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ABROAD (this paper edited): One year, 35 shillings; six
months, seven shillings and sixpence; three months, four
shillings.

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

NOTICE.

CHANGE OF ADDRESS.

The Editorial and Publishing departments of *The Textile
Mercury* have been removed from Sturminster, to larger
premises in

CARR STREET, BLACKFRIARS, MANCHESTER,
where all communications should be addressed.

The Textile Mercury.

(With which is incorporated *The History and Lace Trades
Reviews*.)
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INCORPORATION OF

"THE HOSIERY AND LACE TRADES REVIEW"
WITH "THE TEXTILE MERCURY."

The following circular letter has been sent to
all the hosiery and lace manufacturers in the
United Kingdom, and also to many abroad:—

Berridge-street Chambers,
Leicester, 23rd July, 1892.

Dear Sir,

We beg to inform you that we have sold the
copyright of *The History and Lace Trades Review*, and
the good-will of the business connected therewith, to
Messrs. Marsden and Co., of Carr-street, Manchester,
proprietors and publishers of the well-known and influen-
tial technical journal *The Textile Mercury*, which is the
only weekly textile journal appearing in this country.
Also that the *History and Lace Review* is now incor-
porated with *The Textile Mercury*, which journal thus
becomes the acknowledged representative of the hosiery
and lace industries, and will devote special attention to
their interests.

We respectfully suggest, therefore, that you would do
well to subscribe to *The Textile Mercury*, feeling
assured that you will find in that journal a competent
exponent and advocate of the interests of your important
business.

We are, yours faithfully,
THE HOSIERY AND LACE TRADES REVIEW Co., Ltd.
(per Thos. S. Shearer, Secretary.)

PRIZES OFFERED BY THE INDUSTRIAL SOCIETY OF MULHUSEN.

The programme of prizes offered by this
admirable Society, which has just been issued,
includes a number of important ones in textile
technology. In the group entitled *Spinning and
Weaving*, we note the following prizes:—

1.—Two prizes, each consisting of a Silver Medal
and 500 francs, for papers on the present manufacture
of yarns of carded or combed cotton in average or fine
counts as high as 200, or in cotton waste; and on the
spinning of combed, raw or dyed wool, according to
the best systems known to-day.

2.—A Medal of Honour and 500 francs for a
practical method of obtaining in spinning and weaving
sheds the following atmospheric conditions:—

(a) The maintenance of the fraction of saturation
at 80°.

(b) The lowering of the temperature at pleasure as
much as 22° C. during the hot season, and that under
the worst possible conditions.

(c) The renewal and purification of the air in the
necessary limits so as to meet the requirements of
health without causing a movement in the air likely
to injure the manufacturing process which is going
on.

3.—A Silver Medal, offered to each of three manu-
facturers who shall manufacture and put on the market
before May 1st, 1893, to the value of 10,000 francs at
least, one or several tissues in cotton or some other
material, either white or coloured, which have not yet
been exploited in the Mulhouse district. Preference
will be given to those whose goods are most likely to be
generally useful.

4.—Medal of Honour for the dressing of yarns above
70,000 metres to the 500 grammes on the sizing
machine.

On this prize the following observations are added:
"The sizing machine, which is of English origin, is
much used in our industrial centres; but when fine
counts are reached it cannot take the place of the
dressing machines. The prize will be given for
improvements in the sizing machine which will
permit of its employment for these counts. This
machine must preserve all existing advantages, must
produce on a large scale, must economise the warps
as much as possible, and must be so arranged that

the change from one article to another may be rapidly
effected. It must have been at work for at least six
months in Alsace."

5.—Silver Medal, or Medal of Honour, for an
improvement in the weaving loom.

Under the head of *Bleaching, Printing, Dyeing,*
and *Finishing*, are the following prizes, among
others:—

1.—A Medal of Honour for a new cylinder machine
that can print at least eight colours at the same time,
and that offers advantages over those at present in use.

2.—A Silver Medal for an apparatus regulating
automatically the temperature and the hygrometric
condition of the air in the drying sheds of calico
factories.

3.—A Silver Medal for a paper on the drying of
tissues.

The sixty prizes offered under the head of
Chemical Arts include medals for an important
improvement in the bleaching of wool or silk;
for a memoir on the part played by the different
sorts of cotton in the bleaching and colouring
of tissues; and a medal for an aniline black, or
another of the same solidity, that shall not
weaken the tissue, and shall bear contact with
other colours, especially with albuminous
colours, without harm to the tints with which it
will be combined.

COMMERCIAL TRAVELLERS IN SWITZERLAND.

A law has just been passed by the Federal
Assembly of Switzerland affecting commercial
travellers, or rather that section of them who
would in this country be described as hawkers.
The native travellers of this class are taxed in
most of the cantons, and the object of the law
is to prevent foreigners enjoying untaxed
privileges denied to the citizens of the Republic.
Exemption is, however, accorded to foreign
travellers entitled to national treatment, pro-
vided they do not travel with their wares, and
only do business with merchants. To those
foreign travellers not entitled to national treat-
ment, the price of the licence is fixed at 200 fr.
for six months, and 300 fr. for one year, when
business is only done with merchants. When
orders are also taken from private individuals,
the prices are 300 fr. and 500 fr. respectively.
Foreign travellers are required to provide them-
selves with a certificate signed by the competent
authority of the country in which their firm is
established, stating that they are authorised to
carry on its business in that country. The
licence enabling them to travel in Switzerland
can be obtained from the authorities of the first
canton they enter. Power is reserved by the
law to refuse to license travellers of any country
in which Swiss travellers are either refused
permission to travel or are only allowed to do
so on onerous conditions. Any travellers who
may be intending to visit Switzerland for
business purposes and who might be liable to fall
under these conditions, would do well to care-
fully ascertain how the new arrangements may
affect them, so that they may avoid incon-
venience.

OLDHAM AND THE WAGES QUESTION.

Our Oldham correspondent writes:—"The
wages question is being very quietly discussed
in Oldham. On the part of the employers it
may be said that for a few months they have
had the matter under consideration, and the
action which has been taken by the Employers'
Federation seems to have given satisfaction.
So far as can be ascertained at the moment
there is every indication that the full 75 per
cent. of 'aye' replies will be obtained from this
district. However, a meeting of the Oldham
spinning trade is called for Friday (last) even-
ing to consider the position of affairs, and no
doubt talk over sundry questions affecting their
own interests, at which it is anticipated the
course recommended by the committee of the
Federation will be confirmed. As regards the
operatives, they are not in any way alarmed at

the prospective reduction. They are prepared to await the result of the employers' *plébiscite*, and when official intimation of a reduction comes to hand, then, they believe, will be the time to seriously consider the situation. There is a strong feeling that the employers are making the wages question a stalking horse for a stoppage, in the same way, they allege, as the Stalybridge strike was utilised. They strongly hold that the remedy for the present depression is a systematic curtailment of production, inasmuch as they contend it is caused by the supply having overtaken the demand; while a wages reduction, it is said, will not go one step in the direction of relieving or remedying. There is every probability that the 10 per cent. demand will be resisted, though there is a possibility of a counter proposal emanating from the operatives in the way of compromise—say, five per cent., or restoring what the employers conceded in the January of last year—coupled with short time. Still, there are numbers who believe that in any case the demand will cause a stoppage. If this come to pass it will mean, if all the mills in the Federation, which embraces about 18 million spindles, come to a standstill, that some 50,000 workpeople will be thrown idle, and about £50,000 per week lost in wages. However, it is too early in the situation as yet to form anything like accurate opinions as to the outcome of the issue."

RAMIE ONCE MORE.

This tantalizing yet impracticable plant continues to allure people to its cultivation and treatment, with little result other than disappointment. It is constantly being tried somewhere or other with new and sanguine hopes, which almost always slowly transform themselves into delusive mirages, and ultimately disappear altogether. The last candidate for this reward that we have heard of is California. Referring to this matter our Consul writes:—

A good deal of interest has been manifested here (the consular district of San Francisco) in the past year in the culture of ramie. The attempts to introduce it in the Southern States have not been very successful, owing partly to the moistures of the climate, and chiefly because the machinery necessary to prepare it for market had not then been invented. It has been demonstrated that the dryness of this climate will admit of the preparation of ramie for market at a lower cost than elsewhere, and it is stated that a decorticating machine has been invented which will prepare the fibre at a sufficiently low cost to admit of its being grown profitably. If this is the case the invention is a most important one for this district, as ramie will grow well on alkali lands, and there are here many thousands of acres so irrigated with alkali as to be of little value for other purposes. At the last session of the Legislature of this State a large appropriation was made to provide for free distribution of ramie seeds. Mr. W. H. Murray has been appointed State Superintendent of Ramie Culture, and I am indebted to him for a pamphlet containing the following information: 100 lbs. of crude ramie can be run through the decorticating machine per hour at a cost of about 4d. per lb. A trial of the machine was made recently at Bakersfield in this district, when 270 lbs. of dry stalks, the product of one quarter of an acre thinly planted, was converted into marketable fibre in 1½ hours. Specimens of the fibre have been sent by Mr. Murray to all parts of Europe, and have elicited great praise. Messrs. Ede and Christie, fibre brokers, of 72, Mark Lane, London, write him as follows: "We could sell 50 tons of your ramie fibre at £16 per ton, free London, 2½ per cent. discount." On the other hand, Mr. Wm. C. Scaulls, of Louisiana, in an interview had with him by a newspaper reporter, expressed himself as follows: "No machine yet tried has been able to work over an acre a day, and until they can get one that will go through the ramie from 20 acres to 25 acres a day it will not be profitable to raise ramie. I expect such a machine will be invented some day, and when it is the inventor can collect a price of £20,000, offered by the British Government for the benefit of its Indian possessions." I mention the matter as it will interest people in India. If ramie can be profitably cultivated here, owing to improved machinery, it can be more profitably cultivated there.

All this is of course guarded sufficiently so as not to unduly excite interested outsiders who will no

doubt patiently await the result of these western experiments.

OLDHAM AND THE EIGHT-HOURS QUESTION.

Our Oldham correspondent writes:—"Operatives' organisations are already beginning to appoint their representatives to the Trades Union Congress, which will this year be held at Glasgow. It is likely that in more than one of the Oldham unions the opinion of the members will be taken upon the eight-hours question, because it is thought that prominence will be given to it in this year's proceedings. Hitherto the leaders of the cotton operatives, who are almost wholly opposed to the application of a general eight-hours working day to the cotton trade, because they believe it will have a detrimental effect—have been open to the charge that they have simply voiced their own opinion in opposition, and not that of the members who send them. To meet this charge, *plébiscites* are intended to be taken, but in doing so more than ordinary care will be observed in placing the full issue before the members, so that they shall not be misled into voting against their own interests. The Lancashire representatives don't like to be dictated to by outsiders as to what they should do in the matter of working hours, as they regard themselves as quite capable of taking care of their flock; nor do they desire to tell other people what they should do. They give everyone credit for knowing what answers best for his own particular calling. Read through the lines, this means a Permissive Regulation of Hours Bill. Even if such an enactment were made to affect adult male labour, it is strongly argued in opposition that Parliament, having been given power to interfere with the working hours, can, if it think proper, reduce as well as raise the number."

"FAIRS" AND THE TEXTILE TRADES.

The old institutions known as fairs are rapidly passing away, if indeed they have not already quite disappeared in all but the name, and in a few instances where they still survive mainly as entrepôts where agriculturists meet to buy and sell farm stock. In the olden days, that is, 150 years ago or more, fairs were important institutions and great centres of exchange, where every description of commerce was carried on. It is difficult to say how they came to be called "fairs," but it may be conjectured without any great strain that owing to the flocking to these places at the proper time of all manner of manufacturers, the principle of competition had free sway, and articles were disposed of more nearly at their intrinsic value than when sold at rates that were often those of monopolist dealers in the villages and small towns of the country at that time. With the thin population of the country as it then existed, only a few places could maintain either a manufacturing or distributing centre without the imposition of such high profits as made the articles appear disproportionately dear when compared with cost of production. But the village fairs came round, and enabled consumers to serve themselves with their requirements at "fair" or competitive prices, which were much more reasonable than the monopolist or unfair prices at which they could only purchase articles at other times. Thus the careful housewives of the seventeenth and the early part of the eighteenth centuries, before the new order of things made their advent, would husband their resources until in due season the fair came round, and would then lay in the store of goods needed for a year's consumption, with something for contingencies. In those days pack horses were the principal means of transport of merchandise from one

part of the county to another, and large numbers of these were kept by merchants and manufacturers to travel over the county in every direction to these fairs, at which, when their wares had been disposed of, they would purchase the productions of the neighbourhood when they differed from their own, and would thus make a profit on their "returns," as well as on the goods they had taken out. Thus the manufacturers of one district were forced to become merchants in the wares of others—a compulsion which was beneficial all round. This was of course a very primitive method of conducting business, but it was one that had doubtless been in vogue from the time when the country began to emerge from feudalism. Equally without doubt it served the requirements of the time very well. To-day what are known as fairs are only such in their extreme decadence; it would surprise a modern reader to learn of the large amount of business once transacted in them, even when compared with the colossal scale on which it is done in these times. Perhaps the fairs of Preston, Blackburn, Great Harwood, Bury, and Turton will be those of which the elder generation of East and South Lancashire men will be most familiar; though, we believe, these have now been mostly abolished, or have died a natural death owing to changing conditions. For those who recollect them they will, however, serve as a contrast with a genuine fair of the olden time, a description of one of which has been left on record by Daniel Defoe, the celebrated author of "Robinson Crusoe." This shows the important part played by fairs in connection with the textile industries.

STOURBRIDGE FAIR.

The Stourbridge to which Defoe refers, and which is, or rather was, the site of the fair described, is not the Worcestershire town of that name, but a small village on the river Stour and about two miles from Cambridge. The existence of this important fair at this insignificant place is one of those things which, as that ancient man Lord Dundreary might have said, "no fellow can understand." But so it was, and so frequently were important fairs located in similar insignificant places that it cannot be regarded as singular. Defoe came across it in making his tour through the Eastern Counties, and includes a description of it in the record of his observations. This fine old writer was one of the earliest of modern tourists, and it would be well if his modern imitators were all as well equipped as he was with the keenest faculty of observation. He approached the place from Newmarket, the great racing place of that name, and then, as now, the centre of attraction to vast numbers of people, including a great concourse of the nobility and gentry, who equally with the rest of the crowd "were all so intent, so eager, so busy upon the sharpening part of the sport—their wagers and bets—that to me they seemed just so many horse coursers in Smithfield, descending (the greatest of them) from their high dignity and quality to picking one another's pockets, and biting one another as much as possible, and that with such eagerness as that it might be said that they acted without respect to faith, honour or good manners." Whatever else may change, there is evidently little change in horse racing manners. But this *en passant*. Leaving Newmarket he passed to Cambridge through Stourbridge when the Fair was at its height, and the study of its features and characteristics was much more congenial to his tastes than the "jockeying" of Newmarket, which made him "sick." He says:—

If it is a diversion worthy a book to treat of trifles, such as the gaiety of Bury Fair, it cannot be very unpleasant, especially to the trading part of the world, to say something of this fair, which is not only the greatest

is the whole nation, but in the world; nor, if I may believe those who have seen them all, is the fair at Leipzig in Saxony, the mart at Frankfurt-on-the-Main, or the fairs at Nuremberg, or Augsburg, any way to compare to this fair at Stourbridge.

It is kept in a large corn-field, near Casterton, extending from the side of the river Cam, towards the road, for about half a mile square. If the husbandmen who rent the land, do not get their corn off before a certain day in August, the fair-keepers may trample it under foot and spoil it to build their booths, or tents, for all the fair is kept in tents and booths. On the other hand, to balance that severity, if the fair-keepers have not done their business of the fair, and removed and cleared the field by another certain day in September, the ploughmen may come in again, with plough and cart, and overthrow all, and trample it into the dirt; and as for the filth, dung, straw, &c., necessarily left by the fair-keepers, the quantity of which is very great, it is the farmers' fees, and trunks them full onwards for the manuring, riddling, and carting upon, and hardening the ground.

It is impossible to describe all the parts and circumstances of this fair exactly; the shops are placed in rows like streets, whereof one is called Chesepole; and here, as in several other streets, are all sorts of trades, who sell by retail, and who come principally from London with their goods; scarce any trades are omitted—goldsmiths, toyshops, brassiers, turners, milliners, haberdashers, hatters, mercers, drapers, pesterers, china-warehouses, and in a word all trades that can be named in London; with coffee-houses, taverns, barmy-shops, and eating-houses innumerable, and all in tents and booths, as above.

This great street reaches from the road, which as I said goes from Cambridge to Newmarket, turning short out of it to the right towards the river, and holds in a line near half a mile quite down to the river-side; in another street parallel with the road are like rows of booths, but larger, and more intermingled with wholesale dealers; and on one side, passing out of this last street to the left hand, is a formal great square, formed by the largest booths, built in that form, and which they call the Daddery; whence the name is derived, and what its signification is, I could never yet learn, though I made all possible search into it. The area of this square is about 80 to 100 yards, where the dealers have rooms before every booth to take down and open their packs, and to bring in waggons to load and unload.

This place is separated, and peculiar to the wholesale dealers in the woollen manufacture. Here the booths or tents are of a vast extent, have different apartments, and the quantities of goods they bring are so great, that the insides of them look like another Blackwell Hall, being as vast warehouses piled up with goods to the top. In this Daddery, as I have been informed, there have been sold one hundred thousand pounds worth of woollen manufactures in less than a week's time, besides the prodigious trade carried on here by wholesale men from London and all parts of England, who transact their business wholly in their pocket books, and meeting their chapmen from all parts, make up their accounts, receive money chiefly in bills, and take orders: These they say exceed by far the sales of goods actually brought to the fair, and delivered in kind; it being frequent for the London wholesale men to carry back orders from their dealers for ten thousand pounds' worth of goods a man, and some much more. This especially respects those people who deal in heavy goods, as wholesale grocers, salters, brewers, iron merchants, wine merchants, and the like; but does not include the dealers in woollen manufactures, and especially in necessary goods of all sorts, the dealers in which generally manage their business in this manner.

Here are clothiers from Halifax, Leeds, Wakefield and Huddersfield in Yorkshire, and from Rochdale, Bury, &c., in Lancashire, with vast quantities of Yorkshire cloths, kerseys, petticoats, cottons, &c., with all sorts of Manchester ware, fustians, and things made of cotton wool; of which the quantity is so great, that they told me there were near a thousand horse-packs of such goods from that side of the country, and these took up a side and half of the Daddery at least; also a part of a street of booths were taken up with upholsterer's ware, such as tickings, sackings, Kaldemister stuffs, blankets, rags, quilts, &c.

In the Daddery I saw one warehouse, or booth, with six apartments in it, all belonging to a dealer in Norwich stuffs only, and who, they said, had there above twenty thousand pounds value in those goods, and so other.

Western goods had their share here also, and several booths were filled as full with serges, drays, druggets, shallons, castalons, Devonshire kerseys, &c., from Exeter, Taunton, Bristol, and other parts west, and some from London also.

The writer, continuing his description, tells us that all this great show is still outdone by two other articles, the trade in which does not begin until the business in textiles begins to draw near its close. These articles are hops and wool.

The former article, says he, is largely bought by the northern manufacturers, "it being a great part of their back carriage into Yorkshire, Northamptonshire, Derbyshire, Lancashire, and all these counties; nay of late, since the Union, even to Scotland." Great quantities of these "returns" also go by water carriage from the same spot to all parts of the country. Of wool he says:—

The next article brought thither is wool, and this of several sorts, but principally fleece wool, out of Lincolnshire, where the longest staple is found; the sheep of those countries being of the largest breed.

The layers of this wool are chiefly indeed the manufacturers of Norfolk and Suffolk and Essex, and it is a prodigious quantity they buy.

Here I saw what I have not observed in any other county of England, namely, a pocket of wool. This seems to be first called so in mockery, this pocket being so big that it loads a whole waggon, and reaches beyond the most extreme parts of it, hanging over both before and behind, and these ordinarily weigh a ton or twenty-five hundredweight of wool, all in one bag.

The quantity of wool only, which has been sold at this place at one fair, has been said to amount to fifty or sixty thousand pounds in value, some say a great deal more.

By these articles a stranger may make some guess at the immense trade carried on at this place; what prodigious quantities of goods are bought and sold here, and what a confluence of people are seen here from all parts of England.

I might go on here to speak of several other sorts of English manufactures which are brought thither to be sold; as all sorts of wrought-iron and brass ware from Birmingham; edged tools, knives, &c., from Sheffield; glass wares and stockings from Nottingham and Leicester; and an infinite throng of other things of smaller value every morning.

To attend this fair, and the prodigious confus of people which come to it, there are sometimes no less than fifty hackney coaches which come from London, and ply night and morning to carry the people to and from Cambridge; for these the gross of the people lodge; nay, which is still more strange, there are wherries brought from London on waggons to ply upon the little river Cam, and to row people up and down from the town, and from the fair as occasion presents.

It is not to be wondered at, if the town of Cambridge cannot receive, or entertain the numbers of people that come to this fair; not Cambridge only, but all the towns round are full; nay, the very barns and stables are turned into inns, and made as fit as they can to lodge the meaner sort of people; as for the people in the fair, they all universally eat, drink, and sleep in their booths and tents; and the said booths are so intermingled with taverns, coffee-houses, drinking-houses, eating-houses, cook-shops, &c., and all in tents too; and so many butchers and biddlers from all the neighbouring counties come into the fair every morning with beef, mutton, fowls, butter, bread, cheese, eggs, and such things, and go with them from tent to tent, from door to door, that there is no want of any provisions of any kind, either dressed or undressed.

In a word, the fair is like a well-fortified city, and there is the least disorder and confusion, I believe, that can be seen anywhere with so great a concourse of people.

Towards the latter end of the fair, and when the great hurry of wholesale business begins to be over, the gentry come in from all parts of the country round; and though they come for their diversion, yet it is not a little money they lay out, which generally falls to the share of the retailers, such as toy-shops, goldsmiths, brassiers, ironmongers, turners, milliners, sewers, &c., and some loose coin they reserve for the puppet shows, drolls, rope-dancers, and such like, of which there is no want, though not considerable like the rest. The last day of the fair is the horse-fair, where the whole is closed with both horse and foot races, to divert the meaner sort of people only, for nothing considerable is offered of that kind. Thus ends the whole fair, and in less than a week more, there is scarce any sign left that there has been such a thing there, except by the heaps of dung and straw and other rubbish which is left behind, trod into the earth, and which is as good as a summer's fallow for dunging the land; and as I have said above, pays the husbandman well for the use of it.

Such is a graphic picture of the internal commerce of the country, and especially of that relating to the distribution of the products of the textile industries of that time. It must be remembered that 170 years ago we had no railways or canals, and very few highways. The pack horse was then the great means of transport, and the noble animal played the rôle in this country that the camel did then and still continues to perform in eastern lands. Our

highways and canals did not come into vogue until from 60 to 100 years later, when the industrial revolution was giving daily increasing manifestations of its power, new developments of which have not yet ceased to be unfolded. The picture we have culled from this favourite and grand old writer will enable us to measure and appreciate the progress that has been made during the years that have intervened since, in the early days of September, 1722, he passed through the busy scene of Stourbridge Fair to "the town and University of Cambridge," upon an inspection of which he dwells with pleasure.

GRAPHITED FIBRE.

A high-class French engineering journal, the *Revue Industrielle*, gives the following curious particulars about a substance which, it seems, has been manufactured for about two years. It is called graphited fibre, and is intended to act as a lubricant. The composition consists, as its name implies, of two substances—the fibre of hard wood, and graphite, and is prepared in the following manner. The fibre of hard wood is reduced to a pulp, to which the graphite, powdered very fine, is added, and the mixture is placed in an iron box, the bottom of which is perforated with many holes. Water is then added, and the whole is compressed by means of the hydraulic press. During this operation the water escapes through the holes, but whilst escaping it forces the wood fibre to assume a vertical position, and so, as the graphite is unable to escape, it also is compressed. As a result there is left a thick mass, in which the graphite is distributed with fair evenness. When it is removed from the box the substance is ready for use, and presents a satin-like surface. Nothing more is done but drying it in the air for some time, and then saturating it with linseed oil, which has been refined and boiled in the oven. This oil, it appears, communicates to it a little of the suppleness and elasticity of linoleum. Excellent results are said to have been obtained by applying this lubricant to transmission shafts exposed to high temperature in atmospheres charged with dust, as well as in spinning mills for spindles.

"THE POSITION OF LANCASHIRE."

The article in *Blackwood's Magazine* last month on the "Prospective Decline of Lancashire," by Mr. W. A. Abram, on which we commented, and to which we referred our readers for perusal, immediately created a considerable sensation throughout the cotton trade districts, and evoked a goodly amount of comment more or less valuable, but mostly the latter, from the fact that the commentators had in very few instances the requisite practical knowledge of the matters discussed. This cannot, however, be alleged of Mr. J. C. Fielden, of this city, who has followed Mr. Abram in the August issue of "Maga" on the same track. The result, of course, is much what might have been expected: no two men ever yet gave exactly the same account of a fact, or a series of facts, that came under their observation, and this instance is another edition of the old story of the travellers and the shield. Mr. Abram declares it is a silver one, and out rushes Mr. Fielden, challenging his opinion, and declaring it is a golden one. Mr. Fielden does not like the pessimistic tone of Mr. Abram's article, and, therefore, sets out the reasons that induce him to conclude that the latter is wrong in the views he entertains. It may be worth while to review the reviewer's opinions on the subject, as it is really important in relation to the interests of employers and employed in the cotton trade of Lancashire, and especially at this juncture, to reach sound

conclusions on the subject. It is also of almost equal importance to the country at large, as its prosperity is admittedly dependent in a very large degree upon that of the continued well-being of the cotton trade.

It would, perhaps, be going beyond what the circumstances warrant to place these two writers in a militant attitude towards one another, though a slightly combative tone pervades Mr. Fielden's article. But, as we know they have been personally well known to each other for many years, and for a long portion of that time co-workers in politics and various social movements, they cannot possibly be regarded in any other light than as the most friendly opponents whose opposition at all comes in. Like Mr. Abram, Mr. Fielden is a Lancashire man, and has dwelt all his life within its borders. Unlike the former, however, Mr. Fielden has been for close upon 40 years intimately and actively engaged in one capacity or another in the cotton trade. As the "adjutant" of the late Mr. Wm. Birtwistle, of Stanley-street Mills, Blackburn, and an expert in cotton mill calculations, he was actively engaged in drafting the original Blackburn Standard List on the side of the employers, whilst the late Mr. Edward Whittle, the first secretary of the Blackburn Weavers' Association, then newly formed, acted in like capacity for the weavers. This list, and those founded on it as a basis, have governed the cotton trade since 1855. Mr. Fielden, who had become an employer before the outbreak of the American Civil War during the cotton famine, did yeoman services in the way of obtaining, organizing, and dispensing relief. In one capacity or another he has ever since been actively engaged in the cotton trade. He truly observes, therefore, that the readers of dear old 'Maga' may find it interesting to have a view of the manner in which this question is regarded by one who has been so closely "engaged in the thick of the business during this long and terrible depression which seems to have become chronic."

Mr. Fielden states the value of the cotton trade to the country as being £50,000,000 annually, of which fully £20,000,000 go to the operatives engaged therein. In both these figures Mr. Fielden, we believe, greatly under-estimates the importance of the cotton trade to the country, because he only takes cognizance of the benefit directly accruing to the persons immediately engaged or employed therein, whilst he overlooks the fact that there are a large number of subordinate minor industries directly dependent for their existence upon the cotton trade itself, and gives no credit to the trade for the benefit the country derives from the repeated expenditure of the sums mentioned amongst the other trades and industries whose energies are devoted to providing for the various wants of the entire population of the cotton trade districts. Of course we might pursue this much further, but it is not necessary, as its further ramifications can easily be followed. We agree with Mr. Fielden that a correct diagnosis of the ailment of the trade may lead to the discovery and application of remedies. We have our fears, however, about Mr. Fielden's capabilities as the qualified physician who will give the diagnosis so much needed, and we should hesitate to accept his prescription as a specific. He agrees with Mr. Abram in stating that the trade is not distressed "because of any change in the general demand for the goods produced." He affirms, which is no doubt true, "that the world's consumption of cotton is steadily increasing," and that this "increase during the past twelve years has been 20 per cent. In districts of the earth having unitedly over 1,000,000,000 of a population

calico is the kindest, as it is the cheapest article of clothing." Here again we concur.

We now, however, come to a point at which we must diverge from his views. This is the world's requirements of cotton goods. We will permit Mr. Fielden to make his own statement upon the matter:

There is no fear of overtaking the world's real requirements in these (cotton) goods, seeing that it would take at least an extra crop of 10,000,000 bales of raw cotton annually to give a supply to the rest of the world equivalent to our home consumption of cotton goods, which it should be remembered are here made subservient to other and more costly materials. The first condition then of an extending demand for cotton goods can be looked upon as assured, just as the nations fed by improved and increasing resources the means of purchase. Why then should not part of the future growth be secured by Lancashire?

Mr. Fielden here gets astray, and will, by a careless use of words, mislead his readers if they follow him. The "real" wants of the world in these goods are those which it now demands to have satisfied; they are not the undeveloped wants of some future time. One-half, or 500,000,000, of the people Mr. Fielden mentions may have a vague "want" or "requirement" of calico, but not having the wherewithal to pay for it, have perforce to go without it. "Requirements" of this kind are not of the sort of which Lancashire manufacturers can take cognizance. "The first condition then of an increasing demand for cotton goods" cannot be looked upon as assured, because it does not exist at present, and is merely a contingency of the future, which may never come to fruition as a fact. Should such ever arise Lancashire will in all probability secure a share of it. The "real" wants of the world are the actual wants of the moment, and the production of the trade at the moment has gone beyond it.

Mr. Fielden proceeds to affirm the well-known excellence of Lancashire mills, and the skill of its workpeople; the economy of the processes of manufacture, and the naturally advantageous location of the industry. All these claims may be admitted to be perfectly correct, and we affirm them as strongly as Mr. Fielden. But we deduce from these facts a conclusion very different from, if not opposite to that drawn by Mr. Fielden. Without these advantages, and many others Mr. Fielden does not enumerate, the Lancashire cotton trade would never have attained the commanding eminence we know it occupies, and which has caused this country to become the envy of the world. It is very probable that in these advantages will be found the germs of its decay. In the face of them Mr. Fielden asks, "Why then is it necessary to discuss the prospective decline of Lancashire?" He evidently feels that these circumstances assure the continuance of its pre-eminence. We do not feel so assured. If men all over the world would consent to leave economic principles perfect freedom of operation, the prospects of Lancashire maintaining this position would be very good indeed, at least for a considerable while forward. Mr. Fielden evidently and very properly takes pride in the fact that "operative per operative, loom per loom, spindle per spindle, working any given number of hours per day, there never was a time when Lancashire was more completely supreme over the producers of other countries than she is now." This is all very true, and so is the succeeding statement that: "Never were her mills better or more economically managed, her labour better organised for productive purposes; her productions were never more varied in design, never better in quality, never lower in price." Here again we agree; the facts are truly stated, and so of others following. But in the deductions he makes Mr. Fielden gets hopelessly astray. Summarizing Mr. A. ram's conclusions, the causes that are operating to

bring about a decline of the Lancashire cotton trade, he says are: 1st, protective tariffs; 2nd, foreign competition; 3rd, the competition of the Bombay mills.

Let us briefly follow Mr. Fielden over his arguments on these points. He says it is unnecessary to repeat "that the last 20 years has witnessed a continuous system of advancing tariffs," practically in all countries peopled and governed by European races. It would be very idle to deny this patent fact. Mr. Fielden does not indicate the causes of this movement, which really has its origin in the brilliant series of mechanical inventions that have rapidly followed one another since John Kay invented the fly shuttle in 1733, down to the present day. Our productive powers steadily grew throughout the intervening period until, under the operation of unrestricted economic principles, we successively defeated the manual workers of every European state, and then carried our industrial and commercial conquests over every other continent. Our industry, aided by our mechanical appliances, bore to the earth every opposing competitor, and unassisted by other influences than economical laws they would have remained there. But political assistance has been awarded them, our mechanical appliances have been obtained, tariffs have been instituted, and have been successively raised until imperfect competitive capability, aided by political power, has succeeded in defeating our best efforts to trade with most of the Continental States and the United States of America. Mr. Fielden admits this, but says that "markets so secured are not secured by competition, but by absence of it, and it is at least satisfactory to know that industries so protected advertise their own inability to compete." We would ask Mr. Fielden what it matters to the English cotton trade whether it is excluded from or prevented entering a market by economic laws or political power, so long as it is prevented? The end is the same whatever the means employed to bring it about: our merchants are precluded trading, and hence our mills do not make the goods. We fail to see where the trade will find the satisfaction that apparently has found a lodgment in Mr. Fielden's mind. Mr. Fielden admits "that so long as a belief in the policy of protection prevails, every effort will be put forth to make such policy effective." Very true, and in its truthfulness lies danger to the Lancashire cotton trade, because it means that there are put in its track obstacles to its expansion, which neither the skill of its inventors, the quality of its workpeople, or the enterprise of its manufacturers and merchants can overcome. Mr. Fielden evades the most important aspect of Mr. Abram's statement, and runs off to discuss comparatively insignificant issues introduced by Mr. Abram by way of elucidating his point. The point Mr. Abram would make is not whether it would be a large or a small loss to lose the amount of trade we do with Continental states at present, but whether both the present and prospective loss is not a very large one when considered from the point of view of what our trade would have been with the nations of Europe had we had free entrance to their markets. This is the real issue raised, as it shows that protective tariffs form a real present and impassable barrier when a complete view is taken of the subject. The same remarks apply to the operation of protective tariffs in the United States. Our trade in cotton goods with the United States had been reduced to the smallest dimensions by the tariffs enacted antecedently to that of McKinley, and Lancashire, comparatively speaking, had little left to be destroyed by that notorious law, and therefore did not get excited over it. Lancashire's com-

posure arose not from a consciousness that no tariff could destroy her trade with the States, but from the fact that there was nothing left to kill. Here we must close for the present. It will be obvious from the remarks we have made that Mr. Fielden's deductions, so far as we have examined them, are widely away from justification by the facts. We may return to the examination of the remaining points next week.

Bleaching, Dyeing, Printing, etc.

THE MECHANICS OF DYEING.—II.

(Continued from page 66.)

The principal advantage of dyeing cotton or wool in the raw condition is that the dye-stuff has more chance of penetrating the whole substance of the fibre. The dyeing is thus more complete and thorough, and when the dyed cotton or wool is subsequently woven into cloth the colour of the latter is more solid-looking, and is decidedly faster in wear.

DYEING COTTON IN THREAD.

The next form in which cotton is dyed is that of thread or yarn. The dyeing may be done with the cotton yarn in three conditions: first, when in hanks; second, when in the form of warps; third, in the form of cops, or when wound on bobbins. The manner of dyeing the yarn in each of these three forms will now be considered.

Dyeing Hank Yarn.

This is the form in which the great bulk of the cotton yarn is dyed, inasmuch as it presents the fewest difficulties. It may be carried out either by hand or machine, the former necessarily being the older mode. Hand-dyeing of hanks is a comparatively simple matter. In old works a tub was used, of such a depth that when hung on sticks the hank of yarn hung straight down. As a rule no means of heating the water in the tub is provided for, as it is not necessary in cotton dyeing to carry on the operation at the boil. The method of working is almost too well known to need description. A number of sticks are provided, long enough to stretch across the tub; these are usually made of hickory, as being a smooth, hard wood, and smoothness of the sticks being essential. On the stick is hung a bundle of yarn; the operative dips the yarn in the dye liquor, and turns the hank over on the stick, so as to bring what was the top to the bottom. In doing so he does not simply lift and turn the yarn, but gives it a forward movement, which causes the yarn to fall sideways into the dye liquor when it is dropped. This movement has a tendency to open the yarn and thus effects a more thorough impregnation of it with the dye liquor. He does this with other lots of yarn until there are as many sticks full of yarn as the tub will hold; then he repeats the operation of turning, beginning with the first one, and thus turning over and dipping is continued until the cotton is dyed. The surplus dye liquor in the yarn is wrung out, and the hanks are rinsed in clean water, and then dried. By this plan only a comparatively small quantity, say 30 lb., of yarn can be dyed at one time, and then only with such dye-stuffs as do not require the dyeing to be carried on at the boil.

The more modern plan is to provide rectangular vats, of a width just sufficient to take the stick, deep enough for the hank to hang straight, and length to suit the amount of yarn to be dyed. These vats are provided with a perforated false bottom, under which passes a steam pipe for the purpose of heating the dye liquor. Usually two men are employed on one of these vats, and they can do four or five times the quantity of yarn capable of being worked by one man with a tub. On each stick is hung 30 lb. of yarn, and the men, one on each side of the vat, lift up the stick with one hand; each takes hold of half the yarn and turns it over, and then the stick with the yarn on it is dropped

again; at the same time it is pushed a little to one end of the vat, so as to leave free working space. This process is carried out until all the yarn which is being worked is turned over, when the process is restarted again, and the turning is continued until the yarn is dyed. The liquor in the dye vat is then run off, clean water is run in, and the yarn washed, wrung out, and placed to dry. So much for the hand method of hank dyeing; it is effectual, and the dyeing is usually level; the only objection arises from the limited quantity of yarn that can be dyed at one operation, and the fact that, owing to the inconvenience caused to the operatives, the process cannot well be carried on at the boil—which is essential in dyeing with the direct dyes now so largely used.

Many and various machines have been invented for dyeing yarn in the hank form. Some of these have been constructed to work on much the same principles as underlie the hand method; and others work on totally different lines. An endeavour will be made to describe briefly but clearly the principal makes of hank dyeing machines, noticing in the first place those which approximate in the manner of their working to the hand method.

The first machine to which attention will be directed is one made by Cesar Corron, a well-known French machinist, who has an agent in Manchester. In this machine, which was exhibited at the Manchester Jubilee Exhibition, 1887, an ordinary dyer's rectangular vat (of any length to suit the quantity of yarn the dyer wishes to work at once) is used and the peculiar mechanical apparatus is fitted to this. The yarn is hung on poles of a peculiar shape, the object of which is to imitate as closely as possible the movements of hand-dyeing which have been referred to above. The mechanical arrangements consist essentially of a pair of discs, which move backwards and forwards along the vat. As these travel forwards they lift the poles with the hanks thereon completely out of the vat, give them a quarter turn, which opens out the hank, and drop them again into the vat. This is done in succession until all the poles have been dealt with, whereupon the machine automatically reverses itself and the discs travel back; in so doing they lift the hanks from the vat, but without turning them, and when the end of the vat is reached the motion is again reversed and the hanks are treated as before, this cycle of movements being continued until the dyeing is complete. As the machine is automatic in its movement very little attention is required on the part of the operatives. It does its work very well, the dyeings being level and solid—two very important points from a dyer's point of view.

Another machine, made by an American firm, and also a very similar one made by a Yorkshire firm, work in a somewhat different manner. As with Corron's machine, an ordinary dyer's vat is taken, and round this are arranged the moving mechanical parts, the essential feature of which is a number of moving endless chains, some of the links of which have fingers or hooks attached to them. The hanks are hung on poles or sticks, and placed in the vat at one end, and by means of the endless chains they are moved forward along the vat; at the same time the sticks are caused to revolve, so that every part of the hank passes through the dye liquor. When the hanks reach the end of the vat, a pair of hooks on another pair of chains catch hold of the hank stick, lift it and the yarn out of the vat, and carry it upwards. Here it is taken hold of by another pair of endless chains and carried backwards over the vat to the front end, where another set of chains carries it back into the vat. This cycle is continued until the yarn has been dyed, when it is washed by running the dye liquor out of the vat, running in clean water, and continuing the motion of the machine a short time longer. Much of the efficiency of this machine depends on the turning of the endless chains to work in unison one with the other; unless this be done trouble will result, and constant supervision is therefore required to see that the chains work synchronously. The machines are fairly efficient in work and their capacity is great; they would be improved if some arrange-

ments could be made for opening out the hanks more as they revolve round the sticks.

(To be continued.)

DYEING OF KNITTED FABRICS.—II.

(Continued from page 67.)

After being scoured—an operation that cannot be too well done, as it has an important influence on the level or evenness of the shade of the finished goods—the goods are well rinsed in water, when they are ready for dyeing. They are now tied in bundles, or, in some works, in the case of small socks and stockings, are placed loosely in bags, but this is not absolutely necessary. The dyeing operations may be done in ordinary open dye-vats, or in some form of apparatus in which the goods are placed and the dye-liquors made to circulate by means of pumps; the idea in all cases is to cause the goods to become thoroughly and evenly impregnated with the dye-liquor, so that the absorption of the colouring matter by the fibre shall be uniform and a level shade be thus produced on the goods. In the case of the open vats the goods are lifted in and out of the vats from time to time so as to agitate the dye-liquor and cause it to penetrate to every part of the goods. When the dyeing is about half done, it is a good plan to turn the goods inside out to make sure that the dye penetrates every portion of the fabric completely—a point on which too much care cannot be exercised. This can be done whether open hand-dyeing vats or machines are used for the dyeing operations.

In the case of long and wide knitted fabrics, the goods may be stitched end to end and dyed in the open broad form, on a jigger or open dyeing machine, the result being superior to what is the case if the goods are dyed in a lump form. These methods of working can be adopted where the knitted goods are made of cotton, wool, or silk, or mixtures of those fibres; but the actual dye-stuffs which are used will of course vary with the kind of fibre or fibres used in the manufacture of the goods.

One trouble that the hose dyer has to contend with is the shrinking, and, in the case of woollen fabrics, the felting of the goods. This can only be prevented by not boiling the dye-liquor too energetically when it is essential to use a boiling bath, and by stretching the goods from time to time, and working so as to keep the fabrics in an open form as much as possible. Another plan is to dye the goods on boards of a form and size suitable to the shape and size of the knitted goods, hose, etc., that are being dyed, in which case it is necessary to take the goods off the boards from time to time and turn them, so that both sides of the fabrics may be equally subject to the influence of the dye liquors. If they are not turned, uneven dyeing is bound to result, as the outer surface will absorb the dye quicker than the inner surface. The great objection to the use of the boards is that these are liable to warp, and so get out of shape; and, moreover, the capacity of the dye vats is considerably reduced. As, however, much of the shrinkage takes place, not during the dyeing operation but in the subsequent operation of drying, it is quite possible to prevent all shrinking by boarding the goods after they have been dyed and not during the process of dyeing.

The actual processes of dyeing are modified according to the fibre or fibres that have been used in the manufacture of the goods. We may thus distinguish hosiery and other knitted fabrics into: cotton goods; woollen goods; silk goods; half-woollen, made of cotton and wool; half silk, made of cotton and silk; and silk-wool goods. Half-woollen goods are dyed usually in the same way as woollen fabrics, especially if the wool forms the main constituent of the fabrics; if cotton is predominant, then a method of dyeing is adopted which is a combination as near as can be done of the methods used in dyeing wool and cotton. Half-silk goods are dyed by processes resembling those adopted for cotton, or by a combination of the methods adopted to dye cotton and silk. Silk-wool hose may be dyed by any process that will dye either fibre separately. The great trouble in dyeing knitted fabrics

Last VIII. shows a convenient system of recording results in cloth manufacture, which the analyst will do well to study, and further develop by recording all the cloths coming under his supervision.

NEW DESIGNS.

MUSLINS, ETC.

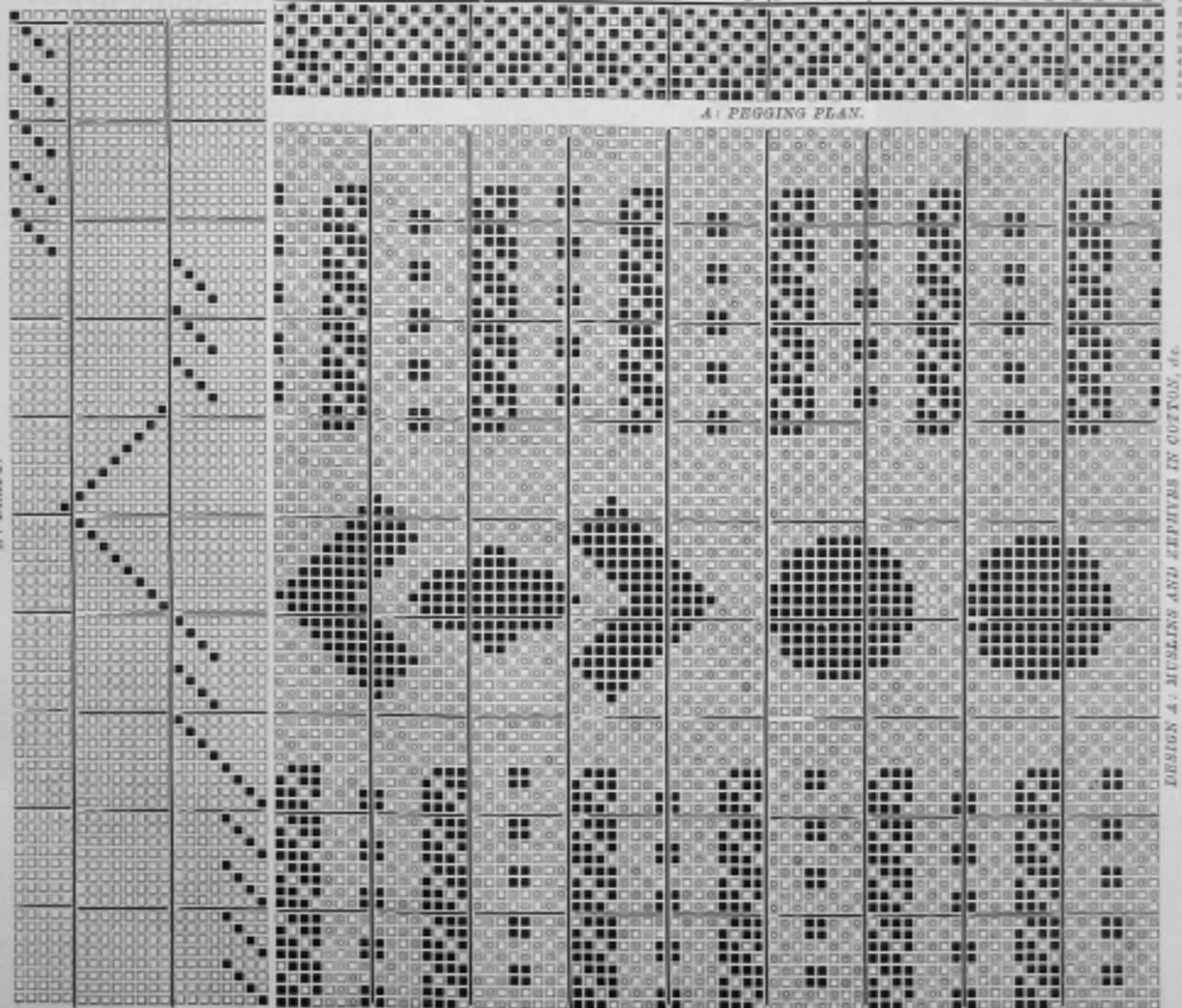
Muslin and light zephyr cloths are increasing in favour, especially in the finer makes with 60's twist. *Design A* will require a dobby, being on 21 shafts, 72 to the round. The pegging plan for this design is numbered in progressive order, so that the pattern which we give may be followed accurately, the numbers indicating the shafts; the draft is not for any particular pattern, but merely to show how it may be drawn in on the plain and figured shafts. Any other arrangement may be adopted for convenience: the three sets of plain shafts can be brought together in front, or the figured shafts in front; this, of course, would require an alteration in the pegging plan, but being numbered it would not be difficult to follow the change. A good fabric would be made with 40's

twist for warp and weft, 40 dents per inch, 80 picks of weft per inch, woven all grey and bleached or piece-dyed; good beetle finish. For coarser goods, calender finish would be more suitable; perhaps it would be found an advantage to use a weft a few counts less than the warp, so that the figured stripe may have a bolder development. Warp pattern: 80 threads on 1, 2, 3, 4 shafts; 30 threads on 5, 6, 7, 8 shafts; 17 threads on 9, 19, 21, 12, 13, 14, 15, 16, 17, 18, 15, 14, 13, 12, 11, 10, 9 shafts; then 30 threads on 5, 6, 7, 8 shafts; 80 threads on 18, 19, 20, 21 shafts; 30 threads on 5, 6, 7, 8 shafts; and repeat from the first 80 threads; the pattern all two in a dent. From these particulars it will be seen that a great diversity of stripe effects can be produced by drafting. The figured stripe portion is not very prominent, the latest idea for this class of fabrics requiring very little ornamentation. We have given suggestive particulars, which may be improved upon according to circumstances; the design can be altered to give plain ground with the figure for a small stripe effect, in which case

13 shafts would suffice—four for the ground and nine for the figure. A very good effect would be produced by having a few brown and white printed ends throughout the plain ground, and weaving with bleached warp and weft. A very irregular block of print would be suitable—one thread in every third dent, drawn in on plain shafts.

SCOTCH PLAID PATTERN IN COTTON.

This is made with a 4-shaft twill, weave or cassimere, two shafts up, two down, 40 dents per inch, two in a dent; 36's twist for warp; 72 picks per inch of 36's weft; all cotton, best quality of material, and good fast colours that will wash. Pattern: 72 silver grey, 10 cardinal, 16 dark brown, 10 cardinal, 72 silver grey, 10 cardinal, 16 dark brown, 10 cardinal, 96 light blue-green, 10 cardinal, 16 dark brown, 10 cardinal, 96 light blue-green, 10 cardinal, 16 dark brown, 10 cardinal, making a total of 480 warp threads, nearly 7 inches of a pattern; weft check the same, 51 inches in the reed, to finish at 90 inches wide.



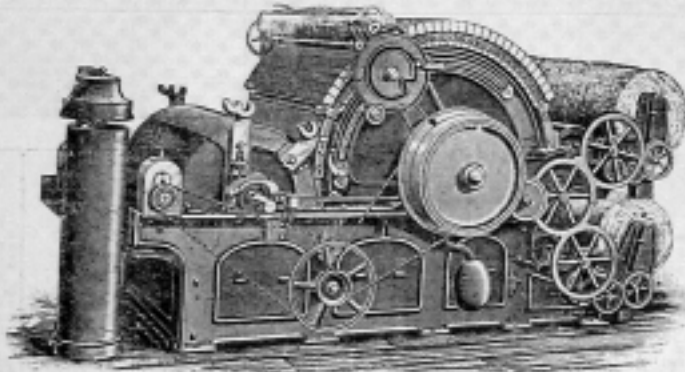
Machinery and Appliances.

WHAT THE AMERICANS ARE DOING IN CARDING.

It has fallen to our duty of late to deal with numerous improvements in carding engines as made and introduced to the English trade by English machine-making firms. These, of course, as a rule have been quite on what may be termed well-known English lines. In America they have a way of their own to some extent, which differs from that followed here. Whether it is a better one or not we think is open to question. The American papers just to hand have brought a description of "the latest" improvement in card construction, and are making a song about the same. We transfer the description from *Wade's Fibre and Fabric*, and leave our readers to draw their own conclusions:

THE NEW MASON DOUBLE-FEED CARD.

The new Double Feed Card, which has recently been placed upon the market by the Mason Machine Works, of Taunton, Mass., is a decided novelty in the field of cotton carding



machinery, and further is a genuine product of American inventive genius. A general idea of its mechanism and mode of operation may be obtained by referring to the accompanying illustration. The distinguishing feature of this new and improved cotton card is its double-feeding device. It is not the ordinary top flat card with a limited amount of cleaning capacity and carding area, although somewhat resembling it in certain respects; but, as the builders claim, it is a top flat card, having a cleaning capacity at the lickers-in double that of any other modern card, and it has a cylinder and doffer area fully equal to that of the modern revolving flat card. The cylinder is 50 inches in diameter and 40 inches wide, and the doffer has a diameter of 24 inches. The design and construction of this new machine have received special attention from the Mason Machine Works, whose reputation for first-class work is well known to the trade. The working parts of the card are carefully screened and protected, and in addition to these features a number of improvements have been introduced, which we believe have not hitherto been applied to any carding machine. The iron flats of the new card are more heavily and firmly constructed than has been the custom heretofore, while the cylinder, lickers-in, and doffer are each made in a single casting with the arms attached. The lickers-in, in addition to this, have the shaft cast solid with the arms and barrel. By this means greater rigidity and firmness is imparted to the machine than where these parts are constructed in separate pieces and fastened together by means of bolts. Another important improvement is seen in the arrangement of the stripper, by which the flats nearest to the feeds are stripped at regular intervals; in fact, twice as often as those nearest to the doffer, and there

is also a device by which the speed of the stripper can be regulated, so that the waste is reduced to a minimum. An improved high-speed comb has also been devised for this card, and by means of it a convenient and fine adjustment, preventing wear between the comb shaft and its driving mechanism, can be secured without removing the comb box. The roller is of a new design, and is arranged with a view of greatly facilitating the operation of the card. What the builders regard as the most important feature in the mechanism of their new Double Feed Card is the automatic stop motion, which absolutely prevents the card from running with a single lap or with one lap run out. This device not only performs this important function, but it also stops the licker-in rolls at the same instant with the feeding and doffer mechanism, instead of allowing them to run as long as the cylinder continues in motion, which we learn is the case in cards of the ordinary pattern. This automatic stop motion is also to be regarded as a valuable safety attachment, as it effectually prevents any foreign substances, such as pieces of leather, sticks, nails, etc., from working into the card and damaging it, as well as causing delay in the carding operation. This stop motion is so adjusted that it is operated by the feed rolls, and when any foreign substance, as above mentioned, happens to get into the lap, it will act instantly, thus checking the motion before the obstruction has reached the card, and preventing all injury

to the mechanism. Such an advantage as this will be readily appreciated by all carders. The rolls can be adjusted to meet the demands of any grade of stock, and as a result, additional value is given to the card as a whole. By means of this new cotton card with these modern improvements and the use of two laps instead of one, which are fed to the card at half speed, the stock is carded in a most thorough manner, and while the feed rolls work more slowly, the lickers-in are driven at the usual rate of speed. The former, therefore, have only one-half the quantity of cotton to operate upon in the same interval of time as compared with cards of the ordinary pattern, and it is evident that in this way they can supply the stock to the cylinder in a more uniform condition. As the greater part of the foreign substance found in the cotton is removed by the lickers-in, the flats may be worked less frequently, thus saving a large quantity of good stock, which would otherwise have to be taken out as waste. As to the superior efficiency of this method of employing a double lap in securing even carding and mixing, the builders say that no question can be raised, as many first-class carders have acknowledged. They add that the same is true of the method of adjusting the flats, by means of which much finer work may be turned out than is possible with the ordinary revolving flat card. They call attention also to the fact that in the latter card the flats in revolving carry their dirt with them, and, consequently, contain a larger quantity of foreign substance at the doffer than at the feed end of the card. This, they claim, is not possible with a properly arranged top flat card, of which the new Mason Double Feed Card is an example. We may mention that patents have been secured, or are pending, covering all the new features and improvements to which

attention has been called. Any further information desired may be obtained by addressing the Mason Machine Works, Taunton, Mass.

ALUMINIUM SHUTTLES.—An Austrian paper says:—"A striking and useful novelty, for which patents have been or will be taken out in most of the manufacturing countries of Europe, is the aluminium shuttle. It is said to be characterised by exceptionally quiet and steady movement; it does not vibrate; and weighing about 800 to 850 grammes, only a moderate power is required to effect the pick. Other advantages of considerable moment are that it never rusts, never breaks, and never scales off. Moreover, it never snaps the threads of the warp, and does not injure the reeds. It is provided with a durable spindle like the steel shuttle. Good permanent steel points are appropriately attached, so that wearing away or loosening will but very rarely happen. One very notable advantage is the possibility of using the metal over again in case the shuttle should become unusable; aluminium has only to be melted down, and it is applicable once more for industrial use, which means, assuming the metal to retain its present value, about two shillings per shuttle."

Foreign Correspondence.

TEXTILE MATTERS IN THE UNITED STATES.

BOSTON, JULY 16TH.

The results of the year's trading are of special interest for several reasons, to which I propose referring in the course of my present letter. I have before me the figures relating to the dry goods imports at the port of New York since the commencement of January. One fact stands out in vivid contrast to many of the rest: I refer to the startling character of the decline in imports of silk velvet. Up to Thursday, the 14th inst., the imports of these goods were valued at about £186,000. Last year our purchases for the corresponding period were more than twice as great, the value being in round numbers £390,000. Here we have a falling-off of £204,000 in a period of less than seven months in imports, which in 1891 compared unfavourably with those of the preceding year. For the week ending July 7th about £12,600 worth of velvets were entered for consumption, the figures being slightly in excess of those for the corresponding period last year. The difference, however, is very small, and the figures given show how serious has been the falling-off in the demand. It is true, however, that since the beginning of the year there has been a largely increased enquiry for the goods. The week's imports referred to are at the rate of over £600,000 a year. As to plush the less said the better. Last week's imports were worth—£415! There should be hope for Bradford in the results which have been achieved by shippers of woollens and worsteds during the year. The high-water mark of 1890 has not, of course, been regained, nor would it be fair to expect the achievement of such a result within so short a period. But the record of 1891 has already been beaten, and there is a balance in hand, so to speak. As thus:—

	1891.	1891.
Woollens	£1,610,000	£1,410,000
Worsteds	1,146,000	1,052,000

We have here an increase of over £300,000 during a period of six months and a half. The result might have been better, but on the whole there is much to be thankful for.

Below I append figures for other articles representing the imports during the period referred to. The amounts are in dollars:—

	1891.	1891.
Shawls	\$40,349	697,593
Beards and bands	128,355	64,817
Carpetings	628,990	795,643

COTTON GOODS.

Cottons	\$1,763,312	1,994,580
Coloured cottons	1,449,949	1,502,737
Embroidered muslins	1,469,719	1,860,170
Hosiery	2,355,833	1,987,262
Laces	2,821,934	2,024,968
Spool cotton	132,924	306,188

SILK GOODS.

Wool silks	7,300,793	6,846,907
Satins	187,672	150,778
Ribbons	1,149,214	1,016,207
Laces	2,355,894	1,536,461
Silk and cotton	2,110,880	3,496,525
Raw silk	5,537,999	4,017,147

FLAX GOODS.

Linen	7,081,027	7,814,224
Laces	356,333	369,357
Handkerchiefs	685,817	682,321
Linen and cotton	92,338	96,494

CONTINENTAL SHIPMENTS OF HOSIERY.

As far as principal articles are concerned, the only decreases are in cotton goods and carpets. The table is worthy of more than passing notice. The figures relating to cotton hosiery are of special significance, confirming as they do the accuracy of my forecast of several months ago when writing of the strenuous efforts of Chemnitz to retain its trade with this country. Because the English Board of Trade returns showed a decline in shipments of such goods, the commercial editors of some of your daily contemporaries in Manchester and elsewhere rashly jumped to the conclusion that the American demand had fallen off. Those whose knowledge of the trade was more extensive than that possessed by such "authorities" knew better. The explanation is to be found in the fact that direct shipments from Hamburg and other Continental ports have greatly increased during the past two years. The Red Star and Norddeutscher Lloyd boats bring hundreds of cases of German hosiery here regularly. The *Alicer* on her last passage from Bremen had 52 cases of cotton goods on board for the following New York houses:—Goldberg Bros. and Co., Shoninger Bros., Guitermann Bros., Fach and Co., J. Lowenthal and Co., W. H. Hoostmann and Sons, and M. Siechel and Co. Entered as hosiery were 76 cases, for Hilton Hughes and Denning, Claffin's, Victor and Achelis, and other well-known firms. The *Ebbe*, from Bremen, brought 82 cases of hosiery a week ago. I have made these extracts at random from the manifests of the line liners. They are sufficient to support my assertion.

THE CARNAGE AT HOMESTEAD.

The details of the revolting scenes near Pittsburg add another to the disgraceful incidents which have marred the record of a State already notorious as having been the home of the Molly Maguires. The strike at Mr. Carnegie's works comes at a most inopportune moment for the Republican party. "The Man of Destiny," as I once heard Mr. Cleveland called, will know how to make the best use of such occurrences, which, happening in the home of the principal benefactors of high protection, have created an impression which the din of electoral battle cannot sweep away. The masters have, of course, a right to protect their property and the lives of the men who might be brought in to take the place of the strikers. Unfortunately, however, the Steel Company were too precipitate in rushing forward the Pinkerton mercenaries, and in declaring a lock-out without waiting for a strike.

LACE AND HOSIERY NOTES.

A hosiery buyer who has just returned from a several weeks' tour through the European markets, found the hosiery industry in Great Britain and France in a very depressed condition, but in Germany manufacturers were, as a rule, busily employed. In the latter country the competition for orders is very keen, and in one way or another the manufacturers contrive to keep their factories going on an apparently constant reduction in margin of profit, at cost, or, in some instances, below cost of production.

Messrs. W. H. Fletcher and Co. are showing some novelties in silk edge Saxony curtains, claimed to be 15 to 20 per cent. cheaper than other goods of a similar class.

There is no question that domestic makes of lace curtains have already begun to show their

effect on the importations of lower grades of Nottingham curtains. Thus far, however, the prices do not seem to have been materially affected, according to the *Dry Goods Chronicle*. To medium and better-class goods, however, the remarks of your contemporary would not apply.

IMPORTS OF MATTING.

According to a recently compiled table the imports of China matting into the United States during the past 17 years were as follows:

Season.	Rolls.	Season.	Rolls.
1874-5	85,694	1881-4	156,606
1875-6	53,959	1882-5	105,609
1876-7	55,518	1883-6	92,266
1877-8	100,451	1884-7	197,826
1878-9	91,111	1885-8	236,460
1879-80	91,555	1886-9	177,628
1880-1	111,440	1887-90	184,304
1881-2	101,548	1890-1	231,778
1882-3	144,955	1891-2	211,312

Of Japanese matting there are no available statistics, but the demand for this variety has grown wonderfully within the past five years, and the importation and consumption for the present season, it is variously estimated, will foot up from 40,000 to 88,000 rolls.

JOTTINGS.

Mr. F. L. Raymond (white goods and linen buyer for Claffin's), and Mr. L. Turner (hosiery buyer for Durham, Buckley, and Co.), have returned from Europe.

Henry A. Page, of Faulkner, Page, and Co., has sailed for Europe in the steamer *Teafonic*, for a short relaxation from the cares of business.

Senator Aldrich, of Rhode Island, has presented in the Senate the memorial of wool manufacturers against the passage of the House Bill to put wool on the free list; also memorial of the National Association of Woollen Manufacturers, setting forth the necessity and advantages of existing duties on woollen goods.

About 240 old-style looms have been taken out of the Davol Mills, Fall River, and replaced with Kilburn and Lincoln's looms, 200 of which will be fitted with 20-harness Compton heads.

Oscar Schoenherr, of the velvet and dress goods department of Fleitmann and Co., who returned from Europe recently, on the *Augusta Victoria*, believes that the coming velvet season on this side of the Atlantic will be good. Business in Germany, he says, does not seem to have much improved. His expression of opinion should be read in conjunction with my remarks above concerning the velvet outlook. Any improvement in the prospects is of recent origin.

John Blythe, of Barnsley, Yorkshire, England, who is representing some Bradford woollen manufacturers, is said to have been looking round Philadelphia in the interest of some of the Bradford concerns.

A. O. Downs, foreign buyer of the dress goods at Marshall, Field and Co.'s wholesale store, and C. K. Waterhouse, buyer for retail dress department in the same house, returned from Europe per s.s. *Teafonic* this week. During their two months stay in Europe Messrs. Downs and Waterhouse visited the principal French and English centres.

THE COURSE OF THE MARGARETHEN FAIR at Frankfurt-on-the-Oder is reported as unsatisfactory. The goods exhibited were comparatively few, but proved to be in excess of the needs of the small number of purchasers, so that a considerable quantity had to be taken back. These circumstances have occasioned great disappointment, and will lead manufacturers to send even less to this fair than in former years.

WOOL INDUSTRY IN SOUTH RUSSIA.—The Russian Ministry of Finance is planning various measures for the development of the wool industry in South Russia. Until the present time the chief market for this branch of trade has been Kharkov, with its wool market once a year. It is intended that there shall be another wool market at Jekaterinoslaw, and besides it is proposed to establish wool committees in that town, Odessa, and Simferopol, in order to ensure the steady sale of wool throughout the year. Every committee will be provided with a station for the testing of the quality of the wool. The most important of these proposals is that concerning the establishment of a wool market in Jekaterinoslaw, as sheep breeding and the woollen industry are strongly developed in that government.

News in Brief.

ENGLAND.

Ashton-under-Lyne.

About 30 casing engines are running in the new *Miserva* Mill. The coal clothing has been fixed with extreme care by Messrs. Sykes Bros., of Lindley, Huddersfield. About ten pairs of welt shoes also are fitted up, and we understand a new yarn-casing machine, made by Messrs. Hetherington, of Manchester, will be attached to the fallers of the mules in this mill.

Atherton.

The following have been successful in the Cotton Spinning examinations:—John T. Buckley, Honours, second class; J. W. Eckersley, H. 2; George Cooke, Ordinary, 2; E. Pomphrey, O. 2.

Bacup.

The results of the technological examinations are as follows:—*Worsey*: Amos Law and John Graham, 2d class; Joseph Hart, Dawson Ashworth, and John R. Hartman, 2d class. *Spinning*, honours grade: George Whittaker and John R. Marks, 2d class. Ordinary grade: Harry Taylor and Frank Carlisle, 1st class; Frank Lord and Charles Ashworth, 2d class.

Blackburn.

On Monday, in the County Court, before His Honour Judge Coventry, Henry Bentley, weaver, brought an action against the Britannia Mill Company (Limited), Great Harwood, for 12s. 6d., wages alleged to be due to him, but which the company said were forfeited under the rules. Mr. Bentley had been employed at the mill for two years, working on six looms with a tenter. During the holidays (on Whit-Monday) plaintiff came to Blackburn and laid down on the grass in the Park. Next day he suffered great pain in his back, and had to stay in bed. He did not go to work on Wednesday, but sent word that he was unwell. Unfortunately for plaintiff the weaver forgot to deliver the message, and at noon that day the tenter told Bentley his looms had been stopped at breakfast time. Bentley went to the mill on Friday for an explanation, and was informed that his wages had been forfeited under rule 5, but which he submitted was *ultra vires*. The rule was as follows:—"Any person absent on account of sickness must send word stating such to his or her overlooker before the first meal hour; after, in default thereof, will be considered as having left, and all wages then earned will be forfeited. The employers do not engage to provide employment for any person upon recovery from or during any stoppage of the works from accidental causes or during any holidays." His Honour held that the rule was good. The contract was made binding by these rules. The employes had their remedy; they need not go to the mill. There would be a non-suit.

Bolton.

The overlookers, warehousemen, etc., employed at Joseph Cook and Co.'s Engine Mills, had their annual picnic to Southport on Saturday.

News has been received in Bolton of the death of Mr. John Lancaster, in India. The deceased gentleman, who was 46 years of age, was manager for some time before he left the town, of Messrs. Ormrod and Hardscastle's mills. He has filled for some years an important position in Indian as manager of a large spinning concern.

The official report on the enquiry concerning the explosion of a boiler at Hill Mill Bleachworks, Halliwell, belonging to Mr. F. Merton, has just been issued. The explosion occurred on April 4th, and though there were no persons either killed or injured, the building was shattered. The boiler, made in 1874, was of the ordinary Lancashire type fitted with two flues being seven feet in diameter and 30 feet in length. Repairs had been carried out so late as January last. The boiler had been regularly inspected since 1874 by inspectors in the employ of the Boiler Insurance and Steam Power Co., by which society it was insured. The Commissioners found that the cause of the explosion was longitudinal grooving on the shell plate on the water side close to the landing edge of one of the plates. With the company named above the boiler was originally insured for £500, but afterwards increased to £1,800 by the company. Mr. Merton informed the Commissioners that he insured it for the purpose of having his boiler examined by competent inspectors of the insurance company and in order that he might be certain he was working his boiler under safe conditions; that he relied on the reports received from the company from time to time; and that, under these circumstances, he did not think it necessary to employ an engineer or skilled mechanic to inspect the boiler for him. It is pointed out in the report that Mr. Merton or any other steam user cannot alter his legal position by arranging for inspection by an insurance company. Several reasons are given by the Commissioners why they believe the

inspector for the company was to blame in the matter of examining the boiler, but they add that on many occasions they have found the examination of the company most properly and carefully conducted. The Commissioners directed the company to pay £50 towards the expenses of the investigation.

Bradford.

Messrs. George Hattersley and Co., Ltd., power-loom makers, of Birk's Hall Works, started full time on Tuesday after running short time for about twelve months. All the loom makers in the district are now running full time.

The firm of Messrs. Edwin Merral and Sons, of Morton Mills, Bingley, worsted spinners, have summoned a meeting of their principal creditors, the firm finding themselves in financial difficulties. The liabilities are said to amount to £120,000, and the assets, subject to realization, to £80,000.

The following are the results of the examination held at Thomson Mechanics' Institute by the City and Guilds of London Institute. *Cloth Weaving*:—Honours Grade: Second class, Newton Field. Ordinary Grade: Second class, William Gardner, C. F. Hainworth, T. K. Hewitt, Ralph Waddington.

An ordinary meeting of the Council of the Bradford Chamber of Commerce was held on Wednesday. The members present were Messrs. James Gordon (president), E. P. Arnold-Foster (vice-president), Charles Fawcett (vice-president), Frederick Bekkers, Bernhard Cohen, Alderman Smith Feather, William B. Gordon, Ferd. Heilborn, G. Hoffman, Duncan G. Law, Henry Muff, and E. Hall. The principal business was the consideration of the question of exhibiting at the Chicago Exhibition.—The President said that 360 printed postcards had been issued asking whether the person addressed was in favour of a collective exhibit, whether he was willing to furnish specimens of manufactures, and whether he was willing to subscribe to the guarantee fund. Eighty-five replies had been received. Of these 14 were neutral or indifferent, 12 in favour of a collective exhibit, and 59 against it. Subscriptions to the guarantee fund were promised to the amount of £70, in addition to the £100 promised by Sir Henry Mitchell. Sir Henry Mitchell had been seen, and suggested that a special meeting should be called to settle what should be done in regard to the exhibition.—Mr. Cohen, with the view of giving the proposal to exhibit at Chicago one more chance and of meeting Sir Henry Mitchell's suggestion, moved that a special meeting should be called for next Thursday to consider the subject. He expressed very little hope that any benefit would result from the meeting.—Mr. Fawcett seconded the motion.—Alderman Smith Feather said he had heard that manufactured goods in America had gone down in price. If the Americans could sell their goods at a lower price than we could with the addition of the tariff, he thought it would be detrimental for English manufacturers to exhibit at Chicago.

Brighouse.

The strike of silkdressers employed at the works of Messrs. Ormerod, Limited, which began in the early part of the year, still continues, the strike being now in its twenty-eighth week. A somewhat unexpected development has taken place recently. During the past few days one or two young men have gone to work as silkdressers at Alexandra Mill, with the result that their conduct has greatly irritated the strikers, who meet each morning and follow the young men from their homes to the mill, and in the evening walk with them from the mill to their homes. The young men, who partake of their breakfasts and dinners in the mill, are afforded police protection to and from their work. Hitherto the proceedings have been very orderly, the strikers expressing themselves as determined not to do anything which will bring them within reach of punishment by the law. On Sunday afternoon a meeting of workers was held in the recreation ground, Brighouse, when a resolution was unanimously passed expressing sympathy with the strikers, and pledging the meeting to support them in their struggle.

Bury.

The trade unionists employed at the Chesham Hat-works of Messrs. W. Lucas and Co., Limited, Bury, have given a fortnight's notice of their intention to refuse to work with five non-unionists, who are employed in the trimming department.

The number of members on the funds of the Spinners' Association during the month has been 68, at an expenditure of £47. £183 was forwarded to the amalgamation. The expenditure exceeded the income considerably.

The workpeople of Messrs. W. and G. Openshaw, Limited, Pimble Mills, to the number of 196, had a trip on Saturday to Southport. The affair arose from footings, assisted by the directors and the manager (Mr. John O'Neill).

Mr. W. H. Hacking, machinist, of Leeds-street, last week treated his workpeople and their friends to a trip to Blackpool, and paid the men's wages for the day,

the occasion being the celebration of the marriage of his daughter.

During the last five months the Bury Weavers' Association have paid about £600 in breakdown pay to members, which is the heaviest call upon their funds they have ever had. The total expenditure for the period named amounts to £1,100. There has been an accession of about 500 members, but over 1,000 resignations, chiefly in the Keadcliffe district, owing to the recent wages dispute.

Several firms in the spinning trade of Bury are working only four days per week; others are working indifferent time through lack of orders; some firms have several hundreds of their looms stopped, and as a consequence the spinners have only irregular employment. The prospect of any improvement is very slight, and the proposed action of the employers to reduce wages and run short time is being watched with keen interest by all engaged in the cotton trade in the district.

Chorley.

The results of the examinations in Cotton Weaving and Designing are to hand, and our local school shows a brilliant result. The first prize, Ordinary Grade (a silver medal and £2), has been obtained by one of our students, Mr. James Abbott. The second prize has been awarded to another of our students, Mr. Thomas Fairclough. As only seven prizes are offered for the United Kingdom, this result has given remarkable satisfaction to all concerned. Mr. John T. Taylor, of the Harris Institute, Preston, and Maclesfield and Blackburn Technical Schools, is the lecturer here, and, as noted last week in our Preston news, a Preston student has obtained the first prize Honours Grade. With the four medals last year, this gives a total of seven medals, including the first prize silver medals in both grades for two years in succession.

Ciitheroe.

The report of the Ciitheroe Manufacturing Co., Limited, for the half-year ended June 30th, shows a working loss of £95. Holmes Mill, worked by this company, appears to be doing much better.

Colne.

A scheme is engaging the attention of a number of manufacturers and others for erecting a cotton-wool weaving shed on the Greenfield estate in the Priest Bridge district. A shed for 1,500 looms is proposed.

Darwen.

Mr. John Besome, under-candor at the Boundary Spinning Co., Oldham, has been appointed carding master at the Cotton Hall Spinning and Manufacturing Co., Darwen. He is the son of the secretary and salesman of the Boundary Company.

At Hollinhead Mill, Toxteth, a lock-out has occurred owing to a dispute which arose on the weavers leaving work on the declaration of the result of the Parliamentary election, and refusing to return. The proprietors imposed a nominal fine, which was resented by the operatives, and the mill is now closed.

Dukinfield.

The directors of the Park Road Spinning Company, Limited, have made a call of 5s. per share, due on or before August, 1892, making 15s. per share called up.

Leicester.

Mr. W. Miles, machinist, Leicester, is engaged in the completion of an improved knitting machine known as "Miles and Spiers'" patent (No. 8,291, May, 1889) for producing children's socks.

The Dresden Knitting Machine Manufacturing Co., Limited (Saxony), have transferred their agency for the United Kingdom to Mr. W. T. Rowlett, 34, Newmarket-street, Leicester, to whom all future enquiry respecting same should be made.

Leeds.

At a meeting of the Leeds Chamber of Commerce, on Wednesday, Mr. W. Harding, the president, stated that he had received a letter from Sir Henry Wood, the British Commissioner at the Chicago Exhibition, urging the Council to call the attention of manufacturers to the fact that space would be allotted to exhibitors without charge. He had replied that the Leeds manufacturers had been communicated with, but that their answers were adverse.

The strike of spindle and flyer makers at Messrs. J. Hattersley and Son's works in Arnsley-road still continues. Five weeks ago the men came out in protest against a reduction of their wages by 5 per cent. Five years ago the firm granted an advance of that amount on the condition that it should be withdrawn when trade became bad. The masters consented that the reduction has become necessary, and this the men dispute. Mr. Hattersley has expressed his willingness to receive a deputation of the men, and pending this matters remain in abeyance. The men have received support from the Manchester Spindle Makers' Union.

We regret to announce the death of Mr. George Henry Lasselles Richards, who for thirty-one years was sub-inspector of factories for the Leeds district, and who passed away, aged 75, at his residence, the

Manor House, Pool, near Otley, on Friday of last week. Mr. Richards was a highly esteemed Government officer. He performed his duties unobtrusively and well. His manner was kindly and conciliatory, and whilst he strove to safeguard the well-being of the worker, he was never arbitrary in his dealings with the employer. When, towards the close of 1860, Mr. Richards retired from his office, he was presented with his portrait (life size, in oil), painted by Mr. C. W. Flower, of the Herkemer School, and with a beautiful service of silver plate, and an illuminated album containing the names of some four hundred subscribers. The then Mayor (Mr. Cooke) presided on the occasion, and other prominent citizens took part in the presentation.

Leigh.

The examination in Cotton Spinning has resulted in the following successes:—W. B. Calderer, Ordinary, 2nd class; W. T. Sutcliffe, O. 1; P. Forrest, O. 2; E. J. Caldwell, O. 1; H. Monk, O. 1; and Peter Gerard, H. 2.

The ceremony of cutting the first sod for the erection of a technical school and public library at Leigh was performed on Monday by Mr. James Ward, M.A., head master of the Leigh Grammar School and secretary of the Leigh Literary Society. The foundation stone is to be laid on Saturday, September 10th, by the Hon. John Poynts, eldest son of the Right Hon. Lord Lilford, Lord of the Manor of Leigh. The school is being erected in Railway-road, a very suitable site having been given by Mr. John Wainwright, of Lackman Park, near Bath. The building is to cost £10,000, towards which £5,183 has already been raised in subscriptions, including Trustees of Francis Charity, Leigh, £1,000; Lord Lilford, £500; Mr. W. C. Jones, Conservative candidate, £300; and Mr. John Speakman, Belford Colliery, £250.

Leyland.

The workpeople employed at Messrs. John Stanning and Co.'s Bleachworks had their annual trip to Morecambe on Saturday. The firm provided each employe with a free ticket for the journey.

Manchester.

At the quarterly meeting of the Manchester Chamber of Commerce, on Monday, the president, Mr. J. Threlkirk Johnson, said that he could not congratulate the Chamber upon the present state of trade in Lancashire. The selling prices of yarn and cloth were very low, and few manufacturing concerns except those engaged on specialties had a margin of profit. He had sometimes wondered whether a sliding scale of wages could not be introduced into the cotton trade with the same success as in some of the iron and coal districts. A resolution was proposed by Mr. E. Burgess to the effect that, in view of the course of international trading as pursued by all great nations of the world in exercising their bargaining powers, the chamber declared that our fiscal policy of admitting at our ports, free from taxation, competing food products and manufactured goods from countries where they cost the least in wages, is injurious to our wage earners and the industrial interests of Great Britain and Ireland. After a long discussion the resolution was lost by a large majority.

The *Oldham Chronicle* gives currency to the following:—The recent failures in the Manchester district amongst limited liability companies engaged in the business of manufacturing cotton goods brings into view another and a very unpleasant phase of the Limited Liability Act. In the case of the failure of a private firm it is very rarely that there are no assets for the creditors to divide, but in these cases such is expected to be the fact. The *modus operandi* by which this result has been brought about is as follows:—The owner of a private concern, finding trade bad, and desirous of securing to himself the capital he has invested in the concern, decides to form it into a limited liability company. A company is consequently formed in the manner which is becoming so familiar to our readers, with so many shares, of which only a small proportion are issued, the latter being either paid up or assumed to be paid up. The vendor takes payment for his property at its full value in debentures, which carry with them the powers of a mortgage. The company goes on trading with his customers for a time, until some fine morning they wake up to the fact that the concern has suspended payment, and that the late owner, as the debenture holder, sweeps away every penny of the assets, leaving the unprotected creditors high and dry, without even the consolation of a half-crown dividend. This is a much more "respectable" method than making the assets into money and then running away with it.

Nelson.

On Wednesday, at Colne, James Jackson, weaver, Nelson, who is employed at Alderman Hardy's Pendle-street Mill, Nelson, was fined 20s. and costs for allowing a child named Charles Rhodes to clean machinery in motion. The lad lost a portion of his finger while cleaning looms. Defendant said the boy went under the loom when he (defendant) was not looking, but the bench thought that no excuse.

Nottingham.

The death is announced of Mr. J. H. Towle, which took place on Wednesday at Duffield, near Derby. Mr. Towle, who was 75 years of age, for many years carried on a successful manufacture in cotton doubling at the Draycott Mill, a large foreign trade being done. He subsequently entered into the lace manufacture, but a few years since he declined business and the mill has since been idle. He also sold Draycott Hall to the Earl of Harrington, and went to reside at Duffield.

Oldham.

The Shiloh Spinning Co., Ltd., Roston, have placed their order for mules with Messrs. Taylor, Lang, and Co., Stalybridge.

Mr. Frank Warburton, of Oldham, has been appointed carter at the Castleton Spinning and Manufacturing Co., Limited.

Mr. James Clegg, one of the overlookers at Messrs. H. and A. Crompton and Co.'s, Ltd., Park and Wood-end Mills, Shaw, has resigned his position, which he has occupied for a period of about 20 years.

The members of the Crompton Mutual Cotton Class, to the number of 40, visited the extensive works of Messrs. Buckley and Taylor, engine makers and builders, of Oldham, on Saturday afternoon.

In a report to the shareholders, the directors of the Earl Mill Co., whose premises are situate off Ashton-road, Oldham, state that they are pleased to estimate that the mill is almost filled with machinery, a few pairs of mules only having to be set to work. The spinning machinery, we may state, has been supplied by Messrs. Asa Lees and Co., Oldham, and the cards by Messrs. Ashworth. The mill will contain over 80,000 spindles.

The work of completing the mills in course of erection in this district is proceeding apace. The promoters are hoping that by the time they are filled with machinery trade will have got round to itself again, and thus they will be able to join at the loaves and fishes. The worst of the outlook is that there are others to be launched when trade improves. "Could nothing be done to stop the promiscuous growth of cotton mills?" it is asked.

The remaining of the majority of Mr. Travis Bagley, son of Mr. Ralph Bagley, head of the firm of Messrs. Bagley and Wright, cotton spinners and manufacturers, and also thread manufacturers, has been celebrated after a fashion becoming the occasion. The employees at the Industry Mill have presented him with a gold watch, while a gold Albert guard was subscribed for by the workpeople at the Belgrave, Wellington, and Crabtree Mills. On Saturday the employers gave the workpeople a trip to Southport.

Radcliffe.

Speaking on Tuesday night at the quarterly meeting of employers operatives at the Radcliffe Co-operative Hall, Mr. Job Aspin, secretary of the Bury Association of Carbone Operatives, said they had endeavoured to sow the seed of trades-unionism in that district, but had met with only indifferent success. The time was not far distant when they would have the biggest struggle in the textile industry that was ever known since cotton was landed at Liverpool. They saw on every hand the employers were straining to perfect their organisation, and they could only do that with one object in view. It behoved them to be doing likewise and prepare for an emergency. Their only hope was in a strong organisation. Unless they organised they would rue the day when they neglected to do so. He advocated a house-to-house canvass similar to that carried out at Ramsbottom, which had done so much to help them in that district.

Ramsbottom.

The Waterdale Mills of Messrs. S. Harrison and Sons have again resumed work.

The Ramsbottom Weavers' Association have under consideration the question of seceding from the North-east Lancashire Association, of which Mr. Birtwistle has hitherto been the head.

The strike which has existed in the winding department at Messrs. Isaac Hoyle and Sons' Mill, Summerseat, for the last six weeks, practically collapsed on Tuesday, when five of the winders started work.

On Monday, at the Bury County Police Court, a tucker named Harry Kershaw, of Ramsbottom, was fined 10s. and costs for assaulting Mr. Edwin Alfred Howarth, manager for Messrs. Lawrence Stead and Bros., Ramsbottom, on the 17th inst. Mr. Howarth, finding the tucker away drinking, and some of the looms stopped and the weavers gambling, discharged him, but about noon the same day he returned to the mills and used Mr. Howarth very roughly.

The following are the results of the examinations held in connection with the City and Guilds of London Institute:—*Cotton Weaving*, 1st class, ordinary stage, I. Winch, E. Hopkinson, R. Higkinson, A. Whittaker, W. Berry; 2nd class, ordinary stage, J. Lee, J. Brandwood, J. Langworth, J. T. Fiddings. *Cotton Spinning* (external): F. E. Hays, 1st class honours stage, winner of the Cloth-workers' Company's prize of £5, and the City and Guilds Institute's silver medal.

On Monday, at the Bury County Court, a drawer named Harrison, wife of Thomas Harrison, of 11, Colling Row, Ramsbottom, sued the Ramsbottom Cotton Spinning and Manufacturing Co., Limited, Union Works Mills, Stillins, for £1 10s. for wages in lieu of notice. There was a counter claim of £4 3s. 6d., loss sustained through alleged neglect of plaintiff. The case was heard at some length. The defendant company alleged that plaintiff said she would work no longer at the mill at any price, on being told by the tucker that "if that was her bidding she had better give over." It was stated that the plaintiff had allowed her frame to get into such a dirty and gritty condition that a valuable strap was completely ruined, and it took these men four hours to get the frame into proper working order. This caused the stoppage of half-a-dozen cards and a slabbing frame. His Honour, Judge Jones, thought the defence was an exaggerated one, and held that defendants had no right to discharge plaintiff without notice. He gave a verdict for plaintiff for the full amount claimed.

Rochdale.

The death is announced, aged 72, of Mr. Alderman Milner, who until four or five years ago was engaged in business as a wool merchant.

The death occurred yesterday week of Mr. W. Hastings, a member of the firm of W. Hastings and Son, flannel manufacturers, and a well-known athlete.

The woollen trade of Millrow continues fairly brisk, and overtime is still being worked at some of the mills. On the other hand, the cotton industry is in a far from satisfactory state, and it is very unlikely that any attempt will be made to evade the week's stoppage for the Wakes, which holiday will be observed a week hence.

Yesterday week Mr. Herbert Whitworth, of Westville, Facit, youngest son of the late Mr. William Whitworth, and a member of the firm of Messrs. John Whitworth and Sons, Limited, proprietors of Facit Mills, celebrated his coming of age by entertaining the workpeople and tenants of the firm to dinner in the mill belonging to the Thorncliffe Spinning Co., and by arrangements for social enjoyment in the No. 4 mill lately owned by the Bridge Spinning Co. Nearly 700 persons (including 550 operatives and 150 tenants) sat to dinner. Among those present during the whole of the proceedings were Messrs. Geo. Edward, Ernest, and Herbert Whitworth (the members of the firm), Mr. Abraham Crossley (manager), and Mr. James Ashworth (cashier). Mr. Herbert Whitworth is a descendant of the family of Mr. William Whitworth, which was the first to introduce cotton spinning and manufacturing into the Whitworth valley. Mr. William Whitworth commenced business there over a hundred years ago. He started in the flax and bundle trade, supplying the hand-loom workers of the district with web and warp and sending the finished goods to Manchester by pack horses. This was the case before what is now known as the new road from Rochdale to Bacup was formed. Since then the firm has changed but little in style. In 1840 the Whitworths gave up the flax and bundle business for that of ordinary cotton spinning and manufacturing. Messrs. John Whitworth and Sons, Limited, now own two mills at Facit, using one for web and the other for twist. After the dinner the guests adjourned to the large room at Bridge Mills, where some presentations were made to Mr. H. Whitworth.

Shipley.

On Saturday last a considerable number of the members of the Shipley Textile Society paid a visit to the Huddersfield Technical College, and were kindly shown round the various departments by Mr. Armitage, head master of the weaving department. The weaving shed was first visited, where several of the looms and winding machines were set in motion for the benefit of the visitors. The lecture, experimental, and dyeing rooms were also inspected, and the science and art 00000.

The following is a list of the candidates who have passed the examination at the Shipley Technical School of the City and Guilds of London Institute:—*Wool and Worsted Spinning*.—Honours Stage—First Class: Seth Heston. Second Class: John Moore. Ordinary Stage—First Class: Francis Collins, Sydney Gansel, William E. Taylor, Walter Norrell, and George H. Smith. Second Class: William Leach and George Barrachough. *Cloth Weaving, Division I*.—Honours Stage—First Class: Mitchell S. Clough, Edward Back, Fred Bradbury, and George H. Garner. Ordinary Stage—Second Class: Emmott Butterfield and Harry Hart. The results in Division II. of "Cloth Weaving" appeared under this head last week.

Tyldesley.

The following students were successful at the recent examination in Cotton Spinning at the Technical School:—James Aker, S. Meadows, and Thomas Errard, Honours, 2nd class; Edward Hamer, Honours, 1st; R. Lyon, William Ashby, and Joseph Goss, Ordinary, 1st class; John T. Bosker, Henry A. Jones,

William Rowntree, A. Caldwell, T. Hindley, R. Gregory, and F. Kay, Ordinary, 2nd.

Yeoman.

A meeting of the Yeoman, Gaisley, and District Chamber of Commerce was held on Monday evening; Mr. Alfred Brayshaw (president) in the chair. The President said the Board of Conciliation had been considering the twenty-fourth clause of the Factory Act, and the representatives of the weavers had requested that manufacturers should post a list of the prices paid for different classes of work in a conspicuous place in their mill, so that the weavers might see whether the price on the tickets given out with the work corresponded with the posted list. The matter had been postponed for a fortnight, with a view to ascertaining what particulars the Act required manufacturers to give.

SCOTLAND.

Dundee.

In the Sheriff Court, yesterday week, David Anderson, a young lad of 16 years, was sentenced to 60 days' imprisonment for having broken into the large jute warehouse in Commercial Street, occupied by Messrs. Hill and Remy, merchants. It appeared that Anderson, who was tried before a Jury Court three days previous for fire-raising, entered the building along with other lads for the purpose of catching pigeons. Soon after he had left the warehouse a fire occurred, and damage was done to the extent of £5,000.

Glasgow.

At the quarterly meeting of the Glasgow Chamber of Commerce and Manufacturers, on Wednesday—Mr. Robert Bulloch presiding—Mr. Buchanan gave notice of the following motion:—"Inasmuch as competition for business between limited companies and private traders is now in many cases carried on upon lines that are neither fair nor equitable to private traders, this Chamber is of opinion that it would be for the interest of all concerned that limited companies be compelled to liquidate and give up trading when one-half of their paid-up capital has been lost, and that an effort be made to have a clause to this effect passed into law."

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. India & S. America.	Australia.	Africa and Egypt.	Continents.	Total.	Total for year to date.
£59,524	1,070	2,191	—	—	105	62,890	2,215,235
57	16,350	—	—	—	135	16,542	273,402

The following are the total values of the exports for the same twenty-nine weeks of last year:—Cotton, £2,282,995; linen, £480,543.

IRELAND.

Belfast.

The report of the York-street Flax Spinning Company (Limited), Belfast, for the year ended June 30, states that the profits, after deducting interest paid on debenture stock, and allowing for bad debts, amounted to £55,425, to which is added the balance of last profit account, £21,598, making £77,023, the available balance being £72,772. In addition to the interim dividends paid on January 25, the directors propose dividends for the half-year ended June 30, viz., at the rate of 6 per cent. per annum (6s. per share) on the preference capital, and at the rate of 6 per cent. per annum (12s. per share) on the ordinary capital, thus absorbing £30,000. There is carried to capital reserve fund £10,000, and to reserve fund £30,000, leaving to be carried to new profit and loss account £12,772. Owing to failing health, Mr. O. B. Graham has resigned the offices of managing director and chairman of the company, Mr. E. H. Reade has been appointed chairman, and Mr. O. B. Graham, jun., a junior managing director of the company.

A very peculiar suicide is reported from Leeds. A manufacturer in that town is said to have shot himself because he was unable to attend to his extensive orders, and consequently was obliged to allow large profits to pass into other hands.

The importation of cotton into Amsterdam in 1891 amounted to 42,723 bales, against 30,391 bales in 1890. The course of the market was steadily downwards until August, when, in consequence of a report of a short crop in America, a reaction took place, which lasted, however, but a short time. Middling American was quoted early in the year at 58. per lb., and fell in August to 45.6d. Stock left over were large, and consumption did not keep pace with production. Great losses were incurred in the trade.

Letters from out to Readers.

THE WORKING OF THE INDIAN FACTORY ACT.

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

Sir,—The Indian Factory Commission of 1890 gave abundant proof of the perfunctory way in which factory inspection had been carried on in India, and that Factory Acts were treated as dead letters in that country. Mr. Lokhanday, the president of the Bombay Millhands' Association, has forwarded me a copy of his journal, the *Din Bandha*, of the 5th ult., which shows that the new Factory Act is being so carelessly administered in India as to afford a serious grievance to the operatives. In it he says:—

"The laxity allowed in enforcing the requirements of the law in the interests of the mill-hands has had its result, and mills and factories may be seen working on Sundays here as well as in the mofussil. This breach on the part of owners of mills and factories must, sooner or later, be put stop to if Government seriously intend the Act to be a beneficial and practical measure instead of remaining a dead letter."

He urges that, the mills being inspected in fixed turns, the owners of the mills have "an excellent opportunity for putting their houses in order once in a quarter." He complains that, although the new Act requires that females should not work in the mills more than 11 hours a day, with a recess of 1½ hours—"many an instance can be cited in which women actually work for more than 12½ hours, and we have serious doubts whether these in all cases get their well-earned rest of an hour and a half daily." He has been informed that the inspector never visits the mills on Sundays, and he asks, "In these circumstances, what possibilities are there of bringing to account mill-owners for such open violation of the law?" If Mr. Lokhanday's statements are borne out by the facts of the case, which there is strong reason for believing, a full enquiry into the subject should be at once instituted, and efficient measures taken to ensure that the provisions of the India Factory Act shall no longer be evaded.—I am, Sir, your obedient servant,

HOLT S. HALLETT.

1, Chilworth-street, W.

REGISTRATION OF LACE DESIGNS A FARCE.

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

Sir,—Will you kindly indulge me with a little space in your valuable paper to call the Nottingham lace manufacturers' special attention to the remarkable decision in the lace registration case at the Nottingham Assizes last Monday? It is an important decision, which ought to be an irresistible stimulus to organise at once a court of reference, where all trade questions can be referred and settled without the enormous cost and delay as at present. It was obvious early in the case that the Lord Chief Justice would settle the case upon a point of law, which, to any practical mind, will appear most trivial, and almost amounting to a quibble. As Mr. Mallett carefully pointed out that when a piece comes off the machine and is sent to a finisher it is very incomplete, and before it is fit to be offered for sale it has to be put through a series of expensive processes, and in the condition the finisher receives a piece from the manufacturer it is only suitable for mopeags or dusters, and could be sold for nothing else without being put by the finisher through the various processes which are indispensable to make it a saleable article, therefore, selling a piece in the brown is not a sale as contemplated in the Act, because it is incomplete and absolutely unsaleable in the form it is delivered to the finisher by the manufacturer, and in many instances the finisher's expenses in preparing or making the pattern saleable after receiving it from the manufacturer are actually more than the manufacturer's cost of producing the pattern in embryo, or in the rough, or in the brown, or whatever it may be called. To say that sending a piece from the

factory to the warehouse in a bag, in an unsaleable and useless form, is a sale under the Act, is to my mind pure nonsense, as the Act distinctly avers that "a completed and saleable article, if sold without a registration ticket, shall be disqualified from protection."

But what about the partnership in the registration of the design? What more reasonable course could the manufacturer deem proper than to leave the registration ticket to be put on by the finisher when the pattern was made saleable?

There is only one opinion about the preliminary center over this registration business. It never ought to have gone further. And when the defendants offered £25 for compensation immediately they knew that they were making the plaintiffs' pattern, as well as a guarantee that they would cease making it, the plaintiffs would have done well to have accepted such honourable terms. The present decision may entail some trouble in the lace trade quite unintentionally. Surely, after this lovely experience of the sweets of law, the Nottingham Lace Manufacturers' Association will cease submitting their difficult and complicated disputes to inexperienced and expensive tribunals, and at once organise a practical reference committee, who shall have power to settle all trade disputes, which can be done at little or no cost of money or time, but will avoid the annoyance of having to submit difficult trade questions to those who do not and cannot by instinct understand the merits of such cases.—I am, sir, etc., 27th July, 1892. LACE MANUFACTURER.

QUERY.

WHITE WOOLLEN BLANKETS.—Can anyone oblige by stating in your columns where are the principal, and, if possible, smaller places, where white woollen blankets are manufactured in Great Britain; also, if they have heard of any history of blanket manufacturing, and where obtainable?—BETA.

Miscellaneous.

ALLEGED INFRINGEMENT OF A LACE DESIGN.

At the Nottingham Assizes, on Monday, before Lord Chief Justice Coleridge, the case of Woolleys v. Broad was heard, in which Messrs. John Woolley and A. H. Woolley and Co., lace manufacturers, Nottingham, sued A. J. Broad, lace manufacturer, Paris, for two forfeitures of £50 each for the alleged infringement of a lace design.

Mr. Dugdale, Q.C., and Mr. Daniel (instructed by Mr. Speed) were for the plaintiffs, and Mr. Stanger, Mr. Stevenson, and Mr. Fox (instructed by Mr. Truman) for the defendants.

Mr. Dugdale, in opening, said that was an action to recover two forfeitures of £50 under the Trade Marks Act, 1883, in respect of a registered design numbered 120,009. The plaintiffs were John Woolley, lace manufacturer, of Nottingham, and A. H. Woolley and Co., lace finishers, of Nottingham, and the defendant was A. J. Broad, lace manufacturer, of Paris. It seemed that the custom of the Nottingham lace trade was to make lace in the brown and send it to be bleached, finished, and made ready for sale. That was what happened in that case. In the first place there was an arrangement by which John Woolley was bound to submit to A. H. Woolley and Co. any new designs which he might acquire for the purpose of seeing whether they were new enough and good enough to be registered. If they agreed that a design was to be registered that was done, and under the arrangement John Woolley was bound to manufacture for A. H. Woolley and Co. and nobody else. The practical effect of that was that A. H. Woolley and Co. had a monopoly of the whole make of that particular design of which John Woolley was the maker. It seemed that in that particular design, which was embroidery for ladies' underclothing, John Woolley registered the design No. 120,009 under the arrangement with A. H. Woolley and Co. Defendants, a lace manufacturer of Paris, gave orders to Nottingham firms to manufacture what he considered suitable for his market. He appeared to have seen the design in question, and to have given an order to a firm in Nottingham to manufacture it for him. The designs would be produced, and he would call expert evidence to assist his Lordship in coming to a decision as to whether or not it was an infringement.

Mr. J. T. Mallett deposed that he was a lace manufacturer in Nottingham, and an ex-president of the

Chamber of Commerce. He had looked at the patterns produced, and they were almost exactly the same, the only difference being in the manufacture.

Mr. Stanger said it would simplify matters if he explained that they relied upon these points—that the design was not new and original, and that if it were, it was published prior to registration. There was a further question as to the registration being good with regard to widths. There were five different widths, and they submitted that it was not a simple question of size, but that the design appeared to be different in the different widths.

Mr. Mallett, continuing, explained to his Lordship the process of making, bleaching, and dressing lace. He had 35 years' experience of the trade.—By Mr. Stanger: His experience had been chiefly with Levers, not with warp machines, but the greater included the less. In his opinion the design was a novelty. He had never known a case of marking brown goods with the registration mark. The mark would be destroyed as soon as the goods went to the dyer. By his Lordship: In most cases the large Nottingham houses were the proprietors of their own designs. Re-examined by Mr. Dugdale: The same ornamental design ran through all the different widths. By Mr. Stanger: The patterns might be made wholly on a warp machine.

Mr. Stanger said they had pleaded that the design was made and sold by Mr. Pollard, of Beconton, long before it was registered by plaintiffs, and they intended to prove that.

Mr. Booker said he had had more than 30 years' experience of the lace trade in Nottingham, and had examined registered design No. 120,009, and the 41 anticipations. He considered the latter were no good. The alleged anticipations in the registered design had tickings, the edge was slightly elongated.—Cross-examined by Mr. Stanger: The design as a whole was not new. He had paid particular attention to the different widths in which this design was registered. It was as new a design as could be got. The chief point lay in the ticking.

His Lordship said the point was really quite clear; it was really a question of the custom of the trade. The court had had the evidence of two eminent men of high authority, who stated that the custom of the trade between the manufacturer and the finisher was one by which the latter did not send back goods.

Arthur Herbert Woolley said he was a member of the firm of A. Herbert Woolley and Co., lace finishers. Mr. John Woolley was a lace manufacturer. In April or May, 1888, an agreement was entered into with John Woolley by which all new designs which were thought to be worth registering should be registered by witness's firm, they being submitted for that purpose by Mr. John Woolley, witness's firm to say whether or not the pattern was worth registering, and the cost was divided between them and Mr. John Woolley, the firm represented by witness to have the right of selling the lace, whether in the brown, or in a finished state. Mr. John Woolley to have the sole right of manufacture, and witness's firm of distributing the lace. The latter were to affix the registered mark. Pattern No. 120,009 was so registered by witness's firm, but Mr. John Woolley held the certificate. Some of this particular design had been sold in the brown. Witness's firm had had lace to the value of £250 of the design under notice delivered from Mr. John Woolley. For a time it sold very well.

This was the case for the plaintiff.

Mr. Stanger argued that his learned friend was out of court. He submitted that there had been non-compliance with Section 51, by virtue of which copyright ceased, before delivery on sale of any articles to which a registered design had been applied. It had been shown by his friend's own witnesses that there was delivery on sale.

Mr. Dugdale contended that the Act was for the protection of the public for preventing them from falling into traps they otherwise might fall into, by purchasing a design which had not been registered. John Woolley, the proprietor of the mark, had taken all reasonable steps to have that registered mark affixed. These things could not be delivered on sale. Delivery meant delivery of the completely manufactured article.

His Lordship was of opinion that the plaintiffs were not entitled to succeed. Two points had been made. As to whether the design had been anticipated he gave no opinion. The question arose whether there was protection under the Patent Act of 1883. The 51st section was extremely clear, and the two points arising were whether the registered design had been marked properly before delivery on sale; and, secondly, whether the proprietor of the design had taken all proper steps to cause the marking of the article. In Nottingham, and his Lordship supposed in other places where there were large lace manufactories, there were two processes, he might almost say two industries. One consisted in making lace, and the other in finishing it. Some of the great firms both manufactured and finished the goods, and with such firms a case similar to that now before the Court could not possibly arise. Some firms manufactured alone, and others finished. In

some cases also the firms who finished returned the articles to the manufacturing firms. There was consequently a large trade between one class of firms and another. There was a recognised understanding in the trade, just as there might be between a leather seller and a shoemaker, in dealing with one another. As an evidence of the large trade in lace, it had been stated in the course of that case that the firm represented by Mr. Herbert Woolley had had as much as £250 worth of that particular design alone to finish. The practice had been proved by the plaintiff's own witnesses, by which it appeared that large quantities of the article not known were often sent abroad to the Continent and other places, where it was sent to be finished. He could not doubt the meaning of the words of the Act, nor the just interpretation of their delivery on sale, so as to exclude the large trade he had spoken of. If it was that the sale without a mark should not be completed, it remained for the finishing firm to do just what they pleased. The effect of such an arrangement would be to get out of the Act of Parliament. The change in the Act was a most arbitrary one. The words formerly were "delivery," and now they stood "delivery on sale." The amendment had been framed specially to meet the hardship. Upon the second point, that of the wording of the Act of Parliament, he found for the defendants, with full costs.

Mr. Dugdale made an application with respect to costs, owing to an adjournment from last Assizes, but the application was not granted.

This terminated the business of the Assizes.

THE FACTORY AND WORKSHOPS AMENDMENT ACT.

At a meeting of the Municipal and County Engineers' Association at Bury on Friday last week, Mr. J. Cartwright, the president, in the chair, the following paper on "The Factory and Workshops Amendment Act," was read by Mr. H. Boulton, M. Inst. C.E., Engineer to the Liverpool Corporation.

Mr. BOULTON said that this Act, which came into force on the 1st of January of this year, constitutes an important addition to the duties of municipal engineers and surveyors and of inspectors of nuisances throughout the country. The Act is chiefly an amendment of the Factory and Workshop Act, 1878, which is operative throughout the United Kingdom, and is much larger in its scope for the purpose with which it deals than the Public Health Act, 1875, which does not extend to Scotland or Ireland, nor generally to the Metropolis. The new Act is to be administered partly by the inspectors of factories, and partly by the sanitary authorities, the latter expression including both urban and rural sanitary authorities, and also district boards or vestries in the metropolis having like powers, the only exception to this being under Section 4 of the Act, which deals with the "cleanness and whitewashing of workshops," where by sub-section 4 it is stated that it does not apply to any "workshop" or "workplace" to which the Public Health (London) Act, 1891, applies. Under the Public Health Act, 1875, and the Factory and Workshop Act, 1878, local authorities are now charged with the duty of seeing that workshops generally (including workshops distinct from factories by the Factory Act, 1878, Section 95) are kept in a healthy condition as regards cleanliness, ventilation, and overcrowding. Local authorities are also required to ensure that every workshop under the Factory Act, 1878, and every "work place" within the meaning of the Public Health Act, 1875, is kept free from effluvia arising from drains, closets, urinals, or other similar nuisances. Further powers are conferred upon the local authority by the new Act with reference to the necessary lime-whitening of workshops, as well as the right of entry and inspection, and taking legal proceedings. These powers of entry, etc., are additional to those which the local authorities possess under the Public Health Act, 1875. Briefly, it might be said that as regards conditions of health, the control of workshops was now handed over from the inspectors of factories to the sanitary authorities. With regard, however, to both factories and workshops, an inspector of factories might prompt the sanitary authority to enforce the ordinary provisions of the law as to public health, and in default of their doing so, he might take proceedings himself, or he might enforce the sanitary provisions without notice to the sanitary authority in cases where he is specially authorised for the time by a Secretary of State. In any of the cases where the proceedings were successful he might recover all expenses from the sanitary authority.

MEANS OF ESCAPE FROM FIRE.

The most important feature, however, of the new Act, so far as that association was concerned, was the requirement as to "means of escape from factories in case of fire," contained in section 7 of the Act. That section provided in effect that every new factory in which more than 40 persons were employed should

have a certificate from the sanitary authority that it was provided with a "reasonable means of escape in case of fire," and that it should be the duty of the authority to examine every such factory and to give a certificate when satisfied that the required means of escape had been provided. With regard to the factories existing at the time of the commencement of this Act where more than 40 persons were employed, the same section provides that it should be the duty of the sanitary authority to ascertain whether all such factories were furnished with means of escape, and in the case of any factory not so provided, to serve on the owner a notice specifying what is necessary for that purpose and requiring him to carry out the work in a certain time. The first point as to "who is the 'owner'?" was fairly well answered in the section itself. In sub-section (2) he was described as the person being, within the meaning of the Public Health Act, 1875, the owner of the factory. The well-known definition in section 4 of the Public Health Act was sufficiently clear, as it stated in effect that the owner was the person who received or who would receive the rack-rent. (2) What is a factory? This could only be answered by reference to the Factory and Workshop Act, 1878, that being the principal Act to which the Factory and Workshop Act, 1891, was supplementary. Section 93 of the former Act contained a definition of "factory," which was equally long and intricate. It was hardly possible to abbreviate that definition and to obtain precision in the explanation; it might be stated, however, in general terms, and subject to some extensions and limitations of meaning, that a factory was a place where (a) mechanical power was used to work machinery in manufactures, or where (b) hand labour was employed in manufactures with mechanical power in aid. (3) Does the number of forty persons employed relate to the entire factory, or only to that portion of it which requires means to escape? On reference to the section it would be seen that the following words were used: "Every factory . . . in which more than forty persons are employed shall be provided on the storeys above the ground floor with . . . means of escape in case of fire for the persons employed therein," etc. It would seem, therefore, to follow, that in the case of a factory where, say, fifty-five persons were employed, of which number only five were employed on the storeys above the ground floor, means of escape must be provided for the use of the five. It does not seem that it would be sufficient for the owner to contend that there were not more than forty persons employed above the ground floor, or that to require provisions perhaps of a costly nature, for their safety, was unreasonable. If more than forty persons were employed in the entire factory, means of escape must be provided for those persons (if any) however few, who were employed above the ground storey. On the other hand it seemed clear that there was no power to require means of escape from the ground storey, or from storeys below the ground storey, although there were cases where such storeys were specially liable to fire, and where the means of escape were inadequate, however many persons might be engaged at work in those storeys. This appeared to be a defect in the framing of the Act, but one which might not have been thought to be of sufficient importance to be dealt with. There was, however, a further defect of some importance which apparently might well have been met by special provision. It was as follows: "I have already pointed out that five or even a less number of persons working in an upper storey must be provided with sufficient means of escape in case of fire when more than forty persons are employed in the entire factory, but in cases where 20, 30, or even 40 (not more than 40) workpeople are altogether in upper storeys, the factory being situated entirely above the ground floor, the enactment does not apply. Such cases are not at all rare, especially in towns where the ground storeys are occupied for shop purposes, often at high rentals, and the upper storeys are used as factories. In every such instance the unfortunate persons in the factory at the top of the building (provided they do not exceed forty persons) receive no protection from the new Act, although in another factory a much lesser number of persons in the upper storeys may receive adequate protection." (4) Are the means of escape to be special in addition to the ordinary exits? The section prescribes that the means of escape in case of fire should be furnished on the storeys above the ground floor. The means of escape also were to be such as could reasonably be required under the circumstances of each case. It might, therefore, be fairly argued that in some cases the ordinary exits already provided from the upper storeys would not be quite reasonably sufficient and yet might be capable of improvement so as to be better adapted for the purpose than any additional exit or exits could be made. Thus, a building several storeys in height above the ground having one large front to an open workyard, and practically no other front, might have a fireproof staircase external to the workrooms, placed in the middle of the front. Such a staircase might be the best kind of arrangement possible under the circumstances, and yet it might not

be adequate for the egress of a large number of persons in a state of panic. In such a case it might be possible to improve the staircase sufficiently by widening the several doorways in it, or by altering the arrangement of the steps or landings, or by enlarging or inserting windows in it, so as to give the workpeople a better view of the open yard, and better means of escaping by the staircase. In such an instance the means of escape which could be "reasonably required" might not involve the provision of additional exits. Another instance might be that a staircase (even a fireproof staircase) was placed within the building, with its foot in the ground storey at some distance from the outer walls. The various storeys (including the ground storey) might be liable to fire, and the workpeople in the upper storeys might run the risk of being suffocated in this staircase, or being burnt in the ground storey before they could reach the outer air. In an arrangement of that kind the means of escape which could be "reasonably required" would involve the provision of additional exits.

It might, therefore, be concluded that the question, whether the means of escape were to be in addition to the ordinary exits, could only be answered with reference to the "circumstances of each case" taken by itself. Here they arrived at the main point in the administration of the Act as to "What is the best method of providing the required means of escape in the generality of cases?" He did not think they could take that to mean the "ideally" best method, or the best possible method of providing means of escape. The sanitary authority must be satisfied with such means of escape as could "reasonably be required." Now he did not think it would be unreasonable in most cases to require that the persons employed in the building should be able to readily escape from the room, where fire had broken out, into the open air at some level or other. This at least would prevent suffocation and would allay panic. The best and easiest way of effecting this object would usually be to provide a strong balcony, or flat roof (perhaps of concrete), st, or near the level of the floor of the particular storey in question; the balcony to be continuous throughout the length of the outer wall on which it is fixed, not a mere balcony in front of each window. If possible it would be a good arrangement to connect one or both ends of the balcony with a flat roof of a lower building. Egress from the workroom, or balcony, or flat, as the case might be, should be direct, and as easy as possible. It would be better that there should be no necessity to climb up on to a window sill at a height of three or four feet above the level of the floor of the workroom, but a sufficient doorway should be provided in the usual way. The balcony should have a strong railing, about 4 ft. in height. The persons in danger having escaped for the moment from the immediate presence of fire, some means of descent to the ground was necessary. To meet this need several patent arrangements of folding ladders, or other apparatus, would be suggested for adoption, but it might be presumed that most responsible officials of sanitary authorities would not be content to allow that such precarious means of escape were reasonably sufficient. In some cases the balcony, or flat, might be connected with another building in the same occupation where there was no risk of fire, and where sufficient and easy means of egress might be had. But if descent from the balcony, or flat, could only be had by providing a fixed stair, or step ladder, communicating with another balcony or flat at a lower level, it would, in his opinion, be "quite reasonable" to require such a provision, even if the stair had to be fixed on the outer face of a wall abutting on a public street. In that case it would be sufficient to make the stair, or step-way, wide enough for only one person to pass down at a time, and it might not be necessary to continue it to the level of the ground. The character of the balcony was a matter of some importance. A projection of 2 ft. 6 in. from the wall would be sufficient, and the width of any stair or step ladder might be as little as 18 in. in the clear. This would allow a space of 1 ft. between the railing of the balcony and the rail at the head of the stair, when the latter was placed close to the wall, as it should be. If possible, the whole of the balconies and ladders should be of wrought iron, not of cast iron, which was treacherous even when first erected and rapidly deteriorated by rust.

As the persons who were affected by the new Act might be inclined to regard it as a somewhat unnecessary interference with their rights, it was as well to approach them in the first place in no condescendatory manner as possible. Thus, it would be well to issue a preliminary notice informing the owners and occupiers of the fact that a new enactment had come into force, which the local authority was bound to carry out. Another good effect of the preliminary notice was that sometimes the occupier would write to say that the number of persons employed was less than 40, and the responsibility thus rested with him, if he had given wrong information. After making a sufficient inspection (which in many instances would require more than one visit), if the surveyor was convinced that sufficient

means of escape had not been provided, he would find that the next proper step was to report the facts briefly to the local authority in order that they might instruct either their surveyor or clerk to issue a legal notice to the owners. This would necessarily be a strictly legal notice in which there will be no place for expressions of mere courtesy. It must specify the requirements of the authority for the purpose of carrying out the objects of the section, and would require careful consideration on the part of the surveyor in making his report to the authority, and the literal wording of his report should be followed as far as possible in the wording of the legal notice. The information given must be sufficient to enable the owner to hand it on to an architect or builder, who would then be able to plan and execute the work, and the time should be sufficiently long to allow of the alterations being schemed and effected without undue haste.

One of the most important practical points in the administration of that part of the Act was the granting of a certificate as to the sufficiency of the means of escape from "factories" erected after the commencement of the Act. It would perhaps be best to make this document as brief and general in its terms as possible. It might be confined to a simple statement that the means of escape were sufficient and reasonable under the circumstances of the case, following closely the words of the Act.

There was a somewhat remarkable omission from the section of any requirement of inspecting factories from time to time after the first inspection had been made to ascertain whether they were provided with the means of escape mentioned in the Act for factories which were commenced to be erected after 1891. For those factories existing at the commencement of the Act provision was made for re-inspection. It was somewhat curious also to note that no certificate was required to be granted in the case of factories existing or begun to be erected before the commencement of the Act. The foregoing remarks as to notices and reports and the methods of improving the means of escape obviously relate to these existing factories. These were the buildings that would give the most trouble to the surveyor. But although the powers of the Act with regard to them were both comprehensive and strong, there was no obligation to grant a certificate. It was only with respect to new factories, (*i. e.*, those begun to be erected after the commencement of the Act) that a certificate was to be granted. The reason for this difference of treatment was not quite apparent, although there might have been good reasons in the minds of the framers of the Act. It would seem to follow that the granting of a certificate for an old factory would be *ad extra vires*, and might be productive of more harm than good.

Another puzzling anomaly of rather greater importance appeared in the strange circumstance that whilst the authority must grant a certificate for every new factory provided with sufficient means of escape, there did not seem to be any provision for making a renewed inspection of the building, or granting a renewed or amended certificate, or cancelling the original certificate, in the case of additions or alterations to the building. It was quite possible that the condition of things in the buildings might be so changed in the course of time, that the certificate might become untrue and worthless. But the powers of the local authority would have been exhausted, and so the object of the section would be defeated, at least with regard to new factories. The defect would probably be found to be a serious one, requiring amendment, and it might be well for this association to draw the attention of the Board of Trade to this serious omission.

On the motion of the PRESIDENT, seconded by Mr. STRAD, of Harrogate, a vote of thanks was accorded to Mr. BOWEN for his paper.

Mr. BOWEN briefly responded, and remarked that a curious thing about the Act was that it referred to factories and not to workshops.

The firm of Walther Beethers is erecting a new combed yarn spinning factory at Hainsbief, near Reichenbach.

At the eleventh congress of the wool producers of Pomerania, Mecklenburg, and the Uckermark, it was decided to dissolve the association. It is probable that the members will join the association of high-class merino-wool breeders in Berlin.

THE ROBE OF ROBERT THE BRUCE.—The executors of the late Mr. BRUCE, of Kinross, have handed to his son a piece of the robe in which the body of King Robert the Bruce was found wrapped when the stone coffin was opened in 1818.

THE TRADE IN INDIGO in the Netherlands during last year was very unsatisfactory in consequence of the entire absence of orders from Russia, and of the falling-off in the exports of dyed goods to South America and to the United States. The importation into Amsterdam reached 4,791 chests only, of which a large portion remained unsold at the close of the year, the fall in prices being about 25 per cent.

Textile Markets.

COTTON.

MANCHESTER, FRIDAY.

The outlook for the cotton trade is not in any respect clearing or cheering. The long-continued adverse and unprofitable state of our commerce, as indicated in our last, compelled the spinning branch to take steps in order to devise some measure of relief. The meeting held on Friday last, to which we referred in our last report, unanimously concurred in the expression of a strong opinion that the time had come when the operatives should be called upon to take a share of the burden of loss from which their employers have long been suffering. It was also almost unanimously agreed that nothing less than 20 per cent. of a reduction in wages would avail to be of any relief. Circulars were therefore ordered to be sent out by that evening's post calling upon all the local organisations to meet, consider the suggestion, and report in time for a general Executive meeting on Tuesday next. This was done, and the matter now is in the hands of the local organisations, who are holding meetings and formulating their opinions for presentation to the federated body accordingly. A reduction to this extent, with or without a contest, seems almost inevitable, and it is a great pity that hitherto no arrangements have been devised and mutually accepted by which these changes could be made without the present risk of an expensive and disastrous struggle. All losses arising from this source are bound to be paid for out of the profits of the trade, and, if no profits exist, out of the capital invested in the trade, and out of the thrift of the operative classes. It is highly desirable, therefore, in the interests of each party and of the country at large, that this subject should be taken thoroughly in hand and arrangements mutually agreed to, by which a disastrous turn of trade should not be intensified by conflict between parties whose interests are equally involved, and, in many respects, perfectly identical. The result in this instance and in the absence of such arrangements must be left to the mutual good sense of the parties chiefly interested, and it is to be hoped that the conclusions arrived at will be such as will preclude a self-destructive contest.

In spite of this outlook, and the fact that the new crop is now almost upon us, Liverpool keeps a most tenacious grip upon its stores of cotton, and because in view of the impending dispute manufacturers have been purchasing yarns to cover, and a few spinners in consequence of their sales have bought a little more freely of cotton, holders have advanced prices $\frac{3}{8}$ d., thus again placing Middling at 40., which in view of the existing state and prospects of the trade is certainly not justified. By a little more care in making their purchases we think spinners might easily have avoided giving this impetus to Liverpool.

COTTON.—On Saturday last Liverpool slightly improved in tone, owing to a trifling advance in the American markets. Prices, however, did nothing more than steady. There was a moderate general demand for spots whilst futures slowly softened, and closed with an improvement of $\frac{1}{2}$ to 1 point. Egyptians were easier, and other growths quiet and unchanged. On Monday there was a relapse into quietness, prices becoming slightly weaker. Futures lost on the day 1 to 1 $\frac{1}{2}$ points. Other growths were unchanged; Egyptians, however, displaying greater irregularity. On Tuesday, Liverpool generally contrives some excuse for maintaining or even hardening rates during the absence of the trade in Manchester. Tuesday afforded a notable instance of this kind of manipulation, when on the allegation of bad crop accounts from numerous sections of the cotton belt spots were advanced fully $\frac{3}{8}$ d., and futures closed with $\frac{3}{8}$ to 4 points to the good for the day. The public telegrams regarding the weather for the same day, as published in Wednesday morning's papers, were all highly favourable, such rain as was reported not being excessive and the temperature continuing to be of a forcing character, and notably in contradiction of those reports that were said to have influenced the market. Other growths were quiet, and Egyptian easier. On Wednesday the improvement made more progress, and could then be traced more accurately to its true source, which was the increased sale of yarn in Manchester to manufacturers, who were covering contracts in view of inconvenient contingencies. Under a strong demand, spot sales rose to 12,000 bales, and prices were advanced all round $\frac{1}{8}$ d., thus again bringing Middling to 40. Brazilian and Indian were steady at unchanged rates; Egyptian was weak and lower was reduced $\frac{1}{8}$ d. Futures improved and closed 1 to 2 points up. Yesterday there was a concurrence of action on the part of several influences to send up cotton prices. A principal one was no doubt the impending closure of the

market after to-day until Wednesday morning next on account of the holidays. This no doubt accounted for the extra activity of the trade, as it is not very convenient to attend Liverpool on a Friday when they are wanted in Manchester. Strong American reports are said to be responsible for the remaining portion of the impetus. American grades up to middling were advanced $\frac{1}{8}$ d. Other growths met with a fair demand at steady rates. Futures advanced rather sharply, but subsequently fell away and closed with a net gain of 2 to 2 $\frac{1}{2}$ points.

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

	Import.	Forward.	Sales.	Stock.	Export.
American ..	5,631	42,860	46,480	1,255,020	2,891
Brazilian ..	4,385	2,130	2,850	43,210	—
Egyptian ..	149	2,035	2,550	88,530	1,322
West Indian ..	—	955	1,400	43,550	108
East Indian ..	—	1,084	2,000	47,200	7,984
Total ..	9,965	49,314	55,280	1,477,510	7,265

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 class; (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
July	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	—
July-Aug.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Aug.-Sept.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Sept.-Oct.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Oct.-Nov.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Nov.-Dec.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Dec.-Jan.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Jan.-Feb.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Feb.-Mar.	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
Mar.-April	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8
April-May	35 9/8	3 5/8	3 1/2	3 1/2	4 1/8	3 5/8

Price of Mid American.	3 1/2-16	3 1/2-16	3 1/2-16	4	4 1/8-16	4 1/8-16
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Estimated Sales In- cluding Spec. and Export.	3,000	1,000	3,000	14,000	14,000	3,000
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The following are the official quotations from the same source:—

	G.O.	L.M.	Md.	G.M.	M.F.
American	3 1/2	3 1/2	4 1/8	4 1/8	4 1/8
				M.F. Fair.	G.F.
Pernam	3 1/2	3 1/2	4 1/8	4 1/8	4 1/8
Ceara	3 1/2	3 1/2	4 1/8	4 1/8	4 1/8
Paraba	3 1/2	3 1/2	4 1/8	4 1/8	4 1/8
Maranhm	4	4	4 1/8	4 1/8	4 1/8
	Fr. G.F. F.G.F. G.F. Gd.				
Egyptian	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
Ditto white	4 1/2	4 1/2	4 1/2	4 1/2	4 1/2
	Fr. F.F.G.F. F.G.F. Gd. F.G. Fine.				
M.G. Branch ..	—	—	3 1/2	3 1/2	3 1/2
Dhollerah ...	2 1/2	3	3 1/2	3 1/2	3 1/2
Oema	2 1/2	3 1/2	3 1/2	3 1/2	3 1/2
Bengal	—	2 1/2	2 1/2	3 1/2	3 1/2
Tinnivelly	3 1/2	—	3 1/2	3 1/2	—

* Nominal.

YARNS.—There was an unusually thin attendance on 'Change on Saturday morning, yet a greater aggregate of business was put through than for a considerable time past. This resulted from the prospect of trouble in the spinning branch of the trade, which led manufacturers to cover their outstanding requirements in order to avoid possible inconvenience. These, however, were not very large and could all easily be met from existing stocks. The effect was to steady prices of home-trade yarns. The concurrent advent of fine weather and the holiday season induced a slack attendance on 'Change on Monday. The demand for yarns to cover by manufacturers continued, and led spinners to shew a firm front, the full prices of Friday being held for and in some instances an advance being demanded. This, however, was rarely, if in any case, obtained, though old prices were often declined. The enquiry for bales continued moderate, but producers were not pressing sellers at the rates offered. Bolton yarns were quiet and unchanged in value. On Tuesday American cops were again firmly held, and producers succeeded occasionally in securing $\frac{1}{8}$ d. advance. There was, however, no full buying at that rate. Export yarns did not meet with the same increase of enquiry, as manufacturers' qualities and Egyptians were especially slow and the turn easier. On Wednesday, owing to their late sales and the advance in cotton, spinners held firmly for higher rates from $\frac{1}{8}$ d. to $\frac{1}{4}$ d. upon those of Friday last. It was clear, however, that the buying

induced by the circumstances referred to had exhausted itself, and that there was little further demand. The day was, therefore, disappointing. Disappointing rumours were also prevalent. The advance in yarns yesterday did not at all keep pace with that of cotton. There was again very little inquiry to be met with, as most of the precautionary buying was exhausted, and otherwise the trade met with very little demand even at old rates. Prices are generally advanced 5/6, per lb. on the week in American yarns. Bolton counts are just steady with a slow demand.

COTTON.—On Saturday last there seemed to prevail an opinion that the aggregate business of the week was slightly larger than of late, though not to any important extent. An increase of enquiry from various sources was perceptible owing to the development of slightly more favourable conditions, especially in relation to India, regarding crop prospects, in which apprehension has been almost entirely removed, owing to the fall of copious rains. Not much enquiry was forthcoming, however, on the day. The cloth department on Monday showed hardly any change either in magnitude or quality. There was the usual miscellaneous business going through, that for home account showing the most tendency to increase. On Tuesday there was little change in the demand for cloth, if any alteration was discernible it showed a diminution of enquiry on export account. The home enquiry continued good. The tendency to stop machinery, however, was increasing. On Wednesday the demand was very slow in the chief departments for cloth, and not more than the usual enquiry was met with from miscellaneous sources. The general features of the cloth demand continued unchanged yesterday, there being no perceptible reduction or increase of inquiry. Manufacturers in some instances are asking more money, but it is only very rarely indeed that business is put through on the basis of any advance.

To-day the market in the main shows little change, and cotton is quieter.

WOOLLENS AND WORSTEDS.

BRADFORD.—In wools no perceptible improvement can be reported. There is a much better tone, however, owing probably to the improvement in the weather. A steady business is doing in English and Colonial wools, and staplers maintain late prices with some degree of firmness. There are encouraging reports of the new clip which is stated to be of good quality and to have been secured at advantageous rates. A large quantity of wool has now reached this market, and most staplers are anxious to reduce their stocks, notwithstanding the present low prices. Lincoln hogs are much depressed, but a fair business is doing in wethers. Botany tops, in both merino and cross-breds, are very slow of sale, and a good buyer may purchase at the very lowest prices yet touched. There is no change in mohair and alpacas. In yarns there is no change. The shipping losses are quite indifferent as to business, and operate only in small quantities of yarns for immediate delivery. Some orders are placed in 3/4's single yarns, and also in super lambs and in Botany yarns. On the part of many spinners there is a disposition to curtail production rather than work to stock. Botany yarns are in rather better demand for the home market. In the piece-goods market there is a steady business doing in worsted coatings and in linings, chiefly for home, but the demand in goods for export is of a very restricted character.

Huddersfield.—Business is dull, and a good deal of machinery standing idle. Still there has been a little improvement in most departments during the past week, chiefly in the best qualities of serges, worsteds, vicunas, and tweeds, but there is also a little more animation in the lower makes of goods. In view of the August holidays country merchants have been rather busy supplying medium and cheap goods to retailers and tailors. The shipping trade is not very brisk, but a fair amount of business in the best makes of goods has been done of late with France and the United States. Wools have been selling rather more freely, and prices are well maintained.

LEDS.—The rush of summer repeat orders at the end of last week has had a quietening effect upon the cloth market. London, Manchester, Glasgow, and Dublin buyers appear to be more solicitous to get pattern parcels of the many novelties for next spring than to lay in stocks for the approaching winter, and a poor winter trade can only be reported so far, but prices are fairly well maintained. For forward delivery a few orders have been given out, but only in an unusually cautious manner. The wool market is not steady here, and spinners to get large orders would make some concession in price. An increasing number of novelties in ladies' dress and other goods are offered. They sell at rather below the prices usual for goods of their class. The lower grades of serges do well, but the better kinds, as is also the case with worsteds and Scotch chevils, are at present much neglected. Producers of light dannels are firm in their quotations. The busiest

firms are producers of good meltons and beavers. Blanket makers are well employed on Government and other orders. Army cloth makers are mostly dependent for work on foreign orders. All round, however, a distinct improvement is noticeable.

ROCHDALE.—There was but a poor attendance in the Board market on Monday, and the volume of trade was of small dimensions. Manufacturers do not expect any great improvement until September, for much of the month of August is now devoted to holidays, whereas some years ago it was the busiest month of the year. This change in trade extends business further into spring. Prices have undergone no change. Manufacturers are busy working to order.

GLASGOW.—Messrs. Ramsay and Co., woolbrokers, in their report, dated July 26, 1892, say:—Wool.—There is but a limited trade doing in the wool market this week; buyers have been much engaged at country fairs, during the week, and so there has been little doing in the towns. The prices ruling in the country have experienced a considerable drop since our June sale. **Shops-stir:** The supply has been a full average, and mostly of good sorts, which have met an active competition at fully former rates, except where weather conditions interfered.

HOSIERY AND LACE.

LEICESTER.—There is just now more enthusiasm displayed for the coming holidays than for business. Most firms are arranging to close until Wednesday, others until Thursday, and a few are closing for the week. Very few firms are thoroughly busy, and even in the case of those keeping machinery fairly employed, it is mostly on a few special lines for which there is pretty sure to be a demand some time during the season. In the heavy goods department hose and half hose have been quiet for some time, but after the holidays are over it is hoped that orders which may have been kept back during the intervention of the elections will soon be got out. The shirt and pants departments are very busy—in fact, have fared best of any. A steady demand is still held for natural wool underwear goods. It is suggested that in the coming season more variation will be experienced in the underwear and costume department. No doubt the unfavourable weather has had something to do with the scarcity of repeat orders for summer goods, which has been thoroughly disappointing to most manufacturers. Large lines seem to be fast disappearing, and giving place to a more limited, almost hand-to-mouth system, which makes business more difficult to manage all round. Spinners are keeping pretty well employed, although at unsatisfactory prices. The new clips of wool in the district are now mostly bought in, so that there is hardly likely to be any active buying for some time to come. Yarn agents are finding competition pretty keen on running lines.

NOTTINGHAM.—Home orders are few and small, and although there is relatively more doing in the export branch, the trade, as a whole, is quiet. The Continental demand for bobbin nets is now inactive. Orders for mouquin nets are placed slowly, and there is still but little doing in stiff Paris and Paisley nets. Not many fine cotton tulles are selling, and no improvement has occurred in the sale of silk tulles. For veiling nets there is a steady demand. Point d'esprit and spotted nets are quiet. Business in lace curtains, window blinds, antimacassars, vitrage nets, and habre-quins is devoid of animation, and, the supply being in excess of the requirements, sales are made at any price. Silk millinery laces are slow of sale. A fair demand prevails yet for cotton Irish gauze and pearl goods, and new varieties of the laces are being produced. Valenciennes laces are not very free of sale, and the enquiry for most descriptions of common cotton lace is flat. In hosiery a steady business is being done in merino and mixed goods, but cotton hosiery does not attract much attention.

Joint Stock and Financial News.

NEW COMPANY.

JOSEPH SYKES BROS., LTD., HUDDERSFIELD.
Capital, £100,000 in £50 shares. Object, to acquire as a going concern the business hitherto carried on by Joseph Sykes Bros. at Acre Mills, Lindley, Huddersfield, and, with a view to the acquisition thereof, to adopt and carry into effect an agreement made between J. N. Sykes, J. Sykes, and F. W. Sykes of the one part and this company of the other part; generally, to carry on in all their respective branches the businesses of card makers, card cloth makers, wire manufacturers, cotton spinners, doublers, manufacturers, mechanical and electrical engineers, etc. Subscribers:—

J. N. Sykes, Field House, Lindley.....	Shares.
J. Sykes, Acre House, Lindley	1
F. W. Sykes, Green Lea, Lindley	1
W. H. Wood, Spring Cottage, Lindley	1
J. Bentley, Holly Bank-road, Lindley	1
H. H. Sykes, Acre House, Lindley	1
R. Johnson, 294, Park-road, Oldham.....	1

The first directors are J. N. Sykes, J. Sykes, F. W. Sykes, W. H. Wood, and H. H. Sykes. Qualification, £500. The first three signatories to the memorandum of association, so long as each holds £5,000 of the nominal capital, shall be life directors. Remuneration: Life directors, £500 each per annum; ordinary directors' remuneration to be determined by the company.

Patents.

NOTICE OF REMOVAL AND CHANGE OF FIRM.

E. K. DUTTON & CO.
CHARTERED PATENT AGENTS,
(Late DUTTON & FULTON),
Removed from 5, ST. JAMES'S SQUARE, to QUEEN'S CHAMBERS, 5, John Dalton St., MANCHESTER.

SPECIFICATIONS PUBLISHED.

Each of the following Specifications may be purchased at the Sale Branch, 25, Abchurch-lane, London, for the price of 2d., or may be ordered in the Postal Register, price 3s., which is now on sale at all the principal Post Offices in the United Kingdom.

- 12,079 MANLOVE. Washing machines.
 - 12,635 WADIA. Bobbin shafts.
 - 12,915 POTTERWELL. Preventing smoke from furnaces.
 - 13,044 WALTON and BARLOW. Carding engine parts.
 - 14,326 TOWNSEND and DUNSON. Stocking knitting machines.
 - 14,473 ASHWORTH and OLDHAM. Loom dobbles.
 - 14,480 WEIBENGER. Steaming fabrics.
 - 14,489 SHAW. Combing machines.
 - 14,528 NOTON. Opening and preparing cotton.
 - 14,546 CUNLIFFE. Combining smoke.
 - 14,597 DICKIE. Looms.
 - 14,614 SIMPSON and LOWRY. Looms.
 - 14,657 GESSLER. Treating textile fibres with liquids, etc.
 - 14,699 LARK. Washing machines.
 - 14,850 J. and D. CLAYTON. Smoothing wooden bobbins, spools, etc.
 - 14,907 BRITTON, HENDERSON and Co., Ltd. In-grown carpets.
 - 15,076 TAYLOR and ORR. Looms.
 - 15,079 NEWTON. Spinning cotton.
 - 15,588 YOUNG and CRIPPIN. Dyeing and treating cops of yarn.
- 1892.
- 478 W. BARBOUR and SONS, Ltd. (Barbour Flax Spinning Co.) Reel carrier and brake.
 - 4,609 CALDWELL. Cutting cloth, etc.
 - 9,860 WARRINGTON. Looms.
 - 9,948 MORSON. Carding engines, openers, etc.
 - 10,004 BLASCHKA. Washing fabrics.
 - 10,017 LAKE (Crane). Machine belt.
 - 10,750 MYERS. Obtaining fibres from thorn plants.
- AMENDED DISCLAIMER.
- 5,394 (1888) NEWBURN (La Saville) Gosselin & Co. Gig mills.
- SECOND EDITIONS.
- 3,034 (1889.) WILCOX (Farbenfabriken vorm. F. Bayer and Co.) Dyeing, etc., blues.
 - 14,230 (1889.) WILCOX (Farbenfabriken). Colouring matters.
 - 1,828 (1890.) WILCOX (Farbenfabriken). Ans colouring matters.
 - 11,620 (1891.) LEVER. Bleaching solution and powder.
 - 14,294 (1891.) JOHNSON (Badische Anilin and Soda Fabrik). New sulfo-acids and colouring matters therefrom.

ABSTRACTS OF SPECIFICATIONS.

RAW MATERIALS, SPINNING, WEAVING, &c.
3,205, Feb. 24, 1891. **LOOM.** P. OCKER, 21, Gordon-street, Southampton, and J. LEVIN, 55, Cannon-street, both of London.



Looms.—The looms F, G are mounted upon arms consisting of flexible metal rods or of two parts B, C, one adjustable upon the other, such arms being carried by the vibrator or movable back-rest A. The rods partake of the motion of the vibrator, and cause a constant motion to and fro of the warp threads as the fell, whereby a face, nap, or "cover," is thrown upon the face of the fabric. The rods may sometimes be carried by a sliding plate on the parts C. When "cover" is not required, the arms may be joined to a bracket, which may be fixed either to a movable back rest or to one of a pair of rods of another form of back-rest.

3225. Feb. 23, 1901. **Looms.** W. BRON 619, Springfield-road, Parkhead, Glasgow.

Let-off machine for wire-cloth and other looms. The warp-beam is driven through worm gearing C D and level gearing S R from a friction or ratchet wheel M, which is turned by a power-shaft by a sliding lever N. The lever receives a rocking motion from an eccentric on one of the loom shafts through a rod, the pin connection K, of which with the lever N works in the slot of the latter. The pin connection is adjusted, to equalize the warp tension, by a rod J and a counterbalanced lever G, which latter carries the upper bearing of the shaft K, and is pulled down, with the said shaft, by the action of the worm wheel C on the worm D, when the let-off is necessary.

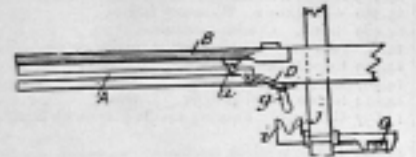
3226. Feb. 23, 1901. **Spinning.** T. RUTENELL, Rose Cottage, Edge-hall, Oldham.

Opening and cleaning cotton, etc.—In "Crignon opening," the grid bars are tapered and twisted so that the cutting edge is broader at the top than at the bottom, and at the upper part of the machine there is less space between the grid bars for the escape of cleaned fibre. Each end of the grid bar is provided with a slant, which at the upper end and lower end respectively takes between adjacent brackets, and the rim or the disk, and is secured by bolts or by a hoop.

3227. Feb. 24, 1901. **Spinning.** J. G. HERBERT, "El Progresso," Tacaná, Guatemala, Guatemala, Guayaquil, Ecuador.

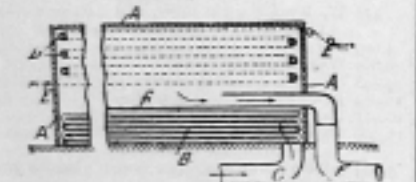
Disintegrating machine, fibre, hemp, etc.—The material is passed through smooth india-rubber rollers, and while held by pressure bars, is broken and cleaned by vertically reciprocating knives, adjustable transversely towards or from the pressure bars. The rollers are geared together, and operated intermittently by ratchet gearing. The lower pressure bar is fixed while the upper one is reciprocated vertically by cams on the driving shaft and spiral springs. It is unnecessary to stop the gears of the rollers and beds before passing there through this machine, and after drying the material may be passed through the machine a second time in order to obtain a first-class product.

3228. Feb. 25, 1901. **Looms.** R. H. HORSKISS, Mount Pleasant, Bournemouth, and J. W. FROOK, Temperance Buildings, Wike, both in Yorkshire.



Chaff-guard. The guard A, of angle iron of L-section, is linked at its top or otherwise mounted on the hand-end B, and is moved into the working position, as shown in plan, or to a position close up to the handrail, by the action of a sliding cam piece C, J on a finger P which is mounted on a revolving rod D projecting into a slot in the guard. The piece C, J, is mounted to slide on the side-rail and is operated by the movement of the starting handle O. A special spring device for locking the parts is provided.

3229. Feb. 25, 1901. **Drying fabrics, etc.** C. ZACH, Coesfeld, Westphalia, Germany.



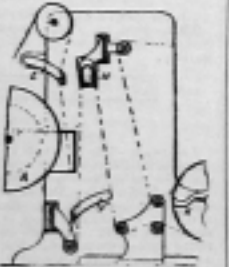
In the upper part of the chamber A are rollers D over which passes the web E which carries the fabrics, etc., to be dried. In the lower part of the chamber are steam heating pipes F. Fresh air enters at C and moves up or is carried over through F. The lower half of the exhaust pipe F extends half the length of the chamber, so that the fresh air is caused to pass along the heating pipes.

3230. Feb. 26, 1901. **Rug, etc., straps.** E. REINHART, 39, Emery-street, Washal.

Rug straps, belts for personal wear, etc., are formed of woven fabric having serrated selvages. The strap is provided with eyeleted holes, and at one end with a buckle, and at the other with a metal or leather shield. Two of these straps may be passed through metal or leather loops on the ends of a handle formed of a stiff wood or metallic core covered with a suitable wrapping.

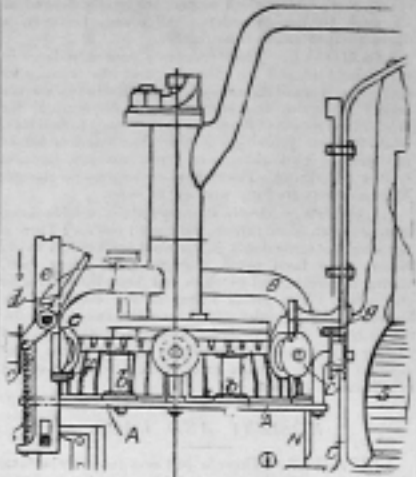
3231. Feb. 27, 1901. **Baling warps.** J. HARTLEY, Sweeney Road, Barley.

The warp passes from a roller A, over clamped levers E, F, and H (which serve to contract the warp to a narrow width) and also around a drag roller K, and through rollers L, M, passing from the last of these to the eye of the traversing lever of the baling mechanism. For stopping the machine instantly, and thereby obviating the necessity for slack taking-up rollers, a wedge-piece may be brought by a lever between the flange of the roller A and a fixed piece, or, where two rollers A are employed, between the flanges of such rollers.



HOSIERY AND LACE.

3232. Feb. 26, 1901. **Knitting.** S. WULLSCHLÄGER, and K. REIN, both of E. Reiberg, Basel, Switzerland.



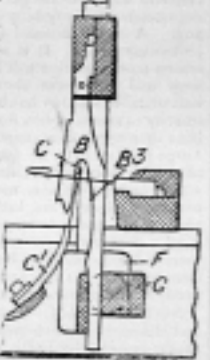
Circular machines; stryking.—A series of small loobins *h* and thread guides *e* are carried by the ordinary needle ring A. The thread guides consist of small flanged rollers, having an eccentric guide side projecting from the inner face. They are partly rotated, to lay the ordinary thread on the ribbing needles, by a provision *l* on a slide *r*, carried by one of the stems B and held up or down by the latch *d* and spring *p*. The rollers are returned to their normal position by a similar slide *q* on the frame C, which carries the main thread led-in *s*. By shifting the position of the roller *e* in the right or left, diagonal, spiral, zigzag, or intermittent stripes may be produced.

3233. Feb. 26, 1901. **Knitting.** F. J. DUNNION, Hopeville, Massachusetts, U.S.A.

Circular machines.—Improvements upon the invention described in Specification No. 1,491, A.D. 1899.

3234. Feb. 27, 1901. **Knitting gloves.** E. K. and R. H. ELLIS, both of 9, Rutland-street, Leicester.

The fingers of machine-knitted gloves are made of ribbed fabric upon a hand-fingering frame, divided according to the number of fingers and the combination of ribs required. In order to allow sufficient space for the descent of the thick fabric between the machine needles C and sliders B, the latter have enlarged throats E, and the leads G of the former bear against angle irons F, mounted to support said of the hand bar H.

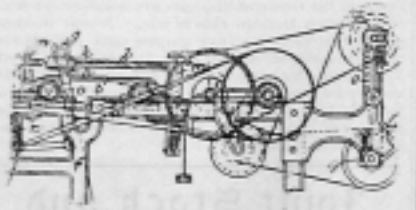


BLEACHING, DYEING, PRINTING, FINISHING, &c.

3235. Feb. 28, 1901. **Dyeing, etc.** J. R. G. and J. R. SWANSON, 41, Mountjoy, Dublin.

Relates to paper tubes for uses which are to be bleached or dyed, and to machinery for making them. Consists in flattening the tubes and perforating them by means of punches.

3236. Feb. 28, 1901. **Finishing pile fabrics.** H. HAYWOOD and J. HOLLAND, Spring Vale Works, Middleton, Manchester.



Pile-finishing machines.—The bed plate *h* is adjusted in height by screwing *o*, and the peg *z* is carried by a rod *g*, mounted upon sliding sockets *k* and reciprocated by rocking levers *f*. The pressure is regulated by springs *a*, acting upon the supporting standards *m* of the slide rods *i* and adjusted by worm gearing. The fabric is wound upon one of two rollers *p*, mounted at the ends of two-armed swing levers *s*. When the roll of cloth is completely wound, the levers *s* are reversed and the roll is unwound upon a disconnected roller by frictional means as shown, or otherwise.

3237. Feb. 29, 1901. **Dyes.** J. C. L. BERARD, D. E. HUGGINS, and A. J. V. ANDREAN-KORCHUN, Bille, Switzerland.

Dyes.—Relates to the manufacture of brown colouring matters from pyrogallic acid. Consists in reacting upon pyrogallic acid with the diazo compound of aniline, *p*- or *o*-nitroaniline, or anilinoacetanilide, or its monoazo acid, or with the tetrazo compound of thioniline, or thioniline. For example, the tetrazo compound of thioniline is run into a solution of pyrogallic acid and acetate of soda, and the colouring matter precipitated is filtered, washed, and pressed. The colouring matters are suitable for dyeing wool dyed with metallic mordants, yielding deep fast tints with chromeum and iron mordants, for example.

3238. Feb. 29, 1901. **Dyeing.** A. FROESCHER, Lattenbach, Aargau, Germany.

Forming dyes upon the material.—Consists in substituting in the process for the direct production of an colouring matter upon the fibre, either by printing or dyeing, Arbo-synaphtholic acid (M. P. 106° C.) for the *o*- or *h*-substituted monally anilic acid. For example, by treating a fabric with an alkaline solution of Arbo-synaphtholic acid, and then printing upon it with a thickened solution of iron-sulphate dihydrate, a blue resembling indigo and fast to washing and soap is obtained. Similarly, the diazo compound of other diamines, or of amino-diamine compounds, monosulphonic, nitrosulphonic, thioniline compounds, or acetates, may be employed. Cotton, wool, silk, or jute may be thus treated, and the material may be dyed as in Turkey-red, or insoluble metallic soaps may be precipitated on it.

3239. Feb. 29, 1901. **Finishing fabrics.** R. PRINCE, Rectoridge Works, West End, Buxley, near Leeds.

Falling and rolling.—Woven or knitted fabrics are filled and felled in the same machine by providing a yielding bed, and vertically or obliquely moving falling stocks at the end of the sheet of the rolling rollers. The bed is mounted upon a shaft and rests upon springs, which are carried by a shaft having adjustably weighted levers.

3240. Feb. 29, 1901. **Caromium compounds.** W. WATSON, 69, George-street, and E. BENTZ, Owens College, both in Manchester.

Relates to the manufacture of certain chromium compounds suitable for use in mordanting in cotton printing and for dyeing, namely, chromium acetate, basic acetate, and sulphate; and mixed solutions of chromium sulphate and acetate; chromium sulphate and sulphite; chromium basic sulphate and acetate; chromium basic sulphate and sulphite; chromium sulphate, sulphite and acetate; chromium basic sulphate, sulphite, and acetate. The Provisional Specification includes also chromium nitrate and mixtures with nitrate and chloride. The process consists in reducing the chromic acid contained in sodium bisulphate or chromate with sulphurous acid, free or as a bisulphite, adding the acid or a sodium salt thereof, the salt of which is required. A little soda is afterwards added to precipitate the sulphite used. As an example, to manufacture chromium acetate, 112 lb. commercial sodium bisulphate containing 90 per cent sodium bisulphate are dissolved in 150 lb. of 40° acid, and 400 lb. of a 30° solution of sodium bisulphite are added gradually. After standing to cool and to allow sodium sulphite to crystallize out, 20 lb. of a concentrated aqueous solution of sodium carbonate is added to precipitate a further quantity of sodium sulphite.

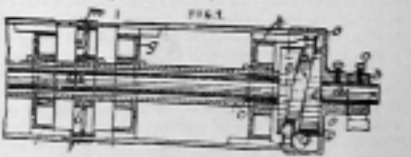
3241. Feb. 29, 1901. **Dyes.** R. WILSON, F. LINDALL, 115, Field, Middlesex.—[Part of a series of 7. Rayer and Co., Edinburg.]

Acid dyes.—Consists, firstly, in converting into soluble dye-stuffs, by treatment with fuming sulphuric acid at a low temperature, the insoluble or difficultly soluble products, obtained according to the process described in Specification No. 13,375, A.D. 1899, which are the sulphate of the various derivatives of a paraffinamine, which does not contain a sulpho group, is combined with one molecule of a naphthylamine or a naphthylamide ether, and with one molecule of salicylic acid or resorcinol-carboxylic acid; and the intermediate products so obtained are again chlorinated and coupled with one molecule of an amine or phlorol not containing a sulpho group. Consists also in sulphurating the intermediate products above described and then diazotising the sulphurated products and combining them with a phenol or an amine. Consists also in producing new mixed acid dyes by combining molecular proportions of tetrazo compounds and anilinoethylene or *p*-anilinoethylene ether, and a phenolamine, such as naphthylamine, aniline, acetanilide, or a sulpho salt of an amine or phlorol, then further diazotising the intermediate products and combining them with one or two molecular proportions of a phenol, naphthol, diphenylamine, aniline, anilinoethylene, or a sulpho or carboxylic acid of an amine or phlorol. The resulting dye-stuffs resulting from the reaction, which do not contain a sulpho group, are converted into soluble dyes, by treatment with fuming sulphuric acid. The intermediate products above mentioned may also be sulphurated before diazotising them for the second combination.

3242. Feb. 29, 1901. **Floss-cloth.** T. MITCHELL, Allen Works, Waterbury, near Manchester.

Single and double floss-cloth and like floss-cloths are manufactured with the pattern continuous through the substance of the coating material. The pattern backing passes between the usual beamed calendar rolls. The coating material is contained in troughs formed by a bed plate and adjustable vertical division plates curved to the contour of the rolls. The backing and coating material issue from the rolls as a single floss-cloth.

3243. Feb. 29, 1901. **Cloth expanders.** W. PUCKER and W. KROVATZ, Orchard-street, Pentonville.



Relates to cloth expanders for use in connection with bleaching, dyeing, and similar machines. Consists in a shaft *a* fixed in bearings *b*, by screw pins *c*, and carrying fixed threaded caps *d*, to which are secured caps *e*. Screwing freely on the shaft by bushes *f* are rings *g* and *h*, the former being ground to receive longitudinally movable serrated plates *k*, carrying levels *l*, which enter the case grooves. The ring *g* carries an outer ring *i*, fixed by pins *m*, and serving to retain and guide the ends of the plates *k*. Upon the caps *e* are fixed the bearings *f* of a roller *r* under which the fabric *s* is passed as shown in Fig. 2. By slackening the screw pins *c* the position of the roller *r* can be altered to increase or diminish the area of the fabric in contact with the expanding bars.

PATENTS.

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