prices, with the exception of Egyptian, which was rather stronger. On Wednesday, one of the principal cotton days of the week, only a small demand was experienced. Spot cottons of all growths were unchanged in value. Futures fluctuated within a range of 3 points, and closed with a loss of ½ to 1 point. Yesterday there was a moderate demand for spots, and the tone became steadier. A fair business resulted at unchanged prices. The usual fluctuations took place in futures, but kept within a very limited range, closing with a gain of 1 point.

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

	Import	Forward	Sales	Stock	Actual
American	114,479	70,194	37,960	1,411,330	4,585
Brazilian	—	737	870	39,070	—
Egyptian	12,313	8,812	5,500	127,340	1,851
West Indian	1,022	574	510	27,180	101
East Indian	1	1,221	1,840	48,150	662

Total .. 127,815 .. 81,538 .. 46,680 .. 1,653,070 .. 7,199

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

	G.O.	L.M.	Md.	G.M.	M.F.
American	3¼	3½	4¼	4½	4¾
Pernam	—	—	4¾	4¾	5½
Ceara	—	—	4¾	4¾	4¾
Paraiba	—	—	4¾	4¾	5
Maranhm	—	—	4¾	4¾	5
Egyptian	4¾	4¾	4¾	4¾	5¼
Ditto white	4¾	5	—	—	5¾
M.G. Broach	—	—	3¾	3¾	4
Dhollerah	3½	3½	3½	3½	3½
Oomra	3½	3½	3½	3½	3½
Bengal	—	—	2½	3½	3½
Tinnivelly	3½	—	3¾	3¾	4½

The following are the values of futures at mid-day on each day of the week—American deliveries—any port; bases of middling: low middling clause; (the fractions are in 64ths of a penny):—

PRICES OF FUTURES AT 1.30 P.M. EACH DAY.

	Satur-day	Mon-day	Tues-day	Wednes-day	Thurs-day	Friday
January	4-7 s	4-7 b	4-2 v	4-2 s	4-2 s	4- s
Jan.-Feb.	4-7 s	4-7 b	4-2 v	4-2 s	4-2 s	4- s
Feb.-Mar.	4-7 b	4-7 s	4-2 v	4-2 b	4-2 b	4-3 s
Mar.-April	4-10 11	4-11 s	4-5 b	4-5 b	4-5 s	4-5 6
April-May	4-13 14	4-14 s	4-8 9	4-8 9	4-8 s	4-8 9
May-June	4-16 17	4-17 s	4-11 12	4-11 12	4-11 s	4-11 12
June-July	4-19 20	4-20 b	4-14 15	4-14 15	4-14 s	4-14 15
July-Aug.	4-23 s	4-23 b	4-17 18	4-17 18	4-17 s	4-17 18
Aug.-Sept.	4-25 v	4-26 s	4-20 b	4-20 v	4-19 s	—
Sept.-Oct.	—	4-28	—	—	—	—
Oct.-Nov.	—	4-30	—	—	—	—
Nov.-Dec.	—	—	—	—	—	—

Price of Mid. American.	4½	4½	4½	4½	4½	4 1/16
-------------------------	----	----	----	----	----	--------

Estimated Sales including Spec. and Export.	8,000	10,000	5,000	8,000	8,000	8,000
	1,000	1,000	500	500	500	1,500

YARN.—The spurt made by Liverpool last week had the effect of enabling a number of spinners to ease the burden of stocks under which they were labouring, and in other cases to effect sales at prices they had previously been unable to realise. Where, however, positive advances were made, it was found that they put a stop to business. On Saturday there was little attempt made to accomplish much business, as the tamer aspect of cotton afforded no encouragement. Monday brought no change in the yarn market either in amount of enquiry or price. On Tuesday there was a perceptible diminution in the volume of the enquiry for yarns, mainly arising from the renewed break in Liverpool cotton prices. Buyers in both the home and export branches of the trade stood aloof from producers as far as their necessities would permit, and this was a considerable distance. Those spinners who succeeded in relieving their burden of stock last week opened with Friday's prices, but after a disappointing day shewed less firmness at the close. In no section of the market was there any abundant enquiry. On Wednesday matters were certainly no better, if they were not even worse, so far as the transaction of business or the discovery of approximately practicable offers went. The tendency was for buyers to lack down. American yarns were in full supply, and tending towards lower rates. Egyptian classes were fully steady, though not in large request. There was no

improvement in the demand yesterday. Such orders as were placed by manufacturers were only to serve current and somewhat pressing necessities. Rates tended towards ease.

CLOTH.—On Saturday it was found that the business of the week had not been very materially affected in the cloth department by the movement in Liverpool, in which merchants placed little confidence. Perhaps the latter aided sellers to complete some few moderate transactions in Eastern staple goods they had previously been unable to get through. There was not much attempted on Saturday, which is usually the case. On Monday manufacturers failed to find any improvement in the enquiry for their productions, and the amount of business put through on the whole was relatively very small. Tuesday was a very poor day so far as results in cloth business went. The evident incapacity of Liverpool to keep prices above 4d. for spot cotton and the parity of that for futures induced buyers to hold aloof as much as possible, and, considered in the aggregate, only a very small trade was put through. Here and there, however, with offers under negotiation, producers have been enabled to close, and in a few instances there has been a satisfactory variation from the general experience. On Wednesday producers experienced a very limited demand in all cloth sections, and where business was done it was on the most retail scale. Yesterday the cloth market was very quiet on all hands, such orders as were passing being insignificant in amount.

There is no improvement to report to-day. Yarns and cloth continue to move only in the quietest manner and on the smallest scale.

WOOLLENS AND WORSTEDS.

BRADFORD.—The wool trade appears to shew manifestations of greater activity, and the change in the weather has improved the position of the piece trade, worsteds having shewn greater activity. English and Colonial growths of wool have been much more active. In mohairs and alpacas there is more doing, and yarns have been in fair demand both for home and export. Spinners find their position much improved. There is more doing in dress goods with home merchants.

LEICESTER.—Hosiery purchases give greater satisfaction, sorting-up orders coming forward for fancy goods, while there is a moderate general movement in plains. Buyers, although purchasing home-grown wools with freedom, do not pay the rates which staplers ask. Operations in fine wools have been held in check pending the opening of the colonial wool sales. There is more animation in the yarn market, but spinners complain that present prices leave a very narrow margin for profit. A dull demand prevails for elastic web fabrics, but narrow goods, such as cords and braids, are in fair request. Hinckley stout brown hose is not bought largely just now, some firms working on short time.

ROCHDALE.—Sorting-up purchases only have been made of late, but very little has been done beyond this. Buyers expect, as usual to pick up bargains, but in this they have been to a considerable extent disappointed. Sellers of Yorkshire goods are firm. Wool purchases are of a hand-to-mouth character.

LONDON.—Messrs. H. Schwartz and Co., in their report dated January 26th, say:—The first series of London sales of Colonial wool commenced to-day, with catalogues comprising:—

	Bales.	Bales.
Sydney	2,223	out of an available total of 92,000
Queensland	3,159	" " 59,000
Port Phillip	894	" " 68,000
Adelaide	2,504	" " 25,000
Tasmania	—	" " 300
Swan River	226	" " 2,700
New Zealand	1,399	" " 27,000
Cape	3,124	" " 37,000

Total ... 13,529 out of an available total of 311,000
There was an average attendance of both home and foreign buyers, but the tone was reserved, and with the exception of the better Australian greasy lots, which realised former rates, prices for all merino wools shewed an average decline of ¼d. to ½d.—¼d. for inferior grease and ½d. for soured sorts. Crossbreds were in good demand and sold fully up to the December level. In Capes there was a decline of ½d. on snow whites and of ¼d. to ½d. on greasy descriptions. The arrivals in time comprise 397,000 bales. Deducing what has been forwarded direct and sold privately during the interval, but adding the wools held over from last series, the total available will amount to about 311,000 bales. As at present arranged, the sales will last until the 25th February. Bank rate 3 per cent.

GLASGOW.—Messrs. R. Ramsey and Co., wool brokers, in their report dated 26th January, 1892, say:—In the wool market there has been if anything a better feeling this week, and more business doing. The opening of the London sales, which take place this afternoon, is looked forward to with some interest. It is generally believed that they will open firm. Sheep

skins: The supply was about the same, with a fuller proportion of prime sorts, which sold freely at full current values.

FLAX AND JUTE.

DUNDEE, WEDNESDAY.—The market for jute is firm, and at the extreme prices buyers are still found requiring jute. From day to day business is done, and in every case the highest prices are paid. At the rates now current spinners, although getting 1s. 10d. for common 8 lb. cop, done a short time ago at 1s. 6d., are forced to ask a further rise. This of course interferes with business, and manufacturers in the meantime pause, refusing to pay any further rise. It is clear as day that if jute is not to give way in price yarns must still rise pence per spindle; since this is so one hears on all hands of proposals to stop spinning machinery. But it seems unusually difficult to do this. Some of the spinners have large stocks; others are buying from day to day. There is, therefore, great diversity of opinion. Hessians are firm, but manufacturers say it is quite impossible to get the prices now required to cover the cost. Even 2½d. for 10½ oz. Dundee goods they say is too low, and 2½d. is difficult to get. Never was the outlook less satisfactory. Flax is firmer, especially good brown flax; and tows have gone up quite £1 per ton on the week, with buyers over. Flax yarn is firm at the recent advance, and tow yarns of superior spins are quoted 1d. per spindle higher. Some large orders have, however, been taken at a small advance, as holders have been anxious sellers of tow yarns, which have so long been difficult to sell. Linens are in fair request and are steady in price with a healthy demand. The Dundee Fancy Jute Trade is still satisfactory; the buyers cannot yet realise the fact that jute has risen 75 per cent., and that a large rise must be paid now on these goods. Twines, cords, and ropes advancing in price, with continued good demand.

DRY GOODS.

MANCHESTER.—There is a good deal of complaint to be heard this week amongst manufacturers' representatives, who assert that the orders coming to hand from home-trade buyers were seldom competed for so keenly. This circumstance may be in part regarded as due to the partial closing of some of the outside markets, which has resulted in an accumulation of stocks at home, and in the necessity of relying temporarily more upon the home trade, insufficient as is that outlet for the absorption of the vast quantities of goods produced in the textile factories of the country. The orders placed for light goods have in some instances been cancelled, and others for articles of a more sombre character substituted. May blossoms, for instance, have given way to black and white roses, and there has been more doing in black estamenes and serges. It is doubtful whether the effect of so-called fashionable mourning is, however, at all appreciable, so far as the bulk of the trade is concerned. There is a steady demand for waterproofs, and the special makes of tweed linings consumed by the trade are well enquired for. A fair illustration of the progress achieved in the industry is seen in the case of a comparatively small Yorkshire firm, whose profits, amounting to £6,327 in 1890, were last year swollen to £8,348. These results were due to the home trade only. The proofing of serges, estamenes, worsteds, and other Yorkshire goods is now carried on extensively in Bradford, and the trade promises to grow in the town. Merchants are paying fractionally lower prices for certain grades of cotton sheetings and other goods. A reduction has been clamoured for ever since the fall in cotton, but it is doubtful whether any one will be benefited except the drapers. In many instances the wholesale houses will not alter their lists, while obtaining the advantages of the reduction referred to, on the ground that when they pay higher rates drapers frequently do not give corresponding advances. The linen trade is in a depressed condition.

Joint Stock and Financial News.

NEW COMPANIES.

"**Cravenette**" COMPANY, LIMITED.
Capital, £65,000, in £1 shares. Objects, the acquisition of the undertaking of the Cravenette Company, and generally to carry on business as manufacturers and waterproofer of textile fabrics, dyers, finishers, garment manufacturers, merchants, etc. Shares:
C. H. Priestley, Cotingly Hall, Bingley, Yorks. 1
J. Maddocks, Maple-hill, Heaton, Bradford. . . 1
W. E. B. Priestley, Oakroyd, Bradford. 1

W. Hbbetson, Royal House, Bradford. 1
J. Hbbetson, 8, Claremont, Bradford. 1
G. Thorpe, Tyrrel-street, Bradford. 1
T. F. Wiley, Springwood, Rawdon. 1

The first directors are C. H. Priestley, John Maddocks, W. E. B. Priestley, W. A. Whitehead, G. Thorpe, and T. F. Wiley. Qualification, £250. Remuneration: T. F. Wiley (as managing director), £400; chairman, £100; ordinary directors, £50 per annum. **JACQUARD AUTOMATIC READING AND PUNCHING MACHINE SYNDICATE, LIMITED.**

Registered by Hays, Schmettau and Co., 31, Abchurch-lane, E.C., with a capital of £150,000 in £1 shares. Objects, to carry on the business of jacquard manufacturers, punching-machine makers, jacquard reading machine makers—automatic or otherwise—lace machine makers, loom makers, engineers, boiler makers, merchants, bankers, brokers, shippers, etc. Subscribers are:
A. Crispin, 25, Bromley-street, Stepney. . . . 1
G. F. Smith, 91, Brunswick-street, Hackney-road. 1
J. P. Johnston, 112, Turner's-road, Burdett-road, E. 1
W. T. Moore, 63, Trumpington-road, Forest-gate. 1
F. W. Bristow, 17, Estelle-road, Hampstead, N.W. 1
E. Wren, 3, Albert-road, Forest-lane, E. . . . 1
H. Young, 13, Kingsbury-road, Dalston. . . . 1
The first directors to be elected by the first subscribers to the memorandum of association. Qualification, 100 shares. Remuneration, £100 each per annum, with an additional £50 each after payment of 10 per cent. dividend.

OLDLAND, NAYLOR, LLOYD, AND COMPANY, LIMITED, KIDDERMINSTER.

Capital, £50,000, in £10 shares. Object, to acquire the two several undertakings of G. W. Oldland and A. W. Poole (trading as G. W. Oldland and Co.) and G. W. Naylor and S. Z. Lloyd (trading as Naylor and Lloyd), both of Kidderminster, carpet manufacturers, and to carry on and extend the same. Subscribers:—
Prof. shares:
S. Z. Lloyd, Mill-street, Kidderminster. . . . 1
A. W. Poole, Mill-street, Kidderminster. . . . 1
G. W. Naylor, Mill-street, Kidderminster. . . . 1
G. W. Oldland, Mill-street, Kidderminster. . . . 1
J. S. Powell, 29, Paternoster-square, E.C. . . . 1
H. J. Thompson, Heather House, Tansley, Matlock. 1
F. Z. Lloyd, Mill-street, Kidderminster. . . . 1
The first directors are S. Z. Lloyd (chairman), A. W. Poole, G. W. Oldland, and G. W. Naylor. Qualification, £500. Remuneration, £300 per annum each.

Gazette News.

PARTNERSHIPS DISSOLVED.

Rawson Bros., waste merchants, Highfield Mills, Lady Pit Lane, Leeds.
John Hawden and Sons, Halifax, silk spinners, as regards G. B. Hawden.

Patents.

PATENT OFFICE.

DUTTON & FULTON

(F.Ls. Chartered Invt. P.A.; A.M.I.C.E.)

1, ST. JAMES SQUARE, MANCHESTER.

ESTABLISHED 30 YEARS.

Handbook on Patents, Designs and Trade Marks gratis and post free.
Telegrams: "Dotus, Manchester." Telephone 732.

SPECIFICATIONS PUBLISHED.

1891.

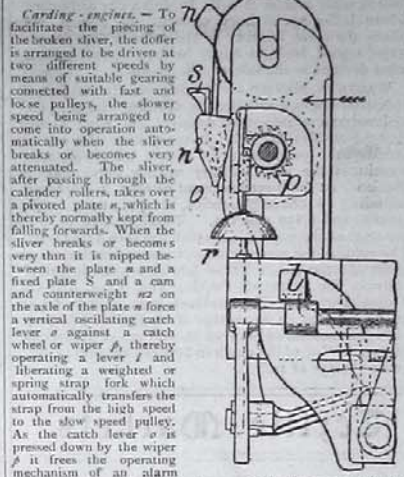
- 3,385 WATSON and BENTZ. Dyeing and calico printing. 6d.
- 3,402 HOPKINSON and BROOK. Looms. 6d.
- 3,448 ZACH. Drying fabrics, etc. 6d.
- 3,715 J. B. and W. B. MIDGLEY. Matting, etc. 8d.
- 12,620 LEVER. Preparing bleaching solution. 8d.
- 17,973 BROWNE. (The Pepper Manufacturing Co) Knitted fabrics. 1s. 1d.

ABSTRACTS OF SPECIFICATIONS.

11,873. July 29, 1890. **Dyeing.** H. H. LAKE, 45, Southampton Buildings, Middlesex.—(Leonard Welden Dyeing Machine Co., Amsterdam, New York, U.S.A.)
Hand Dyeing machines.—Relates to machines in which a frame carrying bars for supporting the hanks is rotated partly in and partly out of the vat. Consists in mounting the sets of bars in planes disposed obliquely, so that space is economised and the

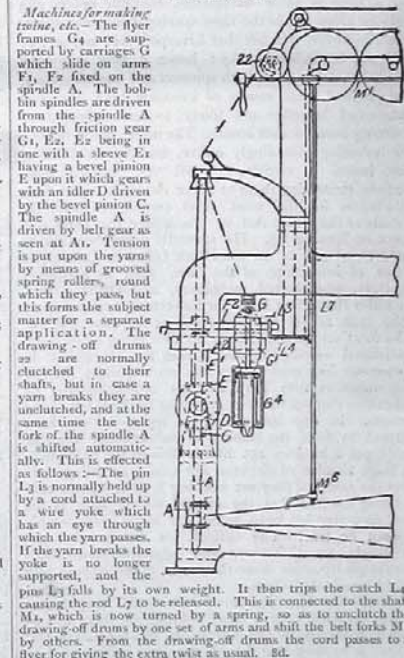
hanks are drawn partly endwise through the liquid, and are thereby subjected to less strain than when mounted radially. *Ed. Drawings.*

11,901. July 29, 1890. **Spinning.** B. A. THOMPSON and W. I. BROMLEY, Kay-street Works, Bolton.



Carding engines.—To facilitate the carding of the broken sliver, the doffer is arranged to be driven at two different speeds by means of suitable gearing connected with fast and loose pulleys, the slower speed being arranged to come into operation automatically when the sliver breaks or becomes very attenuated. The sliver, after passing through the calendar rollers, takes over a pivoted plate *a*, which is thereby normally kept from falling forwards. When the sliver breaks or becomes very thin it is nipped between the plate *a* and a fixed plate *b*, and a cam and counterweight *c* on the axle of the plate *a* force a vertical oscillating catch lever *d* against a catch wheel or wiper *e*, thereby operating a lever *f* and liberating a weighted or spring strap *g* which automatically transfers the strap from the high speed to the slow speed pulley. As the catch lever *d* is pressed down by the wiper *e* it frees the operating mechanism of an alarm bell *h*, the hammer of which is operated by lugs on the side of the wiper. Another part of the invention relates to the under-casings of carding engines, and *h* is an improvement on the invention described in the Specification No. 12,668, A.D., 1888. The casing beneath the main cylinder is formed in segments hinged together and supported on adjustable inclined surfaces which may be arranged variously. The whole of the segments of the under-casing may be connected together and with the setting appliances at the take-in end of the carding-engine, or the under-casings may be made in two parts, each made up of segments as above described and connected respectively with the setting appliances at the take-in and doffer end of the carding-engine. 1s.

12,034. August 1, 1890. **Ropes and cords.** H. N. HARRIS, St. Michael's Foundry, Bridport.



Machines for making twine, etc.—The flyer frames *G* are supported by carriages *H* which slide on arms *F*, *F* fixed on the spindle *A*. The bobbin spindles are driven from the spindle *A* through friction gear *G*, *E*, *E* being in one with a sleeve *E* having a bevel pinion *E* upon it which gears with an idler *D* driven by the bevel pinion *C*. The spindle *A* is driven by belt gear as seen at *A*. Tension is put upon the yarns by means of grooved spring rollers, round which they pass, but this forms the subject matter for a separate application. The drawing-off drums *22* are normally clutched to their shafts, but in case a yarn breaks they are unclutched, and at the same time the belt fork of the spindle *A* is shifted automatically. This is effected as follows:—The pin *L* is normally held up by a cord attached *L* to a wire yoke which has an eye through which the yarn passes. If the yarn breaks the yoke is no longer supported, and the pin *L* falls by its own weight. It then trips the catch *L*, causing the rod *L* to be released. This is connected to the shaft *M*, which is now turned by a spring, so as to unclutch the drawing-off drums by one set of arms and shift the belt forks *30* by others. From the drawing-off drums the cord passes to a flyer for giving the extra twist as usual. 8d.

NOTE.—Referring to the abstract of the patent No. 11,900, of July 29, 1890, for a lat-off motion for looms, applied for by W. Warrington, of Droylsden, we are informed by Mr. H. B. Barlow, patent agent, Manchester, that the grant of the above patent was opposed by his clients, Messrs. Barlow and Jones, Limited, of Bolton as being an infringement of a prior patent of theirs, and that in consequence the applicant abandoned his application, and notified to the Comptroller his desire not to proceed.

PATENTS.

W. P. THOMPSON & CO.

Agents for procuring Patents and Registering Trade Marks and Designs.
6, Bank St. Exchange, Manchester.
6, Lord St., LIVERPOOL, and 325, High Holborn, LONDON.
Largest Patent Agency in Great Britain.
"Facts for Inventors" (pamphlets sent free on application)