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All subscriptions payable in advance.

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The Textile Mercury.

VOL. VI. No. 150. SATURDAY, MARCH, 5th, 1892.

OFFICES: 23, STRUTT STREET, MANCHESTER: MARSDEN & CO., Publishers.
LONDON OFFICE—121, NEWGATE STREET, E.C.

COMMERCE BETWEEN FRANCE AND SPAIN.

With what little wisdom nations are governed was hardly ever better illustrated than by the present condition of matters upon the boundary lines between France and Spain. France, true to her rôle of being the general disturber both of political and commercial conditions, gave the provocation; and Spain, under such treatment, has not been slow to retaliate. The opinion which has been expressed that the ultra-Protectionist policy of the two Governments and the new tariffs which came into operation last month would tend to increase smuggling on the French frontier to an alarming extent has apparently been justified. It is stated on good authority that French commercial travellers are already offering goods to Spanish merchants and shopkeepers at the same prices as formerly. This

does not, however, prevent a heavy increase in the retail prices that are being demanded in the shops on almost every article of common use and consumption which may or may not come from abroad, and the shopkeepers are with difficulty persuaded to make an exception in the case of articles undoubtedly coming from England. In order to prevent smuggling as far as possible, the Spanish authorities have instituted a rigid system of inspection. Not satisfied with a searching examination of luggage, they literally undress and examine the persons of the travellers on the slightest pretext or suspicion of smuggling. This has repeatedly taken place at Irun and other places on the Pyrenean frontier lately. Besides this a fresh investigation is made on the arrival of travellers at San Sebastian, Bilbao, and other towns. Royal decrees have established two fiscal zones at 10 and 25 miles from the frontier, with a host of formalities, documents, and proofs that must be given to shew due payment of import duties on manufactured goods, colonial products, and wearing apparel. Besides the Custom-house officials, police and strong cordons of troops watch the roads, bridle paths, and passes near the Pyrenees, as smuggling increases daily, and the customs revenue decreases in the ports and on the frontier every week more heavily since the new tariff came into force on the 1st ult. There is another phase of the present situation which is, perhaps, of more special interest to England. It is stated, and apparently with good foundation, that large amounts of French goods are being repacked in England and shipped to Spain as British produce. This fraud may appear difficult at first sight, by reason of the certificate of origin which is exacted by the Spanish authorities, but it is not impossible that unscrupulous people are found to provide this necessary document in England. If we may be permitted to use a popular illustration, it would appear that the two powers between them are managing to make a pretty kettle of fish of the commercial affairs of both countries. All we care to say is that we hope they will go on and make the condition unendurable as soon as possible, because both men and nations learn wisdom much more readily from the teachings of adversity than from those of prosperity. During the past thirty years at least there has been a fair amount of commercial and industrial liberty in Europe, which is a reaction from the bad old times of the first forty years of the century. But the generation that suffered is dead and buried, and unfortunately wisdom is a quality that is not hereditary. This is a great drawback to the world's progress.

CHANGES IN TEXTILE INDUSTRIES, AS INDICATED BY A TEXTILE DIRECTORY: SCOTLAND.

The writer who can find subject for comment in such a prosaic affair as a textile directory runs the risk of being placed in the same category as the individual who preferred a dictionary to all other forms of reading matter on the ground that it contained "such nice short bits." And yet, despite the apparent oddness of the suggestion, there is much in a textile directory which may furnish food for thought, as well as interest to the reader. Mr. John Worrall, of Oldham, publishes a series of admirable works of the kind, comprising volumes devoted to Lancashire and Yorkshire, with a general work embracing the remaining districts in Ireland, Scotland, and Wales where the textile trades have a footing. A new edition of the last-named work has just been issued, containing lists of cotton, flax, woollen, worsted, and silk spinners and manufacturers, together with those of firms engaged in the carpet, hosiery, lace, and linen trades. Bleachers, dyers, and finishers also appear, and in many cases the numbers of spindles and looms, as well as an enumeration

of the classes of goods manufactured are included. The Lancashire and Yorkshire directories are similarly complete. We have tested all of them, and find that no other work of the kind bears such evidences of careful revision. This is a virtue which is worthy of mention, seeing that so much slop-work is to be found in some of the works turned out by London directory "manufacturers," whose operations appear to extend to every portion of the country. Mr. Worrall's directories, as we have said, afford material for many interesting comparisons. If one glanced at a list of textile manufacturers half a century ago, and compared it with that of Worrall's for 1892, what changes would be shewn! Scotland was not then a lace manufacturing country. We now find three firms mentioned as producers of laces and curtains, 10 as curtain manufacturers only, and 17 as lace manufacturers only—a total of 30 concerns, of which 3, by the way, have factories in Nottingham also. The number, it is true, appears a mere fraction of that contained in the English section, which embraces the names of about 450 concerns. It must be remembered, however, that the business is of comparatively recent growth across the Tweed, and that it has made very rapid strides considering its youth. In Ayrshire, the industry is carried on at Darvel, Kilmarnock, Ayr, Newmilns, and Galston, Paisley and Glasgow being the remaining Scotch centres. In a list shewing the classes of goods manufactured in the South of Scotland fifty years since we find no mention of lace. The list included pullicates, gingham, stripes, checks, shawls, zebra, fancy and plain muslins, silk gauzes, Thibets, tartans, Carlisle gingham, woollens, carpets, and linens, the number of looms being over 51,000. Paisley now contains a number of bleachers, dyers, and finishers, a couple of carpet manufacturers, one of whom also makes tapestry and Madras curtains, table covers, shawls, tartans, quilts, and skirtings; a muslin firm with 400 looms; four sewing cotton mills; and seven woollen manufacturers engaged on wineceys, shirtings, druggets, dress goods, shawls, table covers, plaids, and quilts. The old Paisley shawl trade, introduced by Mr. James Paterson at the beginning of the century, was brought out at a time when Paisley was a great muslin centre. The shawl branch encroached upon the muslin business, until there was hardly a web of the latter material made in the town. Shawls, in their turn, have been interfered with by the rise of other industries, such as that of sewing cotton. Thibets came up in 1824. The cloth was cut or shaved with a machine, which took off the coarser fibres, and imparted a soft and finer appearance. Of the names once well known in Paisley we find no trace in the directory of to-day. There are still Kerrs, Bairds, and Wallaces in the town, as there were 50 years since; but we find no Bissets, Masons, Guthries, Gunns, Thomsons, or Taylors, all of which represented the names of Chenille shawl manufacturers at the period referred to. Nor can we find any trace of the Mr. James White who introduced Canton crapes—a material which was craped or crimped by working two shuttles, each with weft doubled and turned contrary the one to the other, and wrought two shots about, the cloth being boiled when out of the loom, thus causing the weft to turn differently and giving the fabric a fine curled, crimped appearance. There was a Gibson in the trade (Blair and Gibson), and the same name still figures amongst Paisley's textile firms in the house of Gibson Brothers and Company, St. Mirren's Mills. Another trade that has left the Renfrewshire town is the silk gauze business, which, though now ignored in Worrall's list, was once the staple trade of the place, the value of the silk gauze lawn, linen

gauze, and white sewing thread produced being estimated in 1784 at £579,000. Mr. Humphrey Fulton commenced the industry, and we still find the surname amongst the local firms. But we find no Holmes, Ingram or Munn, although these were at one time well known as makers of "Quakers," i.e., spun silk shawls wrought in 14th, 16th, and 18th reeds, twilled, with fringes at the sides and ends of the squares, and worn in this plain state.

IRELAND AND ENGLAND.

Turning to Ireland we find abundant evidence of change during the period under review. We know that once upon a time Bandon was a centre of the cotton trade, until the competition of English power-looms swept it away. One firm in 1825 employed 250 weavers, some on corduroys, others on calicoes; and four years later there were 1,500 to 2,000 cotton weavers in the locality. Wages were reduced to 3s. or 4s. a week, but still Manchester travellers sold cords in Bandon itself. The town now contains one solitary textile firm—that of Messrs. Mason and Son, who, with a couple of hundred spindles and 5 looms (3 power), spin, and make tweeds, friezes, and blankets. Clonmel, once a cotton manufacturing town, no longer figures as such. Some interesting facts regarding the capacities of some of the larger linen factories appear in the directory. Messrs. Wm. Ewart and Son are set down as possessing 33,500 spindles and 2,000 looms. The York Street Co. has 55,000 spindles and 1,000 looms, while the Ulster Spinning Co. has 65,000 spindles. The Brookfield Linen Company, who produce a standard make of roughs, have 1,400 looms and 28,000 spindles. England has seen many changes of late years in the locations of the textile trades, especially in the South and West. The town whose name still survives in the title given to Axminster carpets no longer poses as a textile centre, although its carpets, woven in one piece, are said to have equalled those imported from the East. Woollens, leather breeches, gloves, and tape were also produced in the little Devonshire town. Collumpton, in the same county, does not figure in Worrall, although it has been an important centre of the serge trade, one firm 60 years ago working 500 looms in the town and villages adjacent. Thirty years further back there were 40 manufacturers in the town, so that the trade had already fallen off greatly. The total number of firms in the whole of the county is now about six, of which two are at Buckfastleigh, one at Harbertonford, another at North Tawton, and a fifth at Tiverton, the latter being the silk lace concern of Messrs. J. Heathcoat and Company. Messrs. Fox Bros. and Company have a mill at Culmstock, and another at Uffcolme. There were once 3,000 looms in Devonshire alone on serges or long-ells, which were bought to the extent of 240,000 pieces a year at the end of the last century by the East India Company for their China trade alone. Wellington, still an important textile town, had 600 looms on these goods. Amongst the towns which seem to have abandoned their textile endeavours are Salisbury, once noted for its flannels and linsey woolseys, and Mere, where the linen trade was formerly carried on. Wilton still boasts of a solitary carpet factory, but although Crewkerne yet poses as a centre of the flax trade Yeovil finds no place amongst such. The fine seconds and livery woollen broadcloths of Heylesbury, Melksham, and Calne, once so well known, are now things of the past, although Bradford, Chippenham, Trowbridge, and Westbury have succeeded in keeping a portion of their ancient trade together in spite of the northern competition. We have not time to take the reader with us over all the counties of England in the search for textile

lore, and a few more references must suffice to close the subject. Ribbon weavers at Battersea and bolting cloth weavers at Wandsworth are, one need scarcely say, no longer to be found. Passing northwards to Newark, in Nottinghamshire, the enquirer will find no trace of the linen factory which once existed there. In the east, at Norwich and in Essex, many changes have taken place, but Worrall unfortunately does not deal with these counties. To make the work complete we would therefore suggest that a list of the few remaining textile firms in the counties of Norfolk and Essex be added to a future edition. We should then have as complete a method of accurately comparing the present with the past as could well be devised. There are several firms in Kent and Surrey engaged in the printing, weaving, and dyeing branches of the textile trades. They are not numerous, and could easily be added to Mr. Worrall's excellent list.

EMIGRATION TO THE UNITED STATES.

The United States Government is again tinkering at its Immigration Laws. Mr. Foster, Secretary of the Treasury, has laid before the House of Representatives the reports of the Special Immigration Commissioners who recently went to Europe to investigate the subject of emigration to the United States. This was the precious Commission which charged the English Government with having and maintaining an organisation for shipping off all its disreputable subjects to that delectable Land of the Free, over which such heaven-born politicians as Blaine, Harrison, Bland, and Foster, *et hoc genus* rule supreme. In a communication accompanying these documents, Mr. Foster invites attention to them, and expresses his opinion that any additional legislation ought to include the provision of double the cubic air-space at present provided on emigrant vessels for each emigrant, which of course would be equivalent to doubling the passage rates; raising the head tax from 50c. to a dollar, and transferring it to the steamship companies, the fund thus provided to "be employed" in further regulating and preventing the immigration of alien contract labourers. The steamship companies should also be compelled "to enter into a bond of not less than 50,000 dollars, imposing upon them the condition that they return to the countries whence they came all alien immigrants brought by their vessels and found within two years from the date of their landing to have been landed contrary to the laws of the United States." Not content with these precautions in the country where their own laws hold sway, Mr. Foster would institute some system for the preliminary inspection of immigrants before embarking from European ports, which he believes to be absolutely essential to the proper regulation of the immigration business. "If such system of foreign examination could be placed under the general supervision of commissioners and inspectors appointed by the United States, and responsible in a general way to the American consuls in the various countries of Europe, I believe that much assistance might be derived from the voluntary and efficient co-operation of the owners, agents, and sub-agents of the various transport companies." We trust the European powers will think twice before they permit such an impertinent intrusion of officiousness as this proposal would indicate. There is a much shorter way to the attainment of the object of the Republican party than the one thus outlined by Mr. Secretary Foster, and it can be very briefly stated. It is to prohibit immigration altogether. This would get over all the difficulties they experience with the "business," and would have the merit of extreme simplicity. It would only need an equally simple complement to make it agree-

able all round, which would be to prohibit emigration from the States as well, so that Europe might be equally freed from Americans, as there is a wide-spread conviction that all those who come over here are not exactly angels of purity and light.

SILK MEN ON THE SILK TRADE.

Although it is said that some of the Macclesfield mills are sadly short of weavers to assist in the execution of the orders for Windsor scarves which have come forward during the current season, commercial prospects in the silk trade are not so rosy as a report in the local journals the other day would have one believe. At the Borough Police dinner recently Mr. Kershaw made several allusions to silk. He said there never were more prosperous times than 30 years ago, when people were never earning better wages, and when all the shopkeepers were doing well. There had recently been a certain fashion sprung up, and he never saw anything develop so rapidly as the present scarf trade had done. If that branch of the trade repeats itself to anything approximating what has been seen before, Mr. Kershaw thinks there will be good reason for congratulation twelve months hence; although if it were only going to last for twelve months, it would be better for him if he had never known the trade. Foreigners are now said to be pouring on our markets some of the vilest rubbish ever seen. The object of Macclesfield manufacturers is to produce as good an article as possible, and so give satisfaction to the world. By constantly producing better goods than the foreigner, the purchaser will eventually be prepossessed in favour of native productions. Such is the view of some when discussing the competition of cheap foreign goods with our own. And yet, not so long ago, an experienced manufacturer, who has been connected with the trade ever since he was eleven years of age, gave the following replies to questions asked him concerning the competition of those self-same weighted silks from abroad:—

"Here," said the manufacturer, shewing a silk handkerchief, "is an article of my own production that becomes fashionable in the trade. Immediately it becomes the fashion in England it becomes worth the while of the foreigner to make it, and he produces an article a little lighter, which completely takes my business from me. It is being sold at 16s. 6d.,* as against mine at 26s. A retail purchaser coming into the warehouse would never ask the question whether it is of English or French production. But those two articles stand on the counter—the one is 16s. 6d., and the other 26s. Naturally, my article is not sufficient to attract at the price. If you take the weight and durability of mine you have the value; but the Frenchman, the moment he gets hold of it, cuts it down so low that I cannot compete with it. In my own time I have instituted fabric after fabric, which has been copied, and each time I have had my legs cut from under me by foreigners underselling."

We do not know whether Mr. Kershaw (for we are quoting this gentleman) remembers when and where he made these remarks, but they are certainly his. In view of the well-known tendency of the retailer to buy the cheapest article where appearances are equal—a tendency well illustrated in our quotation—it will suggest itself to many that if Macclesfield adopted some foreign methods the turnover in silk, reckoned at between £600,000 and £700,000, would increase considerably. A town of over 30,000 inhabitants, practically dependent upon one industry, has nothing to boast of when its turnover in the one staple article of production does not in 12 months equal that of a single Manchester firm of merchants we could name in six weeks. Even such a comparatively young house as that of Marshall and Aston, making a speciality of one class of goods (not silks, by the way) can boast of a trade which is equal to half that of the whole of the silk manufacturers of Macclesfield as far as turn-

* Per dozen, of course.—Ed. T. M.

over is concerned. Leaving this branch of the subject, and returning to Mr. Kershaw's speech, the somewhat sensational remark was made by that gentleman that one manufacturer present at the meeting was making more money than all the rest of his competitors in the town put together! The name of Brocklehurst does not appear in the list of those in attendance, so that the largest firm in the town is not presumably referred to. As there are about forty-four manufacturers in Macclesfield it requires a stretch of the imagination to believe that one of them makes as much money as the remaining forty-three. Such an unequal distribution of talent or of luck is incredible. Some further remarks of the ex-Mayor were to the effect that for years manufacturers and workpeople had been labouring at a very small figure, and that large fortunes (Mr. Compston to the contrary, notwithstanding) had not been earned by manufacturers. All these statements are interesting as coming from well-informed authorities, and although we have mildly criticised some of them they are worthy of reference here. It is evident that silk manufacturers—with, we presume, the one exception mentioned by Mr. Kershaw—are not prepared to admit that Mr. Compston's statement about their rolling in wealth is correct.

"TWENTY PER CENT. PROFITS." A CORRECTION.

Mr. Kershaw desires us to correct a statement erroneously credited to him in a report of his speech on the occasion referred to above, and at which we hinted in the early portion of the preceding note. The speaker was made to say that on every single thing that he brought out he put on 15 or 20 per cent., because he had no competition. What Mr. Kershaw wished to be understood as saying was that he was paying 15 to 20 per cent. advance to weavers of new goods—a different thing altogether. We have heard of profits of 20, 25, and even 33½ per cent. in some branches of the Leek and Macclesfield smallware trade, but not in the silk trade proper. The misreported speech has given rise to much annoyance, for it appears that some of the effusively good-natured friends always to the front on such occasions, have sent marked copies of the papers containing it to silk buyers in London and Manchester. The senders, amongst whom some of Mr. Kershaw's competitors are probably included, must, as practical men, have known that an error had been made. The case affords a further example of the petty meannesses to which people are prepared to descend in order to injure or annoy a trade competitor. No doubt the correction thus publicly made will remove any cause for annoyance on Mr. Kershaw's part.

TRADES-UNIONISTS AND THE COUNTY COUNCIL ELECTIONS.

The policy of modern Trades-Unionism in relation to the public interest is typically shewn by an address to the electors of the London County Council. It emanates from the Gasworkers', the Potters', and the Federation of Trade and Labour Unions. The address appeals to the workers of the Metropolis to do their utmost to secure the election only of those candidates who have spoken clearly of such subjects as sweating, trades-union rates of wages, and the legal eight-hours day. It continues:—

The County Council election, from the workman's standpoint, is no mere party struggle. With them it is a bread and butter question for every voter, and we call upon you all, whatever your previous political creed may have been, to vote solid as workmen, and workmen only.

You will be told by those who wish to betray you that the proposals you are demanding will of necessity mean higher rates, and that the burden will fall on your shoulders in the form of increased rent. *But*

remember that it is in your power to shift the burden from those that pay much and are poor, and to place it on those who are rich and pay little. Vote then as workmen for those who are pledged to insist on the direct taxation of ground rents and land values. This for workmen means healthy homes at low rents, etc., and the establishment of such public institutions as are necessary for the health, happiness, and comfort of the people at the cost of those property owners who, living lives of idleness, have been enriched by the industry of the honest and underpaid worker. —42

This, of course, is simply a terse formulation of the demands of trades-unionism all over the country, and, a little more plainly stated, means less work, higher wages, cheaper food and clothing, lower rents for better houses, free education, communal workshops, and adequate pensions to keep them in old age, and provide them with beer and tobacco *ad lib.* The burden of doing this is to be placed upon the classes that are not "workers," according to these men of light and leading. Of course the classes referred to are exhaustless mines of wealth, and only need to be touched with the tax collector's wand to be made to yield everything necessary to make working men happy all round.

THE DOMESTIC KNITTING INDUSTRY IN DONEGAL.

Last week a correspondent of an Irish paper, who has had a long and intimate acquaintance with the Donegal hand knitting industry, stated that within an area of 12 by 40 miles 4,000 families are engaged in this industry. He suggested that the Congested Districts Board should build a mill for the spinning of the yarns used in the country. If this were carried out it would, he stated, give a welcome stimulus to one of the few native industries that is in a fairly thriving condition. We wonder when it will strike Irishmen that it will be best to do something for themselves instead of everlastingly clamouring for State aid. Is there not a single capitalist in an area of 40 miles by 12 in the County of Donegal, with enterprise and capital enough to avail himself of the opportunity of founding a spinning mill of such a kind as would supply the needs of this population of knitters, who would provide him unassured outlet for its productions? Surely there must be. But if not, could not a small joint-stock mill be established and each of these 4,000 families take one or two £1 shares, which would provide all the capital required? This would render them independent, and the example they would set would do something, if only a little, to exorcise the spirit of pauperism, which seems to possess almost the entire population. The money they are begging for is simply the outcome of the industry and enterprise of other people, and they ought to be ashamed of asking for it.

CRELFELD AND CHICAGO.

The manufacturers of Crefeld have just given a proof of their loyalty which must have touched the heart of their Imperial master. They had steadily set their faces against all connection with the World's Fair at Chicago, but when it was in some way hinted that the Emperor did not approve of the proposed abstention, they at once changed front, without, it would appear, even attempting to justify their conduct by argument. The language made use of by a local paper in announcing this sudden alteration in the attitude of many of its supporters towards the American Exhibition is sufficiently curious to merit quotation. "In disregard of all reasons to the contrary a large number of velvet firms of Crefeld have approached nearer to a determination to exhibit at the Chicago World's Fair." This diplomatic diction, as it has been appropriately designated, indicates plainly enough that logic has had nothing to do with the conversion of the manufacturers of Crefeld. The important firm of Wm. Schröder and Company have set the

example, and doubtless many will follow across what an admiring German contemporary calls "the golden bridge built for them by the Emperor."

AGITATION AMONGST SILK OPERATIVES.

At length the long interval of peace which silk manufacturers in Cheshire and Staffordshire have enjoyed promises to be disturbed by the activity of the ever busy professional agitator, who has not hitherto annoyed employers in Macclesfield and Leek with his attentions, at least for some considerable time. The destruction of the Weavers' Union in the first-named town preceded the advent of a long era of peace—we will not add, of prosperity also—in the silk metropolis, employers not having had to face the frequent and serious disputes which have been faced by manufacturers in other portions of the country. They are not to have matters all their own way any longer, however, if the London and Counties' Labour League can help it, that body having taken upon itself to organise the power-loom weavers of Macclesfield through its organiser, Mr. J. Simpson, and the local secretary, Mr. S. R. Compston. The last-named official, at a meeting of operatives held at the Bridge Inn, Brook-street, Macclesfield, on Wednesday, said there was a growing opinion that the houses and lives of the workpeople were not so comfortable as they ought to be, although he believed that the silk trade of the town was never better than now, that the masters were making plenty of money, and that the operatives were not participating in this prosperity. The usual arguments were brought forward to induce his hearers to embark on the policy of agitation, without which certain officials in London would find their occupations gone. Mr. Compston is not a native of Macclesfield, and has not been in the town during any period when troubles have been in progress, but he takes it upon himself to say that the workers have "grit" in them. The Labour League, it appears, will allow the operatives 10s. a week strike money in return for a subscription of 2d. per week. It is able to offer such an amount because it has branches all over the country, and endeavours to so arrange matters that there shall never be more than one strike on at once. As long as employers allow themselves to be attacked in detail, the League may, like Napoleon, be successful, although when its tactics are detected it may meet with its Waterloo. Mr. Compston referred to "the fact" that Macclesfield was known all over the country as a poor place, and said it was solely through the operatives not having accepted the chances which had been offered to them for bettering their positions. The silk manufacturers had been going on amassing wealth, while the workpeople remained always poor. As an instance of the power of combination, the speaker cited the case of the plumbers, whose wages, since the formation of a branch of a trades-union, in twelve months had increased from 6½d. to 7½d. per hour. It had been 15 years since there was an increase in plumbers' wages in Macclesfield before, and what combination had done for the plumbers it would also do for the power-loom weavers. The employers seemed to think them so much dirt in their fingers, but they would let them know that they were neither slaves nor dogs, made to do their bidding. To-day they had between 170 and 180 dyers who had joined the League, and he did not think there were 190 dyers in the town altogether, and he thought that before long they would alter the position of the dyers of Macclesfield. (Applause.) The masters knew this, and were trimming their sails accordingly. He asked those present if they were willing to sit down quietly and open their mouths and shut their eyes and see what

their masters would send them. It had never even been charged to the slave-owners that they did not feed their slaves, but it was almost an impossibility for workpeople now to clothe and feed their children and themselves properly. He knew his wages were a great deal better than a weaver's, and it was almost an impossibility for him to do it. The meeting appeared to favour the formation of a branch of the League for power-loom weavers, to whom the League intends to confine its labours at present, leaving the garret weavers for future consideration. It is intended to get at the garrets by having them registered as workshops and bringing them more under the Factory Act than at present—a scheme which may perhaps be left to commend itself. The opinion, however, prevails that garrets are dying out. With reference to Leek, a meeting of women employed in the mills of the town has been held, Mr. Stubbs, of the local Trades Council, in the chair. It was resolved to form a general union of employés in all the mills of the town, except those belonging to the Braidworkers' Union.

POSSIBLE CONSEQUENCES TO THE SILK TRADE.

It is impossible to augur the results from these signs of agitation in Leek and Macclesfield; but the facts given appear to justify the inference that manufacturers in these towns must expect a break in the harmony that has for a few years prevailed. The now moribund Weavers' Union was said to have driven a portion of the trade of the town to Scotland in the past, owing to the demands of the men, and to have thereby retarded its expansion. The decline in the population shewn by the last census would appear to have confirmed this view. Mr. T. P. Dunkerley, of Macclesfield, in his evidence before the last Royal Commission, when witnesses from the town were examined, said longer hours and lower wages were required to overcome foreign competition. This was eight years ago, and, if we mistake not, the witness was mobbed on his return home for his candour in making these and other remarks. Mr. Dunkerley, if we remember aright, gave it as his opinion that, although no union existed in the town, a spell of good trade would within three or four months result in the formation of one—a view which appears to have been confirmed by the events of the past few days: a remark which also applies to his statement that the depression existing in 1884 would probably be temporary only. An hour more per day would not, in Mr. Dunkerley's opinion, hurt the operatives, and the question rests between their accepting that increase quietly or drawing no wages at all, the earnings for male weavers being estimated by the witness at 15s. to 16s. per week. The charge was brought by Mr. Dunkerley that in many cases the weavers did not work the full number of hours recognised by the rules of the factory, and that when there is work for them to do many of them will not do it. Cost of labour has frequently been referred to as unduly high by English silk manufacturers, although there are numbers of practical men who say that the wages paid in Cheshire are exceedingly low. The Manchester dress silk trade is said to have been entirely killed by the high cost of labour, which destroyed an industry having a turnover of £250,000 a year—a figure which soon fell to £66,000, and which never rose until 1872, when the amount was £92,000, afterwards falling off again. When, some years ago, a proposal was made for sending a deputation of workmen to the Continent, the trade-union is said to have exerted its influence to keep them away, with the result that nothing was done, although at a later period Messrs. Clarke and Chapman made an

independent investigation of their own. Speaking of silk handkerchiefs, we believe that in Lyons the cost of production is about 40 per cent., as against 60 per cent. in Macclesfield. This fact is one which appears to indicate the impossibility of manufacturers meeting any extravagant demands on the part of the Trades and Labour Council. The fact that that body is controlled by London agitators, who cannot in all probability tell the difference between a power-loom and a donkey-engine, should make the silk operatives cautious as to how they treat the advances of these peripatetic strifemongers. Mr. Simpson and his friends will no doubt profess an earnest desire to bestow all sorts of blessings on the Macclesfield operative. The latter must remember, however, that his true interests are far more closely allied with those of the employer at home than with the travellers who come in battalions from the banks of the Thames to woo the suffrages of the workers of the North.

ANOTHER WINDING-UP IN THE HOME TRADE.

In another column appears a brief reference to the resolution passed at a meeting of shareholders in the Dale-street Warehouse Company, Limited, Manchester, in favour of winding-up. Coming so closely after the closing of several other old-established houses, the news of the collapse of the Dale-street Company may give rise to feelings of apprehension as to the future of the home trade. It may be remembered, however, that the Dale-street Company has been struggling for some time against the tide, and that since the conversion of Robert Faulkner and Company into a limited concern matters have not gone well with the house. We are of opinion that there is nothing in connection with the fate of the Dale-street house that need cause alarm. The firm has been crippled for want of capital all along. Its departments had been too numerous for such a comparatively small concern, the energies of the directors and others having been scattered instead of being concentrated in a more limited field. This is the age of the specialist in commerce as in science, and the recent history of the Manchester home trade shews that for firms desirous of making headway in face of the competition of the mammoth concerns, certain branches must be taken up and made a study of. There are examples round us to-day of firms who have prospered in this way. One is a dress goods house; another is looked upon as a lace concern; and a third makes a speciality of underclothing, aprons, pinafores, and other articles of the kind. Instances like this point their own moral.

THE NON-UNIONIST QUESTION IN BURY.

The trades-unionists of Bury are just now doing their very best to prove the truth of our remarks made about a month ago in regard to the aggressiveness of trades-unionism, and to which Mr. Mullin endeavoured to take exception, but only finished by emphasising the truth of what we said. Surely if there was an aggressive act ever performed, or a most unjust piece of conduct ever attempted, it is that which is now being carried out by the federation of spinners and cardroom operatives of Bury. The leaders of the movement aver that "the time has arrived, so and so," and the policy adopted by them and put into practice this week, goes to shew that when they consider "the time has arrived," they will do their utmost to ride rough-shod over all and everything before they will relinquish the aim and end which they strive to attain. The non-unionists have, they say, been reaping for some time past the benefits which have been obtained by the means of trades-unionism, and which, therefore, ought only to be enjoyed by trades-

unionists—people who have paid towards their achievement. But whether this conclusion be correct or not—which we are not inclined to admit—there can be no doubt that whilst crying out "justice" for themselves, it ill becomes trades-unionists to seek to place the onus of the injustice from which they allege they are suffering on a class of men who have nothing whatever to do with it, and to endeavour to do an injustice to that class of men by making them suffer for the act of people in their employ. The employers must either order the non-unionists to join the trades-union societies, or else discharge them: such is the tenour of their argument. They forget the fact that one of the chief cries adopted by trades-unions in the past has been against compulsion and force being used by employers to attain any object they sought. And now, presumably because it suits their own purposes, they are prepared to permit the use of a weapon which, if anyone else had so much as suggested its use, they would have been up in arms against, and done their level best to annihilate not only the weapon but its users. We are pleased to see that the meeting of masters on Tuesday evening refused to depart from the neutral position they have hitherto taken up, than which a more logical position cannot be desired. They do not object to the operatives joining whatever union they may think fit, but they do object to being made a tool of by trades-union officials to bring about that which the latter desire; and consider it is no part of their duty or province to coerce the operatives to join any union that they wish to have nothing whatever to do with. They rightly believe that as the matter is one which does not immediately and materially affect them, being indeed only one between the non-members and the members, the two sections should settle it amongst themselves without endeavouring to inflict injury upon an irresponsible body of men. The operatives, through their leaders, have asserted that the line of conduct they suggest has been followed by employers in the Oldham district, and they give as their authority for such statement the secretary of the Cardroom Operatives' Association of Oldham; but when that statement came to be examined by Mr. Rostron, the employers' Association's secretary in Bury, a complete denial was received from Mr. Andrews, the masters' secretary at Oldham, who asserts that no such demand has been made of any individual firm connected with the Oldham Employers' Association, nor to the Association itself, and that whatever may have been done at any of the mills in the Oldham district has been accomplished not by the influence or direction of the employers in any sense of the word, but through the overlookers and the unionists themselves in the mills in question applying the necessary pressure on their own behalf; or perhaps by the natural reluctance of the non-unionists to be the cause of trouble which would do, not only themselves and the unionists, but the trade of the town a great deal of harm. Frequently have the unionists of Bury iterated the statement that a strike is the last thing in the world they desire, and yet here we have them busying themselves in order to unearth some excuse by which they can get at variance with the employers, and have something wherewith to create that employment for themselves which they seem so obviously to lack. If a strike be resorted to—and we are informed that the spinners gave in their notices at three of the mills in Bury and Bolton on Wednesday, and the cardroom operatives on Thursday morning—we would like to ask the trades-union secretaries whether they will be receiving during the whole of whatever period the operatives may be without

work, their full wages or salaries; or will they, like the operatives, go on "short commons," with a view to bringing down the expenditure which a strike is bound to entail, and which they will in this instance at all events have so ruthlessly incurred? If the strike should come about, and is likely to be protracted, at the three mills in question, the masters will probably resort to a "shut down" of the whole of the mills of their members, so that some thousands of workpeople would be involved in a ruinous dispute, simply because about 50 operatives out of nearly 450 refuse to be coerced into surrendering that liberty of action which every Englishman, except perhaps a trades-unionist, holds so dear.

GERMAN RIP VAN WINKLES IN RUSSIA.

Reuter's special correspondent, who is traversing Russia to learn the extent of the incidence and pressure of the famine, has just unearthed some particulars that will be of regretful interest to all the textile industries. It is well known that about a century ago a considerable emigration of Germans took place from the Fatherland to Russia. It is amongst these that the special correspondent of Reuter's agency has arrived. Writing from Laratof, on the 22nd ult., he says:—

The German colonists on the Volga number about 300,000. They may be roughly classified as Protestants, Catholics, and Mennonites. With the exception of the last-mentioned, they all came over during the latter part of the 18th century, in response to a manifesto issued by the Empress Catherine. In that proclamation Catherine promised them certain privileges, the most notable of which were immunity from military service, self-government, and religious freedom. These privileges were granted "na vek," which means "for ever," but the phrase has recently been construed to signify a century only. There is just enough ambiguity about the expression to admit of this interpretation, but it is a quibble.

All these privileges have been revoked, and under the peculiar conditions existing, the correspondent found great suffering. These matters do not pertain to our province, but we may make an extract or two from the writer that will not be read without interest and instruction. The correspondent says:—

The German colonists can only be described as many 19th century Rip van Winkles. Imagine a body of men taken out of the 18th century, carefully preserved and kept apart from the influences of modern progress, latter-day customs and ideas, and you have the German colonists of the Volga. They all look like figures out of old German woodcuts, with their solemn, sallow, obstinate, clean-shaven faces, their hair dressed like a periwig, their gaudy forms and their curious, old-fashioned garments. They all wear stocks, and they are all very dignified and stately. They have still the same furniture which they brought with them more than 100 years ago. Their women, when young, have the pure and beautiful face of the Gretchen type. To come among these people in the midst of the semi-Oriental Russians is a great surprise to the traveller and fills him with wonder. Their cottages are substantially built, and contain large and lofty rooms.

After describing the special circumstances of their case, which renders their present lot worse than that of the Russian peasants, he proceeds:—

It was touching, on entering the cottages, to see the industry of the inhabitants. All were busy, working for their very lives. Most of the colonists on what is called the mountainous side of the Volga are weavers, and by dint of very great labour they are able to earn about six shillings a month. This is not paid to them in cash, but in kind. They are all hopelessly in debt to their employers or sweaters, and these of course take full advantage of the circumstance. The only educated people amongst them are the clergy and the schoolmasters, and these have not received any salary for years. It is sad to see young children, with pale faces and glistening eyes, working at the looms like galley-slaves. In one cottage that I entered the owner, an old man of 65, was lying in a half-unconscious condition in his bed. He had not tasted food for several days, and his mind was wandering. In some villages I saw men, women, and children, sitting almost naked, unable to go out to seek work because they had no clothes, and excluded from the receipt of Government aid because they had a handicraft. This is indeed the worst feature in the administration of relief.

This is a sad picture. It is to be hoped that the incessant labour at the loom, with earnings of six shillings per month, does not represent the normal, but rather the present exceptional conditions induced by famine. The history and present fate of these poor weavers teaches a lesson or two that may not be without use to Western weavers in the present day. The first is that on contrasting their own lot with that of these poor people they will always find cause to be grateful that the forces that have governed the disposition of their lives have not conspired to place them amongst the German colonists of the Volga; and second, that if they should ever be tempted to emigrate, let them, in the interests of their descendants, be careful to select homes in lands that are now, and will continue to be, reached by the energising stream of civilization. By all means should they avoid the risks of being stranded, as have these unfortunate people, in unprogressive lands.

LANCASHIRE'S DEVELOPMENT AND FUTURE PROSPECTS.

Lancashire and its commercial capital, Manchester, are names familiar over all the world. The wide repute they have acquired is derived from the former being the seat of one of England's greatest industries, the cotton trade; and the latter from being the mart in which its productions are sold. This manufacture was born in Eastern lands, most probably India, where the raw material grew close to the hand of the worker, and where as a manual industry it was probably thousands of years old. It was wrested from its native home by the genius of Hargreaves, Arkwright, Crompton, and Cartwright, and transferred to Lancashire; and by the skill and enterprise of its people has been carried to a degree of perfection to which no parallel can elsewhere be found. It would be inappropriate to burden this article with long arrays of figures shewing the number of spindles and looms there are within the county's borders, or the number of people, men, women, boys, and girls, tending the operation of these machines as they are steadily fabricating yarns and cloth;—a light occupation, yet one in which their earnings place them close to if not absolutely at the head of every other industry in the country comparable to it in magnitude. Such a task, too, would only yield an inadequate presentment of the claims of Lancashire for a high place in the estimation of the civilized world, because this county is directly and indirectly the parent of nearly all the mechanical industries that distinguish the present age from all the ages of the past. The invention of the new machines for spinning and weaving cotton in Lancashire directly suggested their application in the same or modified forms to the woollen, worsted, and linen industries in rapid succession; and from Lancashire as a centre these developments upon ancient methods have spread in every direction. Such a success was bound to have an important influence upon the non-textile industries, if only by way of suggestion, and it is from these germs that the impulses have been derived which have led to the supersession of nearly all our manual forms of industry by mechanical ones, during the century that has now entered its last decade. From this influence, and the fact that Lancashire still remains the most important centre of mechanical invention and industrial activity anywhere to be found, the county derives and maintains its reputation.

Lancashire as a geographical expression, and with such a reputation, is, by those who do not actually know it, ideally covered with cotton mills, weaving sheds, forges, and machine-

shops, and the same class of people almost religiously believe that within its borders it is impossible to escape from the sound of revolving spindles, clattering looms, or clanging anvils. This, however, is quite a mistake. Of its almost 2,000 square miles, the cotton trade and its collateral and dependent industries do not claim more than one-third. This consists of the eastern portion of the county, lying upon the flanks of the Pennine Chain, commonly called the backbone of England, which stretches from the Peak hills in Derbyshire to the Cheviot hills on the Scottish border. It is the valleys lying between the great rib-like hills which in Lancashire extend from this chain in a westerly direction, until at a distance of from twelve to twenty miles they fall away into the level plain of Fylde country, bounded and washed by the Irish Sea, that are devoted to the cotton trade and the industries to which it has directly given birth.

It was into these valleys that the spirit of mechanical invention descended in search of a home congenial to its needs and tastes. It was in them that she inspired the men whose names have been so often mentioned, and whose labours inaugurated a new epoch in the world's history. Kay, Hargreaves, Arkwright, Crompton, Cartwright, Roberts, Bullough, and many of their successors whom we cannot even enumerate, were born or dwelt and achieved their greatest mechanical exploits therein. And it is here the highest developments of their genius is still to be found, in the industrial palaces with which almost every town abounds, and which directly and indirectly furnish abundant and well-paid employment to their dense populations, and great rewards for the captains of industry and the merchant princes who deal in their productions.

But it is not only by the production of yarns and cloth that Lancashire is distinguished. Invention stimulated the production of these articles on an enormous scale, and the demand for machines by which to fabricate them laid the foundation of our great machine-making trade. Almost every centre of spinning and manufacturing has its appropriate machine-making establishment. This is a new industry in the annals of the world, and in Lancashire it has grown to such vast dimensions that, if permitted the opportunity of doing so without obstruction, it is capable of supplying the world's requirements in textile machinery. But in spite of much opposition that cannot be regarded as legitimate from an industrial or commercial standpoint, it succeeds in serving the wants of most countries. And it is a matter of pride to the natives that the machinery of Lancashire, in its perfection for the purposes for which it is required, is far away in front of that of all competing nations.

The attainment of this eminent position by Lancashire has only been secured by a fortunate concurrence of circumstances, which have long passed away, and can never be repeated. These were, that Lancashire led the way in mechanical invention, as stated above; and that for the considerable period of 60 years it had a monopoly of machinery, the Continental nations being meanwhile engrossed with the doings of the French Revolutionists and the subsequent Napoleonic wars. Hence a good start was gained; and it practically took our competitors another ten years to find out the dimensions of the industrial revolution that England had accomplished, even while taking her part in their political ones. After 1830 they began to desire and require our improved methods and machinery, and the exportation of machines became a feature of our trade. Here and there foreign visitors began to make their appearance, and owing to the influence exerted in their favour by machinists, who were beginning to do an export business with the Continent,

they were received into our spinning and weaving mills. Thus French, Germans, Russians, and Spaniards were taught our trade. This, however, occurred only on a small scale prior to the Exhibition of 1851, after which they came in shoals. It is useless now to discuss the wisdom, or otherwise, of our course of action in relation to that movement; it has borne its fruits, and we cannot roll back the current of events and begin anew. Suffice it to say that every country now has a district in competition with Lancashire, and never fails to call in the aid of the State to its assistance if our rivalry presses it hardly. Each and all have one or more striking advantages when compared with Lancashire, which do much to neutralise those we possess over them; whilst, when it is remembered that the State lends its aid on every requirement, no wonder need be felt that they capture our trade, at any rate with their own countries. This has very largely been the result in France, Germany, Russia, Italy, and Spain, and Portugal is closely following suit. The last movements made in several of these countries, and especially in France, will sweep away every vestige of our little trade that remained.

We do not care upon the present occasion to enter into the question of our national policy in relation to this matter, as we desire to point to another factor which is of great importance in the situation. This is the conduct of our working classes, who seem to have given themselves over body and soul to a number of fussy busy-bodies who, owing to the circumstances of their lives confining their opportunities of observation to the jenny-gate of the spinning-room, or the loom-alley of the weaving shed, have had no chance of attaining any conception of the world of conflicting interests beyond, and have certainly not sought to attain any. Yet they have come forward and have assumed the leadership of the operatives and the mastership of the establishments of their employers, and have organised the former and terrorised the latter. Professional politicians, seeing this usurped power in their hands, have paid court to them, with the result that they have got laws made wherewith to persecute every one who opposes them. They terrorise, intimidate, and boycott dissentient workpeople, as is now occurring at Nelson and Stalybridge; and compel workpeople who are earning absolutely the highest wages of any in Lancashire engaged in the same class of work to leave it, on the allegation that it is "spinning bad," as at Accrington. They go to an employer and demand that he shall dismiss almost half his staff of workers because they have not joined their Union, or the remainder will strike—which means they will neither work themselves nor permit others to work. Such a demand has been made at three large mills in Bury during the past few days. Cases of the kind we have indicated are of daily occurrence in the cotton trade, all of which are the outcome of the feeling of restlessness and insubordination to the absolutely necessary principles of order that form a part of and are inseparable from modern industries. This action is a revolt, not against tyranny but against organised industry itself, and can, if persisted in, only have one ending—the utter ruin of their employers and themselves. The trades' organisations are blind and motiveless Samsons, who are bent upon pulling down the whole fabric of civilized industry upon their heads and those of everybody else, without even the motive of revenge for any injury done them.

Now, we ask, how with such prospects as these in front of them can employers in the staple industries of Lancashire be expected to maintain it in the pre-eminent position it has attained, mainly by the genius of its inventors, the enterprise of its capitalists, and the steady industry of a generation of workers who managed their own affairs and never permitted

either presidents, secretaries, or delegates to dictate to them when they should strike, but who kept such officials rigidly in their places as their servants and not their masters? This position cannot be maintained under such conditions. Consequently, we have only to ask further whether the workers of Lancashire desire to destroy the grandest industrial system the world has ever seen, and perish themselves in the ruins? If not they must change their policy.

Designing.

THE ANALYSIS OF PATTERN.—V.

FANCY COMBINATIONS.

(Continued from p. 135.)

Another type of combinations, at times of more intricate construction than the foregoing, is what are termed "fancy twills." It would be a difficult matter to draw a definite line between these and ordinary twills, since the latter are at times very extensive; but if the term "combination twill" be substituted for fancy twill its meaning is very apparent. In *Design 9* a typical example of a combination twill is given, consisting of the combination of 8-end sateen and Mayo or Campbell, forming a twill running at an angle of 45° provided equal quantities of warp and weft be used. In *Design 10* an example is supplied of an upright combination twill, consisting wholly of 8-end sateen and twilled hopsack.

In analysing such cloths as these, the use of the knowledge obtained by experimenting with the various makes is most effectively demonstrated. Probably the weaves first noticed by the designer for woollen and worsted coatings are the ordinary simple twills and the 8-end sateen makes. This latter make possesses the peculiarity of forming an upright twill in one direction but an ordinary twill in the other, as shewn in *Designs 11* and *12*. Now, a glance at *Design 9* and *10* will shew that, in the first instance, the ordinary twill effect has been made the basis of the combination, while in the latter case the upright effect has been utilised for the same purpose. Thus it is evident that a knowledge of the weaves combined in these two cases will account for an apparent impossibility. Since these weaves are of a stripe type of effect, all the remarks made with reference to stripes are equally applicable here. Particular note should, however, be made of the method of combining the weaves employed, and also of the number of ends each weave occupies, which point may often be decided by the curvature of the threads and picks as already explained. Another point to which attention should be directed is that in such combinations as given in *Design 13*, a common practice is to make the fabric of woollen or worsted yarns, except every other pick, which is mohair: thus a lustrous twill is developed on a woollen or worsted ground.

BACKED CLOTHS.

Attention must now be directed to fabrics backed with warp or weft for the purpose of obtaining extra weight, warmth, and handle. In the first case we shall have two series of warp threads and one series of weft; and in the latter case, one series of warp threads and two series of weft threads. The following procedure should be adopted in analysing these cloths:—

- (1). Ascertain whether backed with warp or weft.
- (2). Ascertain the relative proportions of face and backing threads or picks and counts of the same.
- (3). Ascertain the face weave as a single cloth.
- (4). Ascertain the backing ties.

No further reference to the first three is really requisite, but the fourth may profitably be considered more fully. In tying the backing to the face, of course under any circumstances the conditions of perfect tying must, if possible, be observed, whether warp or weft be employed. In *Diagram 9* is shewn an interesting fact concerning the backing of the two-and-two twill: 1 is a thread taken from the face, weaving as already indicated two-and-two twill, *a* indicating two up and *b* two down; 2 is the backing thread, *c* indicating the tie. It will at once be observed that *a* and *c* always

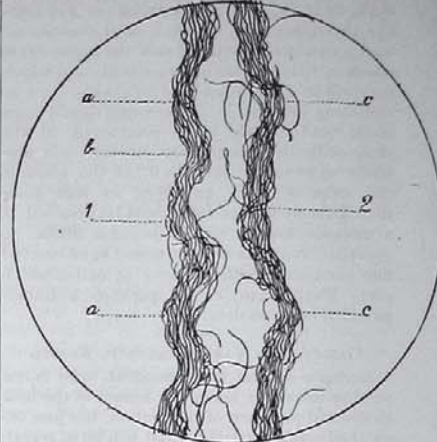


DIAGRAM 9.

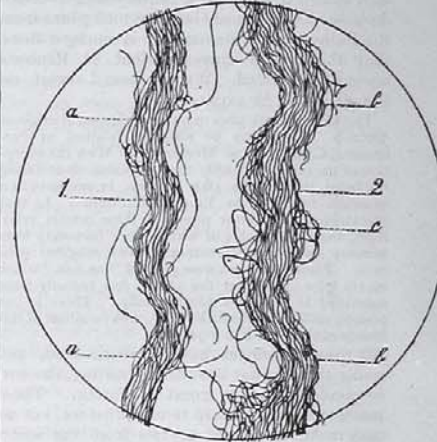


DIAGRAM 10.

come into relatively the same position, *a* being repeated twice to *c* once. This leads us at once to decide that the backing is tied to the face in 8-end sateen order, since, as shewn in *Design 14*, this sateen ties on every other twill. We need scarcely note that it is almost impossible to analyse these cloths successfully without a complete theoretical knowledge of the underlying principles and some practical experience; for, in addition to the foregoing difficulties, it is found in practice that at times the influence of tying is quite remarkable, a slight variation in the position materially influencing the result.

DOUBLE CLOTHS.

The principles governing the construction of these are very similar to those governing backed cloths, the only difference being that there is a distinct back cloth formed. The analyst should proceed as follows:—

- (1) Find the face weave or design;
- (2) Find the back weave or design;
- (3) Find the relative quantities of face warp and weft to the backing warp and weft along with the counts of yarn; and
- (4) Find the method of tying, whether with warp or weft, and the method of distribution.

With reference to this latter proceeding, *Diagram 10* demonstrates a very useful point. Here 1 is a thread taken from the face of a cloth, made as follows:—

Warp.
2 threads 2/30's worsted; 1 thread 18 sk. woollen.
12's reed 6's.

Weft.

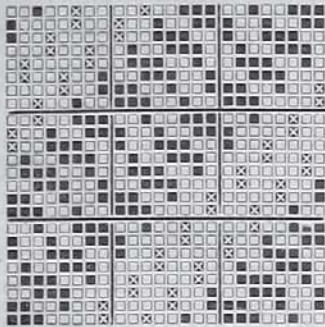
Same as warp; 72 picks per inch.

2 represents a thread taken from the plain back of 18 sk. woollen. It will at once be observed that, owing to the face being as fine again as the back cloth, the curves of the two-and-two twill coincide with the plain. Further, it is evident from an examination of the curve of the backing thread that the back cloth has

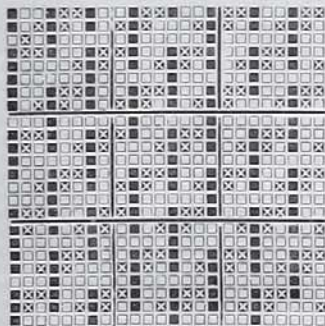
been tied to the face by means of the backing warp, *b* indicating this tie, which is a much more marked curve than is *c*, where no such tie has taken place. Design 15 is the plan employed.

COTTON DRESS GOODS DESIGNS.

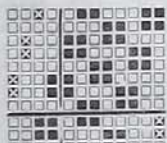
So much skill and care has been expended on designs and colourings, that the woven cotton material at a very short distance might be taken



DESIGN 9.



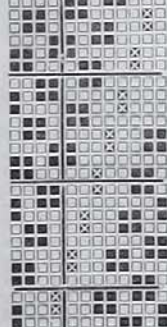
DESIGN 15.



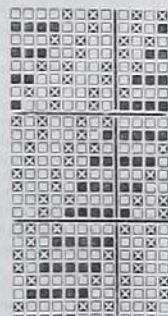
DESIGN 11.



DESIGN 12.

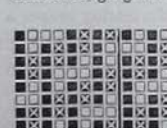


DESIGN 10.



DESIGN 13.

for wool or satin, the goods so made hanging quite as easily and gracefully as if manufactured from silk fibres. The present year will shew some of the finest specimens of cotton goods ever exhibited, and that they will be fashionable goes without saying, seeing that they are being made up long in advance of the time when they can be worn. Ottomans, sateens, zephyrs, cambrics, ginghams, and beautiful muslins are



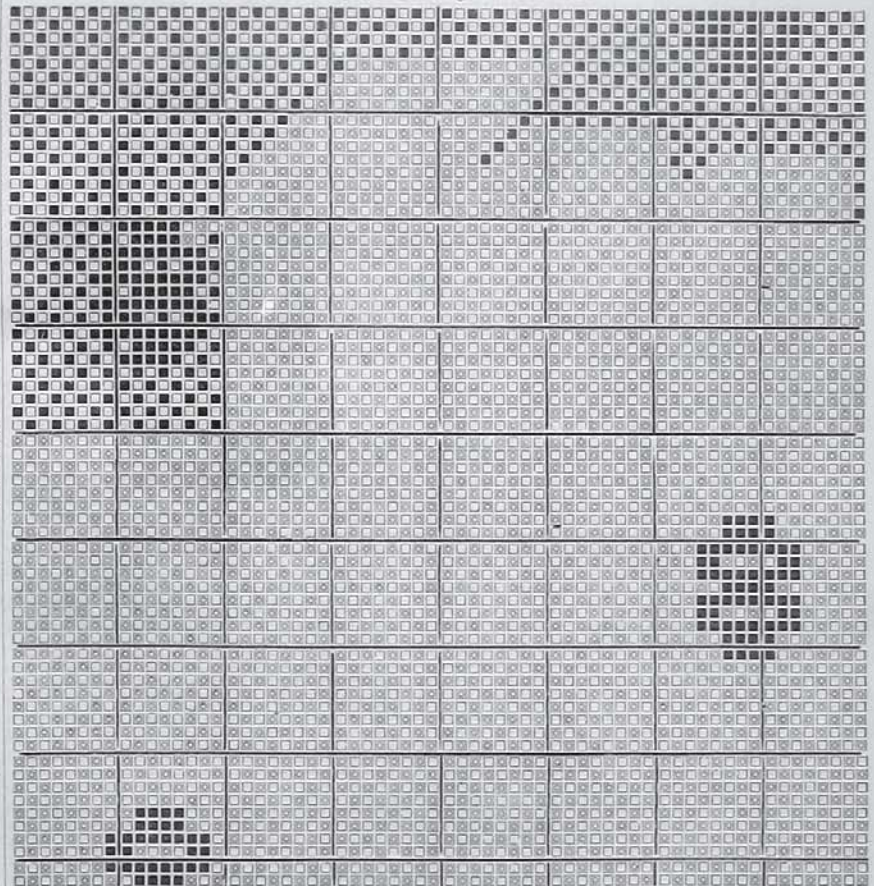
DESIGN 14.

the makes, ornamented with large or small, single or elaborate zigzags, small blocks, dots, ovals, leaflets, Maltese crosses, flowers, etc. In some few instances the pattern is of several shades upon a light ground; in others pattern and material are of the same colour. Canvas grounds are the latest, with a foundation or lining of silk, which glitters through the interstices or open spaces of the cotton fabric when

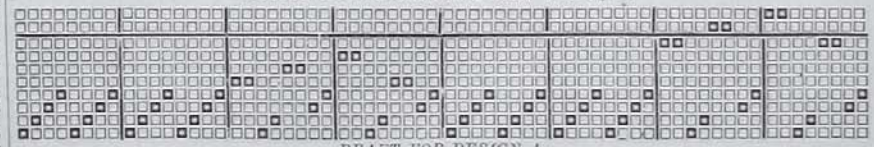
made up either as a blouse, vesting, or skirting. That is truly a marvellous freak of fashion, causing the more costly material to play a subordinate part, but so it is, and manufacturers must bow to the fiat. In respect of colours as usual all the delicate embryo buds and spring blushes are sought for, but as is natural the early primrose and cowslip tints will lead, to be later on blended with pale or dark violet—one of the most tasteful arrangements that the eye can possibly dwell upon in feminine costumes whether made up of cotton or more expensive materials. Where cost is no object the most lovely of all dress goods are cambrics if of good design and dainty colourings, forming the prettiest of all spring dresses, being exquisitely fresh, giving grace and beauty in every undulation of the drapery.

Design A is constructed for a fancy zephyr stripe, with a small warp spot for ornamentation (see draft and pegging plan). The distances between the figures may be increased or decreased by repeats of the draft and round; 40 dents perinch, two in a dent for plain ground; spotting 4 in a dent; ground warp 32's twist, spotting yarn two-fold 60's, very little twist if possible; weft 80 picks per inch of 30's soft spun. As a guide we have marked the shafts on the pegging

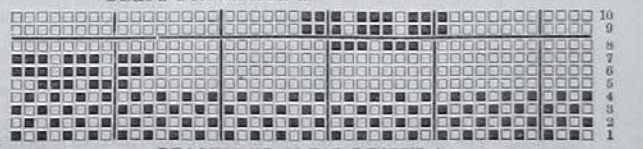
plan in numerical order, so that the pattern now given may be drafted without any mistake: 22 light mauve, 22 white, weft all white, the figures to be only on alternate white stripes; 22 light mauve and 8 of white on the plain shafts 1, 2, 3, 4; then a double end in a heald of dark chocolate on 5th shaft; 2 of white ground on 1 and 2 shafts which makes the 4 in a dent; a double end in a heald of chocolate, on 6th shaft with 2 white on plain shafts; a double chocolate end on 7th shaft, and two white plain, and double chocolate end on 5th shaft with two white plain completes one figure. For the alternate stripe, 8 white, 22 light mauve, on the 1, 2, 3, 4, plain shafts; double end chocolate on 8th shaft; 2 white plain shafts; double end chocolate on 9th shaft; 2 white plain double end chocolate on 10th shaft; 2 white plain double end chocolate on 8th shaft; with 8 white on plain shafts, the repeat commencing with the first 22 of light mauve. These particulars carefully followed will give exactly the drafting of this pattern. Any other arrangement may be made—the chocolate changed to green, the size of pattern increased or the figures placed on each stripe if required; we have merely indicated what can be done, and consider the design worth notice.



DESIGN A: FOR COTTON DRESS GOODS, &c.



DRAFT FOR DESIGN A.



PEGGING PLAN FOR DESIGN A.

Machinery and Appliances.

LACE JACQUARD CARD-PREPARING MACHINE.

THE JACQUARD SYNDICATE, 13, ABCHURCH-LANE, LONDON.

Those who are connected with the textile industries will be aware that the preparation of cards for Jacquard engines is a long and tedious process, and one in which they would gladly see an improvement. This improvement, which is a striking one, has now been effected by the invention of a most ingenious machine for superseding the human brain, eye, and hand in the preparation of these cards. To render a description of the improvement clear it will be necessary to explain briefly the ordinary method of production. In the first place the artist's design which is to be reproduced upon the fabric is transferred on to a sheet of paper covered with small rectangular spaces formed by crossed lines. The pattern is then painted in and the sheet is handed to a skilled artisan known as a reader, who commands a high rate of wages. The reader places the design before him on a frame to which is attached a number of strings. These he dexterously manipulates and intertwines so that he produces in string the pattern which will in time appear in the curtain or other article to be manufactured. This "reading," as it is termed, is a very long affair, occupying for ordinary patterns an average of four or five days, while with complicated designs from a week to a fortnight will be thus occupied. It moreover demands unremitting care and watchfulness on the part of the reader, but for all this errors often creep in owing to human fallibility. These errors are only discoverable when the first or sample curtain has been made and they then have to be corrected. The string pattern having been completed, it is placed in a machine and from it are punched the series of cards for the Jacquard. This process occupies about a day, which has to be added to the time occupied by the reader. When the cards have been punched they are strung together in regular sequence and form a chain ready for use in the Jacquard. Any errors of pattern discovered in the first, or sample, curtain are remedied by correctors, who are fully occupied in large lace factories with this work.

The new system is the invention of Messrs. Pearson and Godward, and it has taken them some nine years to develop into its present practical shape and to perfect, Mr. Pearson being the primary inventor. In this system the artist's design is traced on to a thin sheet of transparent india-rubber, which is stretched in a frame that can be expanded or contracted to scale with mathematical accuracy to suit the size of pattern required. The design is traced on the rubber sheet with a specially prepared colour which always remains moist. When the tracing has been completed a finely perforated sheet of zinc is laid upon it and the design is directly transferred from the rubber to the metal. The pattern is then filled in with a thick paint, which enters and stops up the holes within the lines of the pattern, the holes in the zinc outside the pattern remaining open. The plate or pattern is then taken to the reading machine, where it is introduced between a pair of horizontal rollers, which carry it forward to a series of needles and levers connected with strings. The needles are so arranged that some of them drop into the exposed rows of holes in the zinc as it advances forward, row by row, through the rollers, while the others pass over the painted surface of the pattern, the holes in which, being blocked, cannot be entered. The strings are pulled by the levers belonging to those needles which have dropped down into the holes, and the strings acquire an intermediate piece of mechanism by means of which the cards are punched at the other end of the machine. The blank cards are automatically

fed to the punches and delivered into a receiver when punched. In fact, the machine is automatic from first to last. The pattern has only to be placed in position and the machine started, when it will run without any attention—except being occasionally supplied with cards—until the pattern has been translated from the zinc on to the cards.

The rate of production in this machine is very remarkable as compared with that of the human reader. A pattern which would take the latter a fortnight to read can be read and punched by the machine in about five hours. Beyond this there is a great saving in labour, whilst errors are impossible provided the design has been properly drafted. This machine is now at work at the Anglo-Scotian Mills, Beeston, near Nottingham, at which the inventors are engaged, and where those interested may inspect it in operation, and also see the ordinary process of reading carried out. The factory, which is among the largest in the country, belongs to Messrs. Frank Wilkinson and Co., and is engaged chiefly in the lace curtain trade. About 1,500 hands are employed, and 17 engines, having an aggregate of about 1,000-horse power, are engaged in driving the machinery. Messrs. Wilkinson are adopting the new machine, by which they anticipate effecting a saving of about £3,000 per annum. This will readily be understood when it is stated that with the machine one superintendent will take the place of 17 or 18 hands, consisting of readers, punchers, and correctors. So far the machine has only been used for preparing cards for lace curtains and similar goods, but it is equally applicable to the preparation of cards for other textile fabrics. In fact, arrangements have been entered into with Messrs. Hattersley and Co., loom builders, of Keighley, for its adaptation to the woollen, linen, and other trades using Jacquards. It has therefore a very wide range of application, and besides constituting a most ingenious invention it will certainly mark an important era in the history of textile manufactures. The Jacquard Automatic Reading and Punching Syndicate, of 13, Abchurch-lane, London, will furnish further information.

TELEPHONES.—Messrs. Woodhouse and Rawson United, Limited, 88, Queen Victoria-street, London, E.C., publish a useful set of illustrated price lists of telephones and transmitters for domestic and long-distance purposes. The firm have taken advantage of the changes that have recently occurred in connection with telephones, whereby they are able to manufacture them at prices which bring them within the reach of all classes, whether for domestic or business use. Special prominence is given in these lists to domestic telephony, and full particulars and prices of the necessary appliances and fittings are given with clearness and brevity.

THE TRIPLE EXPANSION ENGINE.—On Saturday evening, at the Dr. Syntax Hotel, Oldham, Mr. Hodgson, of Messrs. Scott and Hodgson, engineers, Guide Bridge, delivered a lecture on "The Triple Expansion Engine," in connection with the Oldham Lodge of the National Engineers' Association. Councillor E. Ingham presided over a good number of members. The lecturer pointed out that what was meant by the term triple expansion engine was simply an expansion of the compound engine, whilst a quadruple engine was an expansion of the triple engine. The triple expansion engine was introduced in a practical form in 1874, being then used for marine purposes, but it was not a success, mainly on account of the construction of the boilers, which were not of a suitable type. Four years later another triple expansion engine was tried with a marine boiler, and was fairly successful. In 1881, however, the triple expansion engine proved entirely successful as a marine engine, and since that date it had been used with capital results. The late Daniel Adamson was the first to apply the triple expansion principle to stationary engines, with only moderate success; but now he (Mr. Hodgson) was convinced that by adopting that type of engine a great saving in coal resulted. The lecturer went on to deal with the technicalities of the subject at some length. After a brief discussion the meeting terminated with the customary vote of thanks.

Bleaching, Dyeing, Printing, etc.

THE PREPARATION OF WOOL PIECES FOR PRINTING.

The printing of wool piece-goods is assuming large proportions, and on all sides one hears of cotton print-works taking it up. Owing to *mousselines de laine* being in fashion the demand for wool goods has increased enormously, but it is to be feared that if the production goes on extending in the same proportion as up to the present, it will be overdone. The preparations for printing consist mainly of two operations—bleaching and mordanting.

Bleaching.—The goods are run through a 3-box washing machine, with three pairs of squeezing rollers, filled with clean water at 55-60° C. The water for this and the following washing machine must be soft, and if not so naturally, should only be used after softening. Then follows the real washing, in an exactly similar machine, the first box containing soap and a little potash, while the two following contain only soap. The first bath contains 4 grms. of soap per litre of water, and the other two 2 grms. per litre. The temperature of the bath is 40° C. After running through this machine, the bleaching follows without further washing. This is done in a continuous apparatus, similar in appearance to the so-called "Rapid Steamer," but having brick walls for its sides. The top is provided with plates coated with lead, which, when working, are slightly warmed to prevent condensation. The goods enter the machine moist, run over small rollers, and come out of the apparatus by the same aperture. The sulphur chamber is built wide enough for two widths to run side by side. For burning the sulphur, two flat pans, which can be fed from without, are built in, deep in the bottom. The feed passage has two sliding shutters, which render it possible to add fresh sulphur while working. Two small windows in the walls, to overlook the inside working, and a tightly shutting door, are also required. To prevent sublimation of the sulphur upon the cloth, a wood trellis, covered with lead and felted is laid over the pans. Owing to the pans being very low, very little settles even on the felt, the passage through taking ten minutes. On leaving the apparatus, the cloth passes a flue, through which the vapours are drawn off with an exhauster. For light goods, the passage must be twice repeated; for heavier goods, three times even. Many attempts have been made to replace the sulphuring by a bleach with bisulphite and acid, but the goods never turn out so finely bleached as with sulphur. With peroxide of hydrogen the bleach is satisfactory, but too costly.

After bleaching, the goods go through a washing machine, and are then mordanted. Formerly this was done by passing through stannate of soda, and then through sulphuric acid, but latterly this has been replaced by the chlorine treatment. This is largely owing to the fact that the natural colouring matters have been replaced, for the greater part, by artificial ones, which on tin-mordanted wool give comparatively very good results, but only naphthol black gives good results on chlorinated wool. The change to naphthol black has been further aided owing to the fact that, besides giving a good black, it leaves the other colours, especially white, absolutely pure, whilst logwood always affected these more or less. Other artificial dyes give much greater intensity on chlorinated than on tin-mordanted material, eosine colours being an exception, as they give slightly brighter shades on tin. For the chlorine treatment, the same machine serves as was formerly used for the tin-mordanting, with the modification that the large vat is now used for washing; whilst for the chlorinating proper a vessel of about 200 litres capacity, containing the chlorine mordant, is placed before this. This bath consists of 200 litres water, to which are added 6 litres chloride of lime at 60 Tw., and 4 litres concentrated hydrochloric acid. The passage takes only a few seconds, the pieces then being run into the washing machine

and afterwards dried. It is necessary to have a fine connected with an exhauster over the chlorine bath, otherwise no workman can attend to the machine. It can happen that by running the machine too slowly some pieces become too strongly chlorinated, which if it occurs is easy to recognise, owing to the rough handle of the goods. Such pieces should be then employed for heavy colours. The faults occurring in wool printing are seldom attributable to faulty mordanting, but mostly to the steaming, which must be reckoned as one of the most difficult points in the process.

ANILINE BLACK PRODUCED BY AGEING.

The aniline black produced on the cotton fibre according to Lightfoot's recipe does not rub, but it injures the fibre, and this has always been an impediment in the application of his process. The explanation of the cause of the tendering of the fibres is as follows:—If, as Nietzki believes, the black is a tetraminomon-acid, its formation is expressed thus:— $4C_6H_7N.HCl + 4O = C_{24}H_{20}N_4HCl + 3HCl + 4H_2O$. According to this the original mixture, even if it was perfectly neutral, becomes strongly acid by the decomposition of the aniline in the black, and the acid produced on the cellulose in the dry state tenders it by converting it into oxycellulose.

In order to prevent this reaction, alkaline bases, in the form of organic salts, such as acetates, etc., must be added to the mixture for black. The opinion of Camille Köchlin, that the presence of acetates hinders the formation of the black, is modified in so far that the development of the black is not hindered as long as there is less than one equivalent of combined mineral acid. The best result is obtained with $\frac{2}{3}$ equivalent, thus supporting Nietzki's hypothesis, according to which $\frac{1}{3}$ of the acid of the aniline salt becomes free on the formation of the black. If the amount of the base is less than half equivalent, the fibre is scarcely protected by it; if it is more than one equivalent, a black is no longer obtained. Perhaps the results here given will cause a renewed application of Lightfoot's method in dyeing.

RECIPES FOR DYERS.

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

BORDEAUX ON COTTON.

For 100 lb. cotton. Steep overnight in a decoction of 20 lb. sumach; rinse, and treat for half an hour in a cold bath of $2\frac{1}{2}$ lb. tartar emetic; then in a new bath dye with

- 4 lb. alum,
- 3 lb. logwood extract,
- $2\frac{1}{2}$ lb. Bordeaux for cotton.

Enter into the bath cold, raise to the boil, and work until the shade is obtained.

BORDEAUX ON COTTON.

For 100 lb. cotton. Prepare a dye-bath with

- 15 lb. Glauber's salt,
- 5 lb. soda crystals,
- 3 lb. diamine fast-red F,
- 1 lb. diamine violet N,
- 1 lb. roseazurine G.

Enter cold, then raise to the boil, and work for $1\frac{1}{2}$ hour; lift, wash, and dry. The dye-bath is not exhausted and may be retained for future use, adding about one-half of the above quantities for each successive lot of cotton.

OLIVE ON COTTON.

For 100 lb. cotton. Steep overnight in a decoction of 20 lb. sumach; then, after rinsing, dye in a fresh bath with

- $\frac{1}{2}$ pint acetic acid,
- 15 lb. fast olive.

Enter cold, heat to about 180° , and work to shade.

OLIVE ON COTTON.

For 100 lb. cotton. Prepare a dye-bath with

- 15 lb. phosphate of soda,
- 3 lb. soap,

- $1\frac{1}{2}$ lb. diamine yellow N,
- 4 oz. diamine blue 3 B,
- $1\frac{1}{2}$ oz. diamine brown V.

Dye at the boil to shade; lift, wash, and dry.

FAST YELLOW ON SILK.

For 10 lb. silk. Dye in a warm bath made with

- 6 oz. fast yellow,
- 10 oz. Glauber's salt,
- 7 oz. sulphuric acid,

working at the boil to shade.

ROSE ON TUSSAH SILK.

For 10 lb. silk. After boiling-off and bleaching the silk, prepare a dye-bath with

- $2\frac{1}{4}$ oz. rhodamine B,
- $1\frac{1}{4}$ oz. acetic acid,

dyeing at the boil. Then lift, wash, and dry.

PALE VIOLET ON TUSSAH SILK.

For 10 lb. silk. Thoroughly bleach the silk in the usual way, then dye in a bath containing

- $\frac{1}{2}$ oz. methyl violet 2B,
- $\frac{1}{2}$ lb. soap,

working at 180° F. to shade; lift, wash, and dry.

PALE GREEN ON SILK.

For 10 lb. silk. Prepare the dye-bath with

- $1\frac{1}{2}$ oz. green crystals V,
- $\frac{1}{4}$ oz. auramine,
- 3 oz. Glauber's salt.

Work at near the boil; lift, wash, and brighten in a bath of acetic acid.

SCARLET ON TUSSAH SILK.

For 10 lb. silk. Prepare the dye-bath with

- $2\frac{1}{2}$ oz. scarlet R,
- $2\frac{1}{2}$ oz. scarlet G,
- 5 oz. Glauber's salt,
- $2\frac{1}{2}$ oz. sulphuric acid.

Enter at about 150° F., then raise to the boil and work to shade. Lift, wash, and dry.

PALE PEACOCK GREEN ON COTTON.

For 100 lb. cotton. Mordant with

- 3 lb. tannic acid,
- $2\frac{1}{2}$ lb. tartar emetic,

in the usual way, then dye in a fresh bath with

- 4 lb. alum,
- $1\frac{1}{2}$ lb. methylene blue B,
- 1 lb. green crystals V.

working at the boil for one hour; lift, wash, and dry.

PALE CHAMOIS ON COTTON.

For 100 lb. cotton. Work the cotton seven turns in a cold bath of 3 lb. copperas; then wring and pass into cold bath of 3 lb. soda ash. Work well, wash, and dry.

In indigo dyeing a good deal of the dye-stuff is not properly fixed on the goods, and much of this is lost. Lately, however, a patent has been taken out for a soap which is to be used in such a manner that it will remove all unfixed indigo in a form in which it may be used again. This soap is made from oleine by mixing it with sulphhydrate of soda, carbonate of soda, and caustic soda, in suitable proportions. It may also be used in washing and cleansing of textile fabrics, and in wool batching.

A GERMAN chemist proposes to use a standard form of apparatus for determining the effect of light on coloured fabrics. As sunlight, owing to its varying intensity, is not available, recourse is had to the electric arc, the light from which, by means of a system of lenses, is concentrated upon the dyed cloth which is to be tested. A few hours of exposure is quite sufficient to determine the fastness of coloured fabrics to light. If a colour will resist 20 hours of exposure to this apparatus, it may be considered as equal to the alizarines in fastness.

A THAON dyer is dyeing alizarine reds on piece-goods in the following way:—The pieces are prepared for the dyeing in the usual way, and are then passed through an acetate of lime bath in the cold. This same bath is now heated to 150° F., and about $\frac{1}{4}$ to $\frac{1}{2}$ the required amount of alizarine, dissolved in water with the aid of ammonia, is added; the bath is heated to the boil, and the pieces are run through and through in the usual way. The rest of the alizarine is then added, and the dyeing continued for about 10 to 15 minutes longer, when it will be finished. The pieces are finished in the usual manner. The alizarine solution is made from 10 kilos. of

the ordinary 20% paste alizarine, mixed with 40 litres of water and 1 kilo. of ammonia. The colour which is obtained is said to be brighter and fuller than that obtained by the ordinary process, and 1% less alizarine may be used.

GOMMELINE, which is used by some dyers and finishers for finishing their goods, is a preparation of starch. The starch is dissolved by boiling in water, and then some diastase is added, which converts part of it into dextrine. The solution is now boiled down to about 30° Be., when it is run into casks, and sold as liquid gommeline; or it may be boiled down still further until it solidifies, when it is sold in the solid form. Glycolline is a preparation of gommeline made by mixing it with glucose.

News in Brief.

ENGLAND.

Accrington.

It is rumoured that Mr. Thomas Birtwistle, weavers' secretary, of Accrington, has been appointed a factory inspector under the Cotton Cloth Factories Act.

Mr. Alderman Wm. Smith, cotton manufacturer, Spring Hill, has been returned unopposed to the County Council; as also have Messrs T. Disley, woollen manufacturer, Stacksteads, for Bacup, and W. Harley, cotton manufacturer, Carr-road, for Nelson.

We understand that Messrs Howard and Bullough, owing to the continued and increasing demand for their machinery, especially for cards, are compelled to provide additional accommodation, and in consequence they will immediately commence a considerable enlargement of their already great establishment.

Bury.

At the monthly meeting of the Bury Town Council on Thursday, the offer of Lord Derby of spare land for educational purposes in Silver-street and Moss-lane at 1s. per yard was accepted. It was ordered that plans be prepared and submitted to the Local Government Board, with an application to sanction the borrowing of the money required for the erection of technical schools.

The Bury Cardroom Operatives and Spinners' Association, with the view of making all workers in their departments pay to the funds, has decided that the object of the federation of the association shall be enforced at each mill. The union hands at the Wellington Mill at Elton, Bury, objecting to work with non-union operatives, it was decided to put all the workpeople in the spinning and cardroom branches on notice unless the non-union workers commenced to pay to the funds of the Association. The matter was, however, ultimately adjourned for a week pending a meeting of the masters. An extraordinary general meeting of the shareholders of another mill—Messrs. J. K. Schofield and Co., Limited, Bury—has now been convened for next week, to consider a notice which has been received from the two associations that the company must either compel 27 hands employed to join the associations or discharge them, failing which the associations will withdraw all their members from the mill.

In connection with the agitation against the non-members at the cotton mills in Bury, meetings were held in Elton and Freetown on Wednesday evening, when reviews of the situation were given by the operatives' secretaries. The operatives gave in their notices to cease work on Wednesday next; and during the Wednesday evening, and on Thursday morning, about 23 of the non-members at Messrs. J. K. Schofield and Co.'s mill have joined the Cardroom Association, leaving only four non-members at this mill, and it is anticipated that these four will join before the week end. At the Wellington Mill, Elton, only one remains aloof from the Association, while at the Daisyfield Mill, Elton, there were on Thursday seven who had not given in their names as willing to become members. Mr. Aspin, the Cardroom Association's secretary, was confident there would be no necessity to proceed to the extreme measure of striking. As soon as the non-members have joined, the notices will be withdrawn. It is intended to deal in like manner with other mills in the town.

Blackburn.

At the County Police Court, Blackburn, on Wednesday, the Britannia Manufacturing Co., Great Harwood, was fined 10s. and costs for allowing a girl named Allsopp to work in the weaving shed at twenty minutes past one o'clock on the 2nd ult. The defence was that the girls could not be kept out of the shed in cold weather, and Allsopp acted contrary to the firm's wishes.

In North-east Lancashire, where some 16,000 miners are employed, the impending crisis in the coal trade is causing much anxiety in the manufacturing districts,

where some 200,000 factory operatives are employed. For the past week, owing to the increased domestic demand, some of the mills have had temporarily to stop, and if a strike takes place many more will be seriously inconvenienced.

Bolton.

The accounts of the Rothwell Hosiery Co., Limited, for the year ending 31st December, 1891, shew a net profit of £13,952. An interim dividend at the rate of 10 per cent. per annum was paid for the six months ending 30th December, 1891, and the directors have now paid a further dividend at the same rate for the six months ending 30th Dec., 1891. £2,000 has been placed to the reserve fund, and £1,150 carried forward.

As intimated last week, Messrs. Horrocks, Crewdson and Co. have decided to proceed with the provident and pension scheme for their employes at Moses Gate, Bolton, and have instructed a firm of actuaries to prepare tables, etc. Since the vote was taken it has been strongly represented to the firm that a very considerable number of the workpeople are members of sick societies, and it is probable that this portion of the scheme will be dropped. It is stated that the firm have three distinct schemes under consideration.

Brighouse.

On Monday a meeting was held by the silk-dressers on strike at Messrs. Ormerod Bros., Brighouse. The room was crowded. Addresses were given by Mr. Ben Turner, of Batley, and Mr. J. Tattersall (member of the Halifax School Board), urging the men on strike, both in the silk and corn trades, to keep together and hold out, and the masters would give way. A resolution was passed by the meeting pledging itself to do its utmost to support those on strike.

Burnley.

Several mills have been stopped at Burnley through scarcity of coal. Unlike many of the other coal centres there are no stocks of coal at Burnley, and the industries dependent on the local coal supply are running as it were from hand to mouth. It is estimated that a strike of miners at Burnley would in a few days mean the stoppage of three-fourths of the industries of the town.

The students of the Bolton Technical School weaving class, to the number of 46, accompanied by their teachers, Mr. Crompton and Mr. Wm. Myers, recently made a journey to Burnley, where they had the privilege of inspecting the mill and loom works of Messrs. Butterworth and Dickinson. Mr. Butterworth, junr., along with Mr. Tattersall (manager) and the teachers of the class explained the various motions of the looms. At the close of the visit, on the motion of Mr. Crompton, seconded by Mr. Davenport, a vote of thanks was passed to the firm for their kindness.

Colne.

On Monday, at the monthly meeting of the Colne Local Board, it was reported that the Midland Railway Co., replying to the request of a conference of local authorities held at Manchester with regard to the construction of a new line of railway from Colne to Manchester, *via* Nelson, Burnley, Rawtenstall, and Bury, had refused to entertain the scheme at all. An effort will now be made to induce Sir Thomas Brooks to use his influence with the directors to reconsider their decision, failing which the Great Northern Railway Co. will be approached upon the subject.

Haslingden.

On Saturday last Mr. Richard Nuttall, of Town Mill, Edenfield, celebrated the arrival of the first batch of new looms for his new weaving sheds by giving a substantial tea to 130 of his workpeople and friends.

A few more non-union operatives commenced work at Hazel Mill on Monday, and there are now about sixty operatives at work. Extra policemen are on duty at meal hours, and by these means they have been protected from interference. The members of the operatives' federation have undoubtedly been check-mated in this dispute by the proposed entire abolition of the mule spinning machinery, which is old and unprofitable to work, and the substitution of ring spindles. Ring spinning frames will most probably be decided upon at the shareholders' meeting, which is to be held to-day.

Huddersfield.

The first meeting of the creditors of the plush manufacturing company of Henry Lister and Son, Limited, Ashbrow Mills, Huddersfield, was held on Monday. The statement of affairs shewed liabilities of £92,801, of which £33,811 was expected to rank for dividend; and net assets of £29,647.

Mr. John Beever, proprietor of the Huddersfield Hearth-rug Factories, has opened yet another mill for the manufacture of hearth-rugs from tailors' clippings. The new works are at Holmfirth, and already a hundred new and substantial looms are at work there. To shew the extent to which this trade is developing, it may be stated that the Royal Army Clothing Depot in a recent year realised £45,000 by the sale of the scraps of cuttings from the different cloths.

Heywood.

In their quarterly report the Committee of the Heywood, Castleton, and Norden Weavers' Association, addressing non-members, say:—"The time has almost passed when trade-unionists will be content to let you (non-unionists) reap the benefits which they have spent their time and money to obtain. The new Factory Act is only another of the many benefits you have partaken of brought about through money spent by trade-unionists. You have enjoyed these benefits long enough at other people's expense, and therefore do not be surprised if they turn round and say you must either do your duty or else give up the benefits. Trade unionists are now so strong in numbers that they can afford to carry their claims to a legitimate issue; that is, refuse to work side by side with non-members." The membership of the Association shews a gain of 177 during the past quarter, making a total of 410 for the year.

Kidderminster.

Mr. Edmund Potter, of Kidderminster, has been engaged by Messrs. G. M. Whittall and Co. to represent them on the north ground.

Leicester.

On Sunday night Mr. G. R. Hibbert, one of the Leicester Town Council, died somewhat suddenly, from an affection of the heart. He was a member of the firm of Milne and Hibbert, yarn agents, and was well-known in business circles in Nottingham.

The death is announced of Mr. John Edward Hodges, one of the magistrates for Leicester. He was formerly a member of the firm of T. W. Hodges and Sons, elastic web manufacturers, but had been out of business for some years.

Manchester.

The cotton weaving students belonging to Mr. Thomas Thornley's classes at Glossop, Hyde, and Dreydsden, to the number of 14, paid a visit to the weaving department of the Manchester Technical School on Saturday afternoon. A profitable hour was spent in making an examination of the winding frame, warping mill, dobbie, drop box, and jacquard looms, etc.

Nelson.

The arbitrators' award in the Nelson strike was issued on Thursday night. The arbitrators are of opinion that the case will be met by calling upon the overlooker, whose unconditional discharge the weavers demanded preliminary to their return to work, to be more circumspect in future. "In our opinion," the award says, "the action of the Weavers' Union in endeavouring to guard the morals of the workpeople is highly commendable." It is feared that the award will not terminate the strike.

On Wednesday the report of the committee of the Nelson Weavers' Association bearing upon the strike at Walverden shed was issued, and in it reference is made to the threatened general lockout in the Nelson cotton trade. The report also replies to the manifesto issued by the employers' committee yesterday week, and denies that the letter sent by their secretary to the employers' association was offensive in its terms. The employers, the operative committee complains, have never given them a chance of settling the dispute except by sending the weavers to work. Last week the strike revenue was £93 15s. 3½d., the largest yet received.

Nottingham.

A meeting of the Nottingham Chamber of Commerce was held on Monday, Mr. B. Stiebel (president) in the chair. In response to a request from a hosiery firm, a committee was appointed to endeavour to arrange a uniform set of holidays for the hosiery trade similar to those arranged for the lace trade.

At the Guildhall, on Wednesday, before Mr. J. P. Cox and Mr. T. Gascoigne, Mr. R. H. Beaumont, the solicitor and secretary of the Nottingham Chamber of Commerce, addressing the Bench, said: "Will your worship allow me on behalf of the Nottingham Chamber of Commerce to bring before your notice a matter of some importance? As your worship are aware, it is required that persons sending goods from this town to Spain shall make a declaration before you that such goods are of British manufacture. Under the present treaty with Spain certain lace goods may be sent there from Nottingham subject to a duty of 7fr. only, whilst under the Spanish treaty with France similar goods manufactured, say, in Calais, and exported from there into Spain, are liable to a duty of 22fr. 50c. It has come to the knowledge of the Nottingham Chamber of Commerce that, with a view of getting an advantage over Nottingham manufacturers, certain persons in France are sending to Nottingham goods manufactured in France, and that certain persons in Nottingham are then re-exporting such goods to Spain from here, and declaring before you that they are of British manufacture, and so getting them into Spain at the lower tariff. The Council of the Nottingham Chamber of Commerce have therefore instructed me to call your attention to this matter, and to ask you to prevent, so far as you are able, this unfair practice, and

to take such steps as you can to ensure the correctness of the declarations before giving your certificate." Mr. J. P. Cox said the Bench would give the matter their best attention, but they could not do much when the goods were certified to be made in England. They would do all they possibly could.

Oldham.

Mr. Walter Needham, salesman and secretary of the Acorn Mill Co., has resigned his position.

Mr. B. Moores is severing his connection with the Quick Edge Spinning Co., under whom he has held the position of manager.

Rumours are current that a new spinning company is on the stocks at Lees, near Oldham, and that active steps are being taken to push it forward.

All the machinery has been got to work in the extension made to the mill belonging to the Ivy Spinning Co., which has about doubled the output of yarn.

Mr. William Wolstencroft, minder at the Richmond Mill, has been appointed mule overlooker at one of the mills of Messrs. Horrocks, Crewdson, and Co., Preston.

Mr. Charles Ludlow, in the employ of Messrs. Radcliffe, at Rochdale, has been selected, out of a large number of applicants, as manager of the Shiloh Spinning Co.

Mr. William Booth having been appointed to take the sole management of Messrs. Seville, Limited, Royton, is severing his connection with Messrs. Kirkham and Mannock, of Marstrand Mills.

On Thursday a fire broke out in the cotton waste warehouse of Messrs. John Lees and Co., Bottom o' th' Moor, and before it was extinguished damages to the extent of several hundred pounds were sustained.

On Friday evening week a fire broke out at Shawside Mill, the property of Mr. Richard Fitton, and before it was extinguished damages to the extent of about £14,000 were sustained. The mill was being fitted with Witter sprinklers, but unfortunately they had not been completed so far as to be ready for use, otherwise the conflagration would doubtless have been less serious than it was.

It is currently reported that steps are being taken to form a limited company for the purpose of building a ring mill in this neighbourhood. Gentlemen are being solicited to become provisional directors. The Palm, we believe, is the only ring mill in the district, and that being so it is thought there is room for another, hence the action indicated. It is understood the site is already selected.

The whole of the trades-unionists employed at the Ash Spinning Co., Shaw, gave in their notices to leave work in another week, in consequence of several of the workers in the cardroom refusing to become members of the Oldham Card and Blowing Room Operatives' Association. The unionists contend that the non-unionists ought not to participate in the benefits secured by trades-unionism, and in order to enforce this contention the action stated has been undertaken. This is regarded as a test case in the district. The matter is in the hands of the secretary of Employers' Association.

Large crowds assemble to see the non-unionists who have accepted employment in the Spinning Co.'s mill driven away from their work and along the thoroughfares to their homes. When the waggons emerge from the mill yard mounted policemen follow the vehicles. Placards have been posted offering a reward of £20 for information which will lead to the conviction of the man who, on Saturday night, broke the leg of a woman named Elizabeth Needs, an operative engaged at the mill, by rushing at her in the dark as she was going home and kicking her. The employers continue their exertions to fill the mill, while their old employes maintain the same attitude as before. Sixty extra policemen have been drafted into the town.

Ossett.

Mr. Arthur Jessop, cloth manufacturer, has removed his business from the Victoria to the North Field Mills, where he intends to run more looms.

Preston.

Notice has been given at some of the mills in Preston that in consequence of the advance in the price of coal it is probable they will have to be closed for a time.

Stockport.

The supply of coal here is already falling short of the demand, and there is no doubt that in a few days serious inconvenience will be felt. The price has already gone up 1s. 8d. per ton.

Mrs. Atherton, wife of Mr. Giles Atherton, one of the directors of the new Spinning Co., is to lay the corner stone of the mills now being erected for the Stockport Ring Spinning Co., Limited.

Yeaddon.

On Tuesday Colonel Howard Vincent, C.B., M.P., addressed a meeting at Yeaddon, as the advocate of the United Empire Trade League. A resolution favourable to the aims of the League was adopted unanimously.

SCOTLAND.

Dundee.

One or two more manufacturers have agreed to begin short time in their works on and after to-day.

Mr. Alexander J. Warden, who was long interested in the trade of Dundee, and was the author of "The Linen Trade," "The Burgh Laws," etc., died at Belfast last week. He was 82 years of age.

Sir William Arrol presented the prizes and certificates to the successful students at the Dundee Technical Institute, and delivered an address, in which he gave some interesting personal reminiscences. He declared himself strongly opposed to the movement for an eight-hours day, chiefly on the ground of foreign competition.

The new agreement to start short time in Dundee mills to-day continues to find favour with spinners. Messrs. J. and A. D. Grimond, who have till now stood aloof in the matter, have arranged to cease operations in their spinning mill on Mondays, thus shortening the hours of labour by ten per week instead of six as agreed to by the rest of the manufacturers. The Messrs. Grimond's weaving factories will, however, continue on full time as at present. They have found such an arrangement necessary, and, moreover, have been unable to bind themselves to observe the departure for any definite period of time. The shorter hours will affect between 1,500 and 2,000 of the Messrs. Grimond's employes.

Dunfermline.

The nine hours' day experiment made by Messrs. Hay and Robertson, of St. Margaret's Linen Works, has turned out very successfully both from the employers' and employees' point of view. The experiment has lasted for four months, and Messrs. Hay and Robertson have just posted a notice expressing satisfaction with the result. In order to further benefit the workers they have made an alteration on the present arrangement whereby there shall be during the summer months three instead of two shifts, while the working hours will be nine and a half per day.

Glasgow.

Mr. J. Boon has succeeded Mr. Potter as manager of the Glasgow Cotton Spinning Co. He was recently manager at the firm of Messrs. John Fish, Limited, Blackburn.

At the annual meeting of the Glasgow Cotton Spinning Co. on Monday, the chairman explained the causes of the dividend for the past year being less by 2½ per cent. than for 1890. At the commencement of 1891 the company opened a second large mill, and during the whole year they had been training workers, with the result that there had been no adequate production of yarn for the wages paid. Moreover, there had been an unprecedented fall in the price of yarn. The report, which recommended a dividend for the six months at the rate of 7½ per cent. per annum, was adopted, £1,000 being carried to reserve, with a balance of £285 carried forward.

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 to date for the year. 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 and Egypt.	Continent.	Totals.	Totals for year to date.
£94,483	10,006	359	—	308	150	105,394	825,779
—	18,719	—	—	—	—	—	19,039

The following are the total values of the export for the same nine weeks of last year:—Cotton, £763,483; linen, £195,215.

Hawick.

Ex-Provost Watson has been asked to stand as Unionist candidate for Hawick Burghs. Mr. Watson is principle of the firm of William Watson and Son, manufacturers, Hawick, and is very popular in the district.

Kirkcaldy.

Mr. Linton, Auchinblae, is about to open the North Mill in Dunnikier-road, Kirkcaldy—known as Malcolm's Mill—as a flax-spinning works. It was closed some years ago.

Paisley.

Messrs. J. and P. Coats, Limited, thread manufacturers, have issued a fresh list of prices. The rates are identical with those arranged a month ago. An important note attached to the list, however, states that if prices are reduced while this list is in force the company will not only make an equivalent reduction, but such reduction will be made retrospective for a period of two months.

THE Bremen Wool Washing Company, which declared no dividend for 1890, is able to distribute 4 per cent. for 1891.

Miscellaneous.

SHEEP FARMING IN AUSTRALIA.

In every phase of Australian development one observes the influence of the Scotch. These people, the best of all British colonists, are found in all parts of the country; and in many towns, and conspicuously in Melbourne and Adelaide, control affairs and give the prevalent tone to society. Observing the important part they have played in the history of the country, it is natural enough to find them credited with the inauguration of that industry which has had the chief influence in making the Australians, in proportion to their numbers, the richest people in the world.*

The history of Australian wool-growing began in 1793, when Mr. John M'Arthur, of Sydney, landed at that port a herd of eight fine-woolled sheep from the Cape of Good Hope. The success which crowned his venture, in the shape of a rapid improvement in the quantity and quality of the wool that these sheep produced, was so great that Mr. M'Arthur, 10 years later, sailed for Europe to secure some specimens of Spanish merinos, for which he believed the hot, dry climate of pastoral Australia was particularly adapted. The Spaniards, however, knew the value of their flocks, and had made the exportation of merinos a capital offence. Therefore, the Australian Jason, disappointed in his quest for this fleece, which, if not itself golden, he believed would put much gold into his pocket, returned to England, where his enthusiastic accounts of Australia reached the interested ears of the farmer-king George III. As M'Arthur's luck would have it, the king, some years before, had been presented by his cousin of Spain with a pair of the finest of these merinos, and from the increase thereof he graciously gave to the Australian four splendid animals, with which he set sail rejoicing. These high-bred sheep landed safely in Australia, and fully realised all the expectations of their owner; they improved the grade of wool, and so increased and multiplied that, at the end of 1890, their progeny had spread all over Australia, Tasmania, and New Zealand, and numbered 101,267,084 individuals, representing, with the land upon which they pastured, at least £400,000,000.† New-fangled notions prevail but slowly in Australia, and it was not until about 1830 that Mr. M'Arthur's enterprise was generally imitated. Then, however, there was an important movement into the interior, and the wilds of New South Wales and Victoria were started by the unaccustomed sight of wagon-trains "trekking" across the wastes in search of a new Canaan of sheep and wool.

The early "squatter" came with a conquering air. Before him lay limitless regions, absolutely ownerless save of nomadic tribes of blacks, and as he ascended some gentle slope, and saw the vast expanse of plain and forest, stream and lake that stretched around him on every hand, he extended his arms like the discoverer of a new world and cried: "All that I see is mine." This act was his title-deed, and was not disputed until, years after, the State interfered to control, in some small measure, its ravished domain; he pitched his tents, like Abraham, amid his flocks and herds, and apportioning territories as large as many European principalities among his sons and daughters, lived in truly patriarchal fashion, and reaped the rewards of virtue and of an eye for the "main chance." It is scarcely necessary to say that the Scotch were conspicuous in this hegira, and that the list of squatters throughout Australia to-day reads like the bead-roll of a Highland clan.

A remarkable concurrence of fortunate events assisted the early squatters. The Government of the day supplied them with all the convict

* The latest available statistics (1890) shew that the average wealth of Victoria is £390 per head of population, and of New South Wales £360 per head. The United States is second only to Australia in average wealth, £240 per head.

† The average annual increase of sheep in the last ten years, throughout Australasia, has been 3,500,000

labour they desired in the guise of "assigned servants," and for 20 years they saw their flocks increase, and clipped and sent away their wool, with very little expense to themselves. When, about the year 1850, over-production reduced profits until fat sheep were sold at a shilling a head, and the business seemed on the verge of failure, the discovery of gold drew hundreds of thousands to Victoria and New South Wales to devour the surplus and restore confidence. When the ensuing increase again brought supply and demand into equilibrium, the American war broke out and advanced the price of wool, and later still, when the competition of the Argentine Republic began to be felt, the frozen-mutton industry arose, and again brought sheep quotations to the comparatively remunerative figure of seven and eight shillings per head, where they still remain. It is impossible to secure information as to the total wealth that has accrued to these lucky squatters through such exceptional circumstances, yet there are many individuals whose present annual income is from £10,000 to £100,000, and one pastoral king, who owns some thirty "stations" in Victoria, Queensland, and New South Wales, recently informed me that his net profit in 1890 was £192,000.

Many of the Australian stations are of magnificent proportions. "Old Jimmy Tyson," as he is familiarly known, who is reputed to be the wealthiest man in Australia, and worth at least £2,000,000, pastures 70,000 head of cattle upon a single one of his properties, and owns stations, both in New South Wales and Queensland, each of which is larger than Bavaria. Mr. Alison, of New South Wales, in his two adjoining stations of Mergular and Canonbar, holds an area greater than Belgium, and in the same colony Mr. William Halliday's "Brookong" station (one of the finest in Australia) comprises 200,000 acres and carries 250,000 sheep. The three stations in the Riverina district of New South Wales, owned by Mr. Henry Ricketson, upon which most of the materials for this article were secured, carry over 200,000 sheep, but are small compared with some of his other properties, one station in Queensland consisting of over 753,000 acres, or 1,177 square miles. The stations of Fairbairn and Sons, in southern Queensland, and of Elder, Smith and Company, in South Australia, carry over half a million sheep each, and assist very materially in swelling the enormous wool clip of Australia. Figures like the above might be quoted indefinitely, but it is enough to say that at present the pastoral lands of Australia include an area somewhat in excess of that of all the New England States, New York, Pennsylvania, Ohio, the two Virginias, Kentucky, and Tennessee combined.

Nothing can appear more unpromising to the unpractised eye, either for agriculture or any other useful purpose, than most of the pastoral land in Australia. It consists chiefly of endless plains of sun-baked red and yellow clay, sparsely carpeted with short, dry grass, which is in many places so scant that the sheep seemed pastured upon absolutely bare soil. The experienced squatter, however, has discovered that this sterile expanse produces a grass which, while it seems to wither, retains decided nutritive qualities. Although it can support but a limited number of sheep to the acre, it affords these few a rich and fattening diet.‡ By watching the "paddock," as the

* The grazing value of Australian land varies greatly. Fair pastoral country will carry one sheep to the acre, and an average of one sheep to two, or even three acres is not to be despised. Even a ratio of one sheep to five is not unusual. In the Colac district of Victoria, which is one of the richest in the Colonies, the land will carry three or four sheep to the acre, but can here be worked to greater profit for agricultural purposes.

‡ The value of stations is gauged by the number of sheep upon them. A fair average is about £3 per sheep, with land, buildings, implements, dams, and all other fixtures thrown in. The best properties of Victoria and New South Wales are valued at from £4 10s. to £7, and even £10 per acre, for the land alone, and in cases of sales on this basis the stock are either sold by auction, or taken by the purchaser of the land at a valuation.

The average income of station properties is from five per cent. to twelve per cent., according to season and the skill of the manager.

various fields are called—some of these "paddock" contain 12,000 acres—and changing the flocks from one to another as necessity may demand, he keeps them in excellent order; and although he has learned many bitter lessons from former years of drought, he generally manages to prosper in spite of apparently hostile conditions. He has been taught to place little dependence upon the yearly rainfall, and stores in "dams" (as he calls his reservoirs scooped out in the hard soil) the abundance of one season against the possible dearth of the next. When grass is plentiful and rank, he garners great quantities of it in stacks or ensilage pits, and endures a siege of two or three years of famine with untroubled mind. Losses he has in these seasons, of course; but they are slight compared with the ruin which often threatened him in former times, and one good year at present more than atones for two bad ones. It is a matter of congratulation, however, when the seasons of ripening and of rain follow each other in due order. The average squatter is not an emotional person, but he is nevertheless accustomed to rejoice loudly when he hears the tumultuous down-rushing of the autumn rain reverberating upon his roof of corrugated iron, promising rich pasture for the lambing ewes and consequent strength to their offspring. It is astonishing to look forth over the expanse of these erstwhile barren plains and see how suddenly they revive at the touch of the showers. In a few hours the brown wastes of burnt earth are veiled in delicate green, and in a week the grass is ankle-deep, and the sheep, like the young woman observed by the elder Weller at the Ebenezer Junction tea-drinking, seem "swellin' wisely before our wery eyes." The tenacity of the soil, which militates against the growth of crops, assists the grass by holding the water near the surface, where it can be drunk up by the thirsty roots; and so rankly does it grow that the ducks and geese leave the rivers, and the cranes and herons the fens, to feed upon its juicy substance as it lies half-sodden in shallow pools.

The life and cultivation of the sheep represent the mainspring of station experience; the squatter's year begins and ends with the sign of the Ram. The twelvemonth which affords elsewhere four seasons, brings to pastoral Australia but two—those of shearing and lambing. Both are periods of feverish activity and arduous toil, while between them life is easy and even indolent. The shearing season, although lasting only two or three months in any one section, comprises in its complete round nearly nine months of the year. It is earliest in the hot districts of northern Queensland, where it begins in February—the August of the south's inverted year—and slowly spreads down over the country, carrying with it the enormous nomadic bands of shearers, through New South Wales and Victoria, where it ends during October. From Victoria many shearers pass over to Tasmania and New Zealand, where, the climate being cooler, shearing does not end till mid-summer.

The shearer is a distinct identity, a peculiar element in the ranks of Australian labour. He holds himself aloof from the ordinary workers, and looks upon his employment in the light of a profession. He is usually well to do, and owns his horse and equipment. He is often a small "selector," who takes a turn at shearing to help out his income; or the son of a prosperous farmer. He is also, as a rule, frugal and temperate, and by careful investment of his money may even rise in time to become a station owner himself. Many of the shearing fraternity, however, confess to a taste for pleasure, and when the season is over, and they have received their cheques for £120 or £150 (for all payments for station work are made in cheques, and not in cash), they settle down at some convenient "bush 'pub,'" until they have "knocked it down" (to use their own expressive vernacular) for the board and lodging and poisonous liquor which the establishment provides. When their money is exhausted they are turned out, and "humping bluey" (shouldering their blanket) and carrying a smoke-blackened "billy," or tin pail for making tea, they sally forth into the hot

summer weather and make their way northward again to wait the opening of another shearing season.* In this estate they swell the noble army of "swagmen" or "sundowners," who are chiefly the fearful human wrecks which the ebbing tide of mining enterprise has left stranded in Australia, and who have earned the title above quoted by their habit of turning up at sunset at the station gates to demand a night's lodging. Their demand is seldom refused; in fact, every well-equipped station has its "travellers' hut" for the accommodation of these gentry. Nor are rations withheld. They are all provided with the regulation pound of mutton, and the pint of flour for the evening "damper"—an unleavened cake baked upon the coals, which would confuse the digestive powers of any other stomach than that of the ostrich or a swagman. The native hospitality of the squatters accounts in part for this treatment, but it is largely abetted by the rejected "sundowner's" habit of killing a few sheep as he passes through the paddocks, wringing the necks of stray geese, or "accidentally" dropping a lighted match under some hayrick or woolshed. Station-owners stand in wholesome awe of these vagrants, of whom it is not uncommon for a single station to quarter and feed as many as three or four thousand in a year. The unwritten law of station usage forbids them to remain for more than one night in any given place; having enjoyed shelter and the provisions above described, they must in the early morning resume their journey.

A station at shearing time is one of the busiest places in the world. Hundreds of men are actively engaged in the multitudinous exercises which the occasion demands. Some are driving in the flocks from paddocks that are often forty and fifty miles away. Others are washing the sheep, drafting the various kinds into appropriate pens, dipping those that give indications of disease, and tarring the cuts made by the shears; while the shouts of the herders and the shrill barking of the sheepdogs add to the excitement. In the long shearing-shed, roofed with corrugated iron, and furnished on one side with pens packed with sheep awaiting the rape of their fleece, a score or two of men, bent half double, and each with a woolly animal between his knees, rapidly ply the gleaming shears. The warm and greasy coat falls around the shearer in unbroken masses; in a few minutes the sheep, a naked and grotesque parody of his former rounded self, is ejected through a small door in the side of the shed, and another, dragged forward by the hind leg, and unavailingly kicking and struggling upon the slippery floor, is undergoing the same operation. The rapidity with which the most experienced shearers work is remarkable. A first-class hand will clip from 120 to 140 sheep in a day, and earn therefor the comfortable wage of 15 to 18 shillings. In many sheds the click of the shears has been exchanged for the whirr and rattle of the shearing machines, which, although no quicker than an experienced workman, give a cleaner cut, and, in skilled hands, do not wound the animals. As fast as the fleeces fall they are gathered up by boys and carried to the sorters, and thence to the presses, where they are condensed into bales, marked with the device and number of the station, and then loaded upon drays for conveyance to the nearest railway by straining "bullock teams." These picturesque trains of six or seven yoke of oxen are not owned by the squatters as a rule, but by

* Shearers make use of an ordinary jargon, in converse among themselves, of which the stranger can make little or nothing. The following sentence was repeated to the writer by a gentleman who overheard it in a conversation between two shearers in the "back blocks" of New South Wales: "I waltzed down to the shed, took down the tongs (shears), pulled out a blooming papillon (woolly sheep), and was going down the whipping side (right side) with both blades heavily loaded (with all expedition) when the boss came up and shot me dead (discharged me). I went back to the hut with a hop, skip, and a jump, collared my swag (seized my blankets), chucked the hide on the old crocodile (saddled the horse), went down river like a frog (with long jumps at full speed), and had clipped a hundred and forty by sundown the next afternoon."

professional teamsters, who follow the movements of the shearers, and truck the wool from the stations at a price agreed upon. Arrived at the great wool stores of Melbourne or Sydney, Brisbane or Adelaide, hydraulic presses squeeze three of the bales into the space that one occupied before, and they are then ready for their long voyage to London or Antwerp.

The shearers are quartered on the station, either in the huts which surround the homestead buildings, or in tents pitched hard by, wherefrom at night are heard to issue gay sounds of revelry, accompanied by the dulcet strains of an accordion, or of a fiddle scraped with strenuous bow. The shearer's life, although a hard one, is free and healthy, and has its attractions.

The shearing fraternity, like every other body of labourers in Australia, is highly organised, and has a powerful "Union," with connections and ramifications all over the Colonies. So important has this body become of late that an opposing combination has been formed by the squatters, under the name of the Pastoralists' Union, to resist their exactions. A contest unparalleled in the history of the country has recently been going on between these organisations in Queensland. The bone of contention has been the principle of "freedom of contract," the pastoralists insisting that they should be allowed to hire anyone whom they chose, and the shearers demanding that only members of the Shearers' Union should be employed. There was no issue raised as to wages or hours of work, both sides being practically agreed upon these points. As the squatters refused to relinquish their rights in engaging whomsoever they wished, a general strike was ordered, every union shearer refused work just as the shearing season opened, and camps of armed unionists were formed upon the routes between the stations and the railways, in order to intercept any free labourers who might come to offer their services to the squatters. The country was also patrolled by mounted shearers armed with rifles and revolvers, and uttering sanguinary threats against the station owners and all who should venture to assist them. Many woolsheds and fences were burned, and only the timely occurrence of rain prevented the use of the "fire-stick" upon the dry grass of the runs. The squatters sent to Melbourne and Sydney, and brought up steamer after steamer loaded with "free" labour, and called upon the Government to protect them. The Government responded by sending to the scene of action police, mounted troops, and Gatling guns, and marched the labourers through howling hordes of unionists to their destination. Many arrests for intimidation, followed by trials and imprisonment, kept the strikers within bounds, and after three months of obstruction on one side, and dogged persistency on the other, the shearing was completed. The expenses of the struggle to the Government, the squatters, and the Shearers' Union, were enormous, aggregating, it is estimated, something over £200,000. The most serious aspect of the case is that, although defeated, the unionists shew every intention to renew the fight at the first opportunity, and, by striking at the leading industry of the Colonies, to involve an enormous class of landowners and agents, shipping, brokerage, and commercial firms in the labour war, which has already hindered by twenty years Australia's full development.

The labour of shearing is lightened and brightened by the number who engage in it. The toils of the lambing season, however, fall entirely upon the permanent force of the station, which is never large, and in an unfavourable year this limited contingent has abundant work cut out for it. The visitor to Australian stations is, in fact, apt to be surprised at the small number of men engaged upon them. The invention of wire fencing permits the vast runs to be cut up into convenient sections at small expense, so that the numerous shepherds who were formerly indispensable are now no longer required. Indeed, the working force of the largest modern station may be limited to a manager, two boundary-riders, and three or four hands for general work. If the

summer rains have been copious, and a rich carpet of new grass invites the pregnant ewes, there need be no apprehension of unfavourable results. But if the blazing skies of January and February have withheld their moisture, and March has come and gone without its expected showers, there is trouble ahead, and much vexation of spirit. The ewes, scantily fed upon the juiceless grasses, grow weak, and when their hour of trial comes fall in thousands and die of starvation; while their offspring, deprived of sustenance, sprinkle the plains with pitiful fluffy balls. When these conditions prevail the whole station must be constantly patrolled, the fallen ewes assisted to rise and gently led to the water-holes, and to the hay which is carted out by tons from the station-yard, while the motherless lambs are taken to the homestead to be nourished by hand. But in spite of all attention hundreds will die and all the flocks be much weakened. In former years a severe drought in lambing-time spelled ruin, and as many as 20,000 sheep often died on a single run; but nowadays the squatters are well armed against it and regard it with little apprehension.—*Scribner's Magazine.*

*About one-third of the total number of sheep on a station are breeding ewes, from which an annual increase of from 75 to 85 per cent. is reckoned. It is considered a "bad year" when a 50 per cent. increase is secured. About one-fourth of the flocks are sold annually, in the shape of "culls" for the butchers or as "store sheep" to the small farmers, who fatten them for the market. Those that are poorest as wool-growers are selected for such disposition.

INTIMIDATING WORKPEOPLE AT HALIFAX AND STALYBRIDGE.

Two or three cases of considerable interest in the town and neighbourhood were heard before the Halifax Borough Magistrates last week, Mr. J. T. Riley presiding. The first was one of alleged assault by Joseph Payne, of Union-street South, upon Harry Barker, leader of the band at the Oddfellows' Hall. Mr. Storey appeared for the complainant, and Mr. Waugh, of Bradford, defended. Mr. Storey explained that some weavers at Messrs. John Holdsworth and Company's, Shaw Lodge Mills, had received notice to leave, and had left, others taking their places. He denied, however, that it was a dispute. On the night of the 16th, complainant and defendant were together at the United Trades' Club, Mount-street, defendant having gone there to receive the proceeds of the subscription-box, which was placed there for the benefit of the weavers who were out of work. It transpired that complainant's wife was working at Shaw Lodge Mills, and complainant was told he ought to be ashamed of himself. The defendant, it was said, wanted to fight, but complainant declined. Complainant stated that on getting into the street, Payne struck him a blow on the face. Mr. Storey contended that though the assault was not serious, a man ought to be protected from attacks of this sort. The defence was a denial of the assault; that, in consequence of a remark reflecting on defendant's wife, the latter attempted to strike him, but was prevented. A fine of 5s. and costs was imposed.

The other cases were of a more serious character. Walter Mitchell, of Sidal, and Charles Hull, of Boys Mill, both formerly employed at Shaw Lodge Mills, were summoned—Mitchell for intimidating Grace Annie Kershaw, of West Vale, and the two jointly for "persistently following" Grace Annie Kershaw and Jane Cummings on the 15th inst.—Mr. Storey opened the case for the complainants. He said that on the evening in question the two females had left work and were followed by the defendants. After going some distance the women were asked where they lived, but they declined to say, and one of them, when told she would be followed home, said she would remain in the streets all night first. The witness Kershaw said the defendant Mitchell told her he knew where she lived, and that she came along the canal bank to her work, adding that if she continued working for Messrs. Holdsworth he would wait for her and throw her over the canal bridge. The morning after that she did not go to her work at the usual time, though, in cross-examination, she admitted she did not think the defendant meant what he said. She was again molested on the following night by Mitchell, who called her "blacklegs." The defence was that there was no intimidation and no persistent following, and that no harm whatever was done to the two women. They were asked if they considered it a reasonable thing to take the places of others who had left, and the case of those who were out was put before them.—The magistrates, who retired to consider their decision, imposed a fine of £5 and 8s. 6d. costs, or one month,

upon Mitchell for intimidation; and a further sum of £2 and 8s. 6d. costs, or one month for persistently following. Hull had also £2 and costs to pay, or a month's hard labour, for the latter offence.

The Stalybridge Borough Court was crowded on Monday forenoon, when a case arising out of the strike at the Stalybridge Cotton Spinning Company's mill came on for hearing. The defendants were John Whalan, Thomas Lynch, Matthew M'Nicholls, William Kenney, and Thomas Delaney, who were summoned for having on the 25th instant assaulted James Cowsill. Thomas Delaney was further charged with assaulting Margaret Connor on the same day. Mr. Cobbett (Cobbett, Wheeler, and Cobbett, Manchester), was instructed for the prosecution. Mr. Taylor, of Ashton, defended Delaney. Mr. Cobbett said the complainant was a fireman and watchman employed at the mill, and on the night named the complainant, as he was going to his work, called at a beerhouse near the mill to get a glass of beer, and there he saw in a room the five defendants and one or two others. His attention was directed to them, because they were ordering beer pretty freely and passing it round to the company generally. At half-past ten he went to his work, and towards one o'clock in the morning he was on the top of one of the boilers doing something which was part of his duty, when he heard a noise at one of the doors leading into the boiler-house. He looked over and saw three of the defendants standing inside of the boiler-house. He asked them what they wanted there, and came off the boiler and went on to the floor in the direction in which they were, when he was suddenly seized by two men whom he had not seen before. He was thrown on to some ashes, or coals, and two of the men knelt on his chest and held him down forcibly while the others apparently searched about for something. They apparently searched the boiler-house and surrounding places to find the men who were sleeping elsewhere. Afterwards he was allowed to get up, and on his going into the yard a jacket or sack was put over his head, and he was again put down, and they searched him to see if they could find his keys. They failed to find any keys because he had none upon him, and he was then allowed to get up very much exhausted. They then made their way over the wall again into a back street, whilst Cowsill went to the front and called for the police. He met an officer coming towards him, and he made a complaint to him. The officer in question, Constable Heath, thereupon took him to a cottage house in Bridge-street, close by, rented by the men on strike he supposed, and there they found six men, five of whom were the defendants. Cowsill identified the five defendants, and the consequence had been the present summonses—After evidence had been given, the summonses against Delaney was withdrawn, and the other defendants were each fined £1 and costs, or 21 days' hard labour—Delaney was then charged with assaulting Margaret O'Connor, when she was going to her work at the mill, on the morning of the 25th inst.—The case was proved, and the defendant was fined 40s. and costs, or a month's imprisonment.

On Saturday night a woman named Sarah Needs, who is employed at the spinning company's mill, was going down Castle-street when a man rushed out in the dark and kicked her, injuring her ankle. She lay there till Inspector Lowe and a constable brought an ambulance and conveyed her to her home, 27, Caroline-street. She was afterwards attended by a medical man.

INDIAN IMPORT DUTIES ON COTTON GOODS.

Speaking at the annual meeting of the Bombay Chamber of Commerce on the 9th February, Mr. GEO. COTTON said they were passing through rather critical times, with an exchange at 1s. 3½d., with scarcity in some parts of the province, with a vast outlay in the North-West upon the absolute necessity of providing for the defence of the Empire, and it struck him that at some future time the Government of India might find some difficulty in balancing their account. If unfortunately at any time there should be such a deficiency, he thought it was the duty of the Committee of that Chamber, and every commercial man, to point out in what way he thought it could best be made good. The Land-tax it was impossible to increase; the Income-tax and the Salt duty had hitherto been those from which the Government had drawn, but he believed they were all agreed that the Income-tax, as far as this country was concerned, was a most objectionable mode of taxation. Its incidence was unfair, and to increase the Salt tax would be looked upon as a hardship for the poorer classes. There was, however, one thing which the Government of India could do, and they should ask them to do if necessary, and that was to re-impose the import duties. (Mr. Beaufort: No, no.) So long as it was thought that the import duties were protective, that they protected the mill industry of this country against Lancashire, he thought Lancashire had a right to say no one part of

the Empire should be protected against another, but it had been shown that the import duties were no protection for the mills of Bombay, which since their removal had increased to four, five, or six times their former number. If the duties were a protective measure, he would be one of the first to oppose their re-imposition, because he did not believe in "coddling" any industry. For purposes of revenue their re-imposition was perfectly fair, especially in India. It was the only way they could get anything from the various States throughout India which contrived little or nothing to the defence of the Empire. He sincerely trusted that the Chamber, recognising the fact that it was not a protective duty, would change their tactics, and if, unfortunately, it became necessary for the Government of India to balance its account by any fresh imposition of taxation, that would be the direction the Chamber would point out to it.

Mr. L. R. W. FORREST (the chairman) remarked that if Mr. Cotton, instead of expending his eloquence upon the members of that Chamber, would, when he next went home, go through the districts of Lancashire and succeed in convincing the Chambers of Commerce in Manchester, Liverpool, and Oldham, and other parts, that they should not bring weight to bear upon the Secretary of State in reference to the question of import duties, he would do much more good than that Chamber was ever likely to do in regard to the subject. (Laughter.)

Mr. BEAUFORT said he should like to know whether Mr. Cotton would approve of the imposition of an export duty on cotton yarns from Bombay to China and other foreign ports, so as to put Bombay and Manchester, in regard to an imposition of duties, on an even footing.

In reference to the above, the *Times of India* says: "Mr. George Cotton's proposal with regard to the re-imposition of import duties is, we fear, quite visionary. It would be a most useful source of revenue no doubt in times when the Government of India found itself from famine or other causes in a position of financial difficulty, while it might possibly lead to a modification of both the Income and the Salt Tax. Mr. Cotton contended that for purposes of revenue the re-introduction of these duties would be perfectly fair, for, while on the one hand it could not be held to be a "protective" measure, it was on the other the only way in which the Government could get anything out of those various Native States which contribute nothing to the defence of India. As a matter of fact, however, even the suggestion that these duties should be re-imposed will meet with a storm of alarmed criticism from Lancashire. However, the matter need hardly be discussed, for it is pretty certain that, welcome as would be the relief thus afforded, we are not in the least likely to see the dues re-imposed."

A MUSEUM of Belgium produce has just been opened at Sofia, Bulgaria.

Two more serious fires are reported from Lodz. Zimmermann's spinning factory has been partially destroyed, and the wool-spinning factory of F. W. Hohn was completely destroyed. At Cholin the cotton-spinning factory belonging to the firm of J. Amscherlik, of Prague, with some adjacent buildings, became a prey to the flames.

ANOTHER of the German cotton spinning and weaving companies, the Kaufbeuren, has declared a diminished dividend for 1891 as against 1890. In this case a distribution at the rate of 7 per cent. (compared with 9½ per cent. for 1890) has, however, been possible with the help of a balance carried forward from the previous year.

SWEDEN is emulating France, Spain, and the United States in the matter of tariffs. The proposals which have been laid before the Storting by the Government raise the duties very seriously, and in some cases almost to the point of prohibition. The duties on textiles are seriously raised, silk goods being put down at 13s. 4d., instead of 2s. 10d., as at present. Hosiery, gloves, umbrellas, and hats are also subject to much higher rates.

THE annual meeting of the Bengal Chamber of Commerce was held yesterday week. The Hon. Mr. Mackay, in his presidential address, adverted to several matters of commercial importance. He described the new Factory Act as likely to tell hardly both on employers and employed, but he expressed the hope that it would be taken as a final settlement of the question, and strongly deprecated any attempt to interfere with the mining industry on similar lines.

THE balance sheet of the Fichtelbach (Angsburg) Joint Stock Weaving Company (cotton) for 1891 shews, after appropriations to depreciation account and to the yarn account, the latter to cover the decline in the price of the stock held, an adverse balance of £2,241. The balance sheet for 1890 shewed a profit balance of £3,473, and a dividend at the rate of 7·27 per cent. was declared for that year.—The Zschlingsweil Cotton Weaving Company, according to the same authority, has declared a dividend at the rate of 7 per

cent. for last year, but this has necessitated an appropriation of £1,318 from the dividend reserve fund, the net profit for 1891 being only £582.

MR. ISAAC HOYLE, M.P., ON THE RATING OF MACHINERY.—A week or so ago Mr. J. W. Ogden, secretary of the Heywood, Castleton, and Norden Weavers' Association, wrote to Mr. Isaac Hoyle, M.P., asking him to "use his influence and vote to secure an early date for the second reading of the amended bill relating to the rating of machinery, as they considered the question to be of serious importance both to employers and employed." Replying from Sicily, where he has gone for his health, Mr. Hoyle wrote:—"I agree with you in thinking that machinery ought not to be rated. In my opinion it would be unjust to employers and employed to treat machinery, so perishable and so quickly superseded as it is, as if it were real property. If all personal property were rated something might be urged for rating machinery, but so long as silver spoons are not rated it is better to leave great industries alone."

PATENT LAW.—A proposal to make the extent of a British patent commensurate with the British Empire is being strongly advocated just now. Under the Act of 1852 letters patent extended to the United Kingdom, the Isles of Man, and the Channel Islands, but not to the colonies or plantations abroad, unless specially included in the grant, and the total cost of taking out a patent and maintaining it for the full term of fourteen years was cut down to £175. The Act of 1883 omitted both the Channel Islands and the Colonies from its definition of the extent of letters patent, and reduced the total cost to £154. It is now proposed to combine, *mutatis mutandis*, the systems in force before 1852 and 1883, and to provide for the inter-Colonial registration of patents, substantially on the lines approved of by the Madrid Conference.

PATENTS SPECIFICATIONS.—An important alteration has just been made by the Patent Office, in the adoption of a uniform price for all printed specifications. Over 10,000 of these pamphlets are issued every year, and up to the present time the prices of each varied from 3s. to 40s., whilst there was further uncertainty for purchasers residing in the country, on account of a varying charge for postage. It has been found that at the price of 8d. each, without variation on account of size, and without any extra charge for postage, these publications might be sold without affecting the receipts of the Patent Office, whilst much correspondence and delay would be saved to patent agents and others concerned. Henceforth any specification in stock can be obtained from the Patent Office at this price, and arrangements have been made with the Postmaster-General by which postal requests in the form of a postcard, price 8d., will be on sale at each post-office, so that anyone knowing the number and year of a particular patent may, on filing in the blanks on the card, have a copy of the specification delivered at his address by return of post, without further expense.

Textile Markets.

COTTON.

MANCHESTER, FRIDAY.

The cotton trade taken all round is at the present time in a condition that may be said to be unparalleled in its history. The expansion of production from early times has been of such a rapid rate as to keep pace fairly accurately with the growing demand. For some time it has appeared as if the productive capacity was increasing at a rate greater than the power of the world to take off its productions. This statement relates mainly to yarns and cloth. The growth of cotton on the other hand, since its severe interruption by the American war, has always lagged behind the consumptive power of spindles and looms. Thus the spinning and manufacturing branches have, as a consequence, been placed as it were between the upper and the nether millstone, at all events such has been the case for the past thirty years. Any profits that may have been made, excepting for a few periods of a short duration, have been due to speculative buying and selling rather than to the legitimate results of ordinary manufacturing. It would seem, however, as if this period had come to a termination, and that the production of cotton has now become so enormous as to bring it in line with the production of yarns and cloth. There is now abundance in every department. It remains to be seen whether the great reduction that has taken place in prices will stimulate consumption to such an extent as to absorb the increased supplies now offered to the world. At the present time there seems little prospect of an affirmative response to this query, but it would be too hasty to conclude that it will not be forthcoming. The various countries of the world in many respects are in a very abnormal condition, and until they recover somewhat from this it will be too much to expect an answer.

COTTON.—On Saturday last the American advices were read as being a shade more favourable to the prospects of the raw material, and this led to a rise in futures, which closed with an improvement of 2 to 2½ points. Spots were in only moderate request, but sellers were not so easy to deal with and prices were fractionally harder. Other growths were dull. A reaction from this sentiment set in on Monday, and most, if not all of the improvement was lost. Futures opened 2 points lower and gradually declined until the close, when they showed a reduction in the various positions of from 2½ to 4 points. A fair enquiry prevailed for spots, and buyers found that sellers were prepared to relinquish nearly all their gains of Saturday to effect business. On Tuesday the oscillation of the pendulum was again upward, owing to stronger American advices, and this time it went with a little more force. Futures opened 1 to 2 points higher, and moved upward until they registered a gain of 4½ to 5 points on the day. Spot was only in moderate demand, but looking at the improvement in futures, sellers were only induced to accept offers that were a tangible improvement upon those of the day before. The result was that the official rates were advanced ½d., representing the improvement of the week. Other growths were very dull, East Indian being almost unprecedently neglected, the sales recorded only amounting to 50 bales. On Wednesday the tone of the market again suffered a relapse, futures opening dull at 2 points decline, and after several slight fluctuations they closed quiet at 1 to 2 points decline on the day. Spots were not quite so depressed, exhibiting only a perceptible turn in favour of buyers. Other growths were dull, and East Indian irregular in value. Yesterday the market showed a variable mood, and futures fluctuated somewhat unaccountably within a range of about 3 points, closing with a partial gain of ½ point. Spots were in moderate request, and some orders were placed for gradual delivery at prices that showed an increase of steadiness. Amongst Brazilians Ceara was reduced ½d. In the other growths no quotable change.

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	88,866	57,390	48,830	1,466,370	10,016
Brazilian	3,135	1,950	570	46,360	—
Egyptian	2,962	4,198	1,750	126,450	115
West Indian	79	851	860	28,000	55
East Indian	376	881	1,530	42,200	932

Total .. 95,418 .. 65,270 .. 53,540 .. 1,709,380 .. 11,118

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

	G.O.	L.M.	Md.	G.M.	M.F.
American	3½	3½	3½	3½	4½
				M.F.	Fair.
Pernam	4½	4½	4½	4½	4½
Ceara	4½	4½	4½	4½	4½
Paraiba	4½	4½	4½	4½	4½
Maranhm	4½	4½	4½	4½	4½

	Fr.	G.F.	F.G.	F.Gd.
Egyptian	4½	4½	4½	5½
Ditto white	4½	4½	—	5½

	Fr.	F.F.G.F.	F.G.F.	Gd.	F.G.Fine.
M.G. Broach	—	—	—	3½	3½
Dhollerah	2½	2½	2½	3½	3½
Oomra	2½	2½	3	3½	3½
Bengal	—	—	2½	2½	3½
Tinnivelly	3½	—	3½	3½	—

* Nominal.

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
February	3-43 v	3-41 42	3-44 b	3-45 b	3-47 s	3-45 46
Feb.-Mar.	3-43 v	3-41 42	3-44 b	3-45 b	3-47 s	3-45 46
Mar.-April	3-43 44	3-45 s	3-47 48	3-47 48	3-49 b	3-48 46
April-May	3-47 b	3-48 49	3-51 s	3-50 51	3-52 53	3-48 s
May-June	3-51 s	3-52 s	3-54 b	3-54 b	3-56 56	3-51 b
June-July	3-54 b	3-55 56	3-57 58	3-57 58	3-59 b	3-54 55
July-Aug.	3-58 s	3-58 59	—	—	—	3-57 58
Aug.-Sept.	3-61 v	3-61 62	3-60 61	3-60 61	3-62 b	3-60 61
September	4-0 v	3-61 62	3-63 b	3-63 b	4-1 s	3-61 62
Sept.-Oct.	4-0 v	4-0	3-63 c	3-63 c	4-1 s	4-2 b
Oct.-Nov.	—	4-3	4-2 3	—	4-3 4	—
Nov.-Dec.	—	—	—	—	—	—

	3 11-16	3 11-16	3½	3½	3½	3½
Price of Mid. American.						

Estimated Sales including Spec. and Export.	7,000	10,000	8,000	8,000	8,000	10,000
	1,000	2,000	1,000	2,000	1,500	3,000

YARNS.—The experience of spinners last week was a disappointing one, the total of transactions not reaching anticipations by a considerable distance. Of course under the pressure to sell prices gave way, and the lowest points in yarn values yet touched were reached. The usual quietude of a Saturday prevailed in business circles dealing in yarns. Monday brought no improvement; there was a slow demand all round, with some irregularity of prices. A little more enquiry for yarns came to light on Tuesday, and here and there led to transactions. These, however, did nothing more than steady the market, and the aggregate did not reach a fair average of Tuesday's turnover in any department. On Wednesday there was just a perceptible growth in the enquiry for bundles, the increase coming from Japan and the Levant. Manufacturers made no move in the way of increasing their demands upon spinners. Prices were unchanged. Yesterday the demand for home yarns showed no change, but on export account there was a slight improvement in the enquiry.

CLOTH.—The trade in cloth during the week has been, on the whole, perhaps a little fuller, and manufacturers have better order books than a few weeks ago. And yet, though this is the case, there are some instances in which orders are urgently needed. The demand has mostly run upon well-known staples for the East. Nearer markets have not done much to relieve the dulness here. On the whole, manufacturers have slightly improved their position during the past two or three weeks, and this imparts an increase of firmness to their position.

To-day the market is steady, without any material change in any direction. There is less depression of feeling, but hardly more business.

WOOLLENS AND WORSTEDS.

BRADFORD.—The situation does not improve, and the Customs decision at New York has cast a further gloom over the community. Wool is firm, all things considered, although the supply appears large in view of the character of the demand. The same remark applies to yarns, buyers of which for quick delivery in small lots can obtain concessions. The piece trade is quiet, and there are many looms idle.

KIDDERMINSTER.—Spinners still purchase wool sparingly, as yarns are themselves quiet, the output from the machines of the district being absorbed sluggishly. New orders for carpets do not come forward freely, many of the deliveries now effected being on account of old contracts.

LEEDS.—Orders for spring and summer fancy goods are coming forward more freely. Medium and common serges are also well enquired for. Some makers of mantle cloths are also busy, but as a rule this branch is dull. Worsteds and serges have been enquired for more largely on foreign account. The ready-made clothing trade is dull, and as to blankets

Letters from our Readers.

THE TAXATION OF MACHINERY.

To the Editor of *The Textile Mercury*.

SIR,—I am pleased to be able to inform you that Mr. Gerald Balfour, M.P., has been fortunate in getting the second reading of the Bill for the Exemption of Machinery from Rating, promoted by this Society, put down as the first order of the day for the 6th April next. Although we have the support of a most earnest and energetic body of members of the House of Commons, it is of the first consequence that those outside Parliament who are interested in the measure should use their utmost exertions to influence their friends in Parliament to be in their places to support the bill. The opposition, although numerically insignificant, is of the most determined character, and there is no doubt the obstructive tactics which were unfortunately so successful last year will be again resorted to unless it is made clear to the House that not only machinery users but the labouring population of the country are determined that this measure of justice shall be no longer delayed. I am happy to be able to inform you that the trade-unions throughout the country have at last recognised that the question is one affecting the working classes more directly than manufacturers, and that a great number of the most influential unions and Trades Councils have passed resolutions most strongly deprecating the taxation of machinery as being detrimental to their interests. Any of your readers who will undertake the preparation of petitions for the House of Commons can have forms of petition on application to me, together with any information on the subject.—Yours, &c.,

G. HUMPHREYS-DAVIES.

National Society for the Exemption of Machinery from Rating, 8, Laurence Pountney Hill, Cannon-street, London, E.C., March 1, 1892.

only those manufacturers having Government contracts on their books express satisfaction at the condition of things.

HUDDERSFIELD.—The attendance of buyers has been small, although a slight improvement has been noticed of late, compared with the depression which has for so long prevailed. The present is a between-season period, but there is nevertheless a fair business doing, and with a good spring a further revival is confidently expected. Satisfactory orders for winter cloths have already been booked. Prices, however, are cut down, owing to the very keen competition that prevails. There is not so much machinery unemployed in the majority of the mills, although some are running short time.

GLASGOW.—Messrs. Ramsay and Co., wool brokers, in their report dated 1st March, 1892, say:—*Wool:* The tone of the wool market has been steady during the week, and some increase of business has been experienced both in whitefaced and blackfaced kinds. There has also been a fair quantity taken for export. Prices are without change. *Sheep-skins:* The supply is still liberal for the season, and qualities are mostly prime. Bad trade both in pelts and skin wools drags somewhat against competition, so that prices, although somewhat irregular, hardly show a seasonable improvement.

HOSIERY AND LACE.

NOTTINGHAM.—Specialities are in fair demand, but the general run of goods keep dull, both the home and shipping trades being dull. Plain nets are quiet, but for bobbin nets there is a somewhat brisker demand. Common qualities of curtains are rather brisker, but other grades keep slow. There is a fair amount of activity in the finishing branch. Mosquito nets are dull, and the improvement in stiff nets has not been maintained. Cotton fancy lace is quiet. Cheap tatting and crochet goods are inactive. Hosiery manufacturers are busier, although many complaints are heard.

LEICESTER.—Yarns for spring goods are in brisker demand, but manufacturers strive for concessions, and business of any magnitude cannot be put through unless these are granted. Fancy yarns meet with a fair enquiry. The general hosiery trade is reviving and stocks are not heavy. Specialities have had quite a run, and of fancies generally it may be said that the demand is satisfactory. White gloves have been in good request.

FLAX AND JUTE.

DUNDEE, WEDNESDAY.—The market continues in a most unsatisfactory state. Jute, it is now manifest, is to be short quite 1,000,000 bales. The total consumption of Europe is probably about 2,300,000. A shortage of a million bales on this total means, of course, the stoppage of machinery and very high prices. There is little doing in jute; the parcels afloat are all now very dear, and the holders refuse to sell except at extreme prices. Good warp jute fetches £22 to £22 10s., while extra parcels are eagerly bought at £23 a ton. The prices of yarn will not look at this cost for jute. Common cops are 1s. 9½d. to 1s. 10d. for 8 lb, and warps 1s. 11d. Fine yarns are relatively dearer, say, 2s. 1d. to 2s. 2d. for 8 lb, and 1s. 11d. to 2s. for 7 lb. fine warp. *Hosiery* are still irregular in price. Holders of cheap stocks are still underselling manufacturers, rendering weaving most unsatisfactory. For the finest qualities of wide goods the demand continues, as it is clear prices of such qualities are bound to advance. At the prices of jute now current the question is, will the whole production of the jute looms find buyers? Evidently not for some time, and therefore many firms have already begun to run short time or to stop machines. *Flax* is without change. The recent advance especially for good brown flaxes is maintained, and tows are also firmly held at the sharp rise which has been established. Flax yarn is wanted. In good warps prices are decidedly against buyers. The higher rates of bleaching, too, make yarns considerably dearer before the manufacturer gets them in the loom. Tow yarns are also quite firm at the recent advance, but as manufacturers are well bought, there is less doing. *Linens* are in good demand, and all the makers have raised their lists slightly. Fife, as well as Forfar, is well engaged. Dundee is quiet in fancy jute goods, and some makers are forced either to stop looms or change them to other fabrics. Twines, cords, and ropes are all in excellent demand at a rise in price.

BELFAST.—Values are steady, although the general demand is not large, and trade must be regarded as poor. The raw material intends to become dearer, and spinners are asking higher prices for yarns. Both brown and bleached linens keep quiet, but there is no disposition to reduce quotations. The handkerchief trade is quiet, and foreign orders do not come forward freely.

SILK.

LONDON.—Messrs. Durant and Co., in their circular dated 2nd March, say:—We have to report a very quiet month in Silk, with a continued desire on the part of importers to attempt to lighten their stocks, and a corresponding determination on the part of consumers to resist all temptations to buy, even at a reduction. It is difficult to understand this general want of confidence, as prices are now about the lowest on record, and the latest telegraphic advices from China confirm the reports that the export of white silk to Europe will not be in excess of last season, and a very large proportion of the Japan crop has been taken for America.

Arrivals in February.

Bengal.....	183 Bales.
China.....	896 "
Japan.....	92 "
Canton.....	30 "
Tussah.....	" "

Messrs. Henry Zweifel and Co. (London), writing on the 2nd inst., say:—Telegram from Shanghai, dated 27th ult., quotes Best Chop 4 Tsatees Tls. 372½ = 12/9 London terms, or fcs. 35.75 Lyons terms; Medium No. 5 Tls. 292½ = 10/1½ or fcs. 28.25; Exchange on London six months doc = 4/1½. Total settlements of silk from commencement of season, 56,750 bales, of which 43,400 white, 8,450 yellow, 4,900 brown. Unsold stock of silk 9,500 bales, of which 7,400 white, 1,400 yellow, 700 brown. Total export of silk from Shanghai to Europe since commencement of season, 44,250 bales.

DRY GOODS.

MANCHESTER.—The affairs of the Dale-street Warehouse Co., Limited, to which frequent reference has been made in these reports from time to time, have now reached a climax, and the directors' recommendation, contained in the last report, that the company be wound up owing to its inability, by reason of its liabilities, to continue business, has been adopted by the shareholders at a meeting called for the purpose of considering the matter. The deficiency now amounts to £4,611 10s. 4d., the loss on the last five months' trading having been £777. The concern will be better remembered in Yorkshire by its former title of Robert Faulkner and Co. The departments of the house included all classes of dry goods, and the concern was at one time included amongst the most thriving home trade houses in the city. Since its establishment as a limited the company has not prospered, and reporters have been systematically excluded from its meetings. This further addition to the list of firms which have disappeared from the home trade of Manchester has given rise to further gloomy comments amongst commercial men as to the future outlook. Young houses, however, are thriving as the old ones weaken, a comparatively new concern largely engaged in the dress goods trade having within a few years built up a connection estimated at £300,000 a year. The firms of George Walker and Company and Fletcher, Sons, and Company, which have disappeared within the last few years, were houses which conducted a large and paying business, and their dissolution was due to the desire of the partners to retire on fortunes acquired in the city. The carpet trade remains dull. Brussels have been slow for some time, and the amount of orders at present on the books is below the average. The silk trade is fairly steady. Piece goods are now being offered at phenomenally low prices, and many buyers have been attracted by this cheapness. Shot Surahs commencing at about 19d. the yard for 22 in. width are samples of the good "lines" now offering in the wholesale houses which have prepared special shows for the Easter trade. There is not much doing in linens. Flax tows have advanced considerably in price as a result of the dearth of jute. For medium and five counts of flax yarns the enquiry is not so extensive. A leading topic just now is the disappearance of the principal of a local firm of Beyrout shippers, whose liabilities are estimated at £60,000, again emphasises the fact that foreign adventurers obtain credit too easily in this city. We believe that the better class of Greek and other foreign shippers here deprecate the practice as much as do some English firms, for if it did not exist our shores would possess no attraction for the rogues who now come in battalions from the ends of the earth with the set purpose of swindling British simpletons. Not only do these Orientals cause serious monetary loss to local firms, but their conduct causes annoyance to the honest shippers of their own nationality, as well as loss of prestige. It is a deplorable thing that the calico printing trade, which during the past few weeks has been in a more than usually critical position, should be one of the principal sufferers by the disappearance of the head of Tasso Bros. and Company. Rogues could not exist if there were no fools in the world, and we trust that recent experiences will prove an all-sufficient

warning. After a knowledge of modern business methods in the East, extending over a period of many years, some firms in this country now adopt special precautions. We know of several retired merchants in Odessa and Constantinople that have made fortunes out of English coal shippers, who have exported cargo after cargo without getting a penny for them. They have now learnt better, and it is time that Manchester men did the same.

The directors of the Dale-street Company, in their half-yearly report, regret that through the continued depression in trade and other causes the result is unfavourable. The balance sheet, dated January 15, 1892, is as follows:—

	Dr.	£	s.	d.	£	s.	d.
To Share capital—							
1,565 Preference Shares of £10 each, fully paid.....		15,650	0	0			
2,131 Ordinary Shares of £10 each, £7 per share paid.....		15,267					
Less calls in arrear.....		129					
		30,817	0	0			
.. Amount paid on shares forfeited..		253	0	0			
.. Loan money and interest.....		141	17	11			
.. Balance due to Bank.....		1,841	9	5			
.. Trade creditors, less discount.....		37,925	7	5			
		770,949	9	9			
By Cr.							
By Stock-in-trade and ledger balances, less discount and provision for bad doubtful debts.....		67,549	2	8			
.. Cash and bills on hand.....		466	17	6			
.. Warehouse fittings, horses, vans, skips, cases, etc., as per last account.....		1,907	5	5			
.. Less sales.....		4	8	0			
.. depreciation.....		4	13	4			
		49	13	4			
.. Formation expenses, as per last account.....		1,157	10	1			
.. Profit and loss account.....		1,164	7	4			
.. Deficiency August 15, 1891.....		3,833	13	4			
Add loss for five months ending January 15, 1892.....		777	17	9			
		4,611	10	4			
		£70,949	9	9			

Joint Stock and Financial News.

NEW COMPANIES.

HARTLEY AND CO., LIMITED.

Registered by Jordan and Sons, 120, Chancery-lane, W. C., with a capital of £15,000 in £10 shares. Object, to carry on business as spinners, weavers, manufacturers of and dealers in cotton, woollen, or other fibrous substances, etc., Most of the regulations contained in Table A apply.

SLIGO BOBBIN COMPANY, LIMITED.

Capital £10,000 in £5 shares. Object, to acquire the undertaking of bobbin-makers and timber merchants formerly carried on by M. McNeil and Sons at Lymplace, Sligo, in accordance with an agreement, made between A. Brookes of the first part, H. T. Broadhurst, H. Lee, Sir J. C. Lee, R. Scott, H. Lee, H. Brookes, H. B. Broadhurst, L. Lee, N. Lee, A. Brookes, Major-General De la P. Beresford, H. Bill, A. B. Smith, and W. Marsh of the second part, and this company of the third part. The first directors are Major-General De la P. Beresford, E. T. Broadhurst, A. Brookes, H. Lee, and A. B. Smith. Qualification, £500. Remuneration to be determined.

Patents.

NOTICE OF REMOVAL AND CHANGE OF FIRM.

E. K. DUTTON & CO.

(Late DUTTON & FULTON),

CHARTERED PATENT AGENTS,

Removed from 1, ST. JAMES'S SQUARE, to QUEEN'S CHAMBERS, 5, John Dalton St., MANCHESTER.

Each of the following Specifications may be purchased at the Sale Branch, 38, Curator-street, London, for the price of 8d., or may be ordered on the Postal Request, price 3d. (Patents Form Cr). This Form is now on sale at all the principal Post Offices in the United Kingdom.

SPECIFICATIONS PUBLISHED.

1891.

1,934 NEWARK. Strengthening ends of bobbins, 2,260 MANN. Cutting pile fabrics.

- 2,444^b SMITH. Storing, etc., cotton.
- 4,112 COMBE. Twisting frames.
- 5,105 READ HOLLIDAY AND SONS, Ltd., and others. Colouring matters.
- 5,374 HOLDSWORTH (*Greentown*). Spinning and twisting machinery.
- 5,531 WALSH. Cop skewers.
- 5,621 LOCKWOOD AND STOREY. Looms.
- 5,639 LANCASTER AND HALL. Self-acting mules and twiners.
- 5,659 JOHN BRISTON AND Co. and others. Chemille.
- 5,784 PEACH. Finishing lace, etc.
- 5,904 IMRAY (*Fabrikwerke vorm. Meister, Lucius, and Brunnig*). Colouring matters.
- 19,256 FEROUËLLE. Combing cotton, wool, etc.
- 20,477 BROADBENT, W. and H. Scouring, etc., hanks of yarn.
- 21,455 NYSEN. Hygienic fabric.
- 22,383 HADDAN (*Arthur*). De-linting cotton seed.
- 22,485 CAMPBELL AND BRAMMA. Combing machines. 1892.
- 74 KRUGGMANN AND KUPFER. Plush fabrics.
- 209 COE. Making yarn from waste.

SECOND EDITION.

- 15,835 (1890). STUART. Fishing nets.

ABSTRACTS OF SPECIFICATIONS.

13,565. August 28, 1890. **Dyes.** H. H. LAKE, 45, Southampton Buildings, Middlesex.—(*Wirk and Co., for A. Leonhardt and Co., Mulheim-am-Rhein, Germany*).

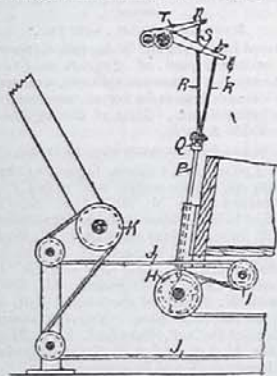
Relates to the manufacture of greenish blue dye-stuffs by the action of paramitroso derivatives of aromatic amines or quinone dichlorimide upon alkylated metamidocresols. Consists, for example, in heating dimethylmetamidocresol, chlorhydrate of nitrosodimethylaniline, and alcohol with a reflux cooler until the nitroso compound has disappeared. The colouring matter is precipitated by addition of salt water and chloride of zinc and is purified by resolution and precipitation.

13,538. August 29, 1890. **Spinning.** C. H. BRIGGS and J. LOKAN, both of Bowling Mills, Bradford.

A machine for applying the leather covering to rollers for use in spinning and like machinery. The roller is clamped upon a table or plate which may be slowly rotated by suitable gearing while the leather covering, which has been previously racked on to the roller, is stretched thereon by a presser roller which is mounted on suitable slides so that it may be raised or lowered or be made to approach or recede as desired from the periphery of the roller being covered. *Drawings.*

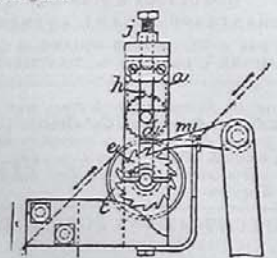
13,597. August 29, 1890. **Spinning.** J. BROOKS, 20, Norwood Grove, Bolton.

Mules and twiners.—The screw of the quadrant nut is operated or not according to the tension of the yarn, and may be operated at any part of the run in of the carriage by means of a



band J, which passes over the pulley K of the quadrant screw, over pulleys carried by brackets fixed to the floor, and over pulleys H, I on the carriage. The carriage also carries a sliding rod P, the upper end of which is connected by means of a rope R passing over a pulley Q with levers T, S on the faller shafts. When the rod P is lowered sufficiently its lower end comes in the path of a revolving wiper attached to the face of the pulley H, preventing the latter from turning, and so causing the quadrant nut to be operated.

13,666. August 30, 1890. **Knitting, turning-off, linking, stitching, and like machines.** R. HAGUE, Bollen-street, Nottingham.



A combined tension device and automatic feeder for the yarn consists of two rollers *c, d*, of which *c* is intermittently rotated by ratchet and pawl gearing *e, m*; and *d*, covered with leather or

the like, is pressed upon the yarn by a small frame *h*, adjusted in the main frame *a* by a set-screw *j* and a spring.

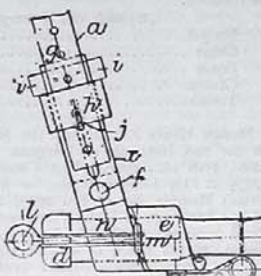
13,634. August 30, 1890. **Wool-grease.** C. A. FUEBRLIN and J. C. LAHUSSEN, North German Wool Carding and Worsted Yarn Spinning Factory, Delmenhorst, near Bremen, Germany.

In recovering wool-grease from the waste waters of wool-washing and combing factories, sulphurous acid is employed to precipitate the greater sludge, instead of sulphuric or hydrochloric acid, thereby preventing the formation of sulphuretted hydrogen. Grease sludge, precipitated in the usual manner, may be afterwards treated with sulphurous acid, or sulphurous acid may be added to the solution obtained by treating the grease sludge with some fat solvent.

13,682. August 30, 1890. **Looms.** M. TAYLOR, 7, Vale-street, Darwen.

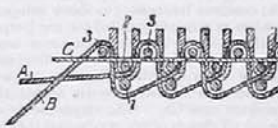
Picking straps.

The part of the strap *a* in frictional contact with the picker is protected by means of rivets. pieces of hard buffalo hide, metal bar *h*, or like material, preventers. For imparting elasticity to the strap, its end *r*, which is coiled on the stick *d* and secured by a pin *k*, is made of hard buffalo hide and is secured by a rivet *f* to the body *a* of the strap. A double thong *x*, a ferrule *h*, and cross-pin *f* of leather, and a wire finger *j* pivoted to the ferrule and passing through a hole *g*, are employed for further connection between the parts. The coil *r* is of larger diameter than the stick *d*, so that it may tighten on the latter during the pull, and again become loose. A removable screw *w*, metal loop *m*, guard *n*, and spring *o* hold the part *g* in place. In a modification, a twisted wire link, with its ends formed as open rings, is employed between the strap and a hard curved buffalo hide piece, which is connected to the picker.



13,696. August 30, 1890. **Tufted fabrics; looms.** T. M. SOUTHWELL and T. W. HEAD, both of Bridgforth, Salop.

Mequette or Royal Axminster carpets and similar tufted fabrics are woven, as indicated in the figures, with not more than



three weft shots 1, 2, 3 for each row of tufting threads, the latter being bound by the deal warp C and binding warp A, B. In the loom extra comb apparatus for turning up the tufting threads is dispensed with; the tappets for operating the healds are illustrated in the Specification. The invention may be modified.

13,706. September 1, 1890. **Knitting.** G. F. STURGESS, 17, Biddulph-street, Leicester.

Circular machines.—The invention consists of the following parts:—(1.) A combined thread conductor and needle-bed retarder. (2.) A thread-tensioning device so that the fabric may be stiffened on part of the circle, only in making tubular work. (3.) The ribbing dial is adjusted vertically by a screw, which bears upon a bridge or boss on the ribber arm. (4.) The lever for adjusting the stitch cam has a handle at one end, and is pivoted at the other near the pin of the cam. (5.) The block on the cam is made in the form of an angle piece, one end of which extends to the outside of the cam shell and acts as a pointer. (6.) The slots in the needle cylinder are made V-shaped at the level of the upper edge of the cam-shell, to enable the operator to find them more easily. (7.) The weight is made with suitable holes or recesses to enable it to be used as a wrench. (8.) The fixed out-throw cam is made to overlap the needle-stand to enable the feet of the needles to slide from one to the other without catching. (9.) The driving belt-pulley is mounted inside the bearing bracket for the gear-wheel. (10.) An automatic stop-motion consists of a cam, which is caused to operate the driving clutch by the descent of the weight. (11.) To facilitate the formation of new loops on the cylinder before the old are cast off, the needle-posts are made to stand above the edge of the cylinder in the form of hooks. (12.) To enable tuft stitches to be made for thickening parts of the fabric, the rib out-throw cam is put in and out of action by a link, pivoted on the cam-cap and operated by a cam and pattern-wheel from indentations on the spindle. (13.) When making tubular work, the thread take-up lever is held down by a depending wire. (14.) To convert a machine having more than one feeder into a one-feeder machine, the auxiliary cams fit into recesses in the needle platform or stand. (15.) The needle-rib is made in segments, pivoted together, and closed automatically by springs. (16.) The foot of the needles is made stronger than the stem by battering the stem more than the foot, by doubling the foot, or by soldering a metal strip around it. (17.) In applying this metal strip, the foot of the needle is made with a hole or recess, into which the metal is compressed. (18.) During the formation of wets the out-throw action of the ribbing needles is slightly reduced, and the cam-cap is shogged circumferentially to prevent the ribbing-needles from taking the yarn. (19.) Welling cams for making wets in this manner slide on, or are pivoted to, the fixed out-throw cams; or these cams are made in one piece, and slide on, or are pivoted to, the dial. (20.) The knitted loops are secured, without the application of weight or tension to the fabric, by hooks, radially secured to the upper edge of the needle cylinder. The loops are pressed into these hooks by a wheel or wheels mounted upon the cam-shell. (21.) Hose-boards for trimming stockings are made with an indentation or hollow immediately above the heel. (22.) For fashioning one and one or other ribs, alternate trucks and the dial are cut shallower than the others, and in some instances long and short needles are employed in both dial and cylinder. To change to two and one rib, the high level ribbing needles are taken out. The ribbing needles may be elevated and depressed by a series of rollers or balls, acting upon the rib spindle. (23.) To make the fabric of closer texture, auxiliary needles are inserted in grooves, alter-

nating with the ordinary grooves. (24.) The counter is driven by a worm, from which it can be disengaged to enable it to be turned to its initial or other position. *Drawings.*

13,710. September 1, 1890. **Amines, dyes.** J. DAWSON, Kirkheaton Colour Works, near Huddersfield, and R. HIBSON, Huddersfield.

Relates to the production of substituted benzidines (diamidodiphenyls) and of colouring matters therefrom. *Amines and their sulphonic acids.*—Consists in first combining paraoxydiphenyl with a molecular proportion of diazobenzene, then in alkylating the azo compound so obtained by means of methyl or ethyl bromide or the like; and finally in reducing the alkylated azo compound by means of stannous chloride and hydrochloric acid. In a similar manner homologues of aniline, or alpha-naphthylamine, or o-anisidine, or their sulpho acids with unoccupied para positions, and homologues of oxydiphenyl or p-oxyphenyl alpha-naphthyl may be employed. *Azo dyes.* simple and mixed, which dye unordained cotton, are obtained by acting upon the diazo derivatives of the new bases with monosulpho acids of aniline, alpha, and beta-naphthylamine, dimethylaniline, methylnaphthylamine, or alpha and beta-naphthol, or with salicylic acid, resorcin, chrysoidine, or bismarck brown, by the usual processes as described in Specifications No. 4,415, A.D. 1884, and No. 15,295, A.D. 1885.

13,711. September 1, 1890. **Spinning.** J. SHEPHERD, Holly House, Davenport, Stockport.

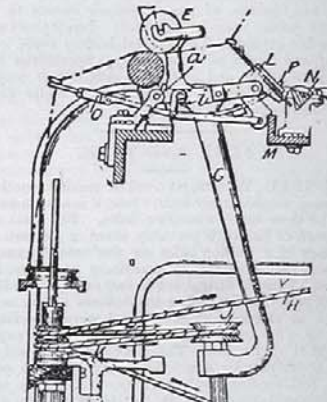
Covering spinning rollers.—Relates to apparatus for covering the rollers with strips of paper in accordance with the invention described in the Specification No. 4,592 (1889). The paper is drawn from a reel, and wound on to the roller, while the latter is pressed by weighted levers against a cylinder, which is covered with india-rubber or other elastic material. The reel is mounted on a screwed mandrel provided with nuts and washers for adjusting the reel in position, and with adjustable conical bearings whereby the tension of the paper strip may be regulated. The diameter of the finished roller may be indicated by a swinging feeler rod suspended from a shaft above the cylinder. The cylinder is operated by hand through suitable gear. *Drawings.*

13,775. September 2, 1890. **Spinning.** H. H. LAKE, 45, Southampton Buildings, Middlesex.—(*F. H. Chase; R. Sixsmith, Haverhill, Mass. U.S.A.*)

Cotton-stap.—In order to remove the seeds which have been stripped of their lint and thrown back by the beater or strapper an oscillating beater is provided consisting of a series of rods which take between the lars of a grid which supports the cotton. *Drawings.*

13,821. September 3, 1890. **Spinning, etc.** J. FARRAR, Globe Works, Halifax.

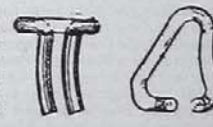
Twisting, etc., yarns and threads.—Relates to means for automatically and simultaneously slackening the driving band and applying a brake to the spindle or bobbin and raising the top feed roller when a thread breaks or falls either in front of or behind the feed rollers. The top roller E and the pivoted detector box L are both mounted on a lever G which is pivoted at *a*, and carries at its lower end a wharve J for the spindle



driving band, which passes in the manner shown round a double wharve on the spindle. Normally, the lever G is supported in the position shown by reason of a projection on the detector box taking on to the bar M. When a thread breaks, the detector box is forced from its support by the wiper N and the lever G turns about *a*, whereby the top roller is raised, the driving band H is slackened, and the lower end of the lever G takes against a brake K and forces the latter against the spindle or bobbin. The same operations take place when a thread breaks in front of the rollers, the thread passing through the eye of a trap lever O, P carried by a swinging arm I connected by a link to the lower end of the detector box. When a thread breaks the weighted end P falls until it comes within the range of the revolving wiper N which the parts are operated as before. The invention is also applicable to cap frames.

13,872. September 4, 1890. **Spinning.** A. W. METCALFE, Castle Street, Fatchley Bridge, Yorkshire.

Ring spindles.—The traveller is formed with a higher loop than usual for receiving the yarn, and also with projections or legs which take beneath the flange of the ring rail and guide the traveller in its course. Several forms are illustrated.



PATENTS.
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