THE TEXTILE MERCURY

May 12, 1879

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Non-United Mills.

Last week in the columns of The Cotton Factory Times notice was taken of the suggestions in our article of the previous week, pointing out that the Employers' Associations were falling

in their duty in not providing facilities for non-united operatives to obtain employment, not to mention the time of strikes and lock-outs, but for a permanency. Of course, as was to be expected, the quality of the non-united labourer is very highly depreciated; we are assured that the unions absorb everything that is good or of any value in industrial skill, intelligence, and energy, and that all the non-united labourers at a very large class of operatives, who are associated with the superlative quality that has been gathered into the folds of unionism. The latter is declared to be as it is, in the case of some of the best fountain of inspiration, are never neglected by them, and in this respect Nature is bountiful to the French. The best of all the best fountain of inspiration, are never neglected by them, and in this respect Nature is bountiful to the French. The best of all the best fountain of inspiration, are never neglected by them, and in this respect Nature is bountiful to the French.

THE DEVELOPMENT OF COSTUME.

As evidence of the truth of the closing remarks in the preceding notice, we would point to a lecture on "The Chronology of Costume," delivered on Thursday, May 16th, by Mr. Philip Newman, at the rooms of the Society for the encouragement of the Fine Arts, in Compton Street, London. The chair was taken by Mr. Edmonston, F.R.I.B.A. The lecture, which was profusely illustrated with fine-light pictures thrown on a screen, covered the period from the ninth to the beginning of the present century. Mr. Newman pointed out that the successive phases of human attire were observed a law of development, and not the fruit of blind impulses or caprice. This principle was especially manifest in the history of the cullus and corset, of which France has succeeded in ruling the world of fashion for such a long period, and how, by the action of their common destinies, the French, together with the English, were the chief agents of the fashion. In the middle of the eighteenth century, the dress of men by the gentler sex. The simples and gowns, which were found in
The braves of the 13th century were a feminine adaptation of the camail of the mailed coat. In the Elizabthan period the broad skirts, long waist, and farthingales, were doubtless suggested by the exaggerated trump hose and doublets of the men. A coney Reference was made to the suits of the women especially of the early Tudors. The effect of tragic associations on fashion was shown in the case of Mrs. Anne Turner, who was executed for consorting with the poisoning of Sir Thomas Overbury, and appeared on the scaffold in a ruff of the approved colour. This colour thenceforth went as completely out of fashion as in our generation black satin disappeared after the early 19th century, and in nothing worse in the dress of the material. The lavish outlay in personal adornment was shewn in the expenditure of £2,000 on the trousseau of a lady in the early part of the last century. Pepys and Evelyn were naturally drawn upon for illustrations of the contemporary taste. It was instructive to observe the sobriety shown both by men and women in their dress after the Plague and Fire of London, which ended into the middle of Queen Anne's reign. Still they found that Queen Mary's face bill for 1603 was stated by Mrs. Bury Paillicer to have amounted to no less than £1,916. The Hanoverian period was equally depicted by the help of the caricaturist Gilray and Rowlandson, and the eccentricities of the French Revolutionary period were also the subject of illustration. We are confident that if our designers and others would explore the fields suggested in this and the preceding note, and supplement the paucity of materials in our own literature by resorting to the treasures contained in the French, they would find an abundant rewar.

The Professional Trades-Unionists and English Trade.

Recent events demonstrate quite clearly that the public are getting tired of the officious meddlin' of the professional trades-unionists with industry and commerce. The "climbing down" done by these gentry during the past few weeks has been something marvellous, and will become much more so provided employers in every industry will simply combine as efficiently as it has been demonstrated they can do. According to several of the most prominent engineers, the strike in the Tyne and Wear districts, which recently ended after impoverishing a population of over 250,000 persons, was but a small patch in the large-scale injury upon a great trade, is an illustrative instance of the benefit of a compact organization amongst employers. The firmness of the Durham coal owners, in the long and imposing strike at their mines, with the widespread misery and poverty radiating from it, is another.

In this case, where the depression of trade merely justified the demand of employers for a reduction of wages, a 4 per cent. reduction, having to be made upon the highest point that colliers' wages have ever attained, it has been resisted at a cost far beyond that which many years of hard labour can recoup, especially if we include the suffering and poverty induced beyond its borders amongst those who really never were partisans on either side, but by the stoppage of supplies of coal and coke necessary for the conduct of their respective industries, were thrown upon the streets to subsist on their own resources. The absolute folly of the engineers' strike has only been paralleled by the mutiny of their employers developed in this Durham affair. Not content with quarrelling with their employment, the colliers have maliciously prevented their employers, at their own great cost, from keeping the pits in a condition fit for the resumption of work when the workers were tired of the disagreement. The outrageous imposition upon the men who were keeping the pumps going that the water was such that the work had to be suspended, with the result that many mines have been drowned, and will probably never again work. Hundreds of colliers are out of pocket or are suffering from their followers for the diminished employment. Is such a result likely to tend to keep up wages? We should not think. Owing to the damage thus wilfully wrought, the employers insist upon a reduction of wages at least of 36 per cent. in wages. We are not aware whether the decline in coal values is such as to have called for this increase in the original demand, or whether it is rather the result of the demand that is the cause of the increased cost. It is an investigation for the Department of trade and industry. There would be more caution displayed by both leaders and led in such a case. It is all very well, after paralysing industries such as those to which they have been confined, and establishing bodies like the Stalybridge and the Accrington Spanning Companies to back when the game is up, to recommence employment and be "as you were before you were," to use the exclamation of the volcano: "Non satis," however, or not good enough, or not to be, for employers whose property has been damaged or subjected to enforced idleness and loss by proceedings of this kind. Neither ought it to be good enough for the public, out of compassion, to pay the payment of the damages in the enhanced prices of the articles it purchases. A little experience in this direction will perhaps help to restrain undertaking for the doings of the professional trades-unionists who, during the past few years have been far too much regarded as the evangels of an industrial millennium. This gospel, as preached by them, is a fraud not only upon the public at large, but upon the working men themselves, and it will be an act of egregious folly if the public or the working classes themselves at the forthcoming Parliamentary election, after the death of a man in the House of Commons, and thus provide them with more a conspicuous platform from which to proclaim economical and industrial grievances it would be little time before they were disembarrassed. We gladly recognize that several of the members sent by the working men have been good selections, and have done them credit. It will not be denied, however, that other Parliamentary champions of their cause have been conspicuous and mischievous failures both in the House and out of it, and that the sooner they are relegated to their original obscurity the better it will be both for the country and themselves. Amongst new aspirants of this class for the next Parliament we regret we hardly find a single one who has any claims deserving success.

German Woollen Manufacturers and the American Tariff.

The methods employed by the principal manufacturers to evade the consequences of the McKinley tariff are as numerous as they are ingenious, but, as our reports of re-appraisals show, they are not always successful. One of the most ingenious of the tax on goods that has for some time been adopted by some German manufacturers of woollen dress goods intended for the American market. The cloth has been imported into New York in the grey, and intended to be dyed there in the piece before being placed upon the market. The pieces are then shipped by bolt and other artificial means, so that the importers have been able to get them in at an average of 2½ cents per yard less than they would have been compelled to pay had the goods been shipped in their natural condition. In the dying and finishing the prices are subjected to the payment of the import duties upon their arrival, the goods can be easily extended to their original width, which is increased from seven to eight inches in the operation. By this device a large portion of the duty is saved, and the importers obtain a decided advantage. The Appraisers have advanced the value of the goods about 7½ per cent., since the matter was first brought under their notice. There appears to be some doubt, however, as to whether a law now in existence provides for cases of this kind. It is in fact a most point whether the charge of fraud can be substantiated, for the assertion that the goods were unappraised proceeds from interested parties. Should the General Appraisers uphold the ruling of the local appraisers, the increased valuation will apply to all past invoices, and the importers would be liable to a payment of between $300,000 and $400,000, which renders the case one of decided importance. In consequence, however, of the silence of the law with respect to the specific case in point, the goods being accurately imported at a width of less than 3½ inches, though this is afterwards extended to 45 inches, some doubt is expressed as to the success of the Custom House officials in maintaining their point, and should the same be sustained the case would, in all probability, be carried by the importers into the courts. The decisions rendered hitherto by the Appraisers have, as a rule, given the importers, and what the result would be in the case of such an appeal is a matter open to much doubt.

Calico-Printing and the Syndicate.

The proposal for revising the moribund project for the formation of a calico printers' syndicate is not likely to result in anything. As far as we have been able to ascertain very few substantial houses are willing to sell their businesses to a company such as that which is proposed to form. If they did it is probable that the matter would be fully expressed a year or so ago, and subsequent events justified them. Syndicates, like slaves, cannot breathe in our English atmosphere. They must go to "free" America to find a congenial home, and the fact may be commended to the notice of company promoters generally. We are not sufficiently protectionist to stand the presence amongst us of monopolistic syndicates which are obviously not properly appraised. In the calico-printing trade there are undoubtedly abuses which call loudly for remedy, but these can be attended to by other means than the formation of a monopoly. The Calico Printers' Association is a body which, with the loyal support of the trade, should be able to do much to relieve it of the burdens that are now felt to be too oppressive. The progress of the syndicate promotion scheme will be watched with interest by many who, while wishing
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news from pahola

Pahola is a Chinese export, opened to foreign trade, if we remember aright, about 15 years ago. It stands on the northern shore of the Tonquin Gulf, but is not yet a flourishing centre. The export was valued at £800,000 to £900,000 per annum, and consist of cotton yarn and piece-goods, woollens, raw cotton, linseed oil, opium, kerosene, matches, and flour. The exports are worth about £600,000, included, amongst which last year were 9,430,428 ib. of indigo, valued at £1,032,341. Cotton Scott has written a very intelligent account of the trade of the port last year. There was a decrease in the imports of cotton yarn last year of £2,000,000, valued at £14,110. Cotton piece-goods decreased in value by £1,700. Mr. Scott accounts for this state of affairs by the sudden recognition at Canton of the trade system inwards. It is possible that the Pahola inward trade, at present confined to kerosene and oil, may be extended to include cotton yarn and cloth, in which case the cotton trade may be retained by the port. Probably with a view to the interests of the purely local trade, the idea of taxing cotton yarn was reduced one half last January. The trade was then flourishing, and Mr. Scott supposes that the reduction was made owing to the knowledge that an attempt to send cotton yarn inland under transit pass was being mooted at Canton, which, if rightly feared, would reduce the Pahola trade, and lead to the conclusion of the local Chinese officials. No reason for the reduction was stated except a desire to benefit the traders, which, was, of course, ridiculous. This reduction will greatly reduce the advantage of forwarding cotton yarn from Pahola under transit pass. Of cotton piece-goods there is nothing special to be said. The decrease is to be attributed to the diversion of the trade into Canton and the West River. This is not an unexpected reason that there is a falling off in the demand in the districts supplied hitherto from Pahola. During the year the price of cotton goods has not been harassed, as it was in 1869, by constant changes in the amount of and mode of levying the "Ching-fel" or so-called "battery tax." The price of the imported cotton goods was, by order of the high provincial authorities at Canton, farmed out to a syndicate of merchants, who guaranteed the sum of £6,000 yearly. The rates were left as before, but as the syndicate was composed of the price-good merchants themselves and the amount of the tax guaranteed was very greatly reduced, they do not doubt that it should not interfere greatly with the trade. The tax amounted to only a little more than £1 on the total value of the cotton and woollen piece-goods trade, woollens being also included in the levy. The grey cotton trade is generally responsible for the falling off in cotton piece-goods. Velveteens show a slight increase.

"unshopped" cotton piece-goods

Mr. Scott cannot trace the importation of any unshopped cotton piece-goods into Pahola. If falsely marked goods do exist in the market, either with or without the knowledge of the piece-goods merchants, either in Pahola or elsewhere, he is of the opinion that they are represented to a greater advantage than the laws themselves, and which would relieve the country from the cost of an enlarged inspectorate, and their employers from risk of prosecution for acts committed, as we have often shown, by the workers themselves. In fact only this is required to enforce the observance of these laws practically perfect. We beg the House of Lords to bear this point in mind when a similar deputation approaches them.

BRADFORD SPINNERS AND MANUFACTURERS.

Another of the great textile trades, that of Bradford, is giving expression to its dissatisfaction with the manner in which business is conducted in the fulling and finishing trade in Lancashire, so in Yorkshire—all goes well as long as it suits one to sell and another to buy, and the seller to deliver and the buyer to accept the articles sold and bought. But it is different when the conditions of the market have so far changed that one or the other party to a contract does not believe it would be better to get out of it, or to delay its execution. It is the Bradford spinners who now are feeling keenly aggrieved at the conduct of their customers in making purchases of yarns and refusing to receive them, or unduly delaying giving spinners the necessary particulars on which to work. "When contracts are placed," says a writer in the Lady's Magazine, "it is usually agreed that they are to be delivered as required, and spinners complain that when prices in the open market are below those of a contract made, the manufacturer, when pressed for particulars, reply that the goods are not required." Again, when the manufactured goods are asked for by the buyer, it is alleged that unassignable complaints are made when goods are delivered. Fault is sometimes found because they are too coarse, because the colour is said to be wrong in the quality, the colour, or the twist. Law suits and arbitrations are the outcome of these unfair practices, both of which are risky proceedings for the spinner in a small way of business and with little capital to spare. The costs are usually heavy, and in some cases the smaller spinner runs great risk of finding his way into the Bankruptcy Court if the verdict is against him.

This is exactly a reduplication of complaints we not long ago placed before our readers, and discussed at length in relation to matters of a like kind in the other textile trades. Of course it would hardly be fair to assume, as might be done from this statement, that all the black sheep of the trade are manufacturers manufacturing branches of the industry, and all the white ones in the spinning fold. We should like to hear from manufacturers what is the treatment they receive when the cases described are reversed. Do they always find that spinners are willing, ready, and anxious to deliver the yarns they have ordered when the prices are below those current in the market? Do they never suffer loss having to
duplicate their purchases of yarn at higher rates in order to fulfill their obligations to unwind. But never inflected upon them by the delays caused by the non-delivery of yarn by spinners, nor by the substitution of other yarns for those they cannot get, and on which their contract has been entered? We fear another complication would be put upon the matter by the answers that would be given to these queries. Whether a man branded a commercial facturer makes little difference; he is still "a man, for a fact that." We are afraid that neither has power to transform him into an angel; at least we have never heard of such transformations yet, and we would willingly journey to Yorkshire to find them could we have a convincing assurance that spinners are fairly numerous there. But, bolder apart, the complaints that are being made are clearly well grounded, and could, as we have hinted, be duplicated from the other side. We know such complaints are frequent and numerous enough in other sections of the textile trades, and their general prevalence is a conclusive demonstration that there is something needing reform in the commercial side of these great pursuits. The question for consideration is—What is to be done, and what steps are to be taken? Some grumbling in this section will never do any good, and many things proposed to be done under the influence of the irritable feelings engendered are either impracticable or would produce effects worse than those they were intended to remedy. What should be done we will briefly discuss.

We may first glance for a moment at what is proposed in this instance. "It is necessary to face these facts," says the writer to whom we have already referred, "and believing that in many instances their position is used to discredit, a certain body of spinners, having the full realization of a society, the objects of which shall be to expose manufacturers disposed to indulge in unfair practices, and for the purpose of forming a fund which shall be used for the vindication of the rights of spinners." It must be obvious to any man having the slightest acquaintance with the facts in the case, or the principles of organisation, that such an association would be inevitably foredoomed to failure, as the basis of association is much too narrow, and would quite fail to attract members in sufficient numbers to make it a strong one. In fact, an association could easily be neutralised by the formation of a society of a similar kind amongst those against whom its force would be directed, and thus matters would be no better, the only result being that the number of the dissatisfied would be increased. No wonder that this position has not been received with any unanimity of sentiment. It has apparently been favorably received only amongst the small and financially weak section of the trade—those who are either unable or unwilling to defend themselves from aggression. These people believe the truth ascertained in the old adage that "in only there is strength," but their views are not so comprehensive; they would seek to make their union as wide and all-embracing as possible, because every adherent thereto would diminish the strength of the opposing body and increase their own. What is required is to make an effective and powerful union, to combine within its circle not only weak spinners but strong ones also; and not only spinners, but manufacturers as well. To combine, they would seek to combine with the object of making certain unfairly-minded persons deal uprightly, but it will have to associate for the defence of every legitimate interest of the trade. All sections of the trade would agree upon such a programme, which would include the fair dealing of spinners with manufacturers and manufacturers with spinners,—also the defence of their common interests against the aggressions of the semi-socialist modern trades-unionist. One of its great functions would be to bring the strength of the united trade to bear against the attacks made upon it through the Government by the so-called Labour leaders, whose views are ignorantly pandered to by both professional and amateur politicians and their respective Governments. These, with other matters that could be encompassed did space permit, would form planks in an attractive platform that would draw all sections of the trade together, and at least in large in each circle of the union, by which an aggregate of strength would be attained that would, if judiciously used, achieve great results in connection with the association.

Having thus got an instrument capable of being used with effect in every direction, its power could be easily used to regulate the principles and duties of the commerce of the members was carried on. Unquestionably commercial contracts urgently require revision, to prevent such disputes as we have referred to, and the losses that accrue to individuals whenever they are brought into courts of law by legal arbitration. It is an incontestable fact that winners in lawsuits come off very badly, and that the course of procedure is much more designed for enabling lawyers to take the work off the backs of both plaintiffs and defendants than for administering justice. In connection with such an organisation as we have very roughly sketched there ought to be a commercial council, composed of representatives of spinners, manufacturers, factors, and merchants, whose first duty it should be to revise, in a very careful manner, the present methods of doing business, and to clearly define and embody them in a formal contract, or, perhaps better, in a code of rules which should render the settlement of disputes easy on and by reference to them. These should say when a spinner should be entitled to enforce a contract by a legal suit, and when the latter should be entitled to demand it from a spinner; and in the event of refusal in either case, should have the power to award damages for breach of contract. The same should apply also to merchants. Any aggrieved party should be entitled to claim the intervention of the council, which should, then, as early as possible, make an attempt to bring the parties to compliance with this, unless for very special and satisfactory reasons, should involve a suspension of the privileges of the defaulter in connection with the association; and with persistence therein, expulsion from membership and prosecution by the Association for the recovery of the award. Thus the whole force of the trade would be brought to bear in cases wherein the interests of either party were involved.

Bleaching, Dyeing, Printing, etc.

NEW PATENTS RELATING TO DYES.

New coloring matters derived from coal-tar compounds will keep being discovered, and the first intimation that is given of them is in the form of a patent specification, so that the discoverer or his employers may have the monopoly of its manufacture for some years to come. Several such specifications now before us. Their contents naturally vary very much; sometimes they are very short, and contain matter of general interest to dyers and textile manufacturers at other times they are very long and filled with absurd and abstruse chemical names and formulae only understandable by a good chemist. Of the latter kind it is almost impossible to make anything like a popular summary. The patentees always err on the side of saying as little as they possibly can about their new process.

One very short patent deals with the use of anthracene yellow for the production of coloring matter. This derivative of anthracene, and has the formula (OH) C C H (OH) C C H (OH). Hitherto it has not found any application in the textile arts, but it possesses certain dyeing properties, but the Farbwieke have found out that by treating it with fulminating silver the chlorine is converted into a dye-stuff dyeing chrome-mordanted fibres a fine and fast blue. Of the name of the new dye, they say nothing, but the probability that it is not dissimilar to a product of the Farbenfabriken—alizarine cyanine, which is produced in a similar manner from an anthracene nucleus, and which is a pentaoxyanichromine. When the new
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EPOCHS IN DYING.

With the steady progress which has been made and the many developments which have taken place in the coal tar-colour industry, there are naturally important changes in that branch of industry which concerns itself with the application of colour to textile fabrics — namely, the great dyeing industry. These changes have taken place in the methods of dyeing since the introduction of Perkin's mauve and Hofmann's magenta. Before then it was largely a system of rule-of-thumb, and while there is still of some old system yet left, the modern dye work is on a more scientific basis. Part of this change is doubt due to the fact that the dyer now works with compounds of whose composition definite knowledge exists — which was certainly not the ease with the older dyestuffs of natural origin.

In 1856, appeared Perkin's mauve, the introduction of which unquestionably marked an epoch in the history of dyeing, for with its appearance came the introduction of a new type of dye which could be made into a simpler trade than it used to be. Following close on this came the introduction of magenta, first used on the English market by Messrs. Sampson, Mackay, and Nicholson, the predecessors of the present firm of Messrs. Brooke, Simpson, and Spiller; though a dye of Coventry, named Hauck, first took up the manufacture. The next epoch in the history of dyeing was the introduction of Perkin's red in this country, and Graebe and Lieberman on the Continent, first made mauveine on the manufacturing scale. The changes which this substance has made in Turkey-red dyeing, wool dyeing, and colo-printing have been great. Then a few years later came the introduction of Witt and Gries's of the orange and scarlet, which, having caused quick revelations in the methods of dyeing wool. Finally, the introduction of Congo red in 1856 into the world of dyeing, especially of cotton dyeing, following for it has come the succession of a class of dyestuffs having the property of dying unmodified cotton — a property shared by no other class of modified natural colours, and only by the discharge, anil, and turmeric among natural dyestuffs, and by these, but to a limited extent, nowhere near approaching the powers of the new class of coal-tar colours.

A few years before this Meers, Brodie, Simpson, and Spiller, we find described a new scarlet dyestuff, capable of dyeing cotton without a mordant, and which is said to rival all haberdashers' in the direction of being fast to light, scalds, and water. As we have seen, this was a most important discovery, for it brought into existence a class of dyestuffs that are used in the discovery of the properties of the new under order to make it meet with a good sale among dyers.

DYE-STUFFS CAPABLE OF DYING WOOL.

The discovery of these new dyestuffs is a matter of much importance, as they have been produced by combining dianilphenylamine with certain naphthoquinones.

For 10 lb. wool. Prepare a dye-bath with 1 lb. sulphate of arsenic, 1 lb. oxalic acid, and 1 lb. of iron tartarate. Enter the goods into the boiling soap bath, then in a fresh acidulated bath dyed with light green and methyl violet (to shade).

For 20 lb. wool. Prepare a dye-bath with 2 lb. of iron tartarate, and 1 lb. of iron oxalate. Enter the goods into the boiling soap bath, then in a fresh acidulated bath dyed with light green and methyl violet (to shade).

For 30 minutes at 160° F. After rinsing re-enter the original dye-bath, then pass into a fresh bath of 2 lb. of iron oxalate, and 1 lb. of iron tartarate.

Dye a broken with 2 lb. of methyl violet on a boiling soap bath; then in a fresh acidulated bath dyed with light green and methyl violet (to shade).

For GOLD ORANGE ON WOOL.

For 10 lb. wool. Prepare a dye-bath with 2 lb. of copper sulphate, 1 lb. of iron tartarate, and 1 lb. of iron oxalate. Enter the goods into the boiling soap bath, then in a fresh acidulated bath dyed with light green and methyl violet (to shade).

Dye a broken with 2 lb. of methyl violet on a boiling soap bath; then in a fresh acidulated bath dyed with light green and methyl violet (to shade).
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PREPARE ON TURKISH SILK.

Prepare a bath with 3% acetic acid, 3% ammonium carbonate, and a little sulphuric acid. Work at the boil to shade. Lift, wash, and dry.

NAVY-BLUE ON WOOLEN CLOTH.

For 100 lb. cloth. Prepare a mordant bath with:
- 4 lb. bichromate of potash
- 2 lb. tartaric acid
- 6 lb. sulphuric acid
- working at the boil for 30 hours; rinse, and enter into a new bath made with:
- 4 lb. alizarine crimson R
- 2 lb. ammonium carbonate C
- 2 lb. acetic acid
- working in the manner usual with alizarine dye stuff.

BROWN DEAF ON COTTON.

For 100 lb. cotton. Prepare a bath with:
- 1 lb. cotton brown N
- 40 oz. alizarine crimson R
- 1 oz. dianine black BO
- 15 lb. sulphate of sodium
- Work at the boil for one hour.

MEDIUM GREY ON JUTE.

For 100 lb. Jute. Prepare a bath with:
- 1 lb. Glauzer's salt
- 2 lb. dianine black RO
- 2 oz. dianine red F
- 10 oz. nitrate of iron
- Work one hour at the boil, then lift, wash, and dry.

WASH AND DRY.

RED-BROWN ON JUTE.

For 100 lb. cotton goods. Prepare a bath with:
- 1 lb. salt
- 4 lb. sodium silicate
- 3 oz. dianine blue 8 B
- Work one hour at the boil; then lift, wash, and dry.

BLUE ON LINEN.

For 100 lb. linen goods. The dye-bath is made with:
- 15 lb. salt
- 6 lb. soda
- 1 lb. dianine blue 8 B
- 20 gr. dianine blue EX
- Dye at the boil for one hour; then wash and dry.

DYERS AND PROOFERS.

Mr. C. A. Fawcett, in the course of a paper on "Dry Heat Vulcanizing," read before the Glasgow Scientific Association, said that the co-relation of different dyes and pigments with rubber proofing was little understood as yet. He further said that the operations of the dyer and the proofer should be brought more into partnership, instead of standing quite distinct as at present. It is to this latter statement that we are about to refer, and we think that an apology for doing so is hardly needed, considering the great interests which are involved in the waterproof garment manufacture of to-day.

It should be known that the processes under which the various manufacturers conduct their business are more or less in the nature of trade secrets, and therefore the fewer there are the better for the preservation of the secret. On this head objection may be felt by the waterproof manufacturer to admitting materials employed, the treatment of each material separately is much to be preferred.

The method of finding the weight of the latter class of goods—viz., those in which two distinct kinds of materials are employed—is very easy, as the following example will demonstrate:

Warp:
- 12 threads 3/8 gsm. damson worsted.
- 12 threads 2/8 gsm. white worsted.
- 12 threads 2/8 gsm. green
- 12 threads 2/8 gsm. grey
- 12 threads 2/8 gsm. blue silk.
- 12 threads 2/8 gsm. white worsted.
- 12 threads 2/8 gsm. grey
- 12 threads 2/8 gsm. blue silk.
- 12 threads 2/8 gsm. damson worsted.
- 66 threads in pattern.
- 12% red 4%.

Same as warp, 48 picks per inch. Piece to be woven 48 in. wide, in loom, 60 yards long.

Then,
- 48 threads per inch = 96 threads in pattern
- 12 pattern = 2 in.
- Therefore,
- 48 + 2 = 50 threads in pattern, an
- 48 x 24 x 50 = 24 lb. oz. of damson worsted.
- 24 x 24 x 50 = 2 lb. oz. of green worsted.
- 24 x 24 x 50 = 8 oz. of blue silk.
- 40 x 90 = 3600 threads in one position than in another, as instance below:

Warp:
- 40 threads of mohair in a red—10 threads.
- 30 threads of cotton in a red—10 threads.
- 20 threads of cotton in a red—10 threads.
- 15 threads of cotton in a red—10 threads.
- 10 threads of cotton in a red—10 threads.
- 8 threads of cotton in a red—10 threads.
- 6 threads in pattern.

Now it is very evident that here also the extent of pattern must first be found, and if the number of reads occupied by the pattern be ascertained, then this, divided into the reads across piece, will give the answer, etc.

There are many other forms in which warp and weft calculations may occur, but the following formula will probably prove all that is required in such cases.

Let C = counts, W = width in loom, L = length, X = number of ends or picks per inch, P = weight in lbs.

Then
- C x 320 = P
- X x X x X x X x P = 320
- C x 560 = P
- W x X x X x X = P = S for worsted, 250 for woolen, 800 for cotton.

Now this is a complete formula; consequently, if any of the terms be missing, the sum worked out will give the number, and the number given will complete the equation—so that all the following questions are here involved:

To find the length when X picks per inch, width, length, and weight are given—
- X x X x X x X = length in inches.
- (2) To find the length when ends or picks per inch, width, length, and weight are given—
- P = length, if yarn is cotton or silk.
- (3) To find the width when ends or picks per inch, length, counts, and weight are given—
- P x X x X x X = width in inches.
- (4) To find the ends or picks per inch when width, length, counts, and weight are given—
- P x X x X = ends per inch if the counts of yarn are Galabalis system.

THE WEIGHTS OF CLOTHS.

(Continued from p. 357.)

A large number of fancy dress fabrics, usually included under the heading "cramped stripes," require distinct treatment under the second heading; showing whether they are true stripes or only those in which two distinct

Designing.
NEW DESIGNS.

COTTON SHIRTING.

Design A is for a fancy shirting, which will require a stabby for the weaves; 30 shafts for the figure, and four for a plain ground, 30 to the round; it may be worked out by 30 shafts, straight-over-draft. Obtain the 3 plain shafts. In this case, the pegging plan would be found within the bounds of the design as indicated by the crosses at bottom and ends on the margin, ends, 36 picks; the dots must be developed by the weft. Warp, 30's cotton, 30 ends per inch, two in a dent, 50 picks, 6's weft for one quality. For a fine cloth for ladies' wear, 30 ends per inch, two in a dent, 50's twist, 50 picks per inch of 30's weft, woven all grey and all bleached, or piece-dyed in fancy colours; if the warp is all bleached white, cream, or faint prussian-blue ground, a most desirable effect could be produced by the use of dark claret weft, which would make the figure very prominent. We give a number of weft shades suitable for the warp grounds alluded to: dark Hamblett red brown, dark chocolate blue, terra-cotta, dark heliotrope, dark golden brown, pale cobalt blue, dark stone drab, dark apricot, dark olive, dark blue, and dark slate; any of these shades in the weft will give beautiful results. The warp ground can also be extended in various tints to suit these wefts, as in light dabs, or milk cream, very light blue, gold, very dark blue green, light green, light yellow, sky blue, very light lavender, yellow drab, light buff, and shrimp. The greatest range possible may be obtained also by light-striped wefts and claret warp grounds.

Design B is merely a suggestion for a fancy shirting cloth on a plain ground. Carrying out the design to the full extent it will be found to occupy a great number of ends and picks, and would require a Jacquard harness. The idea may be developed for cotton asphyle dress goods, and would require a warp of 30's twist, 30 ends per inch, two in a dent, 50 picks per inch of 30's weft, and cane colours used as are given for Design C in oren grey and bleached, or piece-dyed, with good finish.
IMPROVED SINGLE DRUM HANK-WINDING MACHINE.

-maker: Mr. Joseph Stubs, Mill-street Works, Manchester.

The bottle of the winding machines gives no sign of drawing to a close. As in that between rival makers of other machines, the struggle is for the victor’s crown—the highest approval of the trade, indicative of the attainment of perfection. On the surface the process of winding yarns from cops, bobbins, or cans, to other bobbins, or size vessels, is so exceedingly simple that one wonders however makers and inventors find openings in the construction of winding machines through which to expend such an unlimited amount of ingenuity as they manage to do. Yet when the matter is looked at with the eye of an expert who is familiar with the varied requirements of the different processes of winding it becomes obvious that it is far from being the simple thing that at the first blush it seems to be. Especially is this the case when simple thread winding is left, and the threads are doubled, tripled, quadrupled, or multiplied by other figures, while at the same time they are required to be wound evenly in length, tension, and parallelism of arrangement. Hence it is that we are frequently being called upon to chronicle some improvement or other in the details of the numerous machines made for these varied purposes in winding.

We have much pleasure in bringing before our readers two views of a new hank winding machine, which embodies a number of improvements in details, and is just now being placed upon the market by the firm named above, whose worldwide reputation for the production of the best and highest class of such machines obviates the necessity of any commendation from our pen. The machine, of which we offer two illustrations—one fitted for winding from a creel with adjustable barrels, and the other from creels—is mainly used for winding bleached or colored yarn. The creel frame is equally serviceable for winding any yarn from the hank. The first improvement we notice in the bobbin carriers, which are mounted on brackets attached to a rail placed within and extending the length of the machine frame. Each carrier is fitted with a new setting-on handle, by means of which the attendant can bring the bobbin very quickly in contact with the driving drum, instead of its being allowed to tumble against it, as is the case in most machines. The jacking start thus made with the last-named method, as is well known, very frequently breaks the threads again, especially when tender and fine yarns are being wound. By the improvement described these breakages may be quite avoided. Another improvement is the introduction of an adjustable weight, which is carried upon a lever attached to and projecting backwards from the bobbin cradle. This is a novel application, so far as this type of machine is concerned, and by its means the pressure of the bobbin upon the drum can be made heavier or lighter as may be desired. The machine has also been furnished with a bobbin box mounted upon the top of the frame, as seen in the illustrations. An improvement has also been effected in the bearing through which the traverse motion is actuated, which renders the driving of the traverse very simple and noiseless. This consists of the introduction of a pair of helical wheels instead of the bevels ordinarily employed for transmitting power from the drum shaft to the short horizontal shaft carrying the heart cam. The connection between the vertical and horizontal shaft is effected by a pin upon the bottom of the former, which passes into a worm wheel on the latter. This driving arrangement obviates all the noise and back-lash incident to the ordinary arrangement. The traverse is adjustable in length so as to easily yield any length of traverse as required. An improved strap fork and starting arrangement has also been introduced. This consists of a handle carrying a small prism which is attached to the base of the fork. The latter is mounted upon a stud in such a manner as to slide backward and forward. The under part of this stud forms a rack into which the prism is inserted, and thus by means of the handle the fork is traversed with ease from one pulley to the other as required. Its great merit is its adaptability to any width of pulley, and the facility with which it can be made to govern the length of the traverse of the strap. The rice creel has also been improved and re-arranged. As will be seen, it is now mounted upon a round shaft extending the length of the frame instead of being dependent from the upper parallel rail as before. This ensures easier adjustment and renders the creel portion more portable. The adjustable barrel creel is also made in an improved manner. The top barrel is fixed, the bottom barrel being carried on a centre, and is adjustable for various sizes of hanks.

THE TEXTILE MERCURY.

YEW MILL COMPANY, HEYWOOD.

Christening the Engines.

The ceremony of christening the steam engines at the Yew Mill Company, Heywood, was performed on Saturday afternoon amid considerable manifestations of joy. The engines (described below) are of very handsome appearance, and gave satisfaction to the large number of ladies and gentlemen who were present.

These included several others, Messrs. Alderman Lord (chairman of the company), Alderman Isherwood, J. Heywood (managing New York Mill Company), J. A. Stott (Mears, Stott and Sons, contractors), C. V. Howorth, J. McQueen (Mech. Heating Engineers, Manchester), W. W. Wilson (Mears, Wilson and Ingram, Livescote), W. Wilson (chairman Turfside Spinning Company), J. Franklin, H. Wilde, J. T. Turner (general manager of the company), F. S. Collins and Sons (Glodwick Mills), and R. M. Simenith; also Mr. Byron F. Card, Mr. Matteyson, and selling to the company the New York Mill Company, with Mr. T. Taylor, Esq., Co. of Littleborough, the builders. The main building is 272 feet in length by 115 feet in width inside, and five stories in height, in addition to the basement, which extends under the flat roof. It is divided into sections into two main parts, by the rope race. The first floor contains the blowing room in the short end, and the card-room in the long end. The length of the card-room is increased by a side shed 250 feet in length by 28 feet in width, containing two rows of carding engines, and excluding the whole of the carding and preparing machinery, as well as the blowing machinery, to be placed in the first story. The basement extends under the card shed as well as the main building, and iron columns are used between the shed and the main card room to carry the wall of the upper stories of the mill, thus making the shed and the main card-room one room. The shed roof, which is made of asbestos, is covered with copper sheeting, the roof joists being against these columns about 8 feet from the floor line, and continuous lights are fixed along the upper part of the columns, giving a fine portion of the roof in the main building, which is always much darkened when brick walls are used to carry the mill wall above. The second story contains the cotton and mixing rooms in the short end, and a spinning-room of nine pairs of mules in the long end. The third, fourth, and fifth stories each contain three pairs of mules in the short end, and nine pairs of mules in the long end, making 36 pairs in all. Each room contains a warehouse, conditioning cellar, waste cellar, and dust cellar. The staircase projects from the front of the mill opposite the rope race, and there are two stairs placed together which project from the front of the mill near the middle of its length. The engineering house projects from the back of the mill centrally with
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Foreign Correspondence.

THE STRIKE DISTURBANCES IN LODZ, RUSSIAN POLAND.

(Letters from a Correspondent.)

LODZ, May 12th, 1892.

In connection with my letter of the 6th inst., I ventures to make the following additional communications concerning the strike of the textile workers in Lodz and district. To their honour I must say that no working people, with the exception of a few rowdies, took part in the attack upon the poor Jewish population. To the shame of Lodz, this large industrial town, with its 250,000 inhabitants, possesses a contingent of over three thousand thieves and bad people, most of whom have been many times punished by imprisonment and been sent to Batlavy, a large industrial village near Lodz, for reformatory purposes. By the great extension of the town and the small number of police, there is no wonder that these people are committing outrages, when they are permitted to remain in peaceable times. The strike of the honest working people has just been to their taste, and as the most of them are Catholics, the first thing has been to attack and rob the poor class of Jews. Of the rich Jews, a few persons, among them one Jewish and six Christian, have been killed, and about 270 Jews wounded. The damage to houses is about 25,000 zloty, and to goods 20,000 zloty. Owners of mills are not touched at all, and not one mill has been destroyed. Since Friday evening everything has been quiet.

Mr. Miller, the General Governor of Poland, His Excellency Mr. Gurka, came to Lodz to meet the Petrakian government. His Excellency Mr. Miller, to shoo upon the roofs, and orders that the popocaks shall not be sent to the streets after nine o'clock in the evening. And patrols of Cossoyuls and military were to parade every street.

On Saturday and Sunday all was quiet and in the best order, with the exception of occasional meetings between the workers of Carl Schiebner's mill and Cossoyuls, by which one woman was killed and a few men wounded.

On Monday all workers went to their usual work, but for further security which were sent at every mill a smaller or larger military guard. After Monday these patrols were withdrawn, as everything seems to have returned to the regular order. The government will now look after the literary and artistic classes. The factory inspector is examining into the complaints, and is doing the best he can to obtain better wages for them. The large cotton spinning and weaving mills especially are paying the worst wages, although these concerns are doing the best trade in the country. The wool branch in the country pays pretty good prices, and weavers are in most places satisfied.

Mr. Miller left the town on Monday, after punishing the imprisoned thieves and robbers by very heavy sentences. Some of them have been sent to Siberia for hard labour, and some to prison for five and more years. It is said that German fonctionnaires (the officials) will not be retained any longer in the mills, because the strike began amongst the German workers and Southilians.

To help the poor Jewish families which have been robbed, a committee is formed under the direction of the Rabbi Meyzel, and the following highly esteemed gentlemen: Mr. Tsch. B. Pousanski, Adolph Debraczy, and M. Rosenblatt, has been elected, and many highly esteemed Christian representaors, as, for instance: E. Schiebner, E. Herbst, Folinik Heinen, and others, are also taking the greatest interest in the welfare of the poor people, and are helping them in every way.

From the 14th June every factory having 50 workers is obliged to have one own auditors.
News Brief.

ENGLAND.

Accrington.

The hands at Woolcock, Spinning Mills returned to work on Thursday morning after having been out on strike for over four months.

Bolton.

Meats, Writer and Son, of Bolton, have secured the contract to fit up the Main Lane Spinning Co.'s three mills with "Walter" spindles.

Mr. Buckley, of Bolton, left for Leeds on Monday to try to arrange a meeting of the representatives of the cotton manufacturer's interest, among those present being Mr. Norris, the Rev. W. Perry Circuit, the Manchester representatives of the mill owners, and some of the mill workers from whom Meats, Norris Bros. trade. After tea Mr. Norris presided, and he, the Rector, Mr. J. M. Badlow (the Curate), and Mr. J. Wainwright, the secretary (the cabdriver), gave brief addresses. Mr. Meadlow, the senior overlooker, who has been connected with the firm for 20 years, made the presentation on behalf of the employees. The gift consisted of a handsome silver ink and coffee service, silver crest, silver-mounted walking stick, and an illuminated address. Mr. Hardman suitably acknowledged the gift, and the rest of the evening was spent in the usual way.

Huddersfield.

On Saturday afternoon a fire occurred at the mill of Messrs. Shiers and Sons, cotton manufacturers, Milnrow, and before it could be extinguished damage to the amount of several hundred pounds was done.

The meeting was held at the Huddersfield Technical School with the object of forming a Textile Society. The society was formed on the committee of its members, and arranged a syllabus for the winter session. The annual meeting for electing officers, etc., is fixed for September.

The following have been recommended to the Senate of the Yorkshire College for election to the following Day Scholarships, £1 15s. per annum: Perry Ronald, Stur, Arthur, Edgar Knowles, Edgar Stephenson, and John Phillips. Cotton- workers' Textile Industry Education Scholarships, £2, to: Thomas Woodhouse, Charles Edward Hewitt, Harry Corson, Second Year; William Barlow, Darcy Grundy, and Frederick Pritchard. Cotton-workers' Textile Industry Education Scholarship, £5: Harry Charnwood Harland.

The monthly meeting of the Council of the Leeds Chamber of Commerce was held on Wednesday, Mr. P. F. Wood, president, being in the chair. Several bills passed by the government were discussed, and an address by Mr. McCormick, official representative of the United States in London, on the subject of the cotton industry.

Messrs. Birchchurch and Arnold's mill, Prestbury-road, is stopped through a breakdown of the engine. Messrs. Birchchurch and Arnold are the owners of the Broad Lane Corin Co.'s Lower Hils Mills are also idle from a similar cause.

Manchester.

On Thursday Earl Spencer opened an exhibition in this city of Irish industries, consisting of knitted fabrics, etc., from the Carmarthen district.

Mr. Cheshire, of the firm of Messrs. Poppysand and Jeremiah, also of Manchester, had conferred upon him the Cross of the Legion of Honour by King Louis Napoleon.

The Unbreakable Pulley and Mill Gear Co., Limited, West Gorton, Manchester, have just completed a new work for Messrs. Moorse and Co., of South Shields, which they have entirely fitted up with their special steel shaking, adjustable and reversible pullies.

An extraordinary meeting of the shareholders of Hall, McKerrow, and Co., Limited, of Nicholas-street and Pendleton, cotton manufacturers, was called, and resolutions passed for the voluntary winding up of the company. Mr. John G. Linton, of 66, Princess-street, Manchester, has been appointed liquidator for the purpose of winding up.

On Tuesday, at the City Police Court, the decision was given for the appeal to be paid by Messrs. W. Walker and Co., of the Other parties to the case, who were fined a few weeks ago for an infringement of the Steam Rolling and Striking trade 36d. The amount was fixed by Mr. Heathcraft, Master Magistrate, at £50. It was also decided to try the case at the Assizes on Monday next.
The Textile Mercury

May 26, 1852

The textile trade is improving, especially in cotton goods. The following are the total values of the exports for the same two months of last year—Cotton, £450; Linen, £50.

Bengal.

The Bengal Handkerchief and Laundry Works, erected by Mr. James, McCornick, & Co., of Bengal, have been opened. The building is a substantial one storey, and the Hamilton road. The material of the building is red brick, manufactured at the East India sideworks, of which it measures 24 feet in length, 8 feet in breadth and 2 feet in thickness. The lower or ground floor will be devoted to the laundry, and the upper floor will be used for the foreman's residence.

The company is expected to be in full operation as soon as the necessary machinery is installed, which will facilitate the employment of a considerable number of persons.

The monthly meeting of the Bengal, Colkut, and Dacca Laundry Clubs was held on Monday evening. Mr. A. B. Byrshow presiding. Mr. Laycock, the secretary, read a circular, and directed attention to the state of the cotton trade in the various ports of the world. The cotton market is in a much better condition than at the last meeting, and the prices have advanced slightly. The demand for cotton goods is increasing, and the prices are likely to rise further.

Scotland.

Dundee.

Dundee has been less busy with the export of cotton goods this year. However, the trade is improving as the summer season approaches.

The firm of Messrs. Henry Walker and Son, wholesale drapers, has recently received an order from the Government for a large quantity of cotton goods, which will be dispatched shortly. The firm has a large warehouse located on the main thoroughfare of the city, and is well equipped to handle the increased trade.

The following table gives the value of the exports of cotton goods from the Clyde during the last year, and the details for the ten days to date.

The first line refers to cotton goods, and the second line to linen.

Miscellaneous.

Factory inspection.

Deputation to the Home Secretary.

On Monday evening, Mr. Shanks, M.P., introduced the bill to the Committee of the House of Commons, for the abolition of child labour in factories. The bill was received with great interest, and the debate continued late into the night.

Shiroy.

The second annual meeting of the Shiroy Textile Society was held in the Shiroy Technical School on Thursday evening. The meeting was well attended, and the president, Mr. F. Lander, welcomed the members. The secretary, Mr. F. Lander, read the minutes of the last meeting, and the treasurer, Mr. F. Lander, presented the financial report. The society has made significant progress in its efforts to improve the textile industry in the region.
be doing nothing but attending to the heretics of these trade societies.

The Home Secretary: If you expect an inspector to take any notice of your advice, and to be there when the work daily begins and when it ends, you would require an inspector per factory, or at least a thousand additional inspectors in your district.

Mr. G: We don’t want over-inspection.

The Home Secretary: With your own trade societies prosecuted any cases of alleged infractions of the Factories Act?

Mr. G: It is generally understood, although we learn from you it is a fact, that any person can prosecute. But one difficulty is that workpeople who swear against a wrong will still lose their employment and be boycotted.

Mr. G: And those who gave evidence in the Elland cases which you mentioned?

Mr. G: Are we putting on the inspectors any more serious duties than the trade societies?

The Home Secretary: The inspectors’ duties are narrower than you seem to imagine. It would be rather stable if one had as dissimilar and as non-protective in their fellow-workmen if you were not yourselves to prosecute when you have evidence of infractions of the Factories Act.

Mr. G: You see before you day two men who were responsible to the taking of provisions in connection with trade societies.

The Home Secretary, in reply, said he was glad to welcome them to the giving of evidence, and although he did not think it would be reasonable to expect a workman to undertake the recognised work of the present society, he could not possibly make it any pledge, but even if he found it possible to increase the inspectors or give more assistance he still desired to warn them against their apparently too extensive silence to the scope and nature of an inspector’s duties. Although arrests in order to work a large number of persons in giving evidence, and although the trade societies might not be reasonable to expect a workman to undertake the recognised work of the present society, he could not possibly make it any pledge, but even if he found it possible to increase the inspectors or give more assistance he still desired to warn them against their apparently too extensive silence to the scope and nature of an inspector’s duties.

Mr. Everard: You want to make half of our trade officials as well?

Mr. G: You can’t be serious about that.

The Home Secretary: I don’t say that, but the frequent omissions of the law is an evidence of the existence of other societies.

Mr. G: People must help themselves.

There is some reason to limit not only the duties of inspectors, but also to the number of inspectors, for the purpose of the trade, for there are many factories, which have no factories, help to pay for the inspection required by you in the North.

The interview then concluded.

**IMPERIAL COMMERCIAL FEDERATION.**

The second annual general meeting of the City of London branch of the Imperial Federation League was held on Monday at the offices of the London Chamber of Commerce. The president of the branch (the president of the branch) in the chair, the absence of Sir John Llewellyn (the president of the branch) in New York, the report stated that a guarantee fund had been established with £10,000, which was the position of the branch. The membership increased steadily, 41 names having been added to the list in 1891.

Mr. W. Beckett Hill moved a resolution instructing the executive committee to consider and submit the outlines of a scheme which would accord with the principle of the resolution adopted by the league at its meeting on March 10.

Sir Charles Turner (High Commissioner of Canada), in supporting the motion, said Mr. Beckett Hill had stated that the resolution was based upon free trade, but he himself did not hold that view, or he would not be able to support the motion. It contained a major proposition which was: ‘any scheme of Imperial Federation should embrace a commercial union as a necessary preliminary.’ The report proceeded: ‘That proposition being that such union should be based upon a free trade policy throughout the Empire.’ He had no objection to that. He had never discussed in the Parliament of Canada the question of free trade, but he was acquainted with the subject upon which this proposal was founded. He maintained, in the words of a much greater authority—The Times—that free trade was made for man and not man for free trade, and that it might be quite possible that it would unit one country and be fatal to another. He was quite prepared to admit that if it was the best possible policy for England it would be fatal to Canada. Canada was separated from England by a continent occupying almost half of the Continent of North America, by a like distance with its separate islands, a large and inviolate body of water, and the transmission to the adjoining Republic, Canada had been censured, in the price of the stem logic of facts, to adapt a policy, not made by the protecting-chambermen of your own colony, but this had strengthened instead of weakened the ties binding the colony to the mother country. The time had come when the great and powerful friends of this great Empire, whether in the heart of the Empire or the outer limits of its dominions, to consider whether it was not possible to add that stronger, perhaps, and most enduring of all ties—the tie of self-interest—to that of blood, which binds the colonies to the mother country. (Here, here;) Certain objections were raised to this view, and it was said that it was not possible to buy the friendship of the countries. Upon what pretence, however, could the Union of America be compared with the Union of Great Britain? Mr. Beckett Hill of the imposition of a small tax upon products which foreign countries sent to this country? Could any man say that? The United States were prepared with their 60 per cent. tariff against this country, would retaliate if Great Britain put on a duty of 5 per cent. on our goods. Would it be possible to appellations of imperial duty? Mr. Colles had stated that the impulse from the League of this country that all that England had to do was to adopt the policy of free trade, and other nations would follow it. If the very basis of economic relations was the same, and if it could be said that the League of this country that all that England had to do was to adopt the policy of free trade, and other nations would follow it. If it were so, it would be apparent that it was a sound and wise policy that England should adopt a course that would fulfill half of the great Continent of North America, and the benefit that was not propor- tioned to die and in the maintenance of the common sphere of the Empire. (Cheers.)

The motion was carried by a large majority, the meeting closed with a vote of thanks to the chairman.

**SILK WORKING IN MEXICO.**

In a report upon the openings for the establishment of an industry for the manufacture of silk and cotton, the following conclusions were reached:

**The Economic Conditions in the United States.**

In recent years the question of the production of cotton and silk in Mexico has been much discussed. The climate is most favourable to the breeding of the silkworm, and the country is rich in the produce of the important materials of the industry. The annual production of the industry increases, the prices of their Cottons, and it is shown that raw silk and cotton goods are grown in large quantities on foreign land, and finally, the want of success hitherto met with in the United States by silkworm-rearers, should not be without influence on the rapid development of the production of this article. Sericiculture has been, almost since its institution, accompanied by spinning, and the industry has grown rapidly. The United States have established at different places for foreigners—English, Americans, and others—material authorities, to encourage the efforts and sometimes assist them by subsidies and bonuses. The Mexican Government has always been most favourable to the establishment of factories and industries in the country. The greatest development and extension in Mexico is that of the manufacture of mixed mixtures of silk and cotton, the production of which has increased within recent years, which have the advantage of being very pretty and cheaper than is generally imagined. A factory of this kind has been established on an exceptionally favourable footing, for it would have been impossible to find a factory of this kind, and would have been impossible to find on the spot all the raw materials required, silk as well as cotton.

The production of the latter article has gradually diminished in Mexico for the last 12 years; but this diminution is the result of the facts that cotton is a more profitable crop, and cannot withstand the competition of foreign goods. But things are not altogether the same from Mexico. With reference to the United States, custom tariff on the silk spinneries and factories. Again, to the United States, duties payable on entry into different States, which are on an average 5 per cent. of the customs tax.

**The Gorman (Wellington) Cotton Spinning Co. has made a gross profit (the appropriations to the various objects amounting to) for the past fiscal year of £1,828.**

**Relations have for some time been better in the Indian trade, and there has been also an improvement in the business done in connection with the spinning establishments.**

**Mr. Everard, breakfasting with His Excellency, on the occasion of the marriage of his daughter, has been invited to the residence of the Ambassador which is to be employed for the benefit of females on their marriages.**

**The beginning of last week 200 spinners in the employ of J ohn Litch of Hatfield, struck work. The strike, however, lasted only three days, as the 200 spinners had a benefit of 10s a week of the men, whoupon they resumed work.**

**The Spanish Tariff and Linen Yarns.**

Mr. G. C. Keller, secretary of the Durand Chamber of Commerce, was received into communication, signed by Mr. James W. Lowther, from the Foreign Office, referring to the Spanish tariff. With reference to any letter of the 22nd inst., I am directed by the Marquis of Salisbury to inform you that her Majesty’s Ambassador has recently received a communication from the Spanish Government, and has offered to change the law by which the importation of linen yarns into the United States has been prohibited, and has proposed to establish the same by a tariff. This arrangement will have the effect of removing the uncertainty which has existed during part of the last two years, and the Spanish Government will have a good deal of business in hand in the matter, and a good deal of business in hand in the matter, and a good deal of business in hand in the matter, and a good deal of business in hand in the matter.
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II.

4. Name the machines in a system of jute preparing for J7, beginning with one breaker, and state how many machines of each sort are used. (25)

5. State the usual number of rollers, strippers and rollers in a jute breaker, and show by a sketch the arrangement of the same. (30)

6. What are the main points of difference between a half circle card and a full circle card? Name the roller, the speed of which you change, and the effect of driving it quicker or slower. (25)

7. Calculate the draft of a spiral frame as shown below:—

<table>
<thead>
<tr>
<th>Diameter of roller</th>
<th>15 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change wheel</td>
<td>55 teeth</td>
</tr>
<tr>
<td>Back shaft wheel</td>
<td>36</td>
</tr>
<tr>
<td>Other end</td>
<td>66</td>
</tr>
<tr>
<td>Stud wheel</td>
<td>67</td>
</tr>
<tr>
<td>Socket</td>
<td>67</td>
</tr>
<tr>
<td>Retaining rail</td>
<td>67</td>
</tr>
</tbody>
</table>

9. What is the effect on the fabric of the followers of a revolving frame? (a) of heating the twist, (b) of shortening the draft and show why the speed of the followers is altered. (25)

10. Suppose the revolving frame to be the building of the shop too hard on the rollers, state the manner of correcting this upon your own, and how the settings should be altered to remedy the fault. (30)

11. Give the speed of the spindles in a spinning frame, the main shaft running 270—

<table>
<thead>
<tr>
<th>Diameter of roller</th>
<th>36 inches</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change wheel</td>
<td>32 inches</td>
</tr>
<tr>
<td>Drawing roller</td>
<td>110</td>
</tr>
<tr>
<td>Diameter of roller</td>
<td>34 inches</td>
</tr>
<tr>
<td>Diameter of cylinder</td>
<td>9</td>
</tr>
<tr>
<td>Diameter of where</td>
<td>12</td>
</tr>
</tbody>
</table>

13. What is the grid of 12 linen yarn and of 12 linen yarn per spindle? (30)

14. In spinning 70 lbs. warp, the yarn weighed off the reel is under weight. State what causes might account for this, and if the yarn is really under the proper grid, what are the evils resulting from this? (30)

15. Explain in a few words the results to spinner and manufacturer of the yarn being short in the fell. (30)

HONOURS GRADE.

1. Describe shortly the cultivation of jute, the kind used in manufacturing, the date of the introduction of the fibre, and the growth of the trade. (25)

2. Give a batch (a) for 12 linen yarn, (b) for 8 lbs. warp, good, and (c) for 7 lbs. wool, common. (30)

3. State the best modes of batching, the best kinds of oil, the quantity of oil and of water used on a 400 lbs. bale. (30)

4. State the best kind of combined batching and softening machines, and the quantity such a machine will do in a day, and the horse power required to drive it. (25)

5. (a) Explain why a long draft is not so injurious to the yarn on a circular frame as it is on a breaker; (b) what serious fault is present in the yarn when too long a draft is used on the breaker? (c) state the proper drafts for (a) a breaker, (b) a jersey. (25)

6. What is the relative surface speed of cylinder, workers, and strippers of a circular sheet finisher? What is the effect of decreasing the speed of the cylinder? (30)

7. Work out the drafts for rove weighing 70 lbs. per spindle, starting with a set of laps weighing 11 lbs. per spindle. (30)

8. If the weight of a rove is changed from 50 lbs. per spindle to 34 lbs. per spindle, what change will it be necessary to make upon the differential motion? (30)

9. In a mill spinning 10,000 spindles 8 lbs. warp per week, with 4 turns twist, the twist is changed to 3½ turns, calculate the cost of production, and to what extent it is affected. (40)

10. What respects is it desirable to have in a system supposed to be preferable to a 3½ by 3½ spinning frame for 8 lbs. yarn? (40)

11. State the heaviest sizes of secking yarn you consider it profitable to spin on a spinning frame, and show why sizes above that limit are more probably spun on a spinning wheel. (40)

12. What are the items of expense in a jute mill to be taken into consideration in calculating cost of production? In a small spinners and 10 lbs., what proportion does wages bear to other expenses com-
WOOL AND WORSTED SPINNING.

Instructions.—Able hands should be able to do the work of a day's work in the worsted mill, where the different qualities of wool are found, making eight or nine spindles per hour. 

ORDINARY GRADE.

1. Sketch the shape of a fleece of wool as it is laid on a setting board, in the worsted mill, where the different qualities of wool are found, making eight or nine spindles per hour. 

2. What are the essential points of good washing, and what effect is insufficient or too much washing upon the spinning properties, or the strength of the yarns on the mill? 

3. Design a cutting machine for fine wools, with general dimensions of cylinders, rollers, etc., also the clothings in it. 

4. What is a "threader," and what wool is benefited thereby? In what way does it affect the bulk of the wool? 

5. Describe the process of "preparing" long wool, and how to prepare it. 

6. How is the weight of wool regulated on the feed spindles of a card? Describe "a Hopper" automatic feed. 

7. What are the spinning rollers? How are they placed and driven? 


9. In worsted spinning, what is the use of a "weight," and how does it aid or retard the spinning process? Give examples. 

10. Explain the principles of "one drawing." 

11. Describe the lattice motion for traversing bobbins, spools, tubes, and ropes. 

12. How is two-year-old wool on the market, on cap, by ring, and frame? 

13. How many hundreds of yards, 400 yards long, can be made from 6,000 lbs. of 2's and 3's? 

14. Give the weight in hand of wools also in grains, of 36's, 32's, 30's, 28's, 26's, and 18's, respectively. 

15. How many yards are there in a bundle of 11 lbs. of 2/7's? 

HIGHER GRADE.

1. A blend of wool costing 9d. per lb. gives, in spinning: 

- 10 per cent. of 60's quality, 
- 40 per cent. of 30's, 
- 25 per cent. of 10's, 
- 15 per cent. of 6's, 
- 5 per cent. of silk or worsted. 

2. Make out the ratios of each quality per yard to their value, having the 10's at 36 per, the 40's at 25 per yard. 

3. What is the chemical composition of a wool fibre? 

4. What is the density of a wool fibre? 

5. What are the most suitable sizes or counts of yarn for worsted work, and how many yards to the pound? 

6. What is the ideal count of a worsted yarn when spun? 

7. What is the difference between the terms split and skein? 

8. Which system prevails in England, and what is the system generally followed in other countries? 

9. What is the difference between a span and a yard? 

10. What is the length of a piece of worsted yarn? 

11. How many spindles are in each operation in producing worsted yarn? 

12. Describe the motion of the inner cores of a spinning frame, and how many times can the traverse, pick, and shape of bobbin be altered? 

13. In a 10 lb. bundle of yarn there are 500,000 spindle ends, but which number is really used? 

14. How much more yarn is required to produce 1,000,000 yards of 1/20's, containing 9,000 yards, how many warps of 2,000 ends, 250 ends each, which makes this number, and how many lbs. will be left over? 

15. Described in a number of yards, of yarn, and gives particulars for 1,000,000 yards of single 30's, 400,000 yards of single 30's, 350,000 yards of 2's, 150,000 yards of 1's, and 150,000 yards of 2's, respectively. 

16. How much more yarn is required to make a 6 thread per 100 yards of yarn? 

17. How many yards can be produced in a 1/20's, containing 9,000 yards, how many warps of 2,000 ends, 250 ends each, which makes this number, and how many lbs. will be left over? 

18. A revolution of 300 feet of yarn is equal to approximately 100 feet of yarn. 

19. Describe the process of worsted spinning and how to thread the bobbins. 

20. Sketch a diagram of a sausage, showing the various parts of a sausage and how to thread the bobbins. 

21. Describe the process of preparing a sausage, and how to thread the bobbins. 

22. What is the weight of wool required for the feed spindles of a card? Describe a "Hopper" automatic feed. 

23. What is the tendency of late years to increase the distance of the mill? 

24. What is the "drawing" process and how does it affect the spinning process? 

25. What is the "drawing" process and how does it affect the spinning process? 

26. What is the "drawing" process and how does it affect the spinning process? 

27. What is the "drawing" process and how does it affect the spinning process? 

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29. What is the "drawing" process and how does it affect the spinning process? 

30. What is the "drawing" process and how does it affect the spinning process?
Egyptian the demand was strong. East Indian wheat, quiet, but appreciably higher in sympathy with other grain. The market last tone on Tuesday, sellers of barley, offered 1,456,915,000, of which 2,212,900,000 were sold. Barley and wheats were in better demand, and advanced at 2$. Sorrels were quiet and unchanged. Futures on the day lost at 2%. Points. On the day last sold at 10%. Points. Barley, which was firm in price, was lower, led one selling at 20%. Points. This was the result of a heavy selling, after which the market had been lower in the morning. Barley, which was steady, had been lower in the morning. Barley, which was steady, had been lower in the morning. European and East Indian, with a fair general advance, advanced the quotations of Barrochet 4$. Yesterday there was again a steady table for European, and prices were higher, though not sufficiently so as to affect official quotations. Futures fluctuated and closed lower at an advance of 14%. It is said that there has been a good demand for Indian, and official rates of wheat are again advanced 1$. Wheat was steady. The following particulars of the business of the week are from the official report issued by the Liverpool Cotton Association:—

<table>
<thead>
<tr>
<th>Country</th>
<th>Sales</th>
<th>Export</th>
</tr>
</thead>
<tbody>
<tr>
<td>America</td>
<td>25,950</td>
<td>25,950</td>
</tr>
<tr>
<td>Brazil</td>
<td>1,014</td>
<td>1,014</td>
</tr>
<tr>
<td>Egypt</td>
<td>5,013</td>
<td>5,013</td>
</tr>
<tr>
<td>India</td>
<td>20,013</td>
<td>20,013</td>
</tr>
<tr>
<td>Total</td>
<td>32,997</td>
<td>32,997</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Country</th>
<th>Quotations</th>
</tr>
</thead>
<tbody>
<tr>
<td>America</td>
<td>25% 25%</td>
</tr>
<tr>
<td>Brazil</td>
<td>10% 10%</td>
</tr>
<tr>
<td>Egypt</td>
<td>15% 15%</td>
</tr>
<tr>
<td>India</td>
<td>25% 25%</td>
</tr>
<tr>
<td>Total</td>
<td>10% 10%</td>
</tr>
</tbody>
</table>

The following are the values of futures at midday on each day of the week:—American deliveries—any port; bales of middling low: middling chine; (the fractions are in 6ths of a penny):—

<table>
<thead>
<tr>
<th>Day</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>25%</td>
</tr>
<tr>
<td>Tuesday</td>
<td>25%</td>
</tr>
<tr>
<td>Wednesday</td>
<td>25%</td>
</tr>
<tr>
<td>Thursday</td>
<td>25%</td>
</tr>
</tbody>
</table>

Dundee, Wednesday.—Since the last report, the market in Dundee has been in a state of panic. Jute is unsaleable except at a further decline. New jute is offering 20s. per ton (not per cent) at recent quotations here for old, and even at 25s. per ton. Jute yarns for cotton and for jute are at a low figure. The cup falls from the lowest in two months ago, 10% to 14%. For the higher qualities by the best spinners the price is still higher. Dyeing is more active, and even the lower qualities are forced down by the tremendous fall in the lower grades. The same remark applies to jute threads. The lower qualities are quoted at 25%, 25%, 50%, and 50%, and cloth with the same name of the best makers’ goods cannot be bought upon anything approaching its former price. Fine worsted jute is in great demand, the best wares remain very scarce and relatively dear. For all other grades the jute is in great demand, and 25s. only is quoted and 30s. is not possible to make sale for the want of connection. Fine worsted jute is in great demand, the best wares remain very scarce and relatively dear. For all other grades the jute is in great demand, and 25s. only is quoted and 30s. is not possible to make sale for the want of connection. Fine worsted jute is in great demand, the best wares remain very scarce and relatively dear. For all other grades the jute is in great demand, and 25s. only is quoted and 30s. is not possible to make sale for the want of connection. Fine worsted jute is in great demand, the best wares remain very scarce and relatively dear. For all other grades the jute is in great demand, and 25s. only is quoted and 30s. is not possible to make sale for the want of connection.

25% 25% 25% 25%

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25% 25% 25% 25%
THE TEXTILE MERCURY.

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NTS.

NOTICE OF REMOVAL AND CHANGE OF FIRM.

E. K. DUTTON & CO.
CHARTERED PATENT AGENTS.
(Lane DUTTON & FULTON)
Moved to 11 ST. JAMES STREET, in QUEEN'S CHAMBERS, 5 John Dalton St., MANCHESTER.

ABSTRACTS OF SPECIFICATIONS.

1864.
December, 30, 1864. Lewis, Stanord, Shale Mill, N. Y.
A new method of making silks which has been submitted to the ordinary testing and publishing persons, and then found to be so perfect and beautiful that it is being adopted as a model for the manufacturing.

1865.
December, 30, 1864. Lewis, W. Perry and E. Rawson, both of Dudley Mill, near Biddeford.
A new process of dyeing silks, which has been found to be very advantageous when applied to the manufacture of silks.

1866.
A new and improved system of manufacturing silks which has been found to be very advantageous when applied to the manufacture of silks.

1867.
December, 30, 1864. Looney, H. M., Manchester.
A new and improved system of manufacturing silks which has been found to be very advantageous when applied to the manufacture of silks.

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