The

Textile Mercury:

A Representative Weekly Journal for

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

In all Branches of the Textile Industries.

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The Textile Mercury.

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

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Current Topics.

THE NEW WEAVING LIST.

The new weaving list, as settled between Messrs. Rawlinson and Birtwistle, was laid before the representatives of the operatives at Bury, on Saturday last, when it appears to have been received with a certain amount of disfavour. Why this should have been so we are puzzled to understand, for an arrangement more equitable between two parties to a contract it would be difficult to devise. It was not possible that the employers could allow the highest rates paid in any one district to become the standard to which all others should conform, and had such an arrangement been made it would have been unworkable, as certainly those districts at the opposite extreme would have resisted its imposition with all the force they could command. Such an arrangement would have involved numerous districts in long and costly strikes, and the new list, instead of being the herald of better and more peaceful times, would have been transformed into a standard of war, and would have caused the loss of a thousand times more money in contention in a very short time than the fractional differences in dispute could amount to in a century. An arrangement that theoretically works out in a complex subject like a weaving list to a sum of within threepence in the pound of a weaver's earnings can hardly be calculated to a greater nicety. To accomplish this it must have been constructed on the give-and-take principle, and with such an equitable intention on both sides as could not be surpassed. The actual working results will, in a very short time, unquestionably be in the favour of the operatives, if they are not so from the first week of its coming into force. To quarrel, therefore, with such a perfectly obviously fair arrangement would be the most ill-advised proceeding that could be taken, and any advice in favour of such a course, no matter from whom or from what source it may come, will afford demonstration that the person tendering it has not the welfare of the operatives at heart. We trust, therefore, that at the meeting of the operatives to-day for the further consideration of the subject the new list will be promptly adopted, and the question set at rest for another forty years.

PROTECTION IN FRANCE.

When will nations learn to act with some degree of consistency? France, along with most of the other nations of Europe, has been declaiming against the McKinley Bill of the United States on account of its imposing additional duties upon French productions, mainly silks. Yet, with all the urgency that the nature of her institutions and her treaty engagements will permit, she is hurrying forward enactments of a similar character. On Wednesday, the textile sub-committee of the Council of Commerce agreed, by ten votes to seven, to the principle of a duty on silk. This can only be directed against Germany, Switzerland, and England, from each of which a small amount of silk goods are imported. On the part of England the silk goods of France are admitted without the slightest impediment. The conduct of the Republic, however, ever since its institution, has been of the most querulous character, and the present instance is in perfect keeping with what has so often gone before. We suppose, however, we must endure it as well as we can. One could understand the vigour with which the protectionist movement in France was being pushed forward, were it merely an act of retaliation against the United States—a blow in a commercial war of retaliation. But it is not so. As far as we are concerned it is a blow struck at one of her best friends. Both France and the United States, however, may as well learn soon as late that there is a point beyond which it will not be commercially safe for them to proceed in the course they seem bent upon following, as in relation to both of them a strong feeling in favour of retaliatory measures is springing up. This country can do without both of them much better than either can do without it—a truth upon which it will be well for both to reflect.

BRADFORD FIFTY YEARS AGO.

Sir Henry Mitchell was, for the second time within this year, publicly made the recipient on Tuesday of a token of the appreciation of his general worth by those associated with him. The presentation consisted of a three-quarter length portrait of himself, painted by Mr. Ernest Sichel, and an illuminated address which is the work of Mr. William Lister. Sir Henry is without doubt one of the most popular men in the textile trades of the country, and he has earned the esteem with which he is so widely regarded, not simply on account of his success as a merchant, but for the display of qualities the exercise of which has benefited his fellows. He has been an earnest supporter of the movement in favour of technical education. In connection with the Centennial Exhibition in Philadelphia of 1876 and the Paris Exhibition of 1878 he held very responsible positions, being in one instance chairman and in the other vice-chairman of the judges for textile fabrics. During his visits to those exhibitions he had thus an excellent opportunity of forming an opinion of the relative merits of the manufactures of various countries. He was very much impressed with the rapid progress which had been made in France and Germany and other Continental countries, and even to some extent in the United States. He came home resolved to do whatever lay in his power, not only to call public attention in Bradford to the question, but to do what he

could to establish an institution like the Technical College, in order that the youth of the town, as well as the artisans, the overlookers, and the designers, might have every possible opportunity of improving their taste and of developing the different branches of industry in Bradford. The results of the exertions made since then are to be seen to-day in the fine Technical College which Bradford now possesses, towards the support of which the local head of the firm of A. and S. Henry and Co. has contributed with no niggardly hand. The subscriptions for the presentation made on Tuesday were limited to a guinea, and the address contained the signatures of 130 firms and gentlemen, the committee consisting of Messrs. George Hodgson, James Burnley, Daniel Fraser, John Nutter, and the late Sir Jacob Behrens. The opportunity was a fitting one for reference to Sir Henry's first connection with Bradford, and the changes that have since taken place in the standing of the town as a manufacturing centre. He came to the town nearly 50 years ago on the stage coach, there being at that time no railways, and, of course, no telegraphs. In those days wool-combing was carried on exclusively by hand, and to a certain extent weaving also. The leading industries of the town were confined to some ten or twelve principal articles. The hours of labour in factories were twelve a day, and, it is believed, 72 per week. The provision for education was of a very imperfect character, a large proportion of the factory hands and industrial workers generally being unable even to write their names. There has been in no respect more rapid improvement than in connection with the industries of the town and in the development of the taste of the people. In the period of which Sir Henry spoke in replying to the address, the volume of trade has more than quadrupled, and one need only go into the public parks on a fine evening or on some public holiday to see the excellent taste which is displayed in the dress of the operatives. One of the greatest contributing forces in that improvement has been the instruction given in the Technical School. Reference was made at the meeting to the fact that many years ago this country was somewhat behind others in development of taste and excellence of manufacture. In Sir Henry's opinion, at any rate in regard to the vast majority of articles, England is now quite abreast of any other country. Coming from such a well-informed source, this statement may be regarded as giving just cause for congratulation.

AMERICAN NEGROES EMIGRATING.

In the early part of the year we drew attention to the sufferings of the negroes of the cotton states of America, inflicted by the dominant white race, and pointed out the consequences that might be expected to follow in the natural dissatisfaction and emigration of the coloured labourers. That this is coming true is demonstrated by a passage in a report of our Consul at New Orleans, Mr. Fonblanque. In a report presented to the House of Commons, he says :—

Owing to causes which I need not here inquire into, the negroes are leaving some districts of the South in large numbers; and, as I write, a report comes from Charleston that 4,000 have left the State of South Carolina in one week, and that this emigration is said to be going on at the rate of 1,000 a day.

Of course the causes into which the Consul did not care to inquire were simply such as those on which we commented at the time referred to above. Continuing his remarks he says :—

From its political point of view this subject can have no place in a commercial report, but it has its economical side, and from this the question comes: Can the South do without negro labour? I venture to think, after careful consideration of all that has been advanced to the contrary, that the States which form this Consular district cannot.

These districts are the cotton States. It might have been thought that the ruling whites would have been glad to retain the presence and services of those who must from the nature and circumstances of the case remain for many generations the "hewers of wood and the drawers of water" of the country, and who will perform the duties more economically than any others by whom it may be endeavoured to replace them, but such appears not to be the case. There is an old saying, which bids fair to have a new illustration of its truth, that "those whom the gods destroy they first make mad." Of course, first and foremost, these matters concern the Americans themselves, but they also concern mankind generally, and particularly that portion of it which inhabits the United Kingdom. We are taking over vast territories in Africa, into which it is our duty to introduce civilisation in its best phases, and the doing of which will inevitably redound to our interest as a nation. Moreover, our association with the Negro race entitles us to feel and express a more than ordinary interest in its welfare. What can be better or more mutually advantageous than to act upon the suggestion we have previously made, and offer to these persecuted people a home and lands in the country from which they were expatriated generations ago? They would take with them the best qualities that settlers could need. They would be suited to the climate, and possess a degree of civilisation far above those whose existence recent explorations have made known to the world, whilst they would introduce into the country civilised arts such as the cultivation of cotton, sugar, maize, and many other things for which we should be glad to exchange our manufactures. This question would be well worth the attention of the British East African Company, to whom we commend it.

TEXTILE INDUSTRY OF BARCELONA.

Barcelona, in Spain, is well known as the chief port of the manufacturing districts of the Peninsula, and is decidedly growing in importance. During the past year there arrived from the United States 29 steamers, bringing 118,300 bales of cotton, valued at £1,419,600, being an increase of 73,246 bales, worth £878,000 over previous year. There seems to have been no increase in the importation of spun yarn from the United Kingdom. The trade in wet spun yarns appears, according to our Consul at Barcelona, to have been almost lost by the British spinners, who appear to be too heavily handicapped, as regards rates of wages and hours of labour, to compete with the German, Belgian, and Austrian spinners. As shewn by the return of imports, a much larger quantity of raw cotton was imported this year than last. The number of bales was as follows :—

	Bales.
In 1889, from America..	236,900
1888, " " ..	137,216
From the East	51,521
" " "	43,171

One of the agreeable results of the Barcelona International Exhibition, 1888, has been, it appears, to increase the importation of British machinery. Several instances have occurred of Catalan manufacturers who, having been struck with the excellence of the spinning and weaving machinery, have since proceeded to England in order to arrange for the purchase, and erection in their own factories, of similar machinery. In spite of the general activity throughout the year, the manufacturers, as a rule, did not make much profit, owing principally to the fact that the price of raw material was out of proportion to that of the manufactured articles. Spinners did better than weavers. All manufacturers are fully alive now to the importance of possessing modern machinery, and enormous sums of money have been spent during the past year and in previous years in effecting the substitution of the newest-made French, Belgian, and English looms for the old-fashioned machines which were put up when the factories in Catalonia were originally constructed. More manufactured goods are now exported to America and the Spanish colonies, and a great impulse has been given to trade with Morocco. Messrs. Lopez and Co. keep a steamer regularly employed now in running between Barcelona and the ports of Morocco. Fortunately no strikes of any importance occurred amongst factory hands during the past year.

A POINT IN HEBREW SCHOLARSHIP.

The Arabian traveller, Dr. Glaser, has made some suggestions in his recently published book on "The Geography of Arabia," the adoption of which removes one of the references to textiles which were supposed to be contained in the Old Testament. In the remarkable list of the commercial connections of Tyre, in the twenty-seventh chapter of Ezekiel, we read (v. 19) "Vedan and Javan traded *with yarn* for thy wares." Dr. Glaser follows several distinguished scholars in regarding the Hebrew rendered "with yarn" as a proper name preceded by a preposition, and therefore translates the whole as follows: "Vedan and Javan, from Uzal they provided thy markets with iron, etc." These three places, Vedan (or "Wadan"), Javan, and Uzal, are all identified by him very ingeniously with places in the same part of Arabia, stages probably on the same road. After his able argument upon the subject, it will be inadvisable, unless strong rebutting evidence has been adduced, to make use of this passage as illustrating the textile industry of the East in ancient times.

DENVER, COLORADO, U.S.

We are all familiar with the marvellous rise of American cities, and careful students also know well to what this is owing, but it is not necessary to enter into the inquiry at the moment. Previously, Chicago was the wonderful city of the West, and well it deserved the admiration bestowed upon it. But a rival of more recent origin is rapidly coming into prominence, and demanding attention for the same characteristics. This is Denver, Colorado. In 1870, we are informed by the Report of the Denver Chamber of Commerce, it contained a population of 4,731 persons, housed in 1,128 dwellings, and the cash value of all its merchandise sales was 8,500,000 dols, whilst the product of its mines was *nil*. In the present year its inhabitants are estimated at 150,000, dwelling in 37,500 houses; whilst its real estate sales amount in round numbers to 60,000,000 dols.; the value of its manufactures to 40,000,000 dols., and the product of its mines last year to 20,000,000 dols. Of course these are very interesting figures, and are typical of an enormous degree of activity in every industrial and commercial direction. Well, perhaps not quite in every direction, for, with all its prosperity, like Oliver Twist it still wants more. Denver has got no cotton or woollen mills, and it wants both, and sighs for them. Yet it is not disposed to do as some aspiring sister cities and rivals do, namely, to offer free locations and freedom from taxes for a term of years; for Denver believes

its intrinsic attractions are sufficiently powerful if they be made known to win the favour of manufacturers on the look-out for eligible sites on which to plant their mills and businesses. The report referred to tells us that the opening of the Denver, Texas, and Fort Worth Railroad, from Denver to Fort Worth, places the cotton fields of Northern Texas as near to Denver, with its cheap coal, as to the sea, and that the average annual crop of Wise, Clay, and Montage Counties in Northern Texas is from 15,000 to 25,000 bales, and will be annually increased from the impetus given by improved railroad communication. "It can be shipped from the plantation to Denver at considerably less cost than to Liverpool or Boston, and without any transfer of freight. It is well known in Liverpool, whither the major part of the crop has hitherto been shipped direct, being known by spinners as 'Texas Cotton,' the quality being superior to 'Upland,' and well adapted for ordinary spinning purposes." Thus Denver offers to an enterprising cotton manufacturer an abundant supply of the raw material, and a large consuming centre. It is estimated that the annual consumption of cotton goods in the city and the country immediately tributary is 2,000,000 dols., and a local factory could safely contemplate a production of 500,000 dols. per annum. The local opening for a cotton factory is well worthy of the personal investigation of a practical and experienced man possessing the necessary capital, as any difficulty there may be arising from the dryness of the climate can doubtless be overcome as it has been elsewhere. The manufactured article mostly sold in Denver is a brown domestic or unbleached calico, obtained from Mississippi, Alabama, Georgia, and Massachusetts. This would be the best fabric with which to start a local factory. The prints come from the Eastern States, as does the muslin or light calico. There are no English cotton goods whatever sold in the Denver market. Indeed it would have been a matter at which to be greatly surprised had there been, considering the strict tariff blockade the Eastern manufacturers have established against them. We are sure the Denverians, or by whatever name they may call themselves, don't know what they are missing, or they would throw their influence into the scale against the gross impositions they are made to bear.

DENVER WANTS A WOOLLEN MILL.

The Denverians also invite woollen manufacturers so go over and dwell amongst them, and hold out tempting pictures of how well they might do by accepting their invitation. They tell us that according to statistics recently collected by the State Board of Immigration, the wool clip of Colorado for 1889 aggregated 11,000,000 lb., all of which found a ready sale in Eastern markets, fetching unscoured from 12 to 15 cents per lb., with every prospect of future increase. It is also stated that the wool of the State is 10 per cent. superior in quality to that grown a few years ago, in consequence of the introduction of Spanish Merino, Shropshire and other good breeds of sheep, replacing or improving the native Mexican sheep, the former species. They affirm that the wool of Colorado sheep is specially adapted to the manufacture of flannels, blankets, hosiery, and underwear, of which goods there is a large local consumption in Denver and the tributary country, estimated to amount annually to 2,500,000 dols., and a local woollen mill could calculate on safely making the above classes of goods for the local trade alone, with every probability of being able to ship a considerable quantity to outside points. The woollen goods commanding the largest and readiest local sale are wool and merino underwear, hosiery, blankets, and flannels, at present manufactured at and obtained from New England (principally) and the Eastern States, as well as California, at an average freight of two dollars and fifty cents (2·50 dols.) per hundred pounds. A local woollen mill, it is said, would have many advantages. For instance, there would be a saving on the raw material of about five cents per pound, as it takes three pounds of "wool in the grease" to make one pound of "washed wool," saving the freight on the three pounds going East and on the one pound of manufactured goods coming back, to say nothing of commission to middle men, storage, and insurance. The saving of fuel in Denver as against New England is from two and a half dollars (2·50 dols.) to four dollars (4·00 dols.) per ton. Labour is very little higher and has been calculated at the highest at one-third or more than what is paid in the Eastern States. Well, having made known the attractions Denver can offer to cotton and woollen manufacturers who are desirious of choosing another location, we have done our duty to both them and to Denver.

THE LADIES AGAIN.

Every day reveals some new illustration of the irrepressible activity of the modern lady, whose determination to take possession of her "proper spere," as we once heard a member of the gentle sex phrase it, is impelling her to put in her claims for consideration and respect in circles where the mere t hought of doing so would have shocked the grandmothers of the present generation beyond expression. After a lady has practically won the Senior Wranglership it is a long way to come down to a Dress Reform Society. Here, however, the most fastidious critic must admit that she will be perfectly at home, when it is added that the dress it is sought to remodel is female dress. The London correspondent of our contemporary, the *Manchester Guardian*, writing the other day, said :—

> The latest novelty in associations is to form one for the express purpose of effecting such reform in women's, and more especially girls', dress as without involving any departure from the recognised conventional modes shall make it perfectly healthy, comfortable, and graceful. In order to form the association a conference was convened for this (Wednesday) afternoon at the Morley Hall, Regent-street, over which Mrs. Bryant, D.Sc., presided. Miss Orme and Madame Antoinette Sterling were to the fore with witty speeches, and, with others, delivered invectives against women encasing themselves in external bones. Women in all parts of the country will be asked to join the society, as it is thought that if the many isolated persons who are already endeavouring to carry out rational principles in dress were collected into one association the effectiveness of the efforts of each would be much increased. The features of the present style of dress which it is suggested that the members of the proposed association should endeavour to overcome may be comprised in the three words stiffness, tightness, and weight. Amongst those who have already joined the society are Mr. John Brett, R.A., Mr. Victor Horsley, Mrs. Mary Davies, and the ladies already mentioned.

Now it begins to appear not impossible that some important modification of feminine attire must ultimately spring from these incessant struggles after a better dress. This being admitted, it is fair to assume that the fact is of more importance to manufacturers than to any other class of trades-people, as any considerable change must involve a corresponding change in the construction, texture, and style of the textile fabrics of which the dress of such important customers of the textile manufacturer as the ladies is composed. It will be well, therefore, to watch these movements carefully.

THE NEW FUSTIAN CUTTING PROCESS.

Members of the home trade have freely discussed of late the process recently brought forward for fustian cutting, which enables one man to get through three times as much work as by the methods hitherto in vogue. The invention is not, however, as some seem to imagine, designed to supersede the hand process, which is still employed. The value of the machine consists in the fact that instead of the workpeople having to walk all the length of the cloth backwards and forwards as previously, thus covering many miles of ground in a day and increasing the exhausting effect of the work, the material is swung forward on a roller, so that the cutter remains in the same position while performing his task. It will be interesting to watch the effect of this labour-saving appliance upon the trade generally. Fustian cutting has for a long time been under a cloud, and the lot of those engaged in it is undoubtedly a hard one, many of the operatives having preferred to work on the Ship Canal rather than continue in their own business. Recently, however, there has been a slight revival, one of the first indications of which was seen at Congleton recently, where an unusual advance took place at several of the mills. Messrs. Collinge and Son commenced the rise by granting an increase of 1s. per pair on some pieces, and 1s. 6d. on others. The remaining employers soon followed the example thus set, so that cutters are now drawing higher wages than they have received since the depression set in six years or so ago. The labour conditions prevailing in Congleton are, no doubt, peculiar as compared with those existing in other small manufacturing towns, the silk throwsters of the place competing with the first-rate cutters for the not too abundant supply of work. Hands are now scarce, but we believe that fustian cutting elsewhere will come to be paid for on a more advanced scale now that Congleton has recognised the necessity of keeping its skilled labour together.

MANUFACTURING IN THE WESTERN STATES OF THE U.S.

It was not to be wondered at, when the prohibitive tariffs were first placed upon textile goods in the United States, that in the Western States the possibility was anticipated of transferring some of the industries of Massachusetts and Rhode Island across the Pacific slopes of the Rocky Mountains, and thus improving those districts of the States. This sentiment was, no doubt, at the bottom of the general acquiescence with which the measures were received. The attempt was accordingly made in several of them, but the results have only been indifferently successful. Amongst the States that made the attempt and indulged in great expectations was California. But from their introduction, manufacturing interests in the golden State have always suffered from two causes, the first of which is the higher price of skilled labour as compared with the Eastern States. Of unskilled labour there is always a superabundance, owing to the number of Chinese, as well as the peculiar floating population which has drifted out to the Pacific coast, and has to take employment at any price that offers. The second difficulty is the high price of coal. The deposits of coal in this State may be said to be valueless and barely worth the expense of transportation, hence all supplies are drawn from the State or Washington, British Columbia, England, or Australia. It is stated that to produce one horse-power an average steam-engine consumes three pounds of coal, and an engine of 200 horse-power will cost nearly £6 a day more

for fuel in California than it would cost in any of the eastern manufacturing centres. It adds a good deal to the price of fuel to have to bring it from a distance of 1,000 miles or more and pay freight for its carriage: thus the price of coal in New York is about one-third of what it is in San Francisco. These causes have seriously affected the prosperity of many manufacturing concerns of various kinds that have been tried on the Pacific coast. The efficient Labour Commissioner of California in an able report which he has just made states that a few years ago there were 12 woollen mills in California running 76 carding machines. At present only half that number are running, with a capacity of only 28 carding machines. The principal mill on the Pacific coast, the Pioneer of San Francisco, has been obliged to close; this mill had 37 sets of carding machines and about 700 employés. The Commissioner, in stating the collapse of the woollen manufacturing industry of California, says:—

Our manufacturers in California have not only been unable to sell goods to eastern buyers, but eastern manufacturers have shipped goods to this market and undersold manufacturers here. The Pioneer mill of San Francisco, erected especially for the purpose of woollen manufacture, and splendidly equipped with all the latest appliances for turning out a superior quality of goods, has lost money year after year, and the original shareholders could realise little more than 10 per cent. on their investment. The question of over-production affects all manufacturers alike, eastern as well as middle or western. One of the managers stated, however, that when eastern manufacturers have a large surplus of stock on hand, and are driven to the necessity of raising money, they generally send their goods to distant markets. In that way California has become a favourite dumping ground for overstocked eastern manufacturers, and our local millowners have suffered the consequences.

Aside from this there are several valid reasons why Californian manufacturers are placed at a decided disadvantage in the effort to compete with those of the States east of the Rockies. These reasons, outside of some minor ones, may be summed up as follows:—Higher rate of interest on loans, higher wages paid to employés, higher prices paid for fuel, higher water rates, higher taxes, higher rates for insurance. To the populations of the Western States the moral of this ought to be the formation of a resolve never to rest until they are enabled to freely supply their requirements from any market they like.

THE CROPS OF INDIA.

India is a factor of so much importance to the welfare of this country that we may reasonably be excused if we regard everything in connection with it as of the greatest interest. The prosperity of Lancashire depends, in a degree, much greater than is generally known, upon occurrence of sunshine and rain in due season over the Indian Peninsula. It is seldom that the former is deficient; it is a short supply of the latter that is mostly feared. In former times, and not long ago, this meant disaster and famine, in which millions of the population usually perished. Thanks to the opening up of the country by railways under our recent *régime*, this is no longer liable to occur, as supplies, sufficient at least to ward off famine, can be transmitted to the districts in which scarcity exists. Though this enormous advance has been made, yet it by no means obviates liability to comparative scarcity, in which the price of rice advances to such an extent as to absorb the entire scanty earnings of the people. In this contingency there is little or nothing left wherewith to purchase clothing, and Lancashire quickly feels the decline in the demand for the productions of its spindles and looms. It is, therefore, always gratifying to have the assurance that an abundant monsoon or rainy season is a fact and not a contingency. This is now the case, as a telegram from Calcutta, on Tuesday last, announced the fact that the monsoon is now well established, and the rainfall, so far as the season has gone, has been abundant. Unless, therefore, there be a premature cessation of the rain, the crops of India are assured, and therewith a favourable position for the prosperity of Lancashire is assured.

FIRES IN COTTON SHIPS.

All our readers interested in cotton will be aware of the frequency with which fires occur on board cotton ships, when just about to leave port. Our consul at New Orleans transmits the following as a clipping from the maritime journal called *Fairplay*, which is responsible for a correspondent who writes on this subject as follows:—

Speaking to a gentleman who had lived in an American port for some years, he expressed his opinion that most of these fires were incendiary, or that if the cotton was not actually set on fire, some substance was placed with it in the hope that a fire might break out whilst the ship was loading, in order that the cotton would have to be picked and repacked at the port. This seems a miserable state of things, but my informant is a firm believer that it exists. He has seen hundreds of times cigarettes smoked on quay, on deck, and even in holds, whilst the last few bales were being stowed.

America is a land in which new developments of moral phenomena are constantly taking place, and amongst the wonders thus originating we hardly need feel much surprise even if there should be a degree of truth in the above statement.

LEEDS AND ITS GAS STRIKE.

There is still trouble in the air with the gas-workers. The gas stokers of Leeds have been trying to enforce, in connection with the Corporation's gas works, the principle that they shall be conducted in accordance with the rules and regulations of the Gas Stokers' Union. What these are there is no need to state; the struggles of the past winter have made almost every district familiar with them. Suffice it to say that they are thoroughly inconsistent with that control which it is necessary our corporation committees, on behalf of our urban communities, should have over them. It would be too much to expect that the socialistic element which pervades these societies should accept its defeats of the last winter as final, or that it will not renew its attempts at the first favourable opportunity to coerce the community into compliance with its demands. Bearing in mind this fact, and that the days are now on the down grade, it becomes of the highest importance that Gas Committees and those having charge of the gas-making establishments should take a good look ahead from their present standpoint, and see if there are not signs of storms in the coming winter. The present times are times of volunteering, and we see no reason why volunteer brigades of citizens should not be formed in every town and district in connection with our gas-works to work them in the event of such demands as those of last winter being advanced. With the institution of a technical class for the study of gas making, the necessary theoretical knowledge could easily be imparted, and the strong young men of our middle classes could easily devote a little of the physical energy now spent in cricket and footballing to the rescue of our leading industries in these districts from such a disaster as a complete stoppage of labour from a strike in the gas-works would imply. We commend the subject to the attention of those interested.

Articles.

PICKETING AT PRESTON.

We regret to see that the pernicious practice of picketing is still being kept up at Preston. For a considerable time past there has been a strike at the mill of Messrs. Hartley Brothers, Shelley-road, in that town. Into the merits of the strike it is not necessary to enter, as we have previously made some comment upon the subject. We deeply regret to see that the Spinners' Association still deems it proper, in the interests of its members, to continue the immoral, if not illegal, practice of waylaying workpeople who choose to work when their members refuse. It is useless to contend, as no doubt they will do that they are within their rights. Strictly and technically speaking they may be, but they are emphatically walking upon the boundary line between that and wrong, and, in the event of the slightest "wobbling" on their part, they are into the wide field of wrong. We hold it to be impossible, with the sentiments animating "strikers," for the practice of picketing to be indulged in without intimidation and breaches of the law occurring. The general conditions of a workman's life in these districts are not such as to permit much cultivation of social amenities, and that this is the fact is attested by the proverbial character of Lancashire working-men. "They are a rough lot" is the general verdict of the country. Whilst we are compelled to admit the general truthfulness of this verdict, we are quite aware that they possess many good qualities not apparent to a stranger or casual visitor amongst them. But at all events their best friends would hardly contend that their use of kind words to those they regard as in any way their enemies is a salient feature of their bearing. The Preston Spinners' Association know this as well as anybody, and they also further know that it is not their own practice, nor that of any other trade society which condescends to use such foul weapons as picketing, to select the mildest-mannered members of their society for the performance of these duties. In fact they know well that such men would not accept the job, if even they would be willing to tacitly permit others do it. A man of "kind words" would never be employed in this service and, as the event proves, has not been in the case of the Shelley-road Mill. On Tuesday at the Preston Police Court, James Rogerson, 30, Swansea-street, Ashton, and late of Blackburn, summoned John Kendall, Aqueduct-street, for intimidating him. A newspaper report says:—

From complainant's statement it appears that for some time past there has been a strike at Messrs. Hartley Brothers' Cotton Spinning Mill, Shelley-road. In February he commenced work there as the old hands turned out. For so doing he had been "humbugged" and threatened. One Sunday morning his children were told by some men to go in the house and fetch their father out, and they would punch him back to Blackburn. About half-past five o'clock on Saturday morning, June 21st, he was going to work, when he saw the defendant Kendall quarrelling with another man, and heard him say, "Take these cornerakes up with thee," referring to complainant and others with him. Complainant said, "What are you bothering about? We are paid up to the list for what we do, and you gave your notice in and left the place." Kendall replied, "We're only waiting of dark weather," and picked up a stone and threw it at him (complainant). Kendall also said, "We'll have none of thy cheek, thou —— crook-legged knob-sticking ——." John Wilcock, who corroborated, said that he believed the men came out owing to bad stuff. At least, that was what he had been told. They were paid by weight. He had worked at the mill through the dark weather, and Kendall had never done anything to him. Other corroborative evidence was given. Evidence was called for

the defence to prove that nothing was said by Kendall either about knobsticking or waiting for dark weather.

Such is a condensed report of the proceedings, which hardly does justice to the plaintiff's case. The magistrates gave the evidence the most careful and earnest consideration and were of opinion that intimidation was proved, but this being the first case that had been brought under their notice for some years, instead of imprisoning defendant, they fined him in the mitigated penalty of £5 and costs, or in default one month's imprisonment. This was a decision all honest men will heartily approve. Of course the offender would not go to prison; the fine would be paid by the Association.

Now we would put it to the working-men of Preston whether it is not time to consider this question as between man and man, and with out the bias of self-interest, and to ask themselves whether, after they have left employment of their own accord, they can, with any sense of justice to their fellow workmen, as a class prevent others from taking it up? We unhesitatingly affirm that it is not just. Neither is it just to their employers, nor to the community at large. Their society has clearly put them in the wrong, even legally, and they are doubly convicted at the bar of the moral law, as unjust oppressors of their fellow-men. Let them therefore call upon the officials of their society to immediately stop all such proceedings—proceedings which place them in a false position in the eyes of the public, as not being accordant with the sense of justice which, we are willing to believe, animates them. If they fail to set themselves right the public will have little sympathy to accord them in the event of their making an appeal for it on their own behalf, a course they are always ready to take when they have only a shadow of such a substance as the plaintiff had in this case.

TEXTILES AND THEIR TITLES.

"Now, my daughter," writes Mr. G. W Cable, the popular American novelist, in one of his stories of the Southern States, "do you know what camayean was?" It would puzzle a Civil Service crammer, who is supposed to know as much about everything as mortal man can hold, to answer this question, and when we know that camayean was a fabric made and worn towards the close of the eighteenth century, few of us would be much the wiser, were it not that a full and reliable description immediately follows:—"It was a stuff of great fineness, yet resembling not a little the unbleached cotton of to-day, and over which were spread very brilliant designs of prodigious size. For example, Suzanne's petticoat shewed bunches of great radishes—not the short kind—surrounded by long green leaves and tied with a yellow cord; while on mine were roses as big as a baby's head, interlaced with leaves and buds, and gathered into bouquets graced with a blue ribbon. It was ten dollars an ell, but as the petticoats were very short, six ells were enough for each." This interesting item of information may be recommended to all literary men who may come after, as the way in which textiles ought to be treated, even though Mr. Cable offers no theory as to how camayean came by its name, and does not even attempt to find out some town or locality, nearly like it in sound, and say that it was originally made there, to which point modern attention to textile history is almost entirely limited.

It is well enough to discover, if possible, the source and progress of manufactures, and, considering how much significance attaches to the advancement of a people in the industrial arts, there is good reason for trying to settle where this or that fabric was first produced. The course of trade can often be followed in the name of a stuff, as where we find clothes called Dunsters and Tauntons and Kendalls, to shew the manufacture of woollens which once flourished throughout Somersetshire, and still lingers in Westmoreland. The foreign names, which fill the long list of linens on which Customs duties were paid in the seventeenth century shew, too, not only where they were made abroad, but how little beyond merely domestic manufacture was available at home, since so much and in such variety had to be imported. There can be no doubt as to why linens were called Hollands, and Silesia not only gave its name to another linen, but afterwards enriched the English language with a new adjective, for, because of the poor quality of the goods brought from there, anything slight, flimsy, and ill-made came to be known as "sleasy." We find muslins called Glasgows as long ago as 1727, in a list of linens required to be officially stamped, and at the same time the fact that muslin cravats are called Paisleys points out to another stage in the career of a town which has had more specialities than any other in the kingdom, and been successful in them all. Home made linens first, then muslins, next sewing thread, linen gauze, silk gauze, muslins again, shawls, silk gauze again, have all in turn been established at Paisley, and although fashion has served it many a scurvy trick, Paisley has never been discouraged, but whenever its staple production was left in the lurch was always the first to take up another. In such testimonies as these there is advantage in examining textile names, and there are besides more remote instances, like unto them, which may be accepted, such as attributes a Saracenic origin to Sarcenet, or derives damask from Damascus. But in too many cases the union of names and places in theories about textiles is nothing better than a guess at a riddle, sometimes a very random guess too.

Other reasons than locality have often determined the name of fabrics. Coburgs and Orleans may be said to have a political parentage, Alpacas and Paramattas only need elementary natural history and geography to explain them. Grosgrain indicates texture, Linsey-woolsey and Delaine material, Lustrings finish, Motley and Medley—two ancient cloths often mentioned—denote colour, Plainbacks—nothing could be plainer. The Mockado, so often used by old dramatists, was a mock velvet, and the older Bastard quite as decidedly, but more bluntly, an imitation fabric. Lawns, called Carolines early in the eighteenth century, and Worsteds, known as Codringtons a hundred years later, were personal compliments, like the Gladstone bag, the Brougham, and the Blucher and Wellington boots. But personal names for fabrics do not "catch on." It is remarkable how little current affairs and popular favourites are reflected in dress. We do not find the Stanley serge or the Morley merinoes advertised on every hoarding, nor was the Commission velveteen ever heard of. Whether the coming woman, when she comes, will be wheedled into purchase through the use of political or topical titles no man knoweth, but at present they have no concern for the gentler sex. It is amusing to read through the fashions intelligence of other days, when such names were sometimes used for novelties, and to notice how the wave of Time has swept the notables of but a few years ago into oblivion. Even the well-deserved esteem in which the Prince Consort was held failed to make the Albert cords of the Great Exhibition year a success, but minor men and things very little older have disappeared altogether. The *World of Fashion* for 1829 announces:—

Some new materials for dresses, named *Allambras, Pactolin s*, and *Japonnaises*; these beautiful tissues are thought to form a fine relief to the jewellery worn with them. The *King of Siam* is another new and original material for dresses, which takes its name from its pattern, which, it is said, has been copied from that on the King of Siam's mantle. To correspond with this dignified style of fashion, it is requisite that the winter tissues should be rather grave and imposing in their appearance; the fine Lyonese velvet, and a beautiful texture in which is interwoven gold and silver, and the silk often painted in flowers of various colours, in flowers, branches, and a multiplicity of other designs. Tunics embroidered and painted form the most beautiful dresses for balls and evening parties, Ispahan velvet and robes of Cachemire, bordered with variegated palm leaves. Among a select number of new silks is the *Meletaline*, half silk, half worsted, *Barazinkoff Egyptian, Merino Egyptian, spotted chally, Dauphiness poplin*, and *toile de Bombay*.

Where are Pactolines now, where the Barazinkoff Egyptian, and where, oh, where, is the King of Siam? All hurried away into the Great Limbo of Forgotten Things, not nearly so well remembered as Brandeum, and Samite, Bayo, Sayo, Baudekin, Mustre-de-villiers, Taffeta, Calimancoes, Sagathies, and dozens of other fabrics, some of them many centuries older, Crapaudaille is remembered as a species of crape, Stammel for petticoats and breeches makes quite a figure in old literature. Lockram, Sammeron, Mildernix, and Poldavis are still tolerably familiar as linens of other days, but nobody remembers that it was once possible to ask for a yard-and-a-half of the King of Siam. Not that this is exceptional as a textile curiosity. Ranters appear in a list of stuffs made of combing wool, Copperplate was sold by linear measure in the new United States at least from 1794 to 1821, and Patch from 1791 to 1859. Zebras were popular shawls when Her Majesty began to reign. Elephanta Ribs and Rhinoceros Skins were fairly well-known fabrics some fourteen years later, as well as Figured Amazonians, Flax Crankies, and Rum Swizzles. But of all the extraordinary names ever applied to a textile material, the most astonishing was Milk-and-Water. It is possible sometimes for a reader to fall into a trap unintentionally set for him by the random orthography of those days when dictionaries were not, and every man, as regards spelling, did that which was right in his own eyes. Not long ago we were looking through some inventories of the effects of Exeter citizens, who departed this life in the reign of Elizabeth, and two of these, detailing the apparel and stock-in-trade of well-to-do merchants, proved very interesting. "Ffyne dowlis sheites" did not hide sheets of dowlas, and "a frienge panne" was intelligible; "ij ffiaunders rugges" were noted as unusual in bringing coarse goods from the Continent, and "yrysse ffryse," as Irish frieze, was equally remarkable, although not exceptional, in shewing Irish wares exported at that date; but then came an entry of

Itm a pece of Callowe cowe cloth xije.

What could Callowe cowe cloth be? There was no mistake about it, for there followed again—

Itm vij. yardes & a halfe of Callowe cowe cloth at xijd. the yard ..... vijs. vjd.
Itm. vij. yardes of Callowe cowe cloth at ixd. the the yard ..... vs. ijd.

It was possible that this might be a stuff of cows' hair, for the patience of people who had to make their own cloth, and had nothing to make it with, knew no bounds. A substitute for linen has often been made from the stems of nettles, and did not John Howard find the female prisoners of Bremen spinning and weaving the hair of cows and goats? So that it might be cow-cloth, but why callowe? Then the explanation was found. Devonshire pronunciation and an anticipation of phonetic principles had given this strange form to plain calico. But as to Milk-and-Water, there could be no error in that. That the stuff was found in the stock of two different mercers of Westmoreland with sixteen years' interval between the records, proves that the name was no whim or freak, but an established fact, and we are left to imagine what manner of stuff could have deserved such a queer title.

(To be continued.)

MAGAZINES for the exhibition of Russian goods will forthwith be opened by the Russian Minister of Finance in all the chief cities of Europe and Asia. Already arrangements have been made with the Russian Consuls at Berlin, Hamburg, Constantinople, London, Naples, Paris, Stockholm, Teheran, and Tokio, each at a cost of 50,000 roubles. Besides samples of Russian industry, these magazines will be supplied with a library of statistics of every branch of Russian industry and commerce.

Letters from our Readers.

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

THE PROPOSAL FOR A TOP MARKET

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

Sir,—In the report of the discussion of the Bradford Chamber of Commerce, recorded in your issue of the 28th inst., we notice a statement by the Mayor that the establishment of a terminal top market in London had been "suggested by the London brokers." We take leave to say that this is an entire misconception. Such a course, so far from being suggested by the London woolbrokers, is, on the contrary, very decidedly deprecated by a majority of their body, and the request conveyed through them to the Bradford Chamber for a consideration of, and the expression of an opinion upon, the question was made distinctly at the instance and on behalf of the London Produce Clearing-house, Limited, by whom the subject was initiated, and of this the Chamber was made fully aware when being addressed on the matter. As the Mayor's statement, although no doubt inadvertent, may be calculated to leave a false impression upon your readers, we shall be much obliged by your giving an early and prominent insertion of this letter in a forthcoming issue of your journal.—We are, etc.,

Chas. Balme & Co.

61, Basinghall-street, E.C., London,
27th June, 1890.

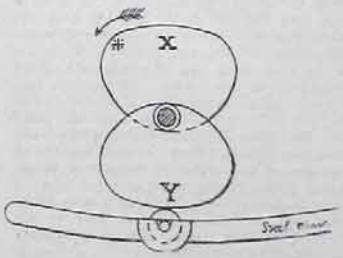
ANSWERS TO CORRESPONDENTS.

J. F. M. (Perth.)—Messrs. Ashton and Co., Knott Mill, Manchester, and Mr. W. Abell, Brook-street Ironworks, Derby, are makers of Ribbon Blocking Machines.

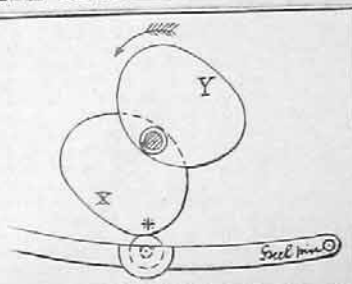
J. A. W. (Sowerby Bridge.)—For treatise of calculation in cotton spinning, see Scott's Practical Cotton Spinner, Moss's Cotton Manufacturers' Guide, Baird's American Cotton Spinner, and W. Leigh's Practical Cotton Spinner, of which the last-named is the best, but is now, we believe, out of print. You might however obtain it second-hand.

H. K. (Dewsbury); H. C. S. (Belfast.)—Communications received.

J. C. (St. Petersburg).—Question 13, section 2, ordinary grade, Jute manufacture—"In what position are the wipers in a plain loom (*a*) at the moment the shuttle is about to cross the web, (*b*) at the moment the reed reaches the fell of the cloth? State what change has taken place in the sheds."—Answer: (*a*), The crank of the plain loom revolves twice for once of the wiper shaft. The crank revolves backwards, and as the wiper shaft is geared directly with the crank, it must revolve forwards. At the moment the shuttle is about to cross the web, the crank is in the top centre, and the lay is therefore half way back. The shed at this moment is full open. The wiper,



Y, is pressing down the treadle to its full extent. Now, when the shuttle picks, the crank—travelling backwards twice as fast as the wiper shaft travels forward—makes ¼ of a revolution before reaching the fell of the cloth. In the same time the wiper shaft travels ⅛ of a revolution, and therefore (*b*) at the moment the reed reaches the fell of the cloth, the treadle pulley of the X wiper has just entered on the dwell, and is advancing towards the centre of the wiper, in order to be ready for the next pick. In this position the shed is also open. The change that has taken



place in the shed is, that in the first case, the half of the shed worked by X wiper was down; in the second instance, the half of the shed worked by X is down. In both cases the shed is wide open.

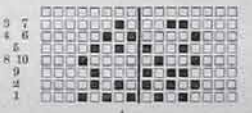
The competition for the Oxford University Extension Scholarship has this year produced some remarkable results. Among the working men competitors were a dyer, a shoemaker, a joiner, several cotton weavers, and a mechanical draughtsman. The best essay on English poetry in the nineteenth century was written by a working plumber at Abergavenny. A capital essay on Stratford was sent in by a machine fitter from Oldham, while the educational influence of co-operative industry is perhaps indicated by the fact that two of the best essayists are employed as cotton weavers in the Nutclough Co-operative Factory at Hebden Bridge.

Designing.

NEW DESIGNS.

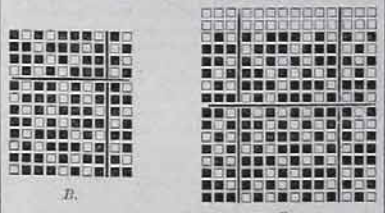
ZEPHYR CLOTH.

We give in this issue a washing zephyr cloth, fast colours, on 7 shafts—2 plain stripe, 5 for quilting (see pegging plan and draft marked *A*). Reed 60, two in a dent, 30's twist, 60 picks per inch of 30's weft. Warping and draft: 60 ends of slate on shafts marked 3, 4, 5, 6, 7, 8, 9, 10; 10 dark brown on same shafts, 12 slate on shafts marked 1, 2, and 10 dark brown on shafts marked 3, 4, 5, 6, 7, 8, 9, 10; total ends in pattern, 92. Checking the same as warp. Ten to

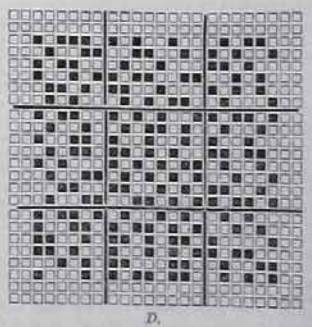


A.

PEGGING PLAN AND DRAFT.



B. *C.*



D.

the round if the transverse stripe of 12 slate is not made same as warp; in fact it is scarcely required to be so. Changes may be made as follows: fawn and blue in place of slate and dark brown; bleached white, and shrimp or orchid mauve hue; wallflower (a lovely shade of red brown) and willow green; any of the browns, such as vandyke, oak, cocoanut fibre, chamois, with very light blues; in the lighter tints, pink, salmon, coral, light drab and grey.

There would be little difficulty in giving in each issue a number of designs which would look well on paper, but possess little or no practical value, if not actually useless, so that it requires both judgment and a considerable amount of calculation to furnish even a very simple pattern that will suit the trade. What might serve the purpose of one manufacturer or the requirements of a certain market, may not be of the least value in another direction, or rather let us say the design that meets with the greatest approval in Manchester might be unsuitable in London. Both skill and ingenuity are required in determining size, quality, and quantity of yarns and warp and weft to suit a given pattern and make something like a decent cloth. Again, what has a designer to guide him as to the style of patterns he must adopt? The winter and summer season mean heavy or light cloths, but there are the character and application of the pattern to determine; some patterns will only suit light cloths, and others only heavy goods, while plenty of patterns will suit both. Perhaps there is no better indication of the direction in which public taste and fashion will run than by careful observation of what has been and the changes that have taken place for many seasons back. Taste is nowhere in a case of this kind; the goods of the past and present seasons must be studied and the changes that have taken place in the inclination of the public mind to one style of fabric or another. By such means the designer will be able to produce the patterns that the public mind desires, and his taste is that of the public. As the season advances styles become more distinct, more colour is added, and wherever threads of silk are introduced they are thrown more prominently on the face; a lower grade of stock is often worked in, and before the close what was quiet and subdued becomes glaring and loud, "with the colours swearing at one another."

These remarks lead up to the very vexed question of what should constitute a good oatmeal cloth. We have tried to shew that the public fashion decides such questions independently of the designer. We give pegging plans, *B*, *C*, *D*, as suitable for either coarse or fine goods. There is variety and the maximum amount of irregularity. Weft spots are to be preferred in oatmeal cloths, weft very coarse, as low in many cases as 5's. The great object in making these patterns effective is to create as great an amount of irregularity as possible so that repeats are scarcely visible.

INDIAN GINGHAM.

Woven in Madras. *No. 1.*—Length, 5 yards 34 inches; width, 31½ inches; weight, 15 ounces 7 drams; 72 ends per inch, 72 picks; weft and warp 40's; plain cloth, 12 red, 2 white, 5 repeats, 12 white, 2 red, 5 repeats, 12 red, 2 white, 5 repeats, 12 dark green, 2 yellow, 5 repeats; total ends in pattern, 280; checking same as warp pattern.

No. 2.—Same reed, ends, picks, and counts as *No. 1*. Length, 4 yards 33 inches; width, 26½ inches; weight, 15 ounces 4 drams; warp pattern: 40 unbleached grey, 8 red, 2 yellow, 8 dark green, 2 yellow, 2 dark green, 2 yellow, 2 dark green, 2 yellow, 8 dark green, 2 yellow, 8 red; total ends in pattern, 86; checking the same pattern.

No. 3.—Reed 48, four in a dent, or 96 ends on 1 inch; 80 picks, warp and weft 60's; length, 8 yards 21 inches; width, 31 inches; weight, 1lb. 8 ounces. Warp pattern: 16 white, 8 dark blue, 16 white, 4 light blue, 16 white; total, 60 ends. Checking: 24 blue, 4 white, or 28 picks.

The three patterns here given are particular favourites with rich and poor alike. We intend to give more gingham patterns from other districts in a future issue.

COTTON TROUSERING.

No. 1.—Indian cotton trousering from the Kistna district, Madras. Lengths, 2 yards 4½ inches; width, 26 inches; weight, 7 ounces 8 drams; reed 56, four in a dent, or 112 ends on the inch; 2 in a heald, 112 picks, two in a shed; weft and warp 30's; four end or cassimere twill stripe, 8 dark blue, 24 unbleached grey; weft all dark blue, or unbleached grey.

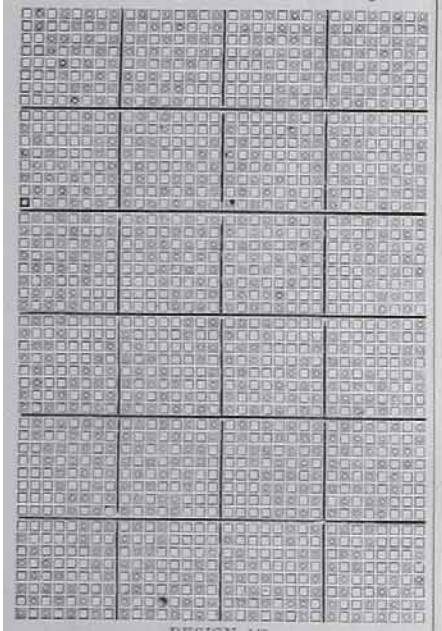
No. 2.—Same reed as *No. 1*. Counts of warp and weft 24's, and 80 picks per inch; warped 4 unbleached grey, 4 mid blue, two in a heald; cassimere twill, checked 4 red, 4 dark blue, two in a shed. This cloth is made at Akola Bersar

DRESS FABRICS.

Designs 147 and *148* are supplied for this class of goods. *Design 147* is a very simple yet very neat pattern on sixteen threads and thirty-two picks, but by employing a point draft as indicated only eight shafts need be employed; taking into consideration, therefore, the number of shafts employed, this pattern is very effective. As developed here it is suitable for a cotton warp and lustre weft piece made as follows:—

Warp.	*Weft.*
All 2/60's cotton.	30's or 36's mohair.
32's reeds 2's, or 36's reeds 2's	70-80 picks per inch.

The positions of figure and ground might be reversed for a different effect, or again this design suggests a form for developing the ground of a figured design. The effect as here given is



DESIGN 147.

perhaps rather large for employing thus, but if a very bold figure be its complement, or if it be reduced in size, it should prove very effective.

In *Design 148* the same figure has been utilised on a more comprehensive principle, being placed in all the effective positions possible. Rather more than a repeat is given, in order to give a complete idea of the figuree which, it will be noticed, is concealed on the principle already mentioned in one of the article, on the "Arrangement of Figures." A design like the one under consideration, or more particularly *147*, if developed in solid colours, would appear uncongenial if a definite geometrical figure were the prominent characteristic, but if due care be taken to subdue any inclination of a figure to shew too prominently by the introduction of equally interesting figures, as in *Design 148*, then the mind, in contemplating such a design, becomes lost in a maze of wonderment as to its origin, at the same time admiring any evidences of skill apparent. It will be noticed that in the design under consideration (*148*) several definite figures are involved: thus we may pick out the square, the star, and also the two figures combined in *Design 147*, while all these in unison produce another figure, which is almost lost by the repetition of its components, but which is, nevertheless, present.

The particulars for the development of this design may be the same as for 147, in which case the solid squares should be left out and the diamond-shaped figure developed in weft, the long flushes being tied down as required. The following particulars should, however, prove more acceptable:

Warp.	*Weft.*
All 2/60's blue silk.	All 30's yellow silk.
36's reed 2's.	72 picks per inch.

If a cotton warp be used, as in the first case, the solid squares may be formed by the introduction of an extra weft, under which circumstances colour must be taken into account and carefully considered. All worsted warp and weft may also be used with the design as here given; also cotton warp and weft.

MANTLE CLOTH.

As a mantle cloth, *Design 148* may be used in several ways. As here given, it is too small to prove very effective, but if considerably enlarged the following system of development may be adopted:—The warp should be of fairly fine worsted, say 2/40's to 2/50's, medium sett, say 70—80 threads per inch, with two wefts, one mohair or lustrous worsted, the other woollen. The star figure developed plain should be formed by the woollen weft in rib or twill form; the white portion must be developed in worsted warp, and the solid square portion in the mohair weft.

As a single cloth without extra weft with a cotton warp and lustre weft made much heavier than the sett supplied above, a good effect will be obtained.

WORSTED TROUSERING.

In *Design 149* a special weave arrangement has been made for the introduction of colour:—

Warp.

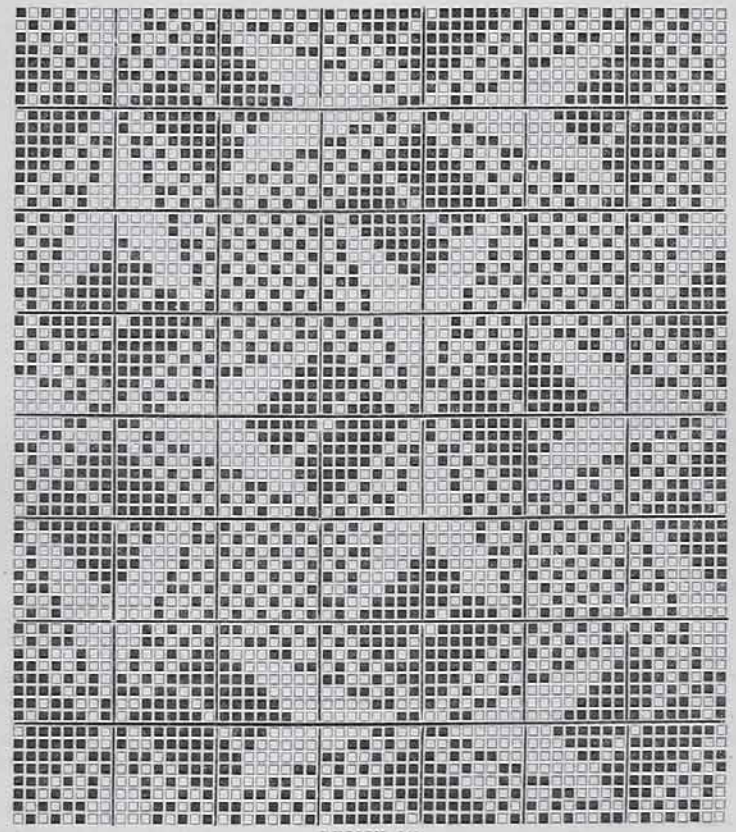
4 ths. 2/40's black worsted,
8 ,, ,, very dark drab or brown worsted,
24 ,, ,, black worsted,
8 ,, ,, dark blue or dark peacock green worsted,
20 ,, ,, black worsted.

16's reed 4's.

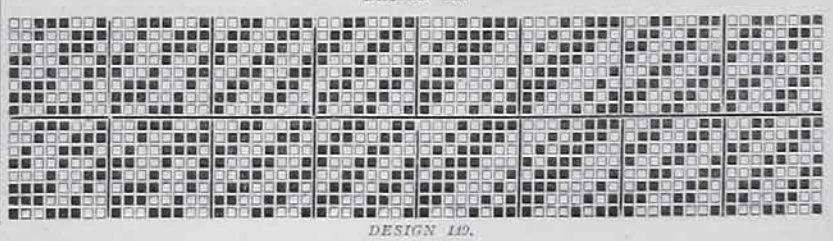
Weft.

All black worsted.
64 picks per inch.

The sixteen threads of the Campbell twill and diagonal are introduced to give a distinct stripe, up the middle of which go the coloured threads. These threads must be very neutral since they are so prominent. The Mayo or Campbell twill may be used in the place of the 8-end diagonal, when fewer shafts will be needed, twenty being required in the first case, but only twelve in the second.



DESIGN 148.



DESIGN 149.

Machinery and Appliances.

PATENT SLOW MOTION FOR GRINDING CARDING ENGINE CYLINDERS.

MESSRS. JOHN TATHAM AND SONS, LIMITED, ROCHDALE.

The question of grinding the wire clothing upon the flats of the Revolving Flat Carding Engine has for some time engaged the attention of inventors and machine makers. Notices of inventions for this purpose have from time to time appeared in these columns, and amongst others we have had occasion to review an arrangement, the invention of Mr. Thomas Knowles, of Bolton. We have now pleasure in introducing a simple arrangement, the invention of Mr. Knowles, the object of which is to give a slow movement to the grinder whilst the operation of grinding is going on.

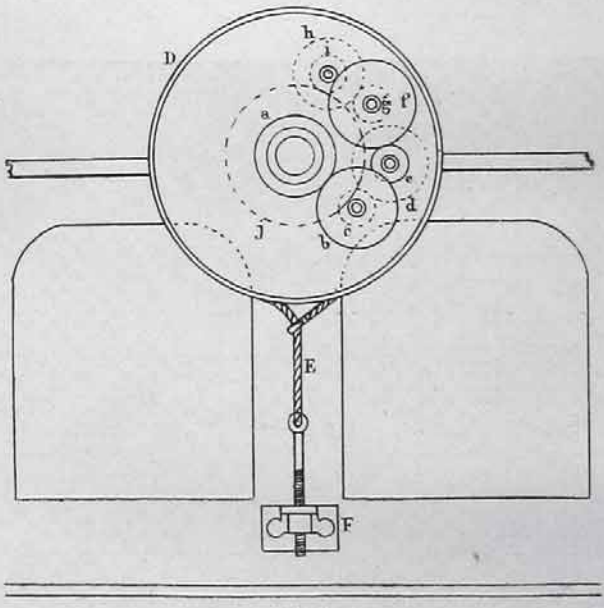


FIG. 1.

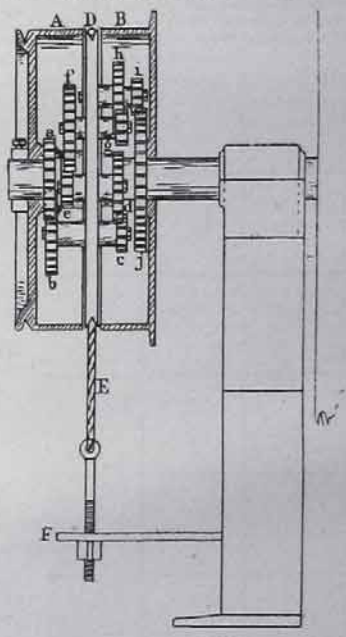


FIG. 2.

The reasons why a slow motion is preferred to the customary rapid revolution are now pretty well understood, but stated broadly it is considered that the wires to be ground should either be stationary or move so slowly that the grinding roller shall have a full opportunity to act equally upon each wire as it passes beneath the grinding roller, which cannot be done whilst the cylinder is in rapid revolution.

In order to procure the needful slow movement of the cylinder many devices have been introduced. The one to which we now call attention has the merit of simplicity combined with fewness of parts and facility of application, there being no changing of straps, bands, pulleys or wheels required. Reference to the accompanying illustration will enable the reader readily to understand the arrangement referred to.

It will be noticed that the whole of the gearing required for the production of the needful speed is contained within the fast and loose pulley of the carding engine. The letter A, Fig. 2, represents the loose pulley and B representing the fast pulley. Between these fast and loose pulleys, and carried upon the boss of each or either of them, is the disc D. This disc carries the train of wheels required to transmit the movement of the loose pulley to the fast pulley, and so to the cylinder at a reduced ratio; but, as in the ordinary working of the carding engine, the fast pulley, loose pulley, and disc all run round together, the disc D is provided with a groove into which may be placed, when required, the band E. This band, drawn tightly round the disc D and secured to the bracket F, prevents the revolution of the disc D, and the strap being placed upon the loose pulley A, gives the required motion to the cylinder through the train of wheels to be hereafter described.

The wheel *a* is fixed upon the boss of the loose pulley A, driving the carriers *b c*, in like manner *c* drives *d e*, and *e* drives *f g*, and *g* drives *h i*, these being all carried by studs upon the disc D. In its turn the wheel *i* drives *j*, which, being fixed upon the fast pulley B, gives the required motion to the cylinder. Any of the above wheels being interchangable, the speed may be varied at pleasure.

It will thus be obvious that a very desirable result is easily and simply attained. The new arrangement is being made by Messrs. John Tatham and Sons, Limited, Rochdale, who will be glad to answer any inquiries regarding it.

MESSRS. G. H. HOLDEN AND CO. (successors to Thomas Unsworth and Co.), machinists, have removed from Carr-street, Blackfriars, to Commercial Iron Works, Knott Mill, Manchester, which, being new and more commodious premises, will afford greater facilities for the transaction of their increasing business.

A MOVEMENT is on foot to export Egyptian cotton to Massachusetts, and an agent is already *en route* to make necessary arrangements. The idea of the promoters of the scheme is that the cost of transporting cotton from the Southern States is so great that they will be able to send the Egyptian product to the United States at a profit.

MEASURING THE ELASTICITY AND RESISTANCE OF A THREAD.

This apparatus, which is the invention of M. C. Wenner, engineer, of Zürich, indicates the elasticity of a thread as well as its resistance, that is, the tension to which the thread can be exposed without breaking. It can be moved either by hand or by a strap, and the thread which is to be tested passes along continuously at the speed of 15 metres per minute.

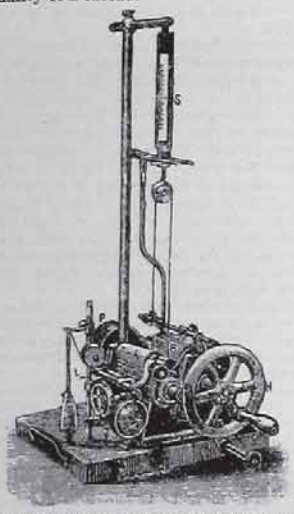
The apparatus consists of two pairs of cylinders, A and B, the former conical and the latter cylindrical. Between these pairs of cylinders is hung a spring balance at a certain height. The cylinders A are controlled by means of a toothed-wheel-work arrangement by the cylinders B, which receive their motion by the pulley F or the fly-wheel H. The two pairs of cylinders have the same rapidity. The pressure cylinders A and B are covered, the former with caoutchouc and the latter with leather, and serve to hold the thread so that there cannot be any slipping. The greatest diameter of the cylinders A is equal to the diameter of the cylinders B. A guide, L, which can be displaced by a screw, regulates the entrance of the thread into between cylinders A. Lastly, the apparatus is provided with an automatic disengaging gear, which causes the machine to stop as soon as the thread breaks.

The following is the way in which the apparatus acts:—The thread to be tested, after being introduced into the guide, is taken up by the cylinders A, whence it passes over the little grooved pulley of the spring-balance in order to be taken by the cylinders B, from which it is rolled on to a cylinder fitted with velvet. As the cylinders A furnish smaller lengths of thread than those absorbed by the cylinders B, a draught results between these two pairs of cylinders. This drawing must needs correspond to the elongation of the thread produced by the tension of the spring-balance, that is, it must be proportioned to the elasticity of the thread and the tension to which this thread will be exposed.

It will be necessary then, in order to keep the tongue of the balance always in the same position, to regulate the guide in such a manner that the difference between the quantity of the thread furnished by the cylinders A and that absorbed by the cylinders B, is equal to the elongation of the thread. The position of the guide will indicate the degree of elongation at different tensions; in other terms it will give the elasticity of the thread. The tension to which the thread is exposed in its passage through the apparatus will be indicated in grammes by the tongue of the balance. In order to stretch the thread at the commencement of the operation, the cylinders A are stopped by a disengaging arrangement. The advantages of the apparatus are stated as follows by the inventor:—

1. It can be moved by transmitted power; consequently it works continuously, which makes it possible to conduct experiments on a large scale in a short time.

2. Its action is exceedingly simple. Any worker can attend to it, and experiments can be made for whole hours without loss of time, and thus very exact results can be obtained as to the quality of a thread.



3. It enables the manufacturer to determine in a short time the tension to which a thread can be exposed without breaking.

4. The apparatus marks, by stopping, cuts or weak places in the thread; moreover it marks the inequalities of the thread by the oscillation of the tongue of the balance.

5. It informs the weaver whether or not the yarns which he receives have the qualities necessary for the manufacture of the articles in which he deals.

6. It indicates the least difference of quality between several yarns of the same count, with a precision which cannot be attained by the best connoisseur.

7. It is useful to determine the quality of yarns and of the raw material; to verify faults in a thread; to study the injurious influence of various operations connected with spinning; to find the best twist; and to facilitate a good understanding between buyer and seller. Several of these machines are in use, working in Lille, Roubaix, Rouen, and Belfort, Alsace-Lorraine, and elsewhere. For the illustration we are indebted to the *Moniteur des Fils*.

A NEW spinning mill for worsted has been founded at Gers, with a foundation capital of £150,000, in 600 shares of £250.

Bleaching, Dyeing, Printing, etc.

NEW COLOURING MATTERS.

Several new colouring matters have lately been placed on the market and we are obliged to the makers for samples of same, which we have tried in our laboratory. Although we cannot say that all of these are likely to be of remarkable service to dyers, yet some of them will prove very useful and are well worth the attention of dyers and calico printers. We give the results of our tests with these colouring matters, and leave our readers to judge therefrom of their qualities themselves.

TITAN SCARLET.

This is introduced by an English firm, and is more adapted for dyeing wool than cotton. It belongs or is related to the substantive cotton colours in its composition and like them is dyed on fibres in a neutral bath; 2 per cent. of colouring matter and 10 per cent. of salt yields a good although not brilliant scarlet. The colour is only moderately fast to air and light but is fast to washing and boiling in soap, so that it will be a good colour for cloths that have to be milled. Dilute acids have no action on this colour, neither has acetic acid. Strong hydrochloric acid darkens it a little, while nitric acid makes it slightly yellower. Caustic soda darkens it; so that it is very resistant to the action of injurious reagents.

TITAN RED.

This, as may be surmised by the name, is a product of the same firm, and its properties are very similar. It dyes wool a full crimson red not remarkable for brightness, but which is solid. The colour is not quite as fast to boiling with soap as the Titan scarlet, but still resists it very well. Dilute mineral acids have no action on the shade, neither has strong hydrochloric acid: while nitric acid turns it scarlet and caustic soda darkens it. It is faster to light than Titan scarlet, and resists exposure to light and air very well.

BENZO-ORANGE R.

This is a companion colour to the now well-known Benzo-purpurin, and belongs to the same class of cotton dye-stuffs. It dyes on cloth at the boil in a bath of soap and soda or other alkaline salt a bright reddish orange. The colouring matter is very strong, 2 per cent. being sufficient to give a full shade. The colour is fairly resistant to air and light, being about equal to Benzo-purpurin in this respect; if anything it is slightly better. It stands boiling in soap, but is sensitive to the action of acids; dilute mineral acids turn it black, acetic acid brown, and strong hydrochloric acid turns it a black-blue, as does also nitric acid, while caustic soda turns it scarlet; in which re-actions it has a great resemblance to Benzo-purpurin. There is no doubt cotton dyers will find this colour very useful. For wool-dyeing it gives equally good results.

DIAMOND BLACK.

This is one of the newest of the coal-tar blacks, and for dyeing wool and other animal fibres will be found very useful. It dyes wool mordanted with bichrome, and hence can be used with a great variety of other colouring matters, such as alizarine red, cœruleine, logwood, camwood, etc. The wool is mordanted or one hour at the boil with

3 per cent. bichromate of potash,
1 per cent. oxalic acid;

then after rinsing, it is dyed with

3 per cent. of colour,
2 per cent. acetic acid.

The goods are entered at 145° - 167° F. After working a short time the temperature is gradually raised to the boil, and the dyeing is continued until the full shade is obtained. A better method, and one which gives fuller and better results, is to dye in one bath by boiling for one hour with

5 per cent. of nitrate of iron,
2 per cent. of colour.

It is best to enter the goods at about 150° F. and then gradually heat to the boil. It is important to have a good quality of nitrate of iron, otherwise only brown shades are got, but with a good quality full blue-black shades are got. The shade obtained is not a jet black, but has rather a blue shade; by using a yellow dyestuff like chrysamine, in the proportion of about ¼ per cent., a fine black can be got, or teustic or queicetron may be used.

Dilute acids and alkalies have no action on the dyed fibre; strong hydrochloric acid makes the shades a little greener; while nitric acid first greens it and then turns it an orange yellow. Soaping has no action on the colour, and therefore this new black will be found suitable for cloths that have to be milled.

DIOXINE.

This colouring matter is a nitroso derivative of dioxy-naphthaline; it is not a direct colour, but requires a mordant such as chrome or iron to develop it, and the colour depends upon the mordant used; with chrome brown shades are obtained, with iron fine green shades. It is sent out in the form of a stiff paste of a reddish brown colour, and, like alizarine, is insoluble in water, but it dyes up very evenly. On wool mordanted with chrome using 5 per cent. of dyestuff a fine yellow brown is obtained, while 10 per cent. of dyestuff gives a good full shade; on wool mordanted with sulphate of iron good shades of green are obtained; by using a mixture of the two mordants a variety of shades are obtained, varying from chestnut brown to a bronze green.

The browns obtained with dioxine are fast to acids, both strong and dilute, and to alkalies. They are also very resistant to light and air, and stand boiling in soap and water very well. The greens, while fast to light, are not fast to acids. Dilute hydrochloric acid turns the colour brown, nitric acid turns it a brownish yellow, and caustic soda turns it to a red brown shade. It is resistant to washing. Dioxine is likely to be a useful dyestuff.

INDAMINE.

This is a new dyestuff, which for calico printing is very likely to be of great service. It is made in several shades: J, JD, GG, R, 2R, 3R, and 6R, varying from a fine indigo-blue to a bright crimson red. The dyestuff is of a basic character, derived from a base related to induline. It is dyed on cotton with tannic acid and tartar emetic in the usual way, or sumac and tartar emetic may be used. It is a strong dyestuff, two per cent. yielding full shades. The J shade is a very close imitation of indigo, and may be used as a substitute for that dyestuff; it is equal to it so far as resistance to light and washing is concerned, but is not as fast to alkalies and hydrochloric acid. By passing the dyed cotton through a bath of nitrate or acetate of iron the shade is darkened.

The dyestuff is sold in the form of crystalline powder varying in colour with the different marks. The 6R is a greenish black powder, the J is a purple red powder, the GG is a grey black powder. It is soluble in water. Acids turn the colour of the dyed fibre greenish, while caustic soda turns it maroon. The colour resists boiling with soap and water fairly well, but its chief characteristic is that of being fast to light.

Indamine, however, will be found of most service in calico printing, and it can be applied in the manner usual with tannic colours, the bright shades that can be obtained distinguishing it from other fast blues.

NIGRAMINE

Is a colouring matter similar to the last-named, and is used in the same way. It gives shades of grey, which are very fast to light. Acids turn it green, and caustic soda a brownish red. It is fast to boiling in soap and water.

RUBRAMINE

Also belongs to the Indamine colours, and dyes tannic-mordanted cotton a fine crimson red colour. It is a very strong colour, from 1 to 1½ per cent. being sufficient to give good shades. The shades are fast to light, and moderately fast to soaping, but it does not stand acids,

which turn it a greenish blue, while caustic alkali turns it maroon.

Indamine, Nigramine and Rubramine are well worth the attention of dyers and calico printers.

DYEING WOOL WITH ALIZARINE COLOURS.

Before the introduction of the now well-known alizarine colours, the wool dyer had to use madder or garancine for producing fast reds. There were many difficulties in their use which cropped up from time to time: colours would come up uneven; a perfectly even colour was very hard to get, and was always a matter of uncertainty; matching colours was almost impossible by the old madder process, the dyer never knowing exactly what shade he would get; another fault was the extreme slowness of the process, which necessitated long boilings, and these by no means improved the wool; then the insoluble powder that was used got into the wool, and the longer the boiling, obviously the more it was fixed, and its removal could only be effected by repeated washings. Frequently, to avoid all these troubles, wool dyers employed the red woods, or archil, which are much easier to use than madder, but at the same time the shades they give are much more fugitive, and the results on that account not as satisfactory.

The same with indigo: a vat blue was satisfactory so far as regarded fastness, but was rather troublesome to use in wool dyeing; the extract is much easier to use and gives fine shades, but these are very fugitive. When the shade wanted was such as enabled dyers to adopt the process, moderately fast shades were got by giving a vat blue bottom, mordanting with alum and tartar in the usual way, then dyeing up with archil, fustic extract, and indigo extract. The shades so got were fast to milling, but the red was fugitive and soon disappeared on the goods being exposed to light; the yellow did not fade quite as much, while the blue remained, the result being that the cloth thus dyed faded to a greenish blue or grey.

The introduction of alizarine got rid of all these difficulties in the way of producing colours fast in every sense of the term; it at once displaced madder and to a great extent archil, cochineal, and the red woods. Being a definite compound, matching became easy, and dyers can depend upon always obtaining the same shade. A few trials will soon shew dyers what quantities of materials are required to produce a given shade, and as a rule regular results can be depended upon. If the shade should happen to come up too light, it may be due to the process not having been carried on properly. The best method of curing this defect is to let the dye bath cool down, run off some of the liquor, add more cold water and alizarine, and dye up again. If the shade come up too dark, the addition of a little sulphuric acid will bring it down, and by using whiting the action of the acid can be regulated at will.

Alizarine blue is a colouring matter that was not available to the older dyers. It is not as easy to use as the other alizarine dyestuffs. The dyebath must be worked for some time at about 90° F. to ensure proper penetration of the dyestuff into the tissue. Then the temperature must be slowly raised, and when it gets to 150° F., it should be kept at that heat and the goods well worked for at least half-an-hour, when the heat may be further increased. Between 150° F. and 180° F. the blue begins to be fixed on the fibre, and to ensure level dyeing it is important to work slowly and to keep the goods well moved. A little acetic acid in the proportion of 1 part to 1,000 of dye liquor facilitates the operation.

Calcareous and magnesian waters form a blue lake with the dyestuff, which is deposited loosely on the goods, and which, therefore, washes off and detracts from the brightness and solidity of the dyed stuffs. In such cases sufficient acetic acid should be added to neutralise the lime and magnesia in the waters.

The alizarine colours are exceedingly useful in dyeing what are known as the mode colours; the number of combinations, and therefore the variety of shades that can be obtained are infinite, and nothing but hints can be given in the limits of this article. They may also be combined with extracts of the dyewoods, but of these only fustic can be said to give perfectly satisfactory results when used in combination with alizarine colours.

Bronze is got with 2¾lb. alizarine blue, 1lb. alizarine red, 10lb. fustic extract; chocolate with 10 to 20lb. alizarine red; clarets with 5 to 10lb. alizarine red; prune, 3lb. alizarine blue, and 2½lb. alizarine red; chestnut, 1¼lb. alizarine red, 1¼lb. alizarine blue, and 10lb. fustic extract. For Havannah, use about half the quantity of materials given for chestnut; for dark green 6 to 10lb.; and for caeruline blue, 6lb. alizarine blue, and 2½lb. caeruline. All the above are for 100lb. wool mordanted with chrome.

Salmon can be dyed with ½ to 1lb. alizarine red on alum, tartar, and tin mordant, using acetate of lime in the dye bath. A bright red can be dyed in a single bath with 12lb. alizarine red, 6lb. tin crystals, 4lb. oxalic acid, and 5lb. acetate of lime, but it is always best with the alizarines to use mordant and dyestuffs in separate baths. Grey by 1lb. alizarine red, 12ozs. alizarine blue, and 3lb. fustic extract on alum and tartar mordant. A pearl grey is got by using alizarine red on a uranium mordant (1 part to 200 of wool), fine full shades being easily obtained.

INDIGO CULTURE.

Indigo is a very important branch of Indian commercial products, 323 lakhs of rupees' worth being the average amount exported in a year. Bengal, the North-Western Provinces, and Oudh and Madras, are the principal sources of commercial indigo, and their exports usually average—Bengal, 187½ lakhs of rupees; North-Western Provinces and Oudh, 73½ lakhs; and Madras, 28½ lakhs. It is also grown rather extensively in the Punjaub, but chiefly for local consumption. Elsewhere its cultivation is not unknown, but is unimportant.

Indigo manufacturing in Bengal has a long history, marked by many vicissitudes of fortune, but notwithstanding some serious checks, and in later years the competition of aniline and other dyes, it continues to hold its place as one of the chief industries of the Province. The total area under indigo in Bengal is estimated to be 588,000 acres, and the manufacture is in the hands of European capitalists. In a fairly prosperous season the exports amount to about 10,000 maunds.

In the North-Western Provinces and Oudh indigo is largely cultivated in the districts to the east of Allahabad, and in the central and western half of the tract lying between the Ganges and the Jumna rivers, where canal irrigation has led to a considerable extension of the acreage under this crop. The total area now under indigo in the North-Western Provinces and Oudh averages about 337,000 acres. Unlike Bengal, the manufacture is, except in the eastern districts adjacent to Berar, in the hands of natives. The crop of 1888-1889 was not a good one, owing to heavy and frequent rainfall, and exports fell from 43,000 maunds in 1887-88 to 40,000 maunds in 1888-89.

Madras indigo is commercially less valuable than that of Northern India. Its cultivation is confined to the Northern Circais, but is extending, and the total area under it is between 400,000 and 500,000 acres. The exports were 23,866 maunds against 26,000 maunds in the preceding year.

The indigo area in the Punjaub is returned as 138,000 acres, of which 82,000 are comprised in the districts of Multan, Muzaffargarh, and Dera Ghazi Khan, where the indigo exported from the province is manufactured. The exports go to Sindh and Kurrachee. During 1888-89 they amounted to 14,085 maunds, valued at 12·39 lakhs of rupees.

A noticeable peculiarity of indigo culture is the extent to which the cultivators of Berar depend upon the North-Western Provinces and Oudh, and the Punjaub for seed. The exports of seed from these provinces average 1·5 lakhs of maunds a year.

A WRITER in the last issue of the *Dyer* says it is absurd for any dyer or printer to make his own extracts of dyewoods, on the ground that he cannot be expected to have the same facilities for doing so as the manufacturer. In this we do not feel disposed to agree with our contemporary's contributor; if the dyer had to make the concentrated extract then we might agree with him, but the dyer does not require these strong extracts; weak extracts are all he wants, and it would be cheaper for him to prepare his own, whereby he would be sure of getting them pure and unadulterated, which is far from being the case with the commercial extracts. The principal difficulty that besets dyers, and which probably deters them from making their own extracts, is that of getting rid of the spent wood. This is in too fine a form to use as a fuel, and it cannot be otherwise utilised in a dyeworks, but a dye extract manufacturer can more easily find ways and means of utilising his spent dyewood.

BUANDERINE is a new lixiviative, which has made its appearance on the German market, for washing and cleaning linen goods especially, and great things are claimed for it, but whether the claims are substantiated is somewhat uncertain and very doubtful, to judge from its composition, which is given in a contemporary as 53·95 fatty acid, 12·25 paraffine wax, 7·58 soda, 1·26 alkaline sulphate, 24·96 water.

PRINTING AND DYEING WITH CHRYSAMINE.—A new process of printing with chrysamine has been patented in Germany, which is applicable to those colours, like chrysamine, that are prepared by combining salicylic acid or cresolic acid with diaminls, such as benzidin and tolidin. For printing, a colour is made with thickening, colouring matter, and acetate of chrome; this is printed, and the goods are steamed and then cleaned strongly. The shades so obtained are very resistant to light, soap, and boiling, and are tolerably bright. Wool, mordanted in a bath of acetate of chrome, can be dyed with chrysamine and its allied colouring matters in very fast colours.

TETRAOXYPHENYLNAPTHYLKETONE is the chemical name of a colouring matter which has just been patented in this country—(it is to be hoped that for commercial purposes a shorter name will be given to it). This new dyestuff is obtained by heating 100 parts by weight of gallic acid with 400 parts by weight of alpha-napthol to about 230°C. Chloride of zinc is then added, and the substance begins to form, and can be obtained in the form of yellow green crystals, insoluble in water. This colouring matter dyes cotton mordanted with alumina a greenish yellow shade, and chrome mordanted wool a fine brownish yellow shade, which are fast to light and air.

ANILINE BLACK.—Aniline black, by its properties and its mode of application, differs completely from the other blacks and from other aniline colours, since the latter are brought to the dyer already prepared for immediate use. Aniline black, on the contrary, has to be formed on the fibre itself. While most of the other aniline colours are fugitive, this, on the contrary, is noted for its fastness to all re-agents. For a long time aniline black was only employed for printing tissues, the price of bichromate of potash and aniline, and the greening to which dyed aniline blacks were liable, preventing its being used to dye with. Good results can, however, be got, and the following is a good recipe for the purpose:—The cotton is first well wetted out, then entered into a cold bath of—aniline oil 8 per cent; hydrochloric acid 16 per cent; sulphuric acid 16 per cent; bichromate of potash 16 per cent; ferrous sulphate 16 per cent. The cotton is worked in this bath for one and a half hours. It is then well washed and boiled in a bath containing 5 per cent. soap. This softens the cotton, and yields a good blue black, fast to light, milling, and stoving, and which does not turn green on exposure to the air.

Foreign Correspondence.

TEXTILE MATTERS IN THE UNITED STATES.

NEW YORK, JUNE 21ST.

One of the most important events that has taken place in the dry goods trade for some time is the transfer of the interests of Mr. John Wanamaker in the firm of Hood, Bonbright and Co., to Messrs. Thomas G. Hood, William B. Foulkrod, Barton F. Blake, Urich G. Fox, and S. S. Miller. Messrs. Hood, Bonbright and Co. are looked upon as one of the most enterprising wholesale concerns in the country, and their annual turnover is very large. William W. Foulkrod was born in this city in 1846, and re-

ceived his education in its public schools. In his boyhood days he became connected with the firm of Mustin and Bennett, at Fourth and Market-streets, who were then one of the oldest concerns in the wholesale notion business in this city. They carried on the business until the Hon. John Wanamaker bought them out in 1887, for a figure approximating 200,000 dollars. Mr. Foulkrod took charge of Mr. Wanamaker's wholesale notion business at Thirteenth and Market streets, and when Mr. Wanamaker bought out Hood, Bonbright and Co., in February, 1888, the entire wholesale business was transferred to Eleventh and Market-streets, Mr. Foulkrod taking sole charge of the consolidated wholesale notion business. It is almost safe to say that since that time the firm of Hood, Bonbright and Co. have done one of the largest notion businesses of this country. Barton F. Blake held for many years a responsible position with Bradstreet's Mercantile Agency. His record there as an able and trusted officer, together with his skill as a financier, first brought him to Postmaster-General Wanamaker's attention, and led him to engage his services at a large salary. That was seven years ago, and since then Mr. Blake has been in sole charge of his financial business, and is to-day the only man outside of the members of the firm of "John Wanamaker" who has the power to sign Mr. Wanamaker's bank cheques. Mr. Wanamaker, by the way, could not attend to his vast retail business, his official duties as Postmaster-General, and the affairs of Hood, Bonbright and Co. as well, so that the change referred to had of necessity to take place.

The *Dry Goods Economist* has been asking the opinions of various newspaper editors on the McKinley Bill. The views expressed reveal no fresh arguments, and it is not, therefore, necessary to repeat them here. Everyone is heartily sick of hearing about the measure, and a final answer one way or the other is anxiously awaited. The country, generally, will no doubt express its opinion of the measure in 1892. It is probable that the Bill will pass, as its provisions are in accordance with the "American idea," which would make this Republic absolutely self-supporting, and not dependent on the outside world for anything which can be produced here. The attainment of such an object seems to the shrewd-headed American desirable, and if those who are engineering the new measure can only keep their enthusiasm within reasonable bounds they will meet with the support of the electorate.

Hopes of an extension of the American plush industry are entertained after the passing of the McKinley Bill. J. and J. Dobson and Cheney Brothers already make these goods, but if increased protection be granted the industry will become more widely spread. As already advised, Listers contemplate the erection of mills here, and other firms on your side will possibly take similar action. If they don't, the American trade will be lost to them. Mr. Jas. H. Thorp, speaking for the upholstery trade generally, argued before the Finance Committee of Senate against the proposed duties. Wool terry and worsted damasks used for church and hall cushions, and by the middle classes for furniture and window draperies, not adapted to any but the cheap trade, are not made in this country. Here are the comparative duties:—

	Present duty.	*Proposed duty.*
	p.c. p.c.	p.c. p.c.
50in. wool terry	30 & 35=80	48c. & 50 or 108
Wool damasks	24 & 35=70½	,, ,, 120
Mohair damasks....	,, ,, =65½	,, ,, 107

Mohair plushes made from goat's hair or cotton, used for furniture, railway cars, steamboats, hotels, are almost exclusively for the medium and low grade trade.

Cost.	*Present duty.*		*Proposed duty.*	
	p.c.	p.c.	p.c.	p.c.
21 dols.	24 and 35 or	68	48c. and 50 or	115
24 ,,	,, ,, ,,	67	,, ,,	113⅔
29 ,,	40 ,, ,,	78½	,, ,,	103
34 ,,	,, ,, ,,	77	,, ,,	98¼

One of the Southern journals gives an account of a decided novelty in the way of cotton bagging, which, it is claimed, will settle this much-mooted question in a most satisfactory manner. The inventor has taken out a patent on the new material, which is described as a thick fabric somewhat resembling coarse paper, made from the fibre of the cotton stalk and practically fireproof. Over this there is placed a covering of strong wire netting, which dispenses with the ties now used, and gives the necessary strength to the bale. The claim is made that this combination is much cheaper than jute and ties, and is more satisfactory in every respect, and all that remains to be done is to organise a company to manufacture the new covering and place it upon the market, when its readily recognised merits will immediately bring it into general use.

The establishment of a linen manufactory at Minneapolis has apparently fallen through, owing partly to the premature publication of the objects of the enterprise by one of the St. Paul dailies. The proposition to establish a linen plant in the North-west originated with a Mr. Alfred Gilmore, who has recently come to Minneapolis from Belfast, Ireland. Mr. Gilmore found upon arriving here that the outlook was favourable, as about 160,000 acres of flax have been seeded in this State, and nothing is used but the seed, the farmers burning all the straw. Mr. Gilmore estimated that as the flax straw averages about a ton and a half to the acre, and is worth about 5 dols. a ton for the fibre, there being about 200 lb. of fibre to the ton, the farmers of the State were annually losing about 1,225,000 dols. The Allen-McGrath scheme is ridiculed by many practical men—chiefly importers, however, so that their views are most probably biassed. "Linen" writes to say that Mr. Allen and Mr. McGrath must be men of very retiring habits. He has been actively engaged in the linen trade for thirty years, but fails to recognise either of the gentlemen *as described*, nor can he find anyone in the trade who has the honour of knowing them. Would it not be well, he asks, to furnish their post office address if they are not burdened with any permanent abode? No doubt, continues "Linen" Mr. Walker would welcome to Minneapolis any number of corporations who would take the risk of erecting factories for any purpose whatever and make a market for his lumber to build the same, "but I strongly advise him to inquire into the financial and business standing of prospecting parties before he assumes any risk on their reputation on that wonderful scutching machine which I am curious to know more about, as I think I recognise in it an old friend trying for one last gasp of air to prolong its existence. If more knowledge is wanted of this machine a sad tale can be unfolded which might interest the Flax Growers' Association of America."

G. D. Smith has arrived from Europe with novelties in lace curtains.

News in Brief.

FROM LOCAL CORRESPONDENTS AND CONTEMPORARIES.

ENGLAND.

Accrington.

The masters and students of the Manchester Technical School have been visiting some of the principal engineering works in the country, and last week about 40 from the school, including both masters and students, visited Messrs. Howard and Bullough's works. They were well entertained and much interested in the technical schools at the works, which are in charge of Professor Mitchell. They were taken through the works, Mr. Mitchell conducting the professors and masters. In the middle of the day they sat down to an excellent luncheon in the large room of the technical schools at the works, after which Mr. Reynolds, secretary of the Manchester Technical School, proposed a vote of thanks to the firm, and Mr. George Bullough responded. Some time ago there was a visit of about 40 students from the same school.

Bacup.

In consequence of a strike amongst the throstle spinners at Messrs. J. Maden and Sons, Throstle Mill, they have closed the mill till further notice. It is stated by the spinners that the masters propose reducing their wages from 13s. to 11s. 6d. per week. The hands should have started work at the new rate of wages on Thursday week, but rather than do so they came out on strike.

Batley.

The following is the monthly trade report of the Batley Chamber of Commerce:—"The woollen trade here has not been in an active state as regards all the classes of goods produced, and worsteds notably have not been moving off freely. Buyers have been holding off, waiting the issue of the London wool sales, which began on the 24th ult. Values of Colonial wools having now been tested and fixed, so to speak, as regards the near future, business is assuming a brisker tone, and the demand for heavy or winter goods will, no doubt, increase and run for three or four months to come. Army goods: more inquiry and some fair-sized orders have been placed. In miscellaneous goods, worsteds, presidents, naps, pilots—plain and printed—and fancy coatings have been chiefly required. Colonial wools at the current London sales, which expired on the 24th ult., are selling at about 10 per cent. less on fine merino and 5 to 7½ per cent. on cross-breds than at the close of last sales. Olive oil is reduced to quotations as under, viz.:—Gallipoli, £39 10s. per tun f.o.b.; Gioga, £37 15s. per tun f.o.b. Cloth oils are steady in value. Cotton warps are a shade easier in price than last month. Worsted yarns are slightly reduced in price by some spinners as compared with previous report. Shoddy is in fair demand at current rates. Mungo is steady at late quotations. The engineering and machinery trades are busy."

Burnley.

Mr. Timothy Judson, late with Messrs. J. and J. Birley, New Hall Mill, has obtained the post of manager and salesman at Hill Top Mill Company, Limited.

The directors of the Mechanics' Institution, who have hitherto been the pioneers of technical education in Burnley, are considering the advisability of occupying the old municipal buildings for the purpose of technical instruction, embracing such subjects as cotton spinning and weaving, carpentry and joinery, and mechanical engineering.

Bury.

It is reported that the Peel Spinning Company is contemplating building another mill. The company now owns 47,112 twist, and 20,736 weft spindles.

Dukinfield.

At Hyde, on Monday, the Dukinfield Hall Spinning Company, Dukinfield, were summoned at the instance of Mr. Arnold, factory inspector, for breaches of the Factory Acts by allowing twelve persons to remain in a room during a part of the time allowed for meals. The inspector visited the mill on the 22nd May and found the engines working and the place in full swing at 12-36, when they ought to have stopped for dinner at 12-30. The manager said it was due to the negligence of the engineer. A fine was imposed of 10s. and costs in six cases, and the Bench ordered the payment of costs in the remaining six cases.

Great Harwood.

On Wednesday, the Wellington Mill Company, cotton manufacturers, were summoned before the Blackburn County Bench, for three offences under the Factory Acts. Mr. Platt, the inspector, visited the mill a few minutes before six o'clock in the morning, and found three women in the shed whilst the process of manufacturing was going on. The defendants were fined £1 and costs in one case, and the costs in the others.

Haslingden.

All the mills in the Newchurch, Stacksteads, and Waterfoot districts closed last Saturday for a few days' holiday, not having been closed at Whitsuntide. The large felt carpet works are closed for the whole of the week, but the cotton mills resumed work on Wednesday morning.

Heckmondwike.

The following is the trade report of the Heckmondwike Chamber of Commerce:—"Blankets have kept fairly well employed through the month. A moderate quantity of orders have been put out, but some of the merchants seem disposed to defer the delivery for a longer time than usual. Prices of such raw material as we use continue fully up to the mark.—Yarns fully employed, and still a fair amount of inquiries at old prices.—Dyewares: Business about same as last month. Price of logwood still keeps high.—Engineers and ironfounders are well employed at present.—Machine-makers fully employed.

Huddersfield.

The will, dated April 29, 1885, with codicils made the 22nd January and the 23rd November, 1887, 18th November, 1889, and 10th and 29th March, 1890, of the late Mr. William Edwards Hirst, of Lascelles Hall, of the firm of Hirst, Hanson, and Sons, woollen manufacturers, who died on 20th April last, has been proved by the executors, his

wife, Mrs. Hannah Hirst, and his sons, Samuel, Ernest William, and Edward Theodore Hirst, by whom the value of the testator's personal estate has been sworn at £90,575 17s. 4d. gross, and £86,028 4s. 6d. net.

Keighley.

The death is announced of Mr. William Thompson, of Holycroft, in his seventy-fourth year. Starting from a humble origin the deceased became a commission weaver on his own account, and made a competence.

Leeds.

Work in many of the large manufactories in Leeds has been suspended in consequence of the short supply of gas. There has been a lock-out of gasmen, and great inconvenience has been caused. "Blacklegs" were imported, with the result that a serious riot ensued. The dispute is now settled.

Jonathan Hattersley and Son, Limited, has been formed for the purpose of purchasing as a going concern the spindle making business of Messrs. Jonathan Hattersley and Son, Leeds. The capital of the company is £32,500, in 4,500 shares of £5 each and 200 first mortgage debentures of £50, bearing interest at 5 per cent. The vendor will take £2,500 of the debentures and £7,500 of the share capital in part payment of £28,000, the purchase money, the balance, £18,000 to be paid in cash. The remainder of the shares and debentures are now offered for public subscription.

On Friday last week a special meeting of the members of the Chamber of Commerce and others was held in the Philosophical Hall, for the purpose of considering the formation of a Board of Conciliation for the settlement of labour disputes, commercial education, and secret commissions. Mr. W. Beckworth presided. Colonel Harding explained what had been done in the formation of the Board, and moved a resolution approving of its establishment. Mr. E. Slater seconded, and after a lengthy discussion, the motion was carried unanimously. Professor Bodington then delivered a brief address on commercial education, and it was agreed, on the motion of Mr. T. R. Leuty, seconded by Mr. J. Town, to recommend the appointment of a committee of the Chamber on the subject. Mr. J. W. Williams moved a resolution "That this meeting desires to place on record its strong disapprobation of the practice, as disclosed by recent trials, of the payment of secret commissions, by means of which it is felt that honest and legitimate trading is seriously interfered with; and to endorse the action previously taken by the Chamber in support of measures by which such practices may be done away with." Mr. W. Cook seconded the motion. Mr. H. J. Gladstone, M.P., who was present, expressed hearty approval of what had been done at the meeting, and especially with the endeavour to settle trade disputes without resorting to a strike. There was a movement in this direction on the Continent as well as in this country, and he had faith that these efforts would work great good both to employers and workmen. The motion was adopted.

Manchester.

Messrs. Merttens and Co., shipping merchants, of Newton-street, Piccadilly, have transferred a large portion of their business to the new firm of Galloway, Scheidler, and Co., Limited. The principals in the new firm are Mr. J. R. Galloway, late of Messrs. Lathbury and Co., and Mr. Scheidler, for many years connected with the firm of Messrs. Merttens and Co. Messrs. Merttens and Co. continue in the Brazilian trade only.

Newton Heath.

A cotton sail cloth mill in Shear-street, Newton Heath, in the occupation of Mr. John Nicholls, took fire early on Saturday morning. The building is three storeys high and nine windows long. The firm's employés got the private apparatus to work, and an engine and men from the Ten Acre Mill promptly rendered assistance. A number of Lancashire and Yorkshire Railway employés also assisted in the work. An alarm was forwarded to the central fire station in Jackson's Row, and a detachment of the brigade, under Assistant-Superintendent Savage, were speedily on the spot. The flames had obtained such a firm hold that four hours' work was necessary before they were extinguished, and even then a few of the brigade and the mill people were left to work the jets. Serious damage was done to the premises and their contents.

Oldham.

The carding shed being erected by the Broadway Spinning Company is being roofed in.

The new mule overlooker for the Ruby Mill Company is Mr. Robinson, of the Shawside Mills.

Mr. Miles Taylor, brother of the secretary of the Werneth Spinning Company, has been appointed secretary of the Pine Mill Company.

The Gladstone Spinning Company is having its storage and mixing rooms protected with sprinklers.

The old Wallshaw Mill, formerly worked by Messrs. Samuel Radcliffe and Sons, is being demolished.

Mr. James Heaton has resigned his position as secretary and salesman of the Oak Spinning Company.

Mr. Robert E. Howarth, mule overlooker at Newtown Mills, Shaw, has been engaged to superintend the ring frames and mules at the Shawside Mills.

We understand that Mr. Waller, son of Mr. Joseph Waller, manager of the Textile Mill Company, has been appointed salesman of the Eagle Spinning Company, Lower-place, Rochdale.

Mr. George Crowther, of the Phœnix Mill, Oldham, has been appointed carder at the Ruby Mill. We might state that the new engines at this concern are expected to be ready for "turning round" in two or three weeks.

The profits which have been announced this week by spinning companies in the Oldham district have given the liveliest satisfaction. In many instances they are better than anticipated, and also shew a considerable improvement on the corresponding period of last year. The concerns have been well bought in cotton, but great help has also been rendered by the raw material being freer from loss than was the case 12 months ago.

The chairman of the Pine Mill Company, Mr. John Cottam (who is the manager of the Olive Mill Company), was, on the occasion of cutting and turning over the first sod, presented with a silver spade. A steel spade used to be considered good enough for this purpose in the past of the limited liability movement, but things are not as they were. Formerly £4 or £5 per quarter was considered a sufficient salary for a director, but now £1 per week is the rule.

It is currently reported that the reinstatement of Mr. George Silk as secretary to the Oldham Card and Blowing-room Operatives' Association has caused a breach on the executive, and that the president has resigned his position. Further, there are rumours of another association being formed by the off-shoots, but we understand steps will be undertaken to effect a re-union, which, viewed from the workman's standpoint, is most desirable in the interest of the Association.

The prospectus of the Royal Mills Company has been issued, and the promoters, by the way, had to obtain the sanction of Royalty to use the title "Royal," which is the name of the mill the Company is taking over. It is intended to build a mill to contain about 70,000 spindles, and take over premises known as Royal Mill, holding 23,760 spindles and preparation, which are being sold at 7s. 9d. per spindle. It is stated that "the vendor, Mr. J. W. T. Cocker, will take more than the amount of his purchase money in shares, and the directors and their friends are also large subscribers."

The shareholders of the Oldham (Melbourne) Spinning Company have empowered the directors to carry out alterations in the mill premises, which will entail an expenditure of over £20,000. It is intended to widen No. 1 mill so as to hold mules, and thus obtain an additional 11,000 spindles, put in a pair of new steam engines to drive both mills, to make the necessary change in the shafting, etc., and to replace or make such alterations as may be advisable in the spinning machinery. Messrs. Platt Bros. have obtained the order in connection with the machinery, and the contract for the building alterations has been let to Mr. J. Partington, Middleton Junction.

Ossett.

A monthly meeting of the Council of the Chamber of Commerce was held on Wednesday evening, Mr. H. Wormald (president) in the chair.—It was stated that the new premises in course of erection for the Technical School would be opened in September next, and that it was proposed to hold, in connection with the opening, an exhibition of the woollen and other manufactures of Ossett, Horbury, and the rest of the district in which the students chiefly reside.—Mr. Patterson proposed that the Chamber should invite manufacturers to join in the exhibition. He understood that a number had already signified their readiness to do so, and hoped that a very complete, representative, and interesting collection would result. — The motion was seconded, and carried unanimously.—Mr. Robb mentioned that, besides the local exhibits, there would probably be a number from South Kensington, and that the Master and Wardens of the Clothworkers' Company, London, had been invited to open the new building. The quarterly trade report of the Chamber shewed that employment was good, but profits small.

Rochdale.

In the Chancery Court of Lancaster, sitting at Manchester, on Monday, Mr. Rutherford presented a petition by a creditor for the winding-up of the New Broadfield Spinning Company, which carries on business at Smithy Bridge, near Rochdale. He stated that on the day the petition was presented, and after it was served, a resolution for the voluntary winding up of the company was passed, and the secretary was appointed liquidator. The petitioning creditor was not satisfied with that, and it had been agreed, subject to his Honour's sanction, that the voluntary winding up should be continued under the supervision of the Court, and that the secretary should retire from the liquidatorship, and that an independent gentleman, Mr. Walter S. Lewis, of Rochdale, chartered accountant, should be appointed in his place. Counsel for the company, for the gentleman who was at present acting as liquidator, and for a number of creditors, stated that they were satisfied that the course suggested Mr. Rutherford should be taken. The Court made the usual order, the costs to be costs in the winding-up.

Royton.

On Saturday night, shortly after eleven, the Union Mills, Royton, the property of Mr. Nathan Meanock, were discovered to be on fire. The Corporation brigade found the third and fourth storeys burning fiercely, and the flames travelled to the sixth storey of the new portion of the mill. Two of the rooms were burnt out completely. The damage amounts to £5,000 or £6,000.

Skipton.

The firm of Messrs. J. B. Sidgwick and Co., who run the High and Low Mills, intend to cease operations there in the course of a few days, this action being taken principally through the lease having expired and not being renewable. The Low Mill has been taken over by Mr. C. L. Rickards, of Bell Busk, who intends turning it into a silk manufactory, but the High Mill will be permanently stopped. The Sidgwicks are the oldest manufacturing firm in Skipton, having run one part of the High Mill since 1785.

Stanningley.

Considerable damage was done, and a large number of workpeople temporarily thrown out of employment on Wednesday morning by the breakdown of the largest of three engines of Grangefield Mills, the property of Mr. Isaac Gaunt, worsted spinner and worsted-coating manufacturer. The accident is supposed to have been caused by a crank-pin giving way. The heavy iron beam of the engine was snapped in three pieces, the wreckage in its fall taking with it a large portion of the engine-house floor. The man in charge escaped. Some weeks must elapse before the damage can be fully repaired, but efforts are already being made whereby the greater part, if not the whole, of the machinery can be run in the meantime.

Yeadon.

The strike of weavers at Westfield Mill was amicably settled on Saturday. Mr. Denison agreed to accede to the terms asked for by the weavers, viz., that they should be paid according to the scale of prices in force at Mr. Simeon Bolton's, and it was then decided to resume work on Monday morning at six o'clock. The strike has lasted a fortnight.

A special meeting of the Yeadon and Guiseley District Chamber of Commerce was held in the Town Hall, Yeadon, at the close of last week, for the purpose of considering the question of the length and width of pieces woven in the district, and to discuss the resolutions passed at a meeting of weavers in the earlier part of the week. Mr. Jonathan Peate occupied the chair, and there was a good attendance of members. A deputation from the local Trades' Union attended the meeting, and submitted the resolutions passed at the weavers' meeting on Tuesday evening, and adduced a number of reasons why the standard length should be 60yds. instead of 64yds., and why an advance in pay should be given for every 9in. above 81in. wide.—On the motion of Mr. Arthur Moon (Guiseley), seconded by Mr. John Smith (Yeadon), it was decided that if the weavers would agree to the standard length being 64yds. they would recommend manufacturers to pay an advance for every 9in. wider than 81in., 68in. to be the nominal width of a piece, and the first stage of advance to be from 69in. to 81in. inclusive, no lists in any case to be measured. The chairman then informed the Trades' Union representatives of the decision arrived at by the Chamber, and, in reply the representatives stated that the meeting of weavers appeared so firm and determined on 60 yards being the standard length that they could not agree to any other length without first consulting them, but they had decided amongst themselves, seeing that the Chamber had

agreed to their terms as to width, to recommend the weavers to accept 64 yds. as the standard length.—Mr. Peate said that was very satisfactory, and urged them to call a meeting of the weavers and have the matter settled as speedily as possible, as he believed it would tend to settle the then existing disputes.

SCOTLAND.

Dundee.

The annual holidays in Dundee begin this year on Monday, 28th July, and the millowners have arranged to close their works for a week. The machinery will be stopped on the afternoon of Saturday, the 26th July, to be restarted on Monday, 4th August.

On Friday week a large spinning mill at the West end of Lochee was brought to a standstill owing to a section of the workers coming out on strike. It seems that the employers had reason to dismiss an overseer. A number of the employés resented this action and ceased work, declaring that they would not return to their employment until the overseer had been reinstated in his situation. This the masters declined to do, and the mill was consequently closed.

Forfar.

On Thursday week the bleachers at Forfar Bleachfield Works, to the number of eleven, waited on their employer, Mr. John Moffat, and requested an increase of their wages, stating that they were at present paid from 2s. to 3s. less per week than any other bleachers in Forfarshire. Mr. Moffat replied that he declined to give any increase. The next morning the men again waited on their employer, and pointed out to him that an arrangement was made in March last as to working an extra hour on Saturday, when the manager told them that no warning would be required on either side from that time. On receiving their wages on Friday forenoon the men struck work, leaving sixteen hours' lying time in the hands of their employer. They contend that they were justified in leaving without warning in accordance with this alleged arrangement. None of the men are members of the Factory Workers' Union. The remainder of the employés are still at work. Mr. Moffat denies that any such arrangement as alleged by the men regarding leaving without warning exists.

Galashiels.

Messrs. J. & J. C. Dorward have commenced extensive improvements in Tweed Place Mill, recently purchased by them on the failure of Messrs. J. Mitchell and Co. The chief addition is a building 100 feet by 49 feet, and two storeys in height, with attics. It will accommodate four sets of carding machines, with a proportionate number of spinning mules and twisters. A teasing room is to be built between the present mule-house and the dam, 40 feet by 31 feet, and one storey high, as also a wool store and scouring room, all one storey in height, 55 feet long and 39 feet in breadth. Fifteen feet is to be added to the boiler-house, the additional space being utilised for a new boiler and economiser. A new engine will also be connected with the old one, forming a compound condensing engine. The mill, when opened, will be known as the "Wankrigg Mill."

Paisley.

On Saturday, the employés in Messrs. Coats' Thread Factory, Ferguslie, had their annual excursion, the place of resort being Aberdour, in Fifeshire. The party numbered 5,500 persons, and they were conveyed in six long trains, *via* the Forth Bridge. In connection with the excursion a curious incident has come to light, which points to the fact that superstition has not been extinguished with the fires of Gallow Green and Maxwellton Cross. An old woman—for what reason it is not stated—foretold that the Forth Bridge would go down with the second train, and a large number of girls are reported to have stayed at home on account of this ridiculous prophecy. Possibly the fact of its being unfulfilled will tend to dispel superstitious belief from their minds in the future.

THERE has been an increased demand at Lyons for the finer European and Asiatic silk, spun on the European system, and suitable for dyed material. The last-named industry, though only about 20 years old, is steadily gaining ground, and there are at present about 20,000 machines, and from 50,000 to 60,000 hand looms within a radius of some 50 miles. Within the city there are about 12,000 hand looms. Raw silk has to be imported very heavily, for the French culture of worms only covers about 18 per cent. of the produce required by Lyons. Within the last year the country imported silk goods to the value of £2,445,680, or 15 per cent. more than in 1887.

Miscellaneous.

BOMBAY MILLOWNERS' ASSOCIATION

In the last issue of *The Textile Mercury* our Bombay correspondent referred to an intended meeting of the Bombay Millowners' Association, in which the question of holidays would be considered. The meeting was accordingly held on the 11th ult., and the following report we extract from the *Times of India*:—

Mr. G. Cotton, in the absence of Sir Dinshaw M. Petit, presided, and others present were:—Messrs. A. K. Leslie (Empress Spinning and Weaving Company, Limited, James Greaves Mills Company, Limited, Leopold Spinning, Bleaching, and Manufacturing Company, Limited, Connaught Mill Company, Limited, Howard and Bullough Mill Company, Limited, and New Empress Spinning and Weaving Company, Limited), K. M. Heeramaneck (Queen Spinning and Weaving Company, Limited, Britannia Mills Company, Limited, and Star of India Mills, Limited), Dhurumsey Soonderdas (Soonderdas Spinning and Weaving Company, Limited, and Khandeish Spinning and Weaving Mills, Company, Limited), Damoderdas Tapidas (Alliance Cotton Manufacturing Company. Limited); P. Pearson (Anglo-Indian Spinning, Weaving, and Manufacturing Company, Limited), D. F. Wacha (Central India Spinning, Weaving and Manufacturing Company, Limited, and Swadeshi Mills Company, Limited), Veerchand Deepchand and Dharamsey Morarjee Goculdas (Morarjee Goculdas Spinning and Weaving Company, Limited, Mahaluxmee Spinning and Weaving Company, Limited, and Sholapore Spinning and Weaving Company, Limited), Damoder T. Mooljee (Indian Manufacturing Company Limited, Hindustan Spinning and Weaving Company, Limited, and Western India Spinning and Manufacturing Company, Limited), Lakhmidas Khimjee and Motilal Jeevandas (Lakhmidas Khimjee Spinning and Weaving Company, Limited), K. R. Camma (Colaba Land and Mill Company, Limited), Ranchordas Narotamdas (Presidency Mills Company, Limited); Jeevundas Mooljee (Bombay Cotton Manufacturing Company, Limited; and Vandravandas Purshotumdas (Malabar Spinning and Weaving Company, Limited).

The Chairman said: I am extremely sorry that Sir Dinshaw M. Petit is unable to take the chair owing to sickness. He takes a very warm interest in this question, and the resolution which I am about to submit to you has his approval and support, so that, although not with us, his sympathies are with us. You are all aware that we are met to reply to a memorial presented to us by the chairman and secretary of a very large meeting of mill-hands, and this is what I suggest we should reply to them. I beg to move the following resolution:—"That the chairman and secretary of the mill operatives' meeting, held on the 20th April, 1890, be informed that this Association cannot comply with the request in their memorial to cancel the resolution to close the mills for eight days per month for three months; but that, on the expiration of the three months, the members of this Association think it desirable to close their mills for one day in every seven, such day to be Sunday in each week, unless some native festival intervenes of such interest to the majority of the operatives that it is desirable to observe it as a holiday in lieu of Sunday; further, that on the day preceding the weekly holiday, the mills will close two hours earlier than on ordinary working days for the purpose of cleaning the machinery." Gentlemen, Our mill hands ask us to rescind the resolution to close the mills eight days per month, giving us their reason that the curtailment of the time worked by them will diminish their wages, and result in indebtedness and penury to them. The resolution was passed after much consideration, with the object of reducing production, which for the time had overrun demand—and to bring back a margin of profit. The resolution has been most faithfully adhered to, and is, in my opinion, helping us on to better times. We have cheaper cotton, and the price of yarn has not followed the downward course of the raw material, as it would most certainly have done had the mills continued on *full* time. It would have suited mill agents better to have closed their mills for twenty-four days right off, instead of eight days per month for three months. But consideration for the thousands of operatives, who would have had a month of idleness and no pay, prevented our even thinking of such a course. Just now we are working five days per week, and as these are the longest days of the year, the time made is 66 hours. Our mill operatives, at a very large representative meeting—a meeting at which, it is computed, there were nearer 20,000 than 10,000 persons present, and at which every mill in Bombay was represented—request us to open our mills for six days per week, or seventy-two hours, as they are afraid that the curtailment of their working hours and the consequent diminution in their wages will inflict hardships upon them which they are unable to bear—will force them into debt, and penury in fact, as they put it. What would our mill operatives say if they knew that in England there are those who are constantly urging upon Government the necessity of reducing the number of hours worked in our Indian mills to fifty-six per week, and that in doing so think they are working in the interests and for the benefit of the mill operative? Hitherto, the members of this Association have endeavoured to explain the conditions of factory labour in this country; but now the mill operatives themselves come forward and answer Mr. Holt-Hallett, Mr. Maclean, and the London *Times* by practically saying, "We prefer working long hours and earning what we can, to short time and small pay, upon which we cannot maintain our families or ourselves." Our mill operatives, though asking us to work the time I have mentioned, are still anxious to have one day's rest in seven; and I think you will agree with me that this is a most reasonable request, and one that should be conceded with pleasure. You are aware that for some time past I have, both in and out of season, advocated the closing of the mills on Sundays; and that many members of this Association would long ago have given their employés a Sunday rest were it not that there was some difficulty in keeping hands at a mill working six days, when its neighbour worked seven. Indian mill operatives seldom remain more than a year or two at the mill without a return to their village; and it is the desire to return with as much money as possible, that makes them prefer long hours for the sake of the larger pay it brings them. I am glad, however, to see that they are now becoming alive to the advantage of one day's rest in seven; and feel sure that this Association, as a body, will in this respect willingly meet the wishes of their workpeople. Hitherto, the differences between the work-people and their employers have been small and insignificant; and the best way to maintain the good understanding that exists is to make reasonable concessions when asked for. The mill-hands themselves have so many holidays, absenting themselves, as they do, whenever they think proper, that the Sunday holiday will not be a great boon to them unless it leads to more regular attendance. This, I think, it will do; but one thing is very certain, that our European and native heads of departments will appreciate the one day's freedom from the mill. It is true the hours they are actually at work are short and the work light; but it is their inability to get away that makes the present system so irksome to them. While urging you to give your mill operatives one day's rest in seven, I am as much opposed as ever to any legislation that would make it compulsory, so far as the male adult is concerned. The English Factory Act leaves the male adult unfettered as regards the hours he may work, and any departure from this principle would land us in difficulties. You cannot have class legislation and try to control the factory worker while you leave other classes to do as they wish. There is a growing feeling amongst some classes in favour of shortening the hours of labour; and all will admit that any reduction that may result from the more economic conditions under which we can supply our wants will be a great benefit to *all* classes. But I submit that any attempt to interfere with the free trade of adult male labour must result in harm, and throw us back instead of helping us forward. To protect by legislation those who do not care to work according to their needs, at the expense of those who are anxious by industry to improve their position, will never, in my opinion, be tolerated by Free-trade Englishmen! For women and children the case is different. They are not in a position to protect themselves; and there are, moreover, other good reasons why they should be prevented from overworking. The only pity is that even the English Factory Act does not protect those who most need protection. We have for years past favoured reasonable legislation suited to the circumstances and conditions of this country, for the protection of women and children. On the Factory Commission of 1884, we were strongly represented, Messrs. Muncherjee N. Banajee and Nanabhoy Jeejeebhoy being our representatives; Mr. Sorabjee Bengallee, nominated by Government, and myself, as representatives of the Bombay Chamber of Commerce, forming four out of seven members of the Commission, whose unanimous report was in favour of "granting four days' holidays per month to women and children, of raising the age of half-timers from seven to nine years, of increasing the age from twelve to fourteen of full-

timers, of only permitting women to work eleven hours per day," and strongly "recommending Government to urge upon the Government of India the necessity for expediting such change in the existing Factory Act as will do away with the long hours of work and other defects which have been described by numerous witnesses, to be in existence in Khandeish and other places in the Presidency." Under such circumstances, I do not think we have been fairly treated by the London *Times*, which, in commenting upon two letters in its columns from the pen of Mr. Holt-Hallett, says:—"It would be an absolute disgrace to this country—the acknowledged pioneer of factory legislation in Europe, and in whose footsteps other European Governments are only now beginning to tread—if Indian manufacturers were still suffered to practise barbarities which our representatives at the Conference fancied themselves able to denounce." Mr. Holt-Hallett, who apparently knows nothing of the Bombay mill industry, appears to have made the mistake of mixing up the small gin factories dotted all over the country, and which only work for three or four months in the year with the large spinning mills, against which all this agitation has been started. We can only regret that the *Times* should have fallen into the same mistake. Why does Mr. Hallett go back to ancient history, so far as the mill industry is concerned, for his facts, when a perusal of the Factory Commission Report of 1884 would have given a very different colour to all his statements? The explanation may, I fancy, be found in the last paragraph of his letter, which indicates that he thinks Indian mills cannot compete with Lancashire for the China trade, if the proposed amendments in the Indian Factory Act became law. This is a mistake. India does not compete with Lancashire in China. We are sending China yarns instead of cotton, and were the Bombay mills to stop to-morrow, Lancashire would not and could not supply China with the low count yarns she requires at the price she can afford to pay. China would simply import our cotton and go back to her hand-spinning or import machinery and spin her own requirements of yarn under 20's. Nearly half our exports are 10's. downwards. Lancashire cannot spin and export them at the price China will pay. Mr. Maclean makes the same mistake. He thinks the proposed Indian Amendment Act will, by hampering us, improve the position of his Oldham constituents. We cannot blame Mr. Maclean for fighting so strenuously for those he represents. He is at least straight in telling us why he is so very urgent upon the matter. He knows too well the condition of the factory operatives in the country to think of urging on humane grounds the necessity of amending the present Act. And we can only find fault with him for insinuating that the cause of the delay is owing to the interested advisers of Government. We know the great trouble the Government of Bombay and the Government of India have taken to make themselves fully acquainted with the real position, and that, whatever delay there may be in dealing with the question, is entirely owing to an unwillingness to unnecessarily interfere with the industrial development of the country, which, if left untrammelled by uncalled-for restrictions, will, in times of famine, be of more value than any provision. The finances of the country can provide against our most dreaded enemy. The fact is Government knows that there is no urgent need to the passing of the amendment to the Indian Factory Act, because they have statistics before them carefully collected by their inspectors, proving that women are not employed, on an average, more than ten hours a day, and that they do not work on the average even twenty-four days per month. They take their days of rest now as may suit them instead of being restricted by legislation to four days that might not fit in with their arrangements. The great mistake our friends in England make is in thinking that women as in England are employed in the mill, and that their absence would interfere with the work of others. This is not the case. In Bombay women are only employed as reelers—that is, to reel the yarn after it has been spun on a reel worked by hand. Of the 3,500 women we have on the books of the mills my firm manages, not one is employed on machinery driven by steam. The attendance seldom averages over 2,700, and they come to work at any time between 6-30 and 8 o'clock, and leave as it may suit them between 5-30 and 6. We have no children at work under 12, and would not employ them under 15 if it were not that we feel it would be a hardship to deprive the little fellows of the means of being better fed and clothed than they would be were they not workers. It is much the same in all Bombay mills. So that, so far as the spinning mills are concerned, the hands are practically being protected to the extent proposed by our friends at home. For the small ginning factories something might be done; but in moving in this direction Government must feel that, in trying to save women and children from overwork, they may risk driving them to starvation. I have had experience of ginning factories in Khandeish and Guzerat; and if Mr. Holt-Hallett had seen, as I have seen, the contest to get employment by half-starved women and children for three or four months in the ginning factories, he would understand why Government might even hesitate to accept the recommendation of the factory Commission of 1884. In Guzerat and Khandeish the ginning season of three months is looked forward to by the poorer classes as the two or three months' earnings during the cotton season provide them against actual want during the remainder of the year. To satisfy Lancashire, the import duties which were not felt by the people and in no way retarded the demand for English goods, and in their incidence gave some return from the Native States for the protection insured to them by the large expense incurred by the Imperial Government in protective works was replaced by a tax unsuited to the country, and objectionable in every way to the people at large. It is to be hoped that neither the Home nor the Indian Government will be influenced by interested opportunists, as to what measures are or are not best for the good of the country; but that our Legislative Councils will be permitted to exercise the functions for which they were established without any interference on the part of English gentlemen, who are not in a position, from training or experience, to know our requirements.

Mr. Runchordas Narotamdas seconded the resolution, which, after a short discussion, was carried unanimously, and the meeting terminated.

A new joint-stock company, with a share capital of 928,000 marks has been established, with the title: "Scharfenstein Cotton Spinning Company, formerly Fiedler and Lochla, in Chemnitz."

Russian Cotton.—The *Standard* correspondent at Moscow states that a telegram from Uzunada reports that more than a quarter of a million poods of cotton are now lying on the wharves of that port, while the railway is bringing up some twenty thousand poods daily.

Persia and Cotton Goods.—A correspondent of the *Vestnik* complains very bitterly of the misplaced energy of the Moscow merchants in senselessly obstructing the trade of Persia, as a result of which, he says, English manufactured goods will rapidly crowd out Russian produce. Speaking of cotton goods imported into Persia, the correspondent says that, though of inferior quality to the Polish, the English article is considerably cheaper and better adapted to the tastes and requirements of the consumers. Finally, he recommends a reconciliation between the parties, and, as the English prices are not too low, to make all opposition out of the question, he advises an organised commercial crusade under the direction and immediate control of the Government.

English Goods for Beyrout.—The import of woollens from Great Britain is, according to the report of 1888, largely on the increase; but, according to the belief of our Consul there, it was considerably under-estimated in that year. Still, British woollen goods have a firm footing in Beyrout on account of their cheapness, and it may be expected that they will come to the front still more, as cheapness is the greatest diderata in this country, quality being altogether a secondary object. France, Austria, and Germany, therefore, which import a higher class of woollen goods, are falling into the rear, and the value of their united imports may amount to 45 per cent. of the total. French woollen goods are of far too high a quality to find a ready sale in this country, and are imported in smaller quantities every year. Germany still makes headway with flannels, but is losing in cloth—Austrian cloth being cheaper. Austria has a monopoly of fezzes, and is increasing its imports of cloth; but, on the whole, Austrian woollen imports are falling off in value. British woollens, also, though increasing in volume, do not increase proportionately in value. The wool export from Beyrout was about the same as last year. The greater part of the best washed wool goes to England, but about 800 bales of unwashed and grey wool were sent to France, and 200 bales of white-washed wool to Italy. About 200,000 worth of native cotton and silk manufactures were exported from Tripoli, chiefly to places in Syria for native use.

Textiles at the Whitworth Institute.—Sir Charles Robinson's loan for the exhibition in connection with the opening of the Manchester Whitworth Institute, will be a peculiarly interesting collection of art work in textiles. The selection will be from a collection of over 1,200 specimens which have been collected by Sir Charles during his frequent rambles on the Continent. A large proportion of them are from suppressed monasteries. In the early ages it was the custom of persons of rank to make gifts of their bridal and other robes to religious institutions, to be altered for use as ecclesiastical vestments. The specimens exhibited by reason of this custom will be widely and generally illustrative of the high artistic skill reached in early ages in the manufacture of textiles for civil purposes, not being intended to illustrate ecclesiastical art solely, or to be distinguished by any liturgical bias. Copes, chasubles, vestments, altar decorations, wall hangings, table covers, articles of civil costume of sumptuous design and tissue—the majority dating from the first half of the fifteenth century on through the sixteenth—will be included in the loan exhibit, which will also comprise Gothic specimens and ancient Egyptian textiles, recently found in Coptic tombs of the first, second, and third centuries of the Christian era. Sir Charles considers the exhibits to be the work principally of professional embroiderers rather than of nuns. Pieces of silk brocade and velvet of sumptuous design, tissue, and raised embroidering will also be exhibited.—*Manchester Guardian.*

Farmers and Wool.—The *Agricultural Economist* says:—It seems that wool cannot touch 1s. a pound this year, having in mind the several large sales we have attended and read of. It is an astonishing thing to find, however, that a large number of farmers are extremely careless in the manner in which they send their wool for sale. With the *pros* and *cons* of washed *v.* unwashed wool we are not going to meddle, for as a matter of fact we have seen capital unwashed Shropshire wool fetch quite 2d. a pound lower than a similar lot washed. As long as buyers will have it thus, and as auctioneers actually offer prizes for the "cleanest washed" lots at their annual sales, the farmer is foolish who does not have his sheep washed. Yet we have noticed this year that several sheets of wool have been spoilt and sold at far below their market price, because in a good lot of clean, first-class wool one or two fleeces either dirty, or of cross-bred or unwashed wool, have been thrown in, and have caused what was worth 11½d. to go for 9½d. It cannot be too distinctly impressed upon wool-sellers that they will command the top price in the market, whatever that may be, if they only take care to keep, say, their Down wool to itself, their cross-bred to itself, and their Cheviot, or Scotch, or Clun to itself. Above all, they must never put one dirty fleece among forty clean ones. It is the little extra care and thought that pays in this as in other branches of a farmer's business. How comparatively few farmers there are whose names are household words as producers of a genuine article which the buyer dare take on their bare word! Were wool-buyers assured of the cleanness of the bales and the correctness of the description of the different lots, they would bid the price they could afford and have done with it. A little more care in the matter would pay, and sheep should always be shorn in a clean place, for buyers require nothing but wool, and in some sheets this year we noticed a considerable quantity of straw and chaff, etc.

Textile Markets.

Reported by Our Own Correspondents.

COTTON.

Manchester, Friday.

Our market closed last week with the salient features that have characterised it for some time past unchanged. Gradually, however, as the week progressed slightly more confidence in the stability of present rates began to manifest itself. On Tuesday, when it was seen that cotton was tendered to a much less extent than was anticipated, the market became much more confident, and the tone more buoyant. It would appear also that a slightly larger business than was estimated got put through in Manchester. These matters combined induced more activity on the following days, and the sales have gradually risen accordingly. In the general features of the trade there is no important change. In the districts employment continues on about the same scale. The only matter commanding interest is the wages question in relation to the new weaving list. All details having been arranged, the result was last week end submitted to the Council of the Weavers' Association, where it appears to have disappointed expectation and provoked manifestations of opposition. A resolution was moved for its rejection, but this was ultimately set aside with a view to its further consideration, which will take place immediately.

Cotton.—As will be gathered from our remarks above, a change has come over the tone of the market. More confidence has been developed, and the sales have become larger than for some weeks past. The change first showed itself in futures,

which, on Friday last, were unstable, closing with a slight decline. On Saturday much the same feeling prevailed, old crop gaining $\frac{1}{2}$ point, new losing 1 to 1$\frac{1}{2}$. On Monday they were steadier, and advanced $\frac{1}{2}$ to 1 point for old crop, new remaining unchanged. On Tuesday the improvement was fully maintained, futures gaining 2 points for near positions, and 1 for distant ones. On Wednesday a further gain was established of 1 to 1$\frac{1}{2}$. On Thursday the tendency was still upward, as after a few fluctuations the market closed $\frac{1}{2}$ to 1 point higher on the day.

The spot market has been correspondingly affected, the improvement in the demand having influenced prices, sending them in an upward direction. For Americans, official quotations have been advanced $\frac{1}{16}$d., which means that prices are higher than the irregular rates of the dullest days of last week, fully $\frac{1}{2}$d. per lb. Brazilian is in slow request at unchanged rates. Peruvian are in the same condition, but with more irregularity in prices for the rough varieties. Smooth sorts are advanced $\frac{1}{16}$d. Egyptian is also slow and slightly irregular. East Indian varieties are irregular, and prices the turn lower by $\frac{1}{16}$d. on the week. The following particulars of the business of the week are from the official report issued by the Liverpool Cotton Association:—

	Import.	Forw'ded.	Sales.	Stock.	Actual Export
American	10,120..	46,865..	44,160..	545,098..	2,791
Brazilian ..	3,805..	1,317..	600..	38,332..	50
Egyptian ..	1,127..	2,644..	2,370..	55,915..	419
W. Indian ..	— ..	922..	1,220..	8,309..	30
E. Indian ..	— ..	3,922..	4,450..	228,645..	1,440
Total..	15,052	55,670	52,800	876,267	4,730

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

	G.O.	L.M.	Md.	G.M.F.M.
American	6$\frac{3}{16}$*	6$\frac{1}{16}$*	6$\frac{1}{16}$* .. 6$\frac{3}{16}$	6$\frac{3}{16}$
	M.F.	Fair.	G.F.	
Pernam	6$\frac{15}{16}$	6$\frac{7}{8}$	7	
Ceara	6$\frac{7}{8}$	6$\frac{7}{8}$	6$\frac{7}{8}$	
Paraiba	—	6$\frac{5}{8}$	6$\frac{7}{8}$	
Maranham	6$\frac{7}{16}$	6$\frac{5}{8}$	7	
	Fair.	G.F.	Gd.	
Egyptian	7	7$\frac{1}{16}$	7$\frac{1}{16}$	
Ditto, white	—*	—*	—*	
	Fr. F.F.	G.F.	F.G.F.	Gd. F.G. Fine.
M.G. Broach	—	—	—	5$\frac{9}{16}$ 5$\frac{7}{8}$
Dhollerah	4$\frac{7}{16}$ 4$\frac{9}{16}$	4$\frac{5}{8}$	4$\frac{7}{16}$	4$\frac{5}{8}$ 4$\frac{7}{8}$ 5$\frac{5}{16}$
Oomra	4$\frac{5}{8}$* 4$\frac{1}{2}$	4$\frac{5}{8}$	4$\frac{1}{4}$	4$\frac{15}{16}$ 5$\frac{1}{8}$ 5$\frac{5}{8}$*
Bengal	— —	3$\frac{15}{16}$	3$\frac{15}{16}$	3$\frac{7}{8}$ 4$\frac{1}{8}$ 4$\frac{5}{8}$*
Tinnivelly	4$\frac{1}{2}$* —	5	5$\frac{1}{4}$	5$\frac{7}{16}$ — —

* Nominal.

YARNS.—There has been only a small demand at practicable rates. A slight increase of inquiry has appeared but the differences between buyers and producers have been in the main irreconcilable. Still a few of the latter, well bought in cotton, have thought fit to make such slight concessions as have sometimes enabled them to complete a transaction of above a retail magnitude. A little more business has been passing in the home trade section where spinners would entertain the prices of last week, but not many are willing to do it. There is a fair inquiry for shipping yarns on Indian account but only at unacceptable rates; for China and Japan the inquiry is dull and very little business is passing.

CLOTH.—The demand for this article is not strong, and mostly at impracticable prices. Still there are considerable offers in the market, but until matters change to some extent in makers' favour they cannot be entertained. The business passing is therefore mainly of a retail character.

WOOL AND WOOLLEN GOODS.

BRADFORD.

No particular improvement was manifested in Thursday's wool market, the improved spirit evinced at the London and country sales not being reflected here. The tone, however, is somewat more hopeful, and a better feeling is certainly visible amongst sellers. English wools are firm but staplers find it extremely difficult to put fresh business, though notwithstanding the fact that spinners are not provided with anything like large stocks. The prime source of disagreement is the fact that country prices are higher than those which can be obtained here. Colonial wool is slow, although a brisker tone is manifested than in the case of home-grown varieties. Fine merino tops are difficult to dispose of, and cross-breds are lifeless, prices being unaltered. There is nothing to report in connection with mohairs and alpacas. Business is, however, being done, but the prices are kept secret. The yarn trade is unsatisfactory, and spinners of fine Botanies are running on short time. Continental buyers appear to have no faith in the statements of sellers that prices under present conditions have gone as low as they can do, while others, although crediting these assertions, hold off in anticipation of a decline in wool values. Fancy yarns are dull. Piece goods are in fair demand for the home trade, although even here there has been a lull of late, while the prices paid are not considered satisfactory. Italians are being sold freely for Japan, but the Continental and American demand is slow, and many coating looms are idle.

HUDDERSFIELD.

Advices from Manchester and other leading centres of distribution have been so unsatisfactory, owing to the unfavourable weather which has interfered with the fancy trade, that a duller feeling prevails here, buyers in the districts referred to having been compelled, in view of the discouraging nature of the outlook, to curtail their operations. Summer goods have, therefore, as might naturally be anticipated, not been sold so freely as is customary at this period. Manufacturers, however, keep well engaged, fancy worsteds being turned out in exceedingly large quantities. Spinners are moderately busy.

LEICESTER.

The demand for wool has not improved materially, spinners and manufacturers being too dissatisfied with the prices paid them for their products to give the rates asked by staplers who, however, are still holding out for the higher prices of the recent fair. The brisk inquiry for lambs' wool yarns is the most noteworthy feature of the yarn branch. Worsted and cashmere descriptions are slow of sale, but spinners are making a firm stand against the efforts of buyers to further beat down quotations. Hosiery is quiet, but elastic webs are in fair request.

GLASGOW.

Messrs. R. Ramsey and Co., in their report, dated 1st July, say:—

WOOL.—In the Wool Market there is no appreciable change this week. Business is slow, consumers operating with great caution. There is still some uncertainty as to the American Tariff Bill, which hinders business, especially in black-faced wool, to some extent. Prices may be quoted steady.

SHEEP-SKINS.—The supply has been quite an average, and of good sorts for the season. Lambs are now figuring more largely, with a good promise for the future. Competition active at firm prices.

FLAX AND JUTE.

DUNDEE TRADE REPORT.

WEDNESDAY, JULY 2ND, 1890.

There is still an absence of business to test values. Manufacturers are all engaged till the holidays, and there is no great disposition to enter on further business. Jute is quiet, and a large and early crop being expected, spinners are taking only small early steamer parcels for colour.

Flax is firm at 18s. 10d. for Riga K.

Tows are exceptionally abundant, and of course weak in price.

Jute yarns are a shade easier to buy. Common cops are quoted at 1s. 5d. for 8lbs. Heavy yarns, such as one lea, are held more firmly, and business is done at 15-16ths, with buyers over.

Flax yarns are quiet and difficult to move. Tow yarns, especially common wefts, are very dull. Jute goods remain inactive, and any business passing is the turn in favour of the buyer.

Linens are also quiet. The English houses taking stock at 30th June, they are not yet in the market, but all the looms are busy.

Arbroath continues well engaged in canvas, and the Dundee fancy jute trade is fairly active.

MANCHESTER.

Trade is very quiet in all departments, yarns especially being dull. It is a long time since sales were so difficult to effect, as at the present time. Local manufacturers of smallwares who purchase not inconsiderable quantities of linen yarns have been operating very sparingly for some time, many of them having placed contracts ahead earlier in the year, and which have not yet had time to run out. The prices offered are certainly wretchedly low, and sellers do not see their way to accept them. Linens are moving but slowly. Some of the leading buyers have been in the producing centres for the purpose of testing the position of manufacturers and sounding them as to the quotations they are willing to accept.

SILK.

LONDON.

Messrs. Durant and Co., in their circular of July 2, 1890, say:—

Another month has been allowed to pass without any decided disposition being shewn for business, although some little has been done both for home trade and export at slightly improving prices. The continued firmness of the Chinese market, coupled with the high rate of exchange, makes business in the new crop of China silk very difficult, and settlements are only about 1,700 bales, against 7,800 bales same time last year. Telegrams from Shanghai confirm the report of damage to the second crop, and estimate the production of white silk available for export at 10,000 bales less than last season, and from Canton telegrams of to-day's date state that great injury has been done to their third crop and report a very firm market. From Italy and France the general opinion appears to be that the result of their crops will shew an excess over last year, but the prices paid for cocoons will make the cost of the new silk far above present rates. Our deliveries have not been good, but owing to small arrivals our stock is further reduced by 1,100 bales.

THURSDAY.—London Produce Clearing House quotations of best 4$\frac{1}{2}$ Tsatlee; July, 12s. 9d., August, 12s. 9d., September, 12s. 10d. per lb. Sales registered, nil.

DRY GOODS.

MANCHESTER.

There is no change to report in the conditions affecting the local trade. Travellers have not yet had time to thoroughly test the possibilities of their rounds in the way of orders. Reports so far have, however, been satisfactory, and there promises to be a good half-year. This result of trading thus far has been of an encouraging nature, and the turnover in many representative concerns has exceeded that of immediately preceding periods, although these were unequalled at the time. For curtains there is still a brisk demand, taped edges being the most popular descriptions. The frilled variety of curtains has not moved off so well of late. With reference to the taping, complaints are still made by buyers here that Nottingham firms do not offer facilities equal to those obtainable from the Ayrshire manufacturers, the prices charged by the latter being lower than those quoted by the English manufacturers.

After a connection of over eighteen years with the firm of George Mountain and Co., of York-street, Manchester, Mr. Joshua Jones has been admitted as a partner. Both Mr. Mountain and Mr. Jones are well known in the Manchester home trade, and in the country as well. The business of drapers' valuers which they conduct is one of the oldest, and both gentlemen have earned the support of a very large circle of clients. Mr. Mountain at one time was actively connected with the local dry goods trade and was well known on "the road."

The wet weather has quite disheartened those engaged in the fancy trade. Print rooms have been slacker than is customary at this time of the year, and seeing that the time in which the season's business is compressed is a very short one, the retarding influences that have been at work of late cause much anxiety.

NOTTINGHAM.

The lace trade is still depressed and buyers of yarns both for hosiery and lace purposes are curtailing their orders. The supply of bobbin sets is too large considering the limited character of the demands, and although one hears of a brisk movement in such fancy laces as the old Valenciennes in sets, the inquiry has fallen off considerably, owing to the unfavourable weather that has prevailed for some time. Stiff Paisley sets are not being bought so freely as formerly.

THE KIDDERMINSTER CARPET TRADE.

Stock-taking is occupying attention at most of the mills in this district this week, and as a consequence business is somewhat irregular. The wool market remains unchanged, and business in yarns is restricted to consumptive requirements. A proposed scheme of amalgamation, in the shape of a limited liability company, between two well-known firms in Kidderminster, has been talked of for some little time in carpet circles, and it is now understood that the terms of the amalgamation have been satisfactorily settled, and probably by the time this is in print a prospectus will be in the hands of most carpet warehousemen throughout the country. The amalgamation may be considered another off-shoot of the greater amalgamation which it was attempted to form in the carpet trade a few months ago. The

new company will be known as "The Carpet Manufacturing Company," and the businesses united are those of Messrs. Richard Smith, & Sons, Brussels carpet and rug manufacturers, and Messrs E. Morton and Sons, Brussels and royal Axminster carpet manufacturers. It is unnecessary to say anything here regarding the standing of either firm; the high position and reputation achieved by both in their respective manufactures, every buyer of carpets being well acquainted with. The company is formed to carry on and develop the present businesses of the two firms; considerable extensions are already in progress, with a view to the acquirement of new machinery, and the aim of the promoter is to place the company in the unique position of being able to supply every class of carpets and rugs of British manufacture. The amount of share capital is £270,000, and there are also £100,000 in debentures. Of the total amount the vendors take the utmost allowed by the rules of the Stock Exchange. The public are invited to subscribe in debentures, preference, and ordinary shares about £124,000, and there can be but little doubt that this amount will be more than fully applied for. The directorate consists of Mr. Thomas-Tempest Radford and Mr. E. J. Morton (Morton and Sons), and Messrs. W. H. Edward and John Smith (Smith and Sons). The managing directors will be Messrs. J. T. Grose, J. G. Webster, and C. Heat (at present of the firm of Morton and Sons), and with these gentlemen will be associated Mr. Albert Cowell (late of the firm of James Humphries and Sons), whose ability and experience will undoubtedly prove a great acquisition to the company. The books and account of the last five years trading of the uniting firms have been audited by Mr. Harvey Preen, chartered accountant of London and Kidderminster, who certifies that the annual average profit made has been about £33,000.

Joint Stock and Financial News.

NEW COMPANIES.

THE WENSLEYDALE LONG-WOOL SHEEP BREEDERS ASSOCIATION AND FLOCK-BOOK SOCIETY.

Object, the encouragement of the breeding o Wensleydale sheep at home and abroad, and the maintenance of their purity. For the purpose of registration the number of members is declared not to exceed 300.

HASLAM'S, LIMITED.

Registered by Ernest A. Fuller, 80, Coleman-street, E.C., with a capital of £25,000, in £10 shares. Object, to purchase and carry on the business of merchants and warehousemen, carried on under the style of John Haslam and Co., Limited, at 10, Milk-street-buildings, E.C., and at 14 and 16, George-street, Manchester, and also by Lowe, Latham, and Co., at 109, Portland-street, Manchester. There shall not be less than three nor more than seven directors. The first are W. Haslam, of Bolton; R. E. Haslam, Southport; J. W. Scott, Bolton; W. Lowe, Manchester; and A. S. Latham, Manchester. Qualifications and remuneration not specified.

MARTIN, SONS AND CO., LIMITED.

Registered by Learoyd James and Mellor, 10, Coleman-street, E.C., with a capital of £300,000 in £100 shares. Object, to acquire the business of woollen manufacturers and merchants, carried on under the style of Martin, Sons, and Co., at Lindley, near Huddersfield and Halifax. The first subscribers are:—

	Shares.
H. A. Martin, Huddersfield	1
E. Martin, The Ravine, Filey	1
F. Martin, Lindon Coleford	1
J. W. Martin, Huddersfield	1
A. F. Blackburn, Mount Egerton, Huddersfield	1
H. Martin, Huddersfield	1
W. H. Armitage, Huddersfield	1
H. A. Martin, J. W. Martin, H. Martin, and A. F. Blackburn	

shall be the first directors. Qualification, £1,000. Remuneration to be determined in general meeting.

LONDON AND LEICESTERSHIRE HOSIERY COMPANY, LIMITED.

Registered by John Potier, St. Stephen's Chambers, Telegraph-street, E.C., with a capital of £120,000, in £5 shares. Object, to carry into effect an agreement, made June 21st, between Thomas Russell of the one part and J. Potier, on behalf of the company, of the other part, for the purchase of the freehold factory, for the manufacture of hosiery, known as Burton-street Mills, Nichol-street, Leicester, together with the machinery, fixtures, and goodwill of the business carried on upon the same premises, under the style of Sheen and Hackett, hosiers, &c. The first subscribers are:—

	Shares.
F. A. Matthews, 54, Holborn-viaduct	1
W. H. Bowman, 91, Borough-road, S.E.	1
T. B. Loader, Woodford House, Woodford	1
A. Smith, 4, Torrington-park-villas, Finchley	1
W. Pearce, 32, Roderick-road, Haverstock-hill	1
F. M. Bell, 15, Southgate-road, Wood-green	1
T. Ward, 9, Mayfield-road, Dalston	1

There shall not be less than three nor more than seven directors; the first to be appointed by the subscribers to the memorandum of association. Qualification, 1,000. Remuneration: Chairman, £300; other directors, £200 each.

THE FUSTIAN CUTTING MACHINE COMPANY, LIMITED.

Registered by Grundy, Kershaw, Saxon, Samson, and Co., 4, New-court, Lincoln's-inn, W.C., with a capital of £100,000 in £10 shares. Object, to acquire or take out any patents, brevets d'invention, licences, and concessions conferring an exclusive or non-exclusive right to use any invention capable of being used in connection with machinery for cutting pile fabrics, and in particular to enter into an agreement for acquiring the benefit of certain existing inventions, in the terms of a draft referred to in Clause 3, of the articles of association. The first subscribers are:—

	Shares.
R. Middleton, 6, Chorlton-street, Manchester	1
J. J. Mann, Ordsall-lane Mills, Salford	1
A. Goddard, Stepping-hill, Stockport	1
J. H. Smith, 8, Abbey-grove, Eccles	1
D. Scott, 12, York-street, Manchester	1
F. Haworth, 21, High-street, Manchester	1
J. Hallworth, 4, St, Peter's-square, Manchester	1

There shall not be less than three nor more than seven directors. The first are F. Haworth, J. Hallworth, R. Middleton, and H. Worrall. Qualification, £1,000. Remuneration to be determined in general meeting.

COTTON COMPANIES' REPORTS.

DUKE, SHAW.—The profit is £1,653, and a dividend of 1s. 6d. per share will be paid, placing £500 to the reserve fund and carrying £349 to the next quarter's account. The share capital is £35,000, and loan £42,930. The fixed stock is valued at £61,148, and there are 22,812 twist and 47,568 weft spindles.

ROCHDALE, ROCHDALE.—The profit of this company is £1,791, and a dividend of 1s. 3d. per share, or 12½ per cent., will be paid. The share capital is £25,332, and the loan £56,219. The fixed stock is valued at £65,705, and there are 28,656 twist and 42,016 weft spindles.

IVY, FAILSWORTH.—The profit of this company is £500, and a dividend of 1s. per share, or 11⅛ per cent. will be paid. The share capital is £17,485, and loan £21,460. The fixed stock is valued at £31,915, and there are 24,576 twist and 10,080 weft spindles.

LONGFIELD, OLDHAM.—The profit is £237, which reduces the adverse balance to £1,025. The share capital is £38,560, and loan £13,606. The fixed stock is valued at £45,878, and there are 20,760 (all twist) spindles.

ROYTON, ROYTON.—The profit is £1,412, and a dividend of 10 per cent. will be paid, placing £500 to reserve fund. The share capital is £36,000, and the loan £33,995. The fixed stock is valued at £52,162, and there are 27,978 twist and 39,642 weft spindles.

PARKSIDE, ROYTON.—The profit is £1,291, and a dividend of 10 per cent. will be paid, placing £500 to reserve fund. The share capital is £39,000, and the loan £13,015. The fixed stock is valued at £33,574, and there are 17,916 twist and 30,846 weft spindles.

HOLLINWOOD, HOLLINWOOD.—The profit is £1,360, and a dividend of 1s. 3d. per share, or 10 per cent., will be paid, placing £500 to reserve fund. The share capital is £40,000, and the loan £33,613. The fixed stock is valued at £55,288, and there are 53,000 twist and 22,024 weft spindles.

LEES UNION.—The profit for the past quarter was £861 3s. 9d., disposable balance £1,113 3s. 9d., and the company propose to pay 2s. 6d. per share, to place £400 to the reserve fund, and carry forward a balance of £88 3s. 9d. to next quarter.

ALBERT SPINNING COMPANY, Darwen: Profit, three months, £607 16s. 1d. This amount, with £125 2s. 7½d. brought forward from last quarter, gives a disposable balance of £732 18s. 8½d., out of which the directors propose to pay a dividend of 1s. 6d. per share, which will absorb £593 11s. 6d., and carry forward £134 7s. 2½d.

ALBERT (ACRE) OLDHAM.—The profit is £400, and a dividend of 1s. per share, or 7½ per cent., will be paid. The share capital is £22,041 and loan £20,114. The fixed stock is valued at £29,193, and there are 23,810 (all twist) spindles.

PEEL SPINNING MILL, BURY.—The profit for the past half year is £2,903, and the directors will pay a dividend on ordinary and preference shares and carry forward £770.

MUTUAL, HEYWOOD.—The profit is £4,433 (half-year), and a dividend of 10 per cent. will be paid, placing £2,000 to reserve fund. The share capital is £42,000, and loan £45,620. The fixed stock is valued at £74,834, and there are 20,688 twist and 63,084 weft spindles.

BOROUGH, OLDHAM.—The profit is £3,000, and a dividend of 1s. per share will be paid. The share capital is £54,000, and loan £17,390. The fixed stock is valued £54,425, and there are 57,240 (all twist) spindles.

OLDHAM TWIST, OLDHAM.—Profit (three months) £2,580, and a dividend of 10 per cent. will be paid. The share capital is £63,389, and loan £78,285. The fixed stock is valued at £105,017, and there are 67,476 twist and 58,086 weft spindles.

HONEYWELL, OLDHAM.—The profit (three months) is £1,480, and a dividend of 2s. per share will be paid, placing £500 to reserve fund. The share capital is £50,000, and loan £35,631. The fixed stock is valued at £63,690, and there are 39,684 twist and 35,934 weft spindles.

HEY, OLDHAM.—The profit is £600, which reduces the adverse balance to £1,630. The share capital is £15,705, and loan £16,041. The fixed stock is valued at £22,681, and there are 18,072 twist and 7,092 weft spindles.

ASTLEY, DUKINFIELD.—The profit is £2,093, and a dividend of 1s. per share will be paid. The share capital is £36,767 and loan £63,989. The fixed stock is valued at £79,512, and there are 40,284 twist and 43,740 weft spindles.

PRINCE OF WALES, OLDHAM.—The profit is £1,000 (interim stocktaking). The share capital is £48,000 and loan £39,345. The fixed stock is valued at £77,668, and there are 63,500 (all twist) spindles.

BURY AND ELTON COMPANY.—Profit, six months, £2,1000. 45,000 spindles and 500 looms.

BURY AND HEAP COMPANY.—Profit, six months, £2,076. 57,586 spindles and 971 looms.

BARNBROOK COMPANY.—Profit, three months, £150. 50,000 spindles and 918 looms.

TOTTINGTON AND WOOLFOLD COMPANY.—Profit, six months, £600. 539 looms and no spinning.

SUN MILL COMPANY.—Profit, three months, £1,870 Share capital, £75,000. Loans, £48,292. Spindles, 145,898 (82,062 T and 63,836 W). Plant, three months ago, £95,359. Company formed 1861.

NEW YORK, HEYWOOD.—Profit, six months £3,400.

STALYBRIDGE COMPANY.—Profit, three months £1,380 Dividend 12½ per cent. per annum. Share capital, £30,000. Loans, £50,670. Spindles, 75,420 (39,420 T and 36,000 W). Plant, three months ago, £62,289. Mill fireproof. Company formed 1881.

GUIDE BRIDGE COMPANY.—Profit, three months, £2,300. Share capital, £75,000. Loans, £97,340. Spindles, 150,240 (96,264 T and 53,976 W). Plant, three months ago, £142,042. Mill fireproof. Company formed 1875.

NEW HEY.—Profit, three months £1,004. Dividend 10 per cent. per annum. £200 to reserve fund, and balance forward. Share capital, £30,000. Loans, £36,014. 37,800 ring spindles. Plant, three months ago, £51,316. Company formed 1883.

HAUGH.—Profit, three months, £847. Dividend 10 per cent. per annum. £200 to reserve fund, and balance forward. Share capital £24,000. Loans, £21,172. 27,148 ring spindles. Plant, three months ago, £34,442. Company formed 1882.

NEW LADYHOUSE.—Profit, three months, £479. Dividend 10 per cent. per annum. £100 to reserve fund and balance forward. Share capital, £16,000. Loans £14,690. 15,728 ring spindles. Plant, three months ago, £21,780. Company formed 1887.

Patents.

APPLICATIONS FOR PATENTS.

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

Where Complete Specification accompanies Application an asterisk is suffixed.

23RD JUNE.

9,702. H. PARKER, 58, Low-street, Keighley. Caps and spindles of spinning and twisting machinery.

9,704. W. M. PORTER and A. L. LEWIS, 175,

Agnes-street, Belfast. Moistening and supplying fresh air to factories.

9,711. J. Miller, sen., and J. Miller, jun., 8, Quality-court, London. Rendering textile fabrics waterproof.

9,714. M. D. Styles, 42, Thornhill-road, Barnsbury, London. An improvement in the manufacture of stockings and socks, woven or knitted, to be known as "Piecelets."

24TH JUNE.

9,756. R. Lee and Co., 13, Newgate-street, London. Headings of fancy fringes, etc.

9,759. F. W. Wilson and T. Wilson, Crossley-street, Halifax. Picking straps and attaching them to the pickers.

9,765. J. Freesey, 74, Chelsea-road, Southsea, Hants. Tightening and keeping at any tension leather, catgut, or any other bands, belts, straps, or millbands.

9,768. J. Dawson and R. Hirsh, Kirkheaton Colour Works, near Huddersfield. The production of a new alpha-beta-naphthylenediamiumonosulphoacid.

9,771. F. Illingworth, Sunbridge Chambers, Bradford. Method of and apparatus for removing "burr" from wool and other fibre.

9,805. F. Wever, 45, Southampton Buildings, London. Drying fibrous materials.

9,825. A. J. Boult, 323, High Holborn, London. Apparatus applicable for the extraction of fatty substances from oil, sulphur, and other material, and for manufacturing extracts for dyes. (*G. Boulet, fils, Donard, and Contamine*, France.)

25TH JUNE.

9,834. G. J. J. Hoffmann, Sunbridge Chambers, Bradford. Spinning fibrous substances.

9,848. J. W. Watts, Countesthorpe, near Rugby. Latch-needle knitting machines.

9,850. F. Wilkinson and C. E. Wilkinson, 17, St. Ann's-square, Manchester. Humidifying the atmosphere in factories.

9,863. S. Simmons, 323, High Holborn, London. Removal of dirt stains, etc., from fabrics.

26TH JUNE.

9,895. E. C. C. Stanford, 87, St. Vincent-street, Glasgow. Indicating increase of temperature due to friction in machinery.

9,902. M. Robinson, 8, Quality-court, London. Machinery for the manufacture of woven wire.

9,922. A. Meizer-Kreis, 46, Lincoln's Inn Fields, London. Embroidery. (Date applied for under Patents Act, 1883, sec. 103. 16th January, 1890, being date of application in Switzerland.)

9,923. O. Imray, 28, Southampton Buildings, London. Manufacture of dehydromethylphenylpyrazine. (*C. F. Bochringer Söhne*, Germany.)

9,927. J. Hearth, W. Hearth, and W. H. Willis, 323, High Holborn, London. Stockings and socks.

9,935. J. H. Woodward, 24, Southampton Buildings, London. Manufacture of knitted vests.

27TH JUNE.

9,959. J. Moseley, 70, Market-street, Manchester. Humidifying air.

9,971. J. Rowe, 16, Primrose-street, Clitheroe. Pickers.

28TH JUNE.

10,005. R. Ingham and T. Ingham, Central Chambers, Halifax. Appliances connected with shuttle boxes of looms.

10,006. E. Hindle, G. Hindle, and W. Isherwood, Central Chambers, Halifax. Shuttle guards.

10,011. C. K. Mills, 23, Southampton Buildings, London. Spinning and winding fibrous materials. (*M. Michalot-Sirot*, France.)

10,041. F. Jackson, 323, High Holborn, London. Knitted ribbed fabrics.

10,047. O. Imray, 28, Southampton Buildings, London. Colouring matters. (*Society of Chemical Industry*, Switzerland.)

30TH JUNE.

10,073. L. V. Prost, 8, Quality-court, London, Machinery for the manufacture of wire healds.

10,085. E. Beveridge, 96, Buchanan-street, Glasgow. Preparation of designs for card-cutting.

10,095. J. Y. Johnson, 47, Lincoln's Inn Fields, London. Trioxy-benzo-phenone, a colouring matter of the oxy-ketone group. (*Badische Anilin and Soda Fabrik*, Germany.)

10,101. O. Imray, 28, Southampton Buildings, London. Azo-colouring matters. (*The Farbwerke vorm. Meister, Lucius, and Bruning*, Germany.)

SPECIFICATIONS PUBLISHED.

1889.

9,439. Adams and Hallam. Circular knitting machines. 8d.

10,815. Taylor. Looms. 8d.

11,345. Sheardown and Barker. Cleaning cotton seeds. 6d.

12,212. Farmer. Fabric printing machines. 8d.

12,246. Rivret and Honore-Colson. Carding machines. 8d.

12,265. Thompson. Looms. 11d.

12,466. Wright. Spinning machinery. 6d.

12,534. Hollingworth. Looms. 6d.

17,801. Johnson. Woven wire cloth. 4d.

1890.

697. Lake (*Stafford*). Loom dobbies. 8d.

4,827. Tonnar. Plush fabrics. 6d.

6,110. De Pass (*Imbri*). Drawing, etc., fibrous materials. 11d.

6,170. Boult (*Hutchinson and another*). Re-blocking cloth. 6d.

6,870. Keefer. Carpet fabric. 8d.

7,029. Thompson (*Jones*). Spinning machinery. 6d.

SECOND EDITION.

1889.

5,549. Tweedale. Carding engine flats, etc. 8d.

ABSTRACTS OF SPECIFICATIONS.

1,258 Jan. 23, 1889. **Looms.** A. B. Barlow and C. Jumbaux, Cornbrook Heald Works, Manchester.

Healds.—Shafts for supporting wire or metal leashes are made of sheet metal formed as at *a* to support a wire or rod *b* on which are loosely mounted adjustable links *c*. The latter support a rod *d*, upon which the wire leashes *e* are threaded, the twisted ends *e*1 being protected by the shaft. The upper and lower shafts are connected by suitable end pieces. In the case of wooden shafts for wire leashes supported on yarn loops, or for knitted healds, the rig-band is secured within a groove in the shaft, the yarn loops, in the case of the wire leashes, supporting the rod upon which such leashes are threaded one being carried on a rod supported with the rig-band. Some of the parts may be modified, [8d.]

1,295 Jan. 24, 1889. **Weaving figured fabrics.** J. L. Byrom, Slackcote Mills, Delph, near Oldham.

To produce figured effects in the borders or other parts, by weft threads which are not woven into the body of the fabric, the weft from the loom shuttle is severed at about an inch from the inner edge of the border, or figure, after the shuttle has passed so far from the shed of the said border or figure that the loose end of weft remaining attached to the cop can be carried by the shuttle across that part of the fabric where it is not required, and laid in the shed of the opposite border or next figure. The severing of the weft in the loom is affected by cutting jaws *d*, *d*1, of which *d*1 is fixed to an arm *e* on a rock shaft *f*, whilst *d* is pivoted on *d*1 and to a link *g* on a bar *h*, the parts being so arranged that as the blades are moved forwards they close together (as shewn in the dotted lines), and sever the weft. A spring *i* holds the weft to prevent it springing back. The motion of the rock shaft is derived, through levers and links, from a tappet which is put in and out of action at the required times by special connection with the jacquard. A spring holds the blades clear of the weft when they are not required to act. [8d.]

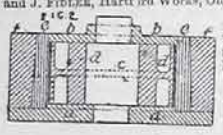
1,357. Jan. 25, 1889. **Carpets.** S. Wood and G. H. Hepplestone, Croft Mills, Heckmondwike.

Reversible ingrain or imitation Brussels carpets are woven with an ingrain warp *d*, *e*, a fine binding warp, and weft *a*, the warp *d*, *e* being thrown on to both faces of the fabric, and forming figures thereon with the weft. [6½d.]

1,370. Jan. 25, 1889. **Looms.** W. H. Kenyon, Denby Dale, near Huddersfield.

Shedding mechanism.—The under-motion levers described in Specification No. 2,920, A.D. 1883, are mounted in three tiers or series on shafts, in order that they may work freely between one another. The levers are connected to their springs by straps, the points of action of the latter being brought nearer the shafts by passing them through clips, which are driven into grooves in the levers; this arrangement obviates the use of weaker springs than are ordinarily used. The Provisional Specification describes the arrangement as applied to levers working singly, and not, as in the above case, in pairs. [8d. *Drawings.*]

1,373. Jan. 25, 1889. **Carding-engines.** J. E. Platt and J. Fidler, Hartford Works, Oldham.



Grinding rollers.—The roller *d* is coated evenly with a pasty mixture of glue and emery, etc., and placed on a stud *e*, carried by a base plate *a*, and covered by a plate *b* and a mould *c*, formed in segments and having grooves and ridges of suitable form on its inner face, is pressed upon the circumference of the roller. The segments of the mould are forced together by means of a tapered tube *f* and a suitable press. In the Provisional Specification another method is described consisting in covering the roller with cloth filleting, covered with the pasty mixture in which grooves, etc., have been moulded. [8½d.]

1,387. Jan. 25, 1889. **Figured fabrics.** B. J. Wylie, 14, Bow-lane, London.

Window blind, damask, and other fabrics of linen or cotton, or of linen and cotton, are woven with either the warp or the weft composed of a lighter yarn than the other, whereby the designs or patterns produced become transparent when the fabrics are held up the light. On leaving the loom the fabrics are cleansed by soaking in water, and may, in some cases, be dyed. *Patent opposed. Case not yet decided.* [4½d.]

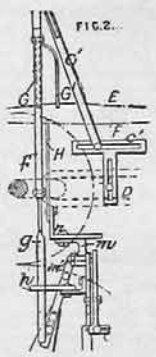
1,432. Jan. 26, 1889. **Spinning.** A. Ridgway, Bank Works, Macclesfield.

Spindles and their appurtenances.—In winding and drawing machines used principally in the manufacture of silk; the bobbins are held in position on the spindles by means of springs *b* to med of a single piece of metal which is split longitudinally and bowed outwards as shewn. [6½d.]

1,453. Jan. 28, 1889. **Washing wool, etc.** J. Portella, Sydney-road, Haringay Park, Middlesex.

Relates to a mixture and processes for washing wool, cotton waste, and other dirty materials, and for recovering the lanoline or other greasy or oily matters therefrom. The mixture is composed of soap, ammonia, and turpentine, with or without the addition of common soda or potash. In scouring wool, the material is soaked in a bath at a temperature of 140° F. prepared from this mixture (without soda or potash) and hot water, being slightly agitated therein for 10—20 minutes. In cleaning cotton waste, the material is first subjected to pressure to remove excess of oil, passed through a bath of soap, common soda or potash, ammonia, turpentine, and water at about 140° F., and then treated in a second bath containing soap and soda or potash. Subsequently it is rinsed in cold water, dried, and carded. The wool scouring bath when exhausted is run off, and heated gently to cause the wool fat to rise so that it may be skimmed off. [6½d. *No Drawings.*]

1,482. January 28, 1889. **Looms.** W. Simpson, S. Shaw, and R. Skirrow, all of 165, Sussex-street, Salford.



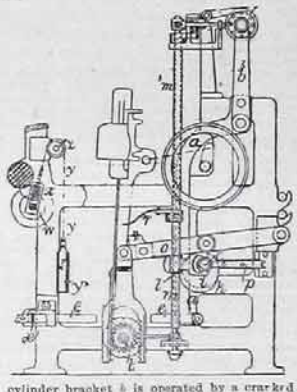
Selvage Shedding mechanism.—In looms for weaving splits a part E of the internal selvage warp threads are passed through two pairs of vertically reciprocating eyed rods G, G1, the rods G1 being connected so as to move with the rods G. The remaining selvage threads F are passed through a pair of horizontally reciprocating or rocking eyed rods H. The rods G, G1 are carried by a frame *f* worked up and down by adjustable link and lever mechanism from a rock shaft receiving motion through links *o*1 from the connecting rod D or the lay. A flat rod *g*, attached to the frame *f*, works in a fixed slotted piece *h* and serves to guide the rods G. The rods H are carried by an angle piece *s* on a bell crank lever *m*, which is rocked on its fulcrum *m*1 by connection with an eccentric on the tappet shaft. The angle piece is slotted for adjustment of the parts. The arrangements of the apparatus for weaving two or more sets of internal selvages is described. [8½d.]

1,491. Jan. 28, 1889. **Spinning Spindles.** J. H. Wynne, 72, Tarvin-road, Chester, and J. Snowdon, 88, Old Church-road, Stepney.

Lubricating.—The spindle is surrounded by a lubricant receptable, from which the lubricant escapes to the footstep or bolster by apertures. An annular weight is applied to the surface of the lubricant, which may be solid or semi-solid, and is preferably of the kind known as "Asbestoline." [6½d. *Drawings.*]

1,552. January 29, 1889. **Looms.** W. Shaw, Stockport-road, Bredbury, Cheshire.

Drop-box mechanism. Improvements in the apparatus described in Specifications No. 2,219, A.D. 1868, and No. 7,073, A.D. 1884.



The cylinder bracket *b* is operated by a cranked lever *a* from a grooved cam on the tappet shaft *c*. A slide bar *s* attached to the lever *a* is, when the cylinder is required to cease action, obstructed by a rod *s*1 connected with the spring handle, the bowl which works in the grooved cam being mounted so as to yield. A modification is described in which the bracket *b* is worked from an eccentric. To obtain a fourth lift the central holes of the cards are made of two sizes, the central peg upon which they act being of two diameters so as to be pushed a part or the whole of the way, or not at all, as required. Upon the tappet shaft *c* are mounted three cams, one for the single lift as usual, and a double cam *i*, *k*, moved into or out of position by the fork *l* on the tube *m* operated by the central peg. The boss of the double cam is formed with projections against which acts a spring bolt *p* to ensure steady action of the boot-jack lever *n*. A spring *r* is moved above a projection on the lever *n* to check the latter sooner or later according to the lift thereof. To lock the boxes in position a spring bolt enters notches in a disc *t*, such bolt being put in and out of action by the motion of the lay.

Take-up mechanism.—The cloth beam *w* is weighted by cords *y*, to which are attached weights *yx*, and which are wound around a fixed drum or pin *z* or around the emery roller or other part of the loom, and attached to the beam by links such as the spring fastenings *x*. [8½d.]

1,599. Jan. 29, 1889. **Wire Weaving.** W. Hargreaves, 19, Vernon-street, Broughton, Manchester.

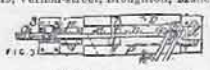


FIG. 1.


FIG. 2.

Wire is woven in a power loom instead of by hand. The warp wires pass from a set of bobbins mounted on a board, and thence over and beneath a set of adjustable tension bars to the healds, etc. The weft wire is wound on a spool *b* (Fig. 3) inserted in the tube part *a* of the shuttle, the recessed screwed ends E of the latter being removable to permit this. The wire passes through the hole *c*, each side of the loom. Each rod projects from a carriage *q*, which is provided with rollers running on guide rails *p*, and is operated by a lever *k*. The latter is pivoted near its lower end, and is operated by a tappet on a suitably driven shaft. A second tappet starts the lever on its back stroke, a spring completing the latter. A buffer *x* checks the carriage *q*, and a buffer (not shewn) checks the lever *k* on its back stroke. The guide *s* for the rod *n* has an enlarged mouth to receive the shuttle *a*. [6½d.]

1,633 Jan. 30, 1889. **Finishing yarns.** A. Hitchon, Globe Iron Works, Accrington, Lancashire.

Sizing.—In order to equalise the tension on the different sheets of yarn, one of the squeezing rollers in one of the size box a is connected through suitable spur gearing, and a pair of expansion pulleys F, G to one of the squeezing rollers in the other size box, and also, if desired, through chain gearing to a roller A, over which the yarn passes immediately before it enters the size box. The rollers may be formed of hollow shells fitted with concrete or cement.

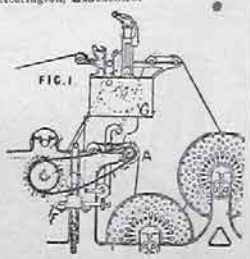


FIG. 1.

1,651. Jan. 30, 1889. **Rope gearing.** J. Barbour, Falls Foundry, Belfast.

Single endless bands in multiple coils. The guide pulleys are placed loose upon the main shafts at the side of the driving pulleys, and are larger in diameter than the latter, so that the part of the rope crossing from one to the other passes clear of the spans connecting the driving pulleys. [6½d. *Drawings.*]

1,709. Jan. 31, 1889. **Looms.** J. and P. Johnson, Bank Mill, Pendleton, Salford, Lancashire.

Dobbies.—Arrangements are described for advancing the lag barrel by three or less lags at a time, commencing at any lag, without stopping the loom. The barrel shaft carries three ratchet wheels c_1, c_2, c_3, the teeth of which each correspond to a distance of three lags, and are arranged in the relative positions shewn. The wheels are operated by three pawls f_1 carried by the rocking lever *d* of the dobby. The pawls are put out of action as required by lifters *l* mounted on a stud *i* and formed with swells which bear on three notched discs k_1 on a shaft *g*. This shaft is turned by hand, and when a notch k_1, k_2, or k_3 comes beneath a swell the corresponding pawl f_1 falls into gear with its wheel. This arrangement admits of bringing into operation lags 1, 4, 7 ..., or 2, 5, 8 ..., or 3, 6, 9 ..., as required. A modification is described in which one pawl and one ratchet wheel only are employed. For changing to two lags, or to one lag at a time extra ratchet wheels or pawls are employed adapted to give the required motions when brought into action. [8½d.]

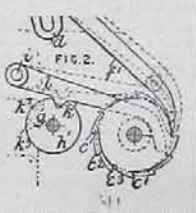


FIG. 2.

1,758. Jan. 31, 1889. **Coated fabrics.** J. Heppe, 15, Step Row, Dundee.

A method of and compositions for coating canvas, floorcloth, linoleum, and other textile fabrics. A composition prepared containing Irish moss, starch, clay or whiting, glycerine and glucose. To this water or skimmed milk is added, together with alum and sulphuric acid. It is composition (in which oxide, ochre, or other colouring matters may be substituted for the clay or whiting) is mixed with oxidised oil, turpentine, and driers, and applied to the back of the fabric. The face of the fabric is coated with the same mixture only clay or whiting being used instead of the colouring matter. [4½d.]

1,771. Jan. 31, 1889. **Phenetidine, etc.** B. Willcox, 47, Lincoln's Inn Fields, London.—(*Farbenfabriken Vorm. F. Bayer and Co., Elberfeld, Germany.*)

Relates to the manufacture of para-amidophenol methyl, ethyl, and amyl-ethers. Consists in converting the ethers of para-amidophenol into the correspondding diazo-compounds, combining these with phenol, alkylising the azo colouring matter thus obtained, and reducing the alkylised product by suitable agents, whereby it is split up into two molecules of para-amidophenol ether. For example, phenetidine hydrochloride is diazotised, and the solution is poured into an alkaline solution of phenol. The para-phenol-ether-azophenol thus obtained is dissolved in alcohol and heated in a closed vessel with ethyl bromide or chloride. Excess of alcohol and non-alkylised azo compound are removed and the alkylised product is reduced by means of hydrochloric acid and iron filings, whereby it is split up into two molecules of phenetidine is hydrochlorate, from which free phenetidine obtained by treating with lime and distilling with steam. Tin, zinc, or chloride of tin, or other suitable reducing agent may be used. Mono-acetyl compounds of the eth rs are obtained by melting them with acetate of soda and free acetic acid. These compounds are applicable in pharmacy. [6½d.]

1,799. Feb. 1, 1889. **Looms.** J. and J. A. Lemmon, Kirklands, Baildon, Yorkshire.

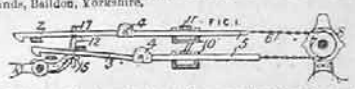


FIG. 1.

Dobbies.—The draw hooks 2, 3 are operated by the usual knives, and are specially jointed at 4 to bars 5, which are connected in pairs by chains 6 passing around pulleys 7 on the jack levers 8. The hooks are operated directly by the ends 12, 15 of setting levers 13. The latter may consist of levers, each having two fingers for operating the upper and lower hooks, the upper hooks being bent in this case. A grating 17 is provided for steadying the hooks and setting levers. The bars 5 work in gratings 10, having removable top bars 11, and serving as stops to the hooks for limiting the motion of the healds. The jack levers are operated when both top and bottom hooks are caught by the knives. The grades 10 may be made to slide by connection with the T rocking lever, a centre or "jacquard" shed being then obtained in place of an open shed. [8½d.]

1,825. Feb. 1, 1889. **Preventing and removing scale in steam generators.** F. J. Clamer, Philadelphia, U.S.A.

A compound of zinc and phosphorus is placed in the boiler for this purpose. The proportions of the two vary, but a mixture of 16 parts of zinc with 1 of phosphorus has been found effective for ordinary waters. The compound is preferably hung from the boiler shell by a copper wire, but may be placed in a suspended basket or bag, or may be broken up and the pieces placed loosely in the boiler. [6½d. *Drawings to Specification.*]

1,826. Feb. 1, 1889. **Preventing and removing incrustation from steam generators.** F. J. Clamer, Philadelphia, U.S.A.

A mixture of copper, zinc, and phosphorus is employed for this purpose, in the proportion of 18 parts of zinc to 1 of copper and 1 of phosphorus; these proportions may, however, be varied. The compound may be suspended from the boiler shell, or from the tubes or stays by a copper wire, or may be placed in a copper basket, or may be placed loosely in the water of the boiler. [6½d. *Drawings to Specification.*]

1,847. Feb. 1, 1889. **Incrustation, preventing.** E. Hannison, 15, Wakefield-street, Regent-square, London, W.C.

Relates to means and apparatus for softening and purifying water in steam generators, hot-water boilers, pipes, etc., by electrically depositing incrustants upon the surfaces of easily removable structures. The anti-incrustator is formed of zinc and copper plates separated by washers C, the space between the plates being, in some cases, filled with asbestos or sponge. Outer perforated plates also carry screw-blades of different metals. In addition, for large boilers, insulated perforated plates or wire nettings may extend from end to end, and, in some cases, be provided with electric batteries. [8½d. *Drawings.*]

1,857. Feb. 2, 1889. **Lubricants.** O. Jeyes, Catherine-street, Aston, Birmingham.

To ordinary lubricating grease is added refined naphthalene. Thus 2 cwt. tallow may be mixed with 1 cwt. naphthalene and about two gallons mineral oil. [4½d.]

1,838. Feb. 2, 1889. **Cutting roller, covering, etc.** J. S. Drossfield, Atlas Works, Oldham.

Improvements on the invention described in the Specification No. 6,185, A.D. 1884. The strip *m* of leather, etc., is fed between rollers *a*, *b*, the former of which is of known diameter, and is rotated intermittently to an amount which can be

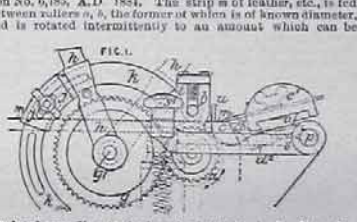


FIG. 1.

regulated according to the length of strip desired. The roller *a* is operated directly or through suitable gearing by a pair of handles *h*, one on each side of the last wheel *g* of the train, which are loose on the axle g_1, and are normally held apart by a spiral spring. When the material is to be fed forward the handles *h* are pressed together and moved from the position shewn in dotted to that shewn in full lines, carrying with them the wheel *g*. The movement of the handles *h* is regulated by stops *i*, *j*, the former of which is fixed and the latter adjustable in position on the segment *k*, the upper edge of which is graduated. After passing through the rollers, the material is gripped between a fixed jaw *c* and a movable jaw *d*, which is carried by a transverse slide *s* and pressed forward by spiral springs. The slide is mounted on trunnions *r*, and carries the knife carriage *cr*, and is normally held in the raised position by a spring, etc. When the strip is to be cut the jaw *d* is forced against the fixed jaw by pressing a knob *st*, and, the strip being also held by a spring presser bar *n*, the knife carriage is moved across the slide. Other arrangements may be used for rotating the roller *a* to the required amount, and the fixed jaw C may be dispensed with, the skin being held between the roller *a* and the jaw *d*. [8½d.]

1,905. Feb. 2, 1889. **Knitted fabrics.** H. H. Lake, Southampton Buildings, London.—(*J. F. Bingen; Waterbury, Massachusetts, U.S.A.*)

Fabrics, knitted from woollen, worsted, or other suitable yarn of the desired weight and size, are successively fulled, rigged, sheared, dyed, and pressed, to form a substitute for woollen dress and flannel goods, felts, cashmeres, blankets, and the like. The dyeing may be done at other stages of the manufacture, and for blankets the shearing may be omitted. 4½d. *No Drawings.*]

1,809. Feb 2, 1889. **Spinning.** W. E. Sharples, 72, Bedford-street, Fall River, Massachusetts, U.S.A.

The guide wire board and blocks, the roller beam, and the back board, are cleaned by a series of brushes projecting from the sides, and pieces of flannel or felt secured to the bottoms of blocks, which are traversed by an endless cord passing over pulleys which are preferably slightly raised above the roller beam. The blocks are steadied and kept in line with each other by an elastic band, which is secured to the end blocks and passes through apertures in the intermediate ones. The waste collected by the brushes is removed from by one or more cleaning devices, each of which consist of four pieces of flannel, in two pairs, secured by one end to a frame having a large central aperture for the passage of the blocks and small side apertures for the brushes, the upper flannels of each pair being weighted. Each cleaning device is slightly raised above the roller beam and is connected to the latter by inclines, the free ends of the flannels being held by means of wires slightly in the raised position to allow the brushes on the rear side of the blocks to pass beneath them on their return journey. The endless band is kept clean by means of a brush carried by an arm which is operated in a horizontal plane in one direction by cams on one of the driving drums, and in the other direction by a spring. [8½d. *Drawings.*]

1,990. Feb. 4, 1889. **Tension pulleys for spinning-frames.** P. Ramsbrow, Hanson Lane, Halifax.

The rim of the pulley is convex, side flanges being provided, which are bevelled or rounded, and the sides may be corrugated. [6½d. *Drawings.*]

1,991. Feb. 4, 1889. **Bobbins and spools.** F. M. Marcy, Worcester, Massachusetts, U.S.A.

To prevent the ends from getting cracked, etc., or becoming detached, they are made of spring steel, and secured to the wooden barrel by means of plugs. [6½d. *Drawings.*]

2,052. Feb. 5, 1889. **Looms.** J. Jucker, 60, Peter-street, Manchester.

Stop-motion.—Apparatus for use with that described in Specification No. 16,970, A.D. 1886, or with other apparatus for stopping the loom when the shuttle fails to box. The object is to relieve the shuttle from the pressure of the stop-rod finger whilst it is being picked, the specially shaped frog, described in the before-mentioned Specification, serving by its action on a pawl to relieve the pressure only when the shuttle enters the box. This is effected by providing the crank-arm and stop-rod with curved arms, the former of which slightly depresses and slides on the latter at the required time, as the lay moves back. [6½d. *Drawings.*]

2,060. Feb. 5, 1889. **Dyeing.** T. Wolstenholme, 730, Walnut-street, Camden, New Jersey, U.S.A.

Hank machines.—A yarn-stick frame F is constructed with two upper beams I, I1, having notches J1 to receive the sticks J, and with two lower beams K, the heads of which are vertically adjustable on uprights and are secured thereto by pins N passing into holes F1 and locked by latches O. These beams carry the lower sticks L in notches L1. The yarn having been put upon the sticks the latter are secured by bars P, which are pushed under clips Q. At each end of the frame F is a trunnion, which can be put into a half bearing at the inner end of a lever E and secured by a hinged half-journal K1 and a spring catch E1. The levers E have provided with counterweights R and connected by rods I1 with cranks C on the driving Shaft B, and the yarn is thus subjected to an up and down swinging motion in the dye liquor. The frame F is provided with hooks F2 at its ends, which may be engaged with claims G1 on a frame suspended from a tackle by which the frame F and its contents may be raised or lowered. The tackle depends from a frame which can be run along a beam [8½d.]

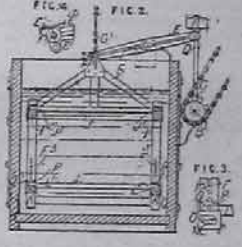


FIG. 1.

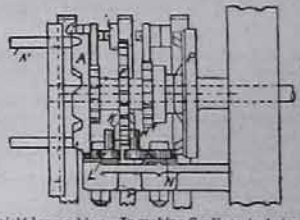
FIG. 2.

FIG. 3.

2,063. Feb. 5, 1889. **Looms.** R. Kirkman, Landore Alkali Works, Swansea.—(*J. Arbuckle, South Chester, Penn., U.S.A.*)

To produce *pile* on each side of the fabric by means of a slack warp the lay is caused to make a full and a partial beat-up alternately. To effect this, the loose boxes of the crank shaft are made to slide to-and-fro by rocking levers, which are pivoted to the framework, and are formed with holes through which the crank-shaft passes. The levers are also formed with oblong cavities for the reception of cams on the tappet-shaft. [6½d. *Drawings.*]

2,084. Feb. 5, 1889. **Knitting.** H. W. Plant, Oxford-street, Leicester.



Straight bar machines.—In making Cardigan jackets and the like, multiple-loop or tuck stitches are formed, preferably on the frame needles, by causing the latter to mis-press for two or more courses. For this purpose the wheel A, for shogging the frame track bar A1, to shift the tracks alternately from the pressing to the mispressing cams, is put out of action by shifting the truck of its pawl-operating lever C from its cam to a plain disc. This is done by a forked pivoted lever L, operated by a cam piece K on the face of the ratchet wheel F. While the frame needles are mis-pressing, the machine needle bar is shogged by the wheel P, brought into action by a lever N and cam-piece K1 in a similar manner to the wheel A. [8½d.]