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CANADIAN Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVII.

TORONTO AND MONTREAL, MAY 1900.

No. 5.

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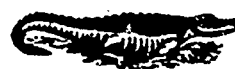
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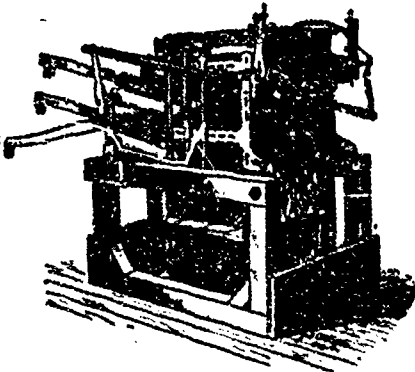
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A Journal devoted to Textile manufactures and the Dry Goods and kindred trades.

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THE CANADIAN TEXTILE DIRECTORY

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CONTENTS OF THIS NUMBER

	PAGE		PAGE
Among Mills	140	Imperial Trade Notes	143
Boer and the Bible, The	143	Literary Notes	142
Belling	131	Looms, An Improvement in	137
Bleaching Yarns	137	Manilla Fibre Parts, Opening the	139
British Preference, The	139	Mohair	139
Card Setting	131	Oregon Wool Development	138
Cottons, Canadian	140	Pirn Winding	144
Cotton and Skoddy Mixes	146	Sisal Industry, The	145
Combines in Textile Manufactures	132	Sittings, Allowances on	139
Cotton Yarns Improved Methods and Machines for Coloring	135	Textile Imports from Great Britain	143
Dyestuffs	138	Tilt, Death of Albert	143
Fabric Items	142	War and Dry Goods	130
Foreign Textile Centres	133	Wool Market, The	140
Horse Power, The value of a	137	Woolen Spindles in Canada and the United States	130

ALLOWANCES ON STRINGS.

One of the most disappointing phases of the cloth manufacturer's business is the flow of debit notes which he regularly receives. However slow trade happens to be, or however few are the orders received, the inflow of debits for strings, quarter-yards, etc., never fails, and, in fact, seems to be at high-water mark when general business is at the lowest. Retaliation against systematic robbery of this kind generally means a severance of business relations with the merchant who makes the claims, accompanied by the loss of his orders, says the Textile Manufacturer, Manchester, England. Many manufacturers have to discriminate between just and

unjust customers, and have to make allowance in their quotations for prospective debit. Frequently these can be made with comparative accuracy, for some of the less scrupulous merchants make their claims on damages in a most systematic manner, damages or no damages. Sometimes the trouble originates in the percher, who feels himself bound to earn his pay in more senses than one, while it is even said that in certain warehouses a man who cannot do so is soon moved on. Manufacturers are too often at the merchants' mercy, although, perhaps, they are partly to blame, for the more honest merchants, although of small percentage, generally do a large business. *Yarns are delivered from the manufacturer to the finisher, going in many cases direct from him to the merchant. It is always best for the goods to be returned to the manufacturer, but this is only carried out by some of the larger concerns. Pieces are frequently wanted in such a hurry that they must be sent by the shortest route, this hurry often being the excuse for having the goods packed and away before the manufacturer can send to see the faults which the merchant claims. The finisher puts in strings, but these are added to by the merchant, and the manufacturer must either agree or quarrel. It seems that a similar state of affairs prevails in industrial circles on both sides of the Atlantic, and a suggestion which has recently been made by the Textile Manufacturer's Journal, although somewhat bold, is worth considering. The suggestion is that perchers should be trained and certificated by either the Government or by some association recognized by it. The difficulty might be overcome by establishing a conditioning house, one which the trade could accept as authoritative, where perchers could be trained or examined. There are many ways of overcoming the present wrongs which exist in respect to claims for allowances.*

MOHAIR.

Recently a lecture on "Mohair" was given before the members of the Shipley Textile Society by T. Hollis, of the Yorkshire College, Leeds. The lecturer commenced by tracing the history of the Angora goat and showed how it had been taken from its native home in Asia Minor to the Cape, where the rearing of these

animals had met with great success, owing to the herbage and climate being somewhat similar to that found in Asia Minor. That suitable food and climate were essential was proved by the fact that the late Sir Titus Salt, Bart., introduced the goat into England, but it proved an utter failure, the altered conditions being entirely against success. The chief characteristics of the hair were its long, strong, silky and lustrous fiber. Its milling properties were deficient, owing to its approaching hair in character. The manipulation of the fiber was next considered, sorting, washing, carding and preparing, back-washing, combing, drawing, spinning, twisting and doubling, all being considered in turn. Examples of raw material were shown, also fabrics composed of mohair, wool and mohair, cotton and mohair, etc., including glaces, plushes, astrachans, coatings, trimmings, braids, sicilians, imitation skins, etc.

WOOLEN SPINDLES IN CANADA AND THE UNITED STATES.

A correspondent of the Textile World writes, asking the number of woollen and merino spindles there are in the United States and Canada. To this our contemporary replies that there are in the United States in the neighborhood of 2,550,000. This is based on the estimate of 8,500 sets of woollen cards in the United States, to which are given the average number of 300 spindles to a set. According to the 1890 census, the average number of spindles per set was 296. He then adds: "There is no way of giving the number of spindles in the Canadian mills." This is not quite the case, as a glance at page two of the January issue of the Canadian Journal of Fabrics would show. We there summarize the statistics given in the 1899 edition of the Canadian Textile Directory, and show that there were at that date 2,645 looms, and 194,086 spindles in the 270 woollen mills of Canada.

WAR AND DRY GOODS.

Our London contemporary, the Warehouseman and Draper, gives an interesting list of names suggested by the war in South Africa, and applied to various lines of dry goods. After referring to "lyddite" green, our contemporary says the letters C. I. V. (City Imperial Volunteers), are applied to styles in millinery, ties and cravats, collars and cuffs. In millinery, again, we find the names "Baden-Powell," "Field Horse," "Trooper," "Frere," "Dundonald," while there are a couple of hats in the market known as the "Natal" and "Colonial." "Ladysmith" and "Kimberley" are the names given to some skirts; a new design of a popular silk is christened "Glencoe," while a "Pretoria" crepe seems (or will be, before long, from the pro-Boer point of view), peculiarly apt. There are a number of "Absent-minded Beg-

gar" novelties, including ladies' skirts, while some "A. M. B." handkerchiefs are adorned not only by the Kipling poem itself, but also by an up-to-date war map. Smart costumes lend themselves to this military nomenclature, and we find therefore the "Belmont," "Chieveley," "Ladysmith," "Roberts," to mention no others. A firm of wholesale clothiers have produced a "Buller" suit in khaki; there are "Imperial Service" and "Baden-Powell" blouses, and knitted belts named the "Roberts" and "Kitchener," while a new material for festoon blinds is now christened the "Wauchope."

—We have been favored with a very fine sample of raw silk, which was grown in Ontario, in 1863. The silk is of excellent quality, and is from cocoons raised by Mrs. Radcliff, of Thorold Township, who was a daughter of the late General Murray, of Drummondville, now Niagara Falls South.

—Sir W. Preece delivered an interesting lecture on the uses of electricity at the Institute of Civil Engineers, Westminster, on a recent evening. Speaking of the application of electricity to industries, Sir William described a new jacquard loom, invented by T. A. B. Carver, a pupil of Lord Kelvin. In this loom, which may, it was stated, be seen at work in a factory at Glasgow, 600 hooks are controlled electrically. The twill, as well as the pattern, are under complete management. The pattern on the cloth is woven directly from a photograph of the artist's design, mounted on a metallic sheet. The threads of the warp are picked up by electromagnetic action, owing to the figure of the pattern being cut away, thus allowing the circuit to be completed by the metallic sheet.

—Samples of Philippine cotton have been received in the United States, and prove to be quite a different variety to the American cotton. The boll is not at all like the Southern cotton boll, being shaped like a pea pod and about three inches long. The staple is of a silky appearance, and slightly creamy in color, but offers no resistance at all when pulled apart. It seems extremely delicate. Capt. Terry, of the 47th U. S. Infantry, who sends some of these samples, says one native species attains a height of forty feet and more, and bears abundantly semi-annually. The flower is small, yellow, cup-shaped, and the leaf is not unlike the common cotton. The leaves fall when the pods form and do not bud until the cotton falls. From bloom to maturity is about four months. In an interview on this subject, George B. Hiss, secretary of the Southern Cotton Spinners' Association, says: "The influence upon cotton manufacturing, by the acquisition of the Philippines, will be very great and for good. While a very large portion of the output of Southern mills is now going to the Orient, yet he foresees a greatly enlarged demand, as transportation facilities increase and the

enlightenment of the Philippines progresses." "In fact," says he, "I look forward to the day when the Philippines will be competitors of the South in the growing of cotton, and eventually—not in your day or mine—the time will come when cotton mills will be erected in the Philippine Islands, as is being done in the Southern States to-day, that the manufactory and the cotton fields may be side by side and the trade of the Orient be supplied for ordinary wear from our own cotton fields."

BELTING.*

FROM HIDE TO PULLEYS.

Having been asked to give to this convention a few facts in regard to the manufacture of belting, which have come to my knowledge, I desire to say that in the manufacture of the best goods in this line it is essential in this, as in many other lines, that care be taken in the early stages of material. Very few realize how much care is required in bringing out leather best adapted to this purpose. The selection of hides which is considered the best at this time is what is called the packers' steer, taken from an animal from three and a half to five years old, in good condition, in order that the best results may be attained. An ox hide is liable to be a little coarser grain, and is not so well adapted to belting purposes. The cow hide is not adapted to this use at all, the flanks being too light for the back. A bull's hide is not suitable for belting, as the centre part of the hide is too light, while the outer sides from the centre are too heavy. A steer's hide is uniform in thickness, and is the very best stock that can be used.

It has been found that there is but little strength to the grain of a hide, as most of the strength is from the flesh side; hence there should be as little cut from the flesh part of the hide in currying as possible. Very few users of belting are aware of the trouble belt makers have to contend with in the matter of hides, and great care should be taken when removing the hide from the animal on account of cuts, of which the manufacturers complain.

On entering the tannery, the first thing is to properly prepare the hide for what we term the beam house, where the hide is soaked, and the flesh removed, preparatory to being treated with lime, to remove the hair and grease. In preparing the hide for the lime it should be, as near as possible, in the same condition as it was when taken from the animal, and great care should be exercised in handling it. To give you an idea, we might compare it to a piece of honeycomb. If you break one of the cells the honey will run out, and it is exactly the same with a hide, for if one of the cells is broken the gelatine comes out. After removing the hair and grease from the hide, the lime must be thoroughly extracted, otherwise a coarse, brittle piece of leather will be produced. After this the hide should enter a very weak liquor, which consists of a small proportion of tannic acid, and a large proportion of gallic acid. Then it must be fed with stronger liquors, from time to time as it needs it, in order to develop it to the stage it should. It takes from five and a half to six months to properly tan belting leather, before it is ready for the market. Afterwards it takes two or three weeks to work this through the currying shop in proper shape, and about two weeks to fit it into belting. You will therefore see the length of time required before the belting is ready for the manufacturers. In the manufacture of cotton goods there is a number of grades and sizes of yarn, and qualities of cotton, and it is practically

the same with leather. A great many think that because a piece of leather is hard and firm, it is especially adapted to belting. I disagree with them on this point, for you will find that taking leather which is prepared for sole leather for shoes, the fiber is weakened by the tanning substance, so that the piece of leather with all proper conditions, and not too firm, will stand a larger tensile strain than a solid hard piece. Of course, there is no need of my discussing this point, as all are familiar with the virtue of a very firm piece of leather, and what is considered as a soft piece. As a rule, you will find that belting leather is not tanned as it would be for sole leather. Usually sole leather is tanned by sulphuric acid or vitriol, while belting butts are tanned by a non-acid process, and no artificial acids. By leaving pure tanning liquor exposed to the air at a temperature of 60°, it will most likely change from tannic to gallic in about 17 days. I have seen much leather brought out and put on the market which, owing to the lack of care in preparing and tanning, was not worth more than one-half of what it should be. Thus you see the great importance of care in preparation.

The leather being thus prepared and ready for belt manufacturers' use, the next essential point is the care in selecting stock that shall be uniform in thickness for the different rolls or belts into which it is to be made. It is impossible to have all hides the same thickness, but it is essential that all pieces entering into a belt shall be as near uniform thickness as possible. Also care should be taken that the firmness of the leather should be much alike in the pieces, as white hides vary in thickness, they also vary in quality and firmness. There are a number of belt manufacturers now in this country who are aiming to make the very best goods. Everyone can make a good belt if they desire to, as it depends largely on the quality of the stock and the care in making up.

In buying belting about the first thing the manufacturer does is to get out his specifications, and then receive bids from various manufacturers of belts. In many cases this is all right, while in other cases it does not work well, for often the man who is cutting low-priced leather can make a low price on belting, and in this way he is quite apt to secure the order, and as you can see, of course, the man gets what he is paying for. Very often the belt may come up to the letter of specifications, but when it is put to practical use it will be found to be a much dearer belt than a higher priced one. Personally I am a great believer in using good goods, and in the majority of cases it is found to be far better to do so. Very often specifications for belting are made up to a certain length, say four feet, six inches cut from centres, and then expect a belt manufacturer can sell two-inch belting made from centres, which would be an impossibility, unless he receives a special price for it, and even then it is better to make such narrow belting from pieces a little each side of the centre, for you will find that a centre belt as a rule is a little lighter than just one side from the centre, or what is termed a "kidney" cut. The majority of belts, 12 inches or over, single or double, are made from centres, and there are very few concerns that make 8-inch or under, especially in singles, from centres, unless so specified. Very often travelling men state that their belts are all made from centres, but if they would say they were made from the centre part of the hide it would seem more reasonable. In making a belt from what we call the centre, there is little or no danger of its running crooked, and even at this point, if it is not cut very far down from the centre, there is no trouble in this direction. Very often a short lap belt made from pieces down on the side, what we call belly strips, looks as heavy as the very best quality, but when put to use it will be found that it does not last, and will not give the service of a better and higher cost stock.

Very often you wonder what makes a belt stretch, and think that a belt which does not stretch is a good one. In this I beg

*A paper read by J. H. Burghardt, at the recent meeting of the New England Cotton Manufacturers' Association.

to differ, for one thing is true, and that is, that a belt should stretch some. A belt properly stretched on stretchers at a factory in manufacturing is intended to have the stretch taken very thoroughly out, but if the belt is made from certain parts of the hide, which, in the nature of its location is softer, it will, from time to time, in fact from the time the pieces of leather enter into the belt until it has run a long time, continue to stretch. Belt manufacturers try to overcome this as much as possible, and give it all the stretching they consider sufficient. Again, much depends on the amount of power the belt is required to transmit. Very often an over-estimate is made of what a belt will transmit, for I recall places where a three-ply belt should be used, where a double belt was put on, and of course the double belt was not able to do the work. Where there is a very heavy strain, whether high or slow speed, I advise a double belt, and if a man buys the best goods a double belt should be made from exactly as good stock as a single belt. Belts made from butts other than leather thoroughly stretched, tanned and curried, will not transmit as much power as a belt should, owing to its being hard and firm fiber, and not fitting the pulley as it should. There is nothing, I think, quite equal to a good oak bark tanned belt. I consider a good hemlock tanned belt preferable to a belt tanned with extracts, as extracts do not have as mild an effect on the fibers of the leather as a pure bark tannage. There are some tanneries that have a larger and better reputation than others, and undoubtedly the same is true in cotton manufacturing. You will, therefore, see that there is liable to be a variation in price of leather, for reasons which the writer has named, and if so, there are causes which bring it about, but experience shows us that the most conservative and best managed concerns in the country as a rule buy the best goods. Why? Because they consider it more economical.

Belt manufacturers are constantly looking for improvement in the way of manufacturing, and the latest improved machinery. There are concerns who at the present time are giving their belts, ordered for main drives, a special running test at the factory before going out. To illustrate: If a belt 20 inches is required, the stock is cut about 20 $\frac{3}{4}$ inches wide, and the belt is made up this width. After it has been completed, it is placed on pulleys and given a running test for a longer or shorter time, as circumstances will allow, to see if the belt is absolutely straight. Afterwards gauges are placed at each edge of the belt and tried up to the width required by the order, thus giving a stretched belt, full width and true running. This is considered a very essential point, and is much appreciated by users, and it should be taken into consideration when orders are placed.

Belts should be run grain side to the pulley, as the grain will absorb more or less moisture and dirt which accumulates on the pulleys, while the flesh side would coat over, and thus detract from the strength of the fibers.

A belt properly made in most cases will run with the usual cement, without other special fastenings. Of course there are conditions under which it is desirable to have a belt with the laps riveted or otherwise fastened, but, as a rule, whatever is done to detract from the strength of the belt by the admission of fasteners goes so far towards weakening it. If good cement is used, and the belt is properly put together, as a rule it will do the work all right, unless it might be a shifting belt, or as we have said before, unless there are some special conditions where the edges need to be protected. In such cases, of course, we advise fastening of some description. We think a belt with riveted laps is one of the things of the past.

—X-Rays and Weighted Silks.—The recent adoption of the X-rays for the purpose of detecting "weightings" in silks, as

spoken of in a recent issue of *The Dry Goods Economist*, New York, will prove of great value not only to the trade, but to customs officials. Heretofore when it has been necessary to discover whether any adulterant exists in silks an expensive chemical process has had to be gone through. Under the present system, however, a short and simple method does away with all this.

COMBINES IN TEXTILE MANUFACTURING.

There is interest in the following statement of the situation among the combining textile manufacturers in Great Britain, now that similar movements are in process in Canada:

The flotation of the British Cotton and Wool Dyers' Association, Ltd., is the great financial event of April, says *The Dyer and Calico Printer*. It has a share capital of £2,000,000 and a first mortgage debenture stock of £750,000. Forty-six well-known companies and firms are amalgamated in this association. These, with the two branches of the Bradford Dyers' association engaged in warp and hank dyeing, represent about 85 per cent. of the volume of both branches of the trade. Some of the firms have devoted great attention to mercerization and have introduced important improvements.

There are now eight joint-stock combinations in the British textile and allied trades, with an aggregate capital of £35,500,000. To these it is proposed to add a combination of the Lancashire bleachers, the lace curtain manufacturers of Nottingham and Ayrshire, and the worsted spinners of the West Riding. It is rumored also that the Yorkshire cloth finishers are discussing amalgamation. If the negotiations are carried out, these new joint concerns will have a capitalization of about £30,000,000. It is said that the most forward scheme is the proposed joint-stock federation of the Lancashire bleachers, which will, it is considered, be the largest single combination yet formed in connection with British textile trades. The arrangements for the bleachers' combine have been in hand many months, and are being carried through by Messrs. Jones, Crewdson and Howard, of London, the firm of accountants who formed the Sewing Cotton, Bradford Dyers and Calico Printers' Associations. The preparations for the flotation are well forward, and it is hoped to have the prospectus ready about Whitsuntide; whilst the combining firms are to be taken over by the company as from March 31st last. Experts in the industry affirm that there is no section of the textile trades which would so readily lend itself to the adoption of the combination principles as that of the bleaching business, as, whilst there are some comparatively small concerns, the bulk of the firms engaged in the trade are large and old-established.

As to the projected combination of the lace curtain manufacturers, which, it is proposed, shall have friendly working arrangements with the Fine Cotton Spinners and Doublers' Association, from which the lace curtain manufacturers obtain the great bulk of their supplies of yarns, the estimated capitalization is from two to three millions sterling. In this case, the concerns to be embraced are very numerous, and many of them comparatively small.

Regarding the worsted spinners' movement, as this is such a huge affair, the prospectus will probably be delayed till some few months later. Some months ago, leading worsted spinners of the West Riding invited Scott Lings to endeavor to combine their business, and although there is a good deal yet to be done it is stated that matters are proceeding satisfactorily. The proposed combination would include not only the spinners of fine and "botany" yarns, but also of cross-breeds and ordinary worsted yarns, and many experts express their confident expectation of the scheme going through, though there are others who consider it too unwieldy to prove successful.

Foreign Textile Centres

MANCHESTER.—The cotton market is not active, and makers of sundry cloths are now beginning to require new business, which, unfortunately, is not offering in any large quantities at limits which manufacturers can see their way to accept. Cotton continues to have an upward tendency, based upon the supply, which is, however, somewhat held in check by the lack of demand from this market, but should business come through again in any big quantities it is difficult to see how it can be restrained from again going up higher still. Yarns are steady but far from active, and there is comparatively little enquiry from prospective buyers. Egyptian yarns are quiet at much the same prices. There is better news from India, and rather more enquiry is resulting, but one does not hear much of orders being placed. It is difficult to arrange prices to suit the consumers abroad, who do not appreciate the rising market. Earlier delivery is now possible for some classes of goods. The home trade demand has been very good, and much cloth has been delivered for the first of the month. A fair amount of enquiry still comes forward in the Rochdale flannel trade, and though all of it does not result in business, orders are still being placed of more or less magnitude. The trade is in a healthy condition, although it is said that profits are only moderate owing to the high price of wool and other materials, still after the bad times of previous years manufacturers are not disposed to grumble at the present position. There is no change to report in prices, which are firm at recent levels, says The Warehouseman and Draper's Monthly.

LEEDS.—Operations in the woollen cloth trade have been fully resumed after the holidays. On 'Change on Tuesday there was about an average attendance, but only a comparatively small amount of business. The tone of trade generally is somewhat firmer, though it cannot be said that a fully confident feeling prevails. The more seasonable weather of the past few days has strengthened business considerably, and orders for pressing requirements in seasonable goods are coming to hand more freely. There is more enquiry for worsteds, and machinery as a rule is running well. Cheap tweeds are quieter, but late rates are maintained. No great amount of business is passing in wool. Holders are inclined to grant slight concessions, but consumers do not readily respond and purchases are made only to meet immediate wants. Little change in rags. There is no change to be recorded in the condition of the clothing trade, which continues to enjoy an uninterrupted run of prosperity. Orders are plentiful, and overtime is being very generally worked. The Easter demand, especially for juvenile garments, was quite up to expectations, and those firms that during the slack season ran their machinery at full pressure in making stock have been well rewarded for their enterprise, as during the last week or two the demand has been so brisk that they have succeeded in clearing out almost every single garment at remunerative prices. Boys' khaki suits are "going strong," to use a now historic phrase, and men's and youths' blue serge suits are as popular as ever. Black vicuna jackets and vests and striped worsted trousers are selling freely, and these are the three leading lines in the clothing trade this season. During the past week or so there has been a poor attendance of woollen buyers at the markets, and producers are badly in want of orders. The spring trade has been spoiled by the weather, and there is an almost entire absence of repeats, and the result is that some looms are standing idle. To secure immediate business and keep their machinery fully occupied manufacturers seem willing to make some small concessions. Makers of specialties, such as popular lines in serges and vicunas, and certain union cloths used by the wholesale clothiers, have a fair number of orders on hand, and refuse

to do business at anything but full rates. But, generally speaking, manufacturers are open to discuss terms, and are willing to meet buyers half-way. South African shippers in this district are no pessimists, but take a rosy view of the situation. They never lapsed from grace, nor uttered complaint about the conduct of the war. On the contrary, they keep accumulating heavy stocks of ready-made garments and piece-goods against the "boom," which they say cannot be much longer delayed. Meantime, some large consignments are being sent out to Cape Town.

BRADFORD.—There is still a quiet tone in the wool market here, and there has been very little business passing in colonial merino wools for some weeks past. There is little doubt that speculation and an exaggerated fear of the immediate effects of the shortage in the supply of pure merinos caused the prices of these wools to advance quite beyond the point where the consumer would follow them. When, therefore, the demand for these wools was affected by the substitution of cheaper wools the prices of the finest merinos commenced to fall rapidly, and to-day could be bought some 20 per cent. below the very highest point touched; but the prices of manufactured goods never advanced to anything like the same extent, so that the prices of these do not show nearly the same amount of fluctuation, says The Draper's Record, London, Eng. The most interesting question to the drapery trade at large is, "What will be the tendency of the market as regards merino wool in the immediate future?" and although it is not wise to prophesy, there are certain facts which affect the supply and demand in this department of the wool market which should not be lost sight of. From two independent and most reliable sources during the past few days reports have come to hand which show that the effects of the continual drought have been most disastrous in some of the districts of Australia specially devoted to the raising of sheep of the merino character. The total shortage for the present season is estimated at nearly 100,000 bales, of which a large proportion is merino, and not only are the flocks greatly reduced, but it is feared that large tracts of the feeding grounds are permanently injured. It seems quite possible, therefore, that the reaction from over-speculation, both in this country and on the Continent, may have carried the prices of merino wools to an unwarrantably low level, and that when the full effects of the shortage above referred to are appreciated, a distinct upward movement in prices may set in. When merino advanced so much its high price quite precluded its use for most classes of Italian linings, some fabrics used for the Eastern trade, and some kinds of worsted coatings; but prices are once more back at a price which is not beyond the reach of these markets, so that gradually an increased consumption will set in. In crossbred colonial wools of the cheaper kinds there has been all the time a very large consumption, and the woolcombers who deal with these wools have been working day and night for many months past, and are still very busy. The prices of these wools are quite firm, and there are numerous inquiries for yarns made from them, both for the continental and home markets, and although buyers' and spinners' ideas of prices do not yet quite coincide, there is every indication of large business in the future as soon as a staple level of prices has been established. In mohair, prices keep quite firm, and there continues to be a good demand for mohair worst yarns, both on home and continental account, but there is a falling off in the demand for mohair braid yarns and also for mohair crepon warps. Prices of most kinds of English wool are unchanged, and even holders of pure lustre wools are more inclined to sell now that the new clip is coming nearer. Manufacturers are finding the signs of the market difficult to read, as, in spite of the healthy state of commerce all over the world, the freedom from strikes and other disturbing influences in the home trade, and the fact that the manufacturing part of the trade in Bradford has shown

little expansion in late years, the present-day demand for goods is, on the whole, disappointing. Some classes of bright dress goods are selling well, especially in blacks, and "the million" are still wearing Bradford coating serges very largely, but there is a lack of cheerfulness about the whole business which is difficult to explain. For the autumn season, fancy dress fabrics of a warm touch and appearance will undoubtedly largely supplant the more smartly finished costume coatings which have been so much in demand for the past few seasons, and some of the leading makers here are doing well with these.

KIDDERMINSTER.—In all departments manufacturers continue to be well employed. All the Spring orders have now been delivered, and the satisfactory feature of the trade is that already a demand for repeats has set in. This shows that the retail houses are busy, and that carpets are being rapidly cut up. The improvement in the weather will have a beneficial and stimulating effect upon the carpet trade.

NOTTINGHAM.—Trade on the whole may be considered fairly good. Orders come in with freedom, especially from America and some of our colonies; in fact, the export demand is better than it has been for a long period, says the correspondent of *The Draper's Record*. The home trade orders are somewhat slow in coming in, but this may be easily accounted for by the unsettled weather. There is little to disturb the commercial atmosphere, with the exception that among a certain section of lacemakers an agitation is proceeding for an increase in wages. Whether it will come to anything remains to be seen, seeing that the men are not all agreed as to the advisability of the movement. For the sake of the employees as much as the general interest of the trade it is to be hoped that wiser counsels will prevail, and that no labor dispute will occur to interfere with the much-needed improvement in trade which has taken place.

There is still a good enquiry for cotton millinery laces, the styles most favored being Valenciennes, guipure and Cluny. These goods are selling in laces, insertions, galons and nets. Good quantities of Torchons are also selling, but Point de Paris, Brabant, Filoche and Malines only meet with a moderate demand. Prices are still on the up grade, and show no signs of coming down. In some instances advances of 20 to 25 per cent. have been made on old prices. The fancy silk lace departments have improved slightly, and small quantities of some makes in these goods are selling. No falling off is observable in the plain branches of the trade. On the contrary, they continue to prosper, and nearly all the machinery here and away is well and profitably employed. Large quantities of bobbin nets, mosquito nets, and fine tulles are selling. There is very little stock in hand, and many orders are in arrear, while prices continue at their former high level. Lace curtains are meeting with much favor both at home and abroad, and manufacturers are able to secure higher prices for their products than for some time past. There is an enormous output of these goods, as also blinds and furniture laces, and finishers are well employed. The making-up departments are fairly active. Manufacturers of aprons, caps, collar-ettes, ruffles, and neckwear are doing a good business in these and other kinds of fancy made-up goods. Good quantities of plain, fancy and spotted veilings are moving in black, white, magpie, jackdaw and colors. There is a superabundant supply and severe competition both at home and abroad. Special lines of Houghton braids, purls, and beadings are selling in large quantities, and in some cases orders are in arrear. The position in the hosiery trade is far from satisfactory. There is some unsteadiness in prices, and buyers hesitate to place new orders at full quotations. The export trade has not expanded as much as was at one time expected. Government contracts in this and neighboring towns have provided employment for men and machines that would otherwise have remained idle. Merino and cashmere goods are easier to buy. Prices in the cotton branches are not

remunerative, and foreign competition is severely felt both in cotton and wool and mixed hosiery.

LEICESTER.—Fancy elastic web fabrics, cords, braids and bellings are in good demand. The hosiery industry is active, with small stocks, while manufacturers have large orders on their books, both for home and colonial markets. The wholesale clothing market is active. The yarn market is kept fairly active by deliveries, which keep stocks at a low level, while there are numerous enquiries regarding new contracts, prices now being in favor of consumers. Cashmere yarns are steady, and there is an active demand for lambs' wool and fancy knitting yarns at steady rates.

SOUTH OF SCOTLAND.—There is little fresh to report in the South of Scotland woolen industry. A fair amount of business is passing, but buyers are still exercising great caution in placing orders, which, perhaps, is not surprising in view of the uncertainty in the wool market, says the Warehouseman and Draper. Manufacturers do not anticipate any decline in the price of the raw material at the forthcoming sales, and they decline to make any concessions. The Glasgow cotton yarn markets are firm and there has been a large turn over. In certain numbers agents are unable to satisfy orders coming in and spinners are fully employed.

KIRKCALDY.—Floorcloth and linoleum manufacturers are extremely well off as regards orders, and at the factories a good deal of extra work is necessary. The various branches of the linen industry are active, and prices, both for yarns and manufactured goods, rule high, and without any prospect of immediate decline.

BELFAST.—Business has been a little more active recently in the linen market. Of course, business would be conducted on a much larger scale if it was not that manufacturers were so well hooked ahead, and are not over anxious to push fresh trade for the moment. The American market is not yet up to expectations. Buyers seem to be putting off and delaying their heavier purchases until later on. This policy will be detrimental to their interests; they will not only pay more for goods, but will have to put up, perhaps, with delay in deliveries. Demand from the home markets has been quiet, as is generally the case after the holidays. The continental trade is about up to the average. Brown power-loom goods are still in very active demand. Prices are firm, and manufacturers will not take any offers except at current rates. In the wholesale warehouses there has been a good turn of trade this week. The majority of the houses have had a very busy week, customers in the warehouses being more numerous than usual. In the beginning of the season, owing to the cry of advancing prices in cotton and wool goods, retailers committed themselves rather heavily, and as their stocks were above the average, they were not able to place as large orders as usual for fancy goods.

MILAN.—Weak and quiet is about all that can be said of the raw silk market of Milan. Transactions are few and prices nominal. Some holders showing anxiety about the future have been making low-priced offers which have found takers, but the prices realized cannot be taken as representing actual market values. Manufacturers have been out of the market for some months, having purchased very sparingly since the year opened, so that their stocks cannot be large and they will have to enter the market in the near future. In Asiatic silk heaviness is the rule, and what business has been done has been for urgent needs. Canton and Japan silks are entirely neglected, while in China a moderate business has been transacted. A fair volume of transactions in tussah filatures is reported on contracts for future delivery, prices of these having been reduced. Dry cocoons are quiet and weak, and waste silk is unchanged. In fresh cocoons the advance contracts at firm prices that have been made have been in the neighborhood of 4½ lire per kilo. The

average prices last year were about 3.80 francs, so that the above price is not alone higher than last year's, but also higher than the present corresponding market value of raw silk.

CREFFELD.—There is no change in the situation of the silk goods market in Creffeld recently. Taken as a whole the business done for spring since the first of the year has not been unsatisfactory. In the last few weeks, however, the demand has fallen off. Wholesale houses and manufacturers have sold little and the hustle of Easter business has been almost entirely absent. Retailers have not moved their stocks as freely as was desirable, owing to unfavorable weather, and their requirements have therefore been few. Easter business was lost to them and they will have to get their results in what was considered the second half of the season and which becomes the main season for them. As far as manufacturers are concerned any improvement later would not materially benefit them except in so far as the clearing of stocks would benefit the general situation, as it will be too late for them to produce goods on reorders for spring. The question of prices has not tended to increase the consumption of silk fabrics, as it has made some of these too expensive for the uses to which they were employed last year. On this account the consumption of taffeta for lining purposes has lost ground and warp-printed taffeta has suffered owing to the same cause. On the other hand the lighter and cheaper silks have gained, as they are within better reach of the consumer and higher prices have not made them prohibitive. Foulards and pongees, plain and printed, merveilleux, satin liberty, etc., have thus benefited. Relatively little business has thus far been done for fall, and advance orders for next season are later than usual. The cause of this is the course of the market for raw material, which makes buyers apprehensive and cautious. But regular fall business cannot be long delayed; manufacturers of garments are making their collections for fall, and will soon have to begin work on the goods, as orders for garments for the home trade as well as for England will soon be due. In the fall goods for the garment trade there is little change from last season. New types are not shown. In linings the leaders are likely to be plain half silk fabrics in diagonal weave. In fancy linings are seen stripes on serges and satins. Checks on taffetas, the checks formed by lines and stripes, give promise of success. The favorite ground color is cardinal, which is covered by black stripes and checks, with white seen occasionally. In figured goods damasses have to some extent displaced taffeta fancies. Plain black all-silk fabrics in duchesse, peau de soie, etc., promise well. In cloaking silks there is some doubt as to what extent they may go into consumption, as the probable favor for plush and other pile fabrics restricts their field, but it is not improbable that some real novelties in cloaking silks will find acceptance. The manufacturing situation is unchanged and work for the looms has not increased. The only branch in which conditions of employment are good and in which good orders ahead are provided is that of tie silks. Velvets and plushes are unchanged.

ZURICH.—The decreased consumption caused by the unfavorable weather all over Europe makes itself felt in manufacturing circles in Zurich. Buyers are unwilling to operate, and if they make offers these are so low as to further demoralize sellers. Business is below the level of last year. Some of the manufacturers have decreased production, and many of the hand looms have stopped work. Among the goods which continue to be good items of production are taffetas in black and colors, black duchesse, peau de soie, black damasses, fancy taffetas in light colors, etc. Checks and stripes on satins have not been neglected. Manufacturers of half-silk fabrics are fairly busy. Some of the looms have been turned to produce mufflers for lack of other work. The raw silk market is quiet and not strong.

LYONS.—The demand for silk fabrics in Lyons has not

increased and there is no change in the situation. Hand looms have not as much to do as is desirable and many of them are idle, while on the other hand power looms have plenty of work. Light articles, such as muslin, gauze, crepe lisse and maline retain their good position. In cheap fancies business has been fair. Piece-dyed linings have not been neglected, and manufacturers have still orders on hand which keep production active and help to maintain the rates for weaving, says the special correspondent of The Dry Goods Economist, New York. Deliveries are good and the goods find ready acceptance, but reorders are coming in slowly and all lines are suffering from the general slackness of demand caused by the unfavorable weather. Cheap taffetas and taffetaline have had sufficient attention to still retain a good place on the looms. Printed goods in foulard, pongee, liberty, etc., have had as good a season as could be expected, and while the looms are busy producing the cloth printers and piece dyers have to work hard in order not to run behind. But in these branches also this activity is the consequence of previous orders and not of present demand, and reorders are limited. Surah has not been neglected. Parisian buyers have visited the market to make some arrangements for next season, but thus far their presence has not been felt in the form of advance orders. There seems to be no definite tendency in regard to next season and there is no sign of any change. It is, therefore, inferred that plain goods, which have had the lead recently, will continue to retain favor. Lace effects are considered good for present consumption, while in embroideries the demand has decreased. The retail season in Paris has not come up to expectations and Parisian buyers are not enthusiastic. From London the demand is not brilliant. Some English buyers are here, but their purchases are for small parcels. These include damasks in black, white and black, and black and white; printed goods, chiefly in black or dark grounds and a few light grounds; taffeta in black and colors, besides the light articles of the muslin and crepe de Chine variety. Taken altogether the situation could be better and the course of the raw material market does not tend to improve it. While spring business is slow, fall order business is late, and the orders already booked for fall are small for this time of the year. But there is still enough work on hand to keep the power looms engaged to almost full capacity for some time to come, so that there is no slackness in the producing activity. In ribbons business is satisfactory, with a fair demand for plains as well as for fancy weaves. Velvets are unchanged and panne promises to be a favorite next season.

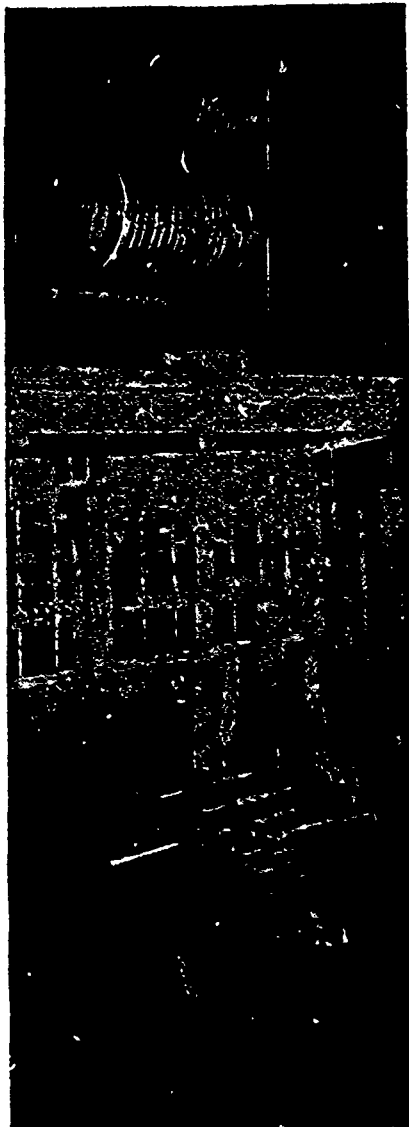
IMPROVED METHOD AND MACHINES FOR COLORING COTTON YARNS.

PATENTED BY JOHN W. FRIES, WINSTON-SALEM, NORTH CAROLINA.

The object, sought and said to be attained, of this process and the machines for carrying it into effect, is three-fold: To use the basic aniline dyes, without the usual tanning and antimony preparation, but by a method more simple, cheap and convenient than that usually employed for the direct, one-dip dyes, and at the same time to fix the basic dye on the fiber so as to avoid the characteristic "bleeding" of the so-called direct dyes. To use the direct dyes on the same machines, and by a slightly modified method, for which a patent is now pending, so as to avoid this characteristic "bleeding," also on the class of substances. It is well known that many of the direct dyes are now being fixed by the use of metallic salts, or by the process of diazotizing and developing, but they then lose the advantage of being one-dip dyes.

It is not claimed that this process makes any dye better than it is essentially—for instance Bismarck Brown or Emerald Green are not made more fast to light by this process than they are

when dyed otherwise—but all of the dyes used in practical operations to date, have proved to be quite as permanent as when dyed with Sumac and antimony, and as a rule the shades are brighter and fuller. It is well known that any color dyed in a concentrated bath and not rinsed will lose all that was superficial when it is first scoured. This is measurably the case with



THE FRIES DYEING MACHINE.

this process; but after the superficial color has been removed the body color remains fixed in the fiber; and it is noticeable that what color is moved by scouring is in a precipitated condition, and does not stain white and other adjacent colors appreciably.

It is also well known that the direct dyes especially are not exhausted, and even when "standing baths" can be used for a number of batches, a very considerable waste is inevitable in the liquors which must be run off. This waste is now avoided; only so much of the dye solution is used as is necessary to impregnate the yarn; any surplus is saved of full strength and consistency, and can easily be kept for future use—much more easily than a large vat full of diluted liquor. It would perhaps be difficult to give a convincing explanation how it comes about, but it is nevertheless said to be a fact, demonstrated in practice, that this method effects a material saving in the quantity of dyestuffs needed, that is, that the same shade of color

is made with considerably less dyestuff by this method, than in an old-fashioned vat or coloring machine.

By this process each individual thread in the warp or filling chain is colored separately, and there is secured such uniformity of shade in the different threads, and in the length of each individual thread as is unattainable by any other method. In fact this process does for the coloring of warp and filling chain yarn very much what was done for the sizing of warps when the modern slasher superseded the old rope size trough. Many manufacturers, who are not yet old men, will well remember the vexatious difficulty of beaming and weaving the average warp sized in the old fashioned trough, and what an improvement in product and production came with the introduction of the slasher. Others will equally well remember the improvement secured in their mills by the introduction of the Scotch long chain system over the old short chain or hanks. This improvement of Mr. Fries' is claimed to be a long step in advance of the Scotch system.

But the prime object and advantage of this process and machine is the great saving in labor cost. Take the ordinary long chain warp or filling ball, and follow the operations to which it is subjected in the dyehouse, even if it is not first bleached: First, it is wet out, one operation; then doubled, one operation; sumac, say three runs, three operations; antimony, one operation; rinsed, one operation; dyed, four or more runs, four operations; rinsed, one operation; split, one operation; dried, one operation; total 14 operations.

The warp must have careful attention during each of these operations, and the whole involves a very considerable amount of manual labor, to say nothing of the danger of tangling, or breakage, or damage at every stage. To watch the process one cannot wonder how it is possible that so delicate a thing as a fine, single cotton thread should at all survive such severe, long continued manipulation.

The yarn to be treated is spoken of at several places above as warp or filling chain, but it must not be understood from this that it is desirable to put it into the form of a linked chain. On the contrary, the inventor has always had in mind the fact that every time you must touch a thing it costs money; that the ideal method is to get stock through process and machines without touching it at all. This ideal was his starting point, object and attainment. The modern beamer, or balling machine, with automatic stop motion aggregates the threads from a creel full of spools in the cheapest and most perfect way known to best mill practice. From the beam of such a machine, the yarn passes dry to and through the coloring machine, then over drying cylinders, and is delivered into a box or sack again dry, without ever having been handled at all—the whole operation is as nearly automatic as possible. If the beam has been well made, it will run without stopping from end to end—every thread comes out as straight as it came from the creel—and the whole chain can be rebeamed or quilled without a hitch.

A single attendant can care for a number of machines; the operation is so cleanly that it can be conducted in the mill itself; and the space required is very small in comparison with dye-house room. Mr. Fries has selected for his sales agents, A. Klipstein & Co., of New York, with branches in Boston, Providence, Philadelphia, Chicago and Hamilton, Ont., who will be glad to give further particulars.

—Bleaching Dyed Wool.—The use of hydrosulphite of soda is recommended for this purpose in Germany. It is prepared by acting on 20 gallons of sodium bisulphite solution of 38 deg. B. with 40 lbs. of zinc dust, and then diluting with 180 gallons of water at 40 deg. C.; 100 lbs. of rags can be almost perfectly bleached by half an hour's boiling in 70 to 15 gallons of this solution, further diluted with 150 to 200 gallons of water.

CARD SETTING.

"Hobo," criticizing a writer in The Southern Textile Excelsior on card setting, says. I agree with him that a drum grinder will do more work but I dispute the fact that it will do better work. The traverse grinder passes the entire width of the card, and even if the emery is not laid exactly smooth it is obliged to grind a straight surface. If the shaft is out of true it can be easily detected by the ear. It is almost impossible to lay 40 inches of emery on a drum grinder so that it will present an absolutely straight surface. If it has a traverse of 1 inch any high place on it will grind out one inch in the card to correspond, and vice versa, any low place on it will fail to grind one inch of the card. In setting up new cards there are several very important points that are often neglected.

First—The cylinder and doffer should be perfectly clean and free from grease and rust. This will prevent the wire from rusting or the clothing from rotting.

Second—The wire should be very carefully rubbed down on the inside of the clothing. If this is not done any loose wires will be bent when the clothing is put on and afterwards work loose.

Third—It is best to draw the clothing twice. If the clothing is drawn on one day and left until the next morning and redrawn it will be found that about 15 inches of slack will be taken out, and it will fit the cylinder very much more tightly than at first.

Fourth—The clothing should not be tacked across until after the first grinding. The clothing cannot be laid exactly in its true position, which is a perfect spiral, and unless it is given an opportunity to find its own position before being tacked there will always be a strain on it.

Fifth—It is best to grind first with a drum grinder and then finish with a traverse grinder, but don't get in a hurry and set the drum grinder hard enough to hook the wire and then polish the top of the hooks with very light traverse grinding.

BLEACHING YARNS.

A plant for the bleaching of yarns by means of ozone, or ozonized air, was established recently at Greiffenberg, in Silesia. The plant has been provided by the well-known electrical firm of Siemens & Halske, Berlin, who have given much attention to the question of the production of ozone and its application to bleaching, many tests having been made in their laboratories, which have been visited by various persons interested in bleaching. Bleaching by ozone is a natural system of bleaching; it is the active agent in the ancient system of air bleaching. Attempts have been made in times past to procure ozone in a quantity sufficient to enable it to be used as a bleaching agent, but none of these were successful. However, the great development of electricity during the past decade has caused inventors to pay some attention to the production of ozone by electricity, and several ozone generators are on the market. Two of these, the Yarnold and the Andreoli appliances, have proved effective, and are in use in many places. The bleachworks at Greiffenberg does not differ from other bleachworks, except in the fact that it has a plant for the generation of ozone and a chamber in which the yarn is treated with the ozone or ozonized air. The ozone plant consists of the electrical generator and a pump which forces air, first through a series of driers to free the air from moisture, then through the ozonizer and into the ozone chamber. The ozone chamber is only an ordinary one, fitted with rods on which to hang the hanks of yarn, and tubes to convey the ozonized air. The hanks are hung damp in the chamber, and the ozone is sent in until observation shows that the yarn has become fully bleached. It is much more econom-

ical to have two chambers, and to send the ozone alternately for half an hour at a time, first into one and then into the other. The interval of rest allows the ozone already in the chamber to react and become absorbed by the yarn, which is thereby bleached. It possibly takes longer to bleach cotton by ozone than by chlorine, but the advantage is gained of there being no possible change or any damage to the cotton fiber. Ozone should be of some considerable service in the bleaching of wool and silk. It would be far superior to sulphur, in that the white produced would be permanent and not come back again when the silk or wool were washed; further, there is no liability to any defects, as in the case with sulphur bleaching.—Textile Mercury

AN IMPROVEMENT IN LOOMS.

Jonas Northrop and Edward S. Stimpson, of Hopedale, Mass., assignors to the Draper Company, of the same place and Portland, Me., have patented an invention which relates to automatic filling-supplying looms wherein the supplying mechanism is operated at the proper time to effect the introduction of a fresh supply of filling. As the fresh supply of filling is transferred the nearly-exhausted filling carrier is ejected from the shuttle into a box or suitable receptacle, carrying with it the end of filling thread leading from the edge of the cloth; and this invention has for its object the production of means to part or sever this filling so that the length of thread extending from the ejected filling carrier will be as short as possible, the length of filling between it and the cloth being engaged by a thread clamp or holding device and moved into position to be severed adjacent the cloth by a thread-cutting temple. The piece of thread thus cut in two places between the shuttle and the cloth is retained by the clamp and moved away from the shuttle path, and before the next change of filling is effected the clamp is opened to release this piece of thread.

THE VALUE OF A HORSE POWER.*

My attention has been recently called to the question noted above, by a paper read by Mr. George L. Rockwood, of Worcester, before the American Society of Mechanical Engineers, and it leads me to bring the question before the association in these forms, dividing it as follows: Do you know how much your power costs you per annum, either steam or water? What per cent. of the cost of labor and other expenses do you pay for power; and if you should move an inland mill to the seaboard, to save cost of freight and coal, might that saving not be overbalanced by the extra cost of labor, and other expenses not covered or affected by freight charges?

Mr. Rockwood's paper is a short analysis of the evidence given by a number of well-known engineers, in the various cases of suits brought by the mill owners on Blackstone river, against the city of Worcester, for the abstraction of the water of Kettle brook for municipal purposes, and the average value of a h.p. was summed up by Mr. Kent, one of the engineers, as being \$50 per annum, or the cost of replacing it by steam.

This agrees exactly with the conclusion which I came to myself, long since, as the fair cost of small steam powers in New England, but it is confronted by a different set of statements, made by other engineers, as to the cost of steam power in large quantities, where these engineers have been employed by mills who sought an abatement of taxes and a depreciation of the value of their water power plant, and in these cases the engineers have assumed that power in large masses of 1,000 horse power or more could be furnished on the seaboard by engines and boilers of modern construction for a maximum of \$20 per horse power, and from that to a much lower cost.

*Extracts of a paper read by Col. Samuel Webber, at the recent meeting of the New England Cotton Manufacturers' Association.

With the latter I do not agree, and unless the manufacturing establishments are of such a character as to require a large amount of low pressure steam for dyeing, bleaching and similar purposes I am inclined to think that the minimum cost of steam power should be taken at about \$20, except in cases of very large powers, for it is a well established fact, that the cost of a steam plant diminishes per horse power in the inverse ratio of its increase in size, and the cost of operation diminishes in the same direction. It does not cost four times as much for an engineer to run a 1,000 horse power engine as it does for one man to run 250. The cost of firemen and laborers seems to diminish also per horse power, and the cost of fuel also appears to be less as a general rule.

I had occasion a few years since, when employed in one of these appraisal cases, to endeavor to get the actual cost of a horse power of steam, from a favorably situated mill, which was using steam for power only, and without reference to the use of exhaust for heating or any other purpose. These facts I obtained from Mr. Arnold S. Sanford, of Fall River, for an engine of 1,050-h.p. during the months of April, May and June, 1893, when the engine, a compound condensing one, was so run. The cost of the plant engine, boilers, etc., was given me as \$66,000, or \$62.83 per horse power.

Coal burned in 73½ days, 1,527,000 pounds at \$3.70 per gross ton, or \$2,519.55; labor, \$555.50; oil and supplies, \$76.50; being a total expenditure of \$3,157.55 for the 73½ days, equal to \$13.25 per horse power per annum for coal, labor and supplies. To this I add charges on cost of plant, bringing net horse power \$23.90.

My son, 1 fr. William O. Webber, has prepared a "graphic diagram," showing the variation in the cost of steam power, due to difference in size of plant, deduced from the results obtained and the estimates made, by Messrs. Chas. E. Emery, F. S. Dean, R. S. Hale, Chas. T. Main and myself, at different times and places, covering a long series of observations, and so nearly as I can reduce this curve to round numbers, it gives the cost as follows:

For 100 horse power	\$63 00
For 200 horse power	45 00
For 300 horse power	37 00
For 400 horse power	32 00
For 500 horse power	29 00
For 600 horse power	28 00
For 700 horse power	27 00
For 800 horse power	26 00
For 900 horse power	25 00
For 1,000 horse power	24 00
For 1,500 horse power	22 00
For 2,000 horse power	21 00
For 2,500 horse power	20 00

These figures are supposed to represent net horse power delivered from the engine.

As above noted, these costs would be very much reduced in cases like those of the Amoskeag, Manchester and Pacific mills, where a large boiler plant is always required to furnish low pressure steam for dyeing and bleaching purposes, and where the cost of power would be reduced to charges on engine and additional boilers, wages of engineer and extra firemen, and coal consumed in raising pressure from 30 to 120 pounds and the steam used for dressing yarn or heating mills, say from \$3 to \$5 per horse power, should be deducted or added to the cost of water power in making comparisons.

—Lustering Wool and Cotton.—A French patent has been taken out for lustering these materials by means of a solution of real silk in caustic lye. Soda lye of 36 deg. B. is put into an earthenware vessel, and to it are added raw silk scraps, frag-

ments of cocoons—in fact, any raw waste, to the amount of 3 per cent. of the caustic soda used. The solution obtained is diluted to 10 deg. B. if it is to be used cold, to 3 deg. to 5 deg. B. if hot. The fabrics are then plunged in, and after about 10 minutes immersion centrifugal, soured, rinsed, and dried at a low temperature. The prepared fabrics can be dyed perfectly well.

OREGON WOOL DEVELOPMENT.

C. H. McIsaac, the secretary of the Manufacturers' Association of the Northwest (Oregon), writes that Oregon is a wool producing state, the clip for 1890 having been about 22,000,000 pounds, of which only a small proportion, 3,000,000 or 4,000,000 pounds is used by local mills of the state. The balance is shipped to the east, to be returned later made up into clothing, blankets and cloth, to the great loss of the state. We are going to make an effort, says the Manufacturers' Association, to make Portland the wool market of Oregon, as San Francisco is of California, and by the erection of a woollen mill here, and the cheap transportation from Eastern Oregon, and the Willamette Valley, this, we think can be accomplished. Portland's shipping facilities for the products of a woollen mill here are as good as can be found on the Coast, but the great feature is the unsurpassed climate of this section of the state for wool manufacturers. Our climate has no superior. Evenness of temperature and absence of electricity from the atmosphere, and freedom of the water from alkali, are very rarely so favorably united as they are here. We can make here goods equal to the famous Scotch chevots from our valley wool, and kerseys and fine Meltons from the Eastern Oregon fleeces. This, of course implies that we have the machinery for the work, and are operating on such a scale as to secure skilled labor. It has been proposed by this association to form a corporation with a capital stock of \$100,000, 1,000 shares at a par value of \$100 each. What we want to do in this connection is to secure a practical experienced woollen mill man, with some capital, to take hold of the matter, and Portland will subscribe the balance of the money to build and equip the mill. "If you know of any such persons that you could recommend," the secretary writes us, "I would be glad to have you refer them to me, and I will take the matter up directly with them."

DYESTUFFS.

Acid Anthracene Brown W. & T.—These new qualities possess the same valuable properties as the older R brand, as they also dye easily level, penetrate well and are extremely fast to light, acids, alkalis, milling and steaming. The W brand is similar but somewhat lighter than the R mark, whereas the T quality is of a deep brownish tone with a reddish blue over hand. Both new qualities are very well adapted for dyeing loose wool, yarns and pieces in one bath.

Diamond Green SS like the older B quality, dyes wool well with acetic acid, the shade being a dull green, but is said to be remarkable for its greater fastness to light than the Fast Greens, etc. It also dyes wool well in neutral baths, and is suitable for the dyeing of half woollen goods. The shade is not changed by after-treating with Bichromate of Potash, and is almost as fast as Diamond Green B to light and milling, and will therefore meet most requirements in this respect. It is most useful as a shading color in dyeing fast shades according to the one bath process, whether on wool, yarns, slubbing or piece goods.

Azo Fuchsine 6B is brighter and bluer than the older B mark, and its fastness on the whole is the same as that of the other Fuchsines. Azo-Fuchsine 6B dyes easily level in a boiling bath, and is very fast to alkalis. On account of its clearness of

shade it can be employed for bright Navy Blues and fashionable shades on ladies dress materials as well as for the printing of woolen fabrics. The color can be discharged with tin crystals or zinc powder.

A new pattern card has just been issued illustrating over three hundred paper tests dyed in the pulp. Only such colors have been used as are suitable for the dyeing of pulp most commonly employed. The colors have been combined in the most advantageous manner, and show a long range of shades, and will no doubt prove of service to paper manufacturers.

Benzo Chrome Brown C R.—This new dyestuff dyes cotton a violet black in an alkaline bath containing Glauber's salt. When after treated with bichromate of potash and sulphate of copper the shade is changed to a full, clear maroon, which is very fast to light and washing. Dyed on cotton the color can be discharged fairly well with either zinc or tin. Benzo Chrome Brown C R is chiefly recommended for the dyeing of yarns and piece goods, where good fastness to washing and light is required, as well as for fancy woven cottons, canvas, etc.

Pattern cards, samples and latest information about new products will be promptly mailed to those interested on application to the Dominion Dyewood & Chemical Co., sole agents in Canada for the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany.

THE MANILA FIBER PORTS OPENING.

In its issue of April 8th, The New York Sun printed an article from its correspondent in Manila concerning the manner in which the hemp ports in the Philippine Islands were reopened to trade by the United States forces a few weeks ago:

Manila, February 8th.—Gen. Kobbe started out on January 17th last with the Forty-third and Forty-seventh regiments of infantry and Randolph's battery of the Third Artillery to open the hemp ports. For a long time there had been talk of the immediate opening of the ports. In December, Gen. Otis said that he had orders from Washington to get them open at once. There was a great corner in hemp in the States, he said, and the users of it were clamoring to have the blockade broken. The merchants here made a good show of being extremely anxious to have the opening take place immediately, but they didn't care so much as it seemed, for they are the fellows who profit most by the rise in hemp, nearly every bit of which must pass through their hands. There was no trouble whatever at Bulan. It usually is a good hemp port, but there were only about 5,000 bales ready for shipment.

Donsol presented more amusement. A white flag on the beach greeted our approach. When Wise went in and demanded the surrender of the place the lieutenant who met him wanted six hours to think it over. As our men were busily getting their stores and baggage ashore the insurgents began shooting at them from the hills. There were about 5,000 bales of hemp there. Sorsogon had about 40,000 bales, or a little more, in the godowns and ready to ship. With Donsol and Bulan this made about 50,000 bales in the Sorsogon district. At the price ruling in Manila that is nearly \$2,500,000 (Mexican) worth of hemp in that one district, which is not ranked first-class, either in the quantity or quality of its product. Legaspi was the next port after Sorsogon. The insurgents started out to make a stubborn resistance. Then we flanked them, and the Nashville canonaded the fort. After that Major Shipton took two companies across a deep stream, the other two companies went up to Albay, about an hour's march. Legaspi is a well-built and good looking town, but Albay, which always has been accounted the better place, is nothing but the wreck and ruin of any beauty or worth it may have had once. There was much Hemp in Lagaspi. It is the centre of one of the richest districts for Hemp in the

islands. One of the Nashville's 4-inch shells accidentally hit the corner of a godown belonging to a British firm of Manila, and 5,000 bales were destroyed. In a godown further down the beach an insurgent took refuge and fired out of an upper window. The black smoke of his Remington betrayed him, and four shells struck that end of the godown. That cost 2,800 choice bales. At daylight next morning we all pulled out for Calbayog, on the island of Samar. There were some pretty good houses in Calbayog, and the place was cleaner and more self-respecting than most of the towns we had seen. Two Englishmen, and one American, Scott, lived there in the interests of Manila houses. There was considerable hemp, but not as much as if times had not been so hard in the food line. It was like Bulan. There had been no ships for so long that the rice was gone and there was no money. Scott had been paying 10 per cent. a month for money with which to buy chow, and he said that a man with the silver dollars right there to pay spot down for it, could probably get hemp for \$3 a picul, or any equally absurd price. Gen. Kobbe decided to go around Leyte to Tacloban, the last port to be opened by the expedition. We anchored for the night at Ormoc, a clean, pretty little town, where they were very glad to see us and hoped we would stay. There had never been any Tagals or trouble there and they had 10,000 piculs of hemp which they were anxious to sell. They raised their own rice, so there had been no suffering for food, and all they wanted was their port opened so that business could go on as in the old times. That will come soon. Tacloban is only the port, the real town is Palo, five miles back in the country. It is well built, consisting principally of hemp godowns. There was a great quantity of hemp for shipment, and the afternoon we got there four ships came in looking for it. The next day there were as many more, and when we came out through the strait we met another four going in. Since then the ports of Gubat and Tobacco, in Luzon, have been opened. There was very little hemp at Catabogan ready for shipment, but a lot in the country, and the hills all around the town were covered with it. Most of the industry is in the hands of the Chinese, as far as getting the stuff to market is concerned. Two or three Manila houses have Englishmen or Americans resident in the hemp producing districts to buy it from the growers, but by far the larger part of that work is done by the Chinos, who are in every village in the Philippines. All told in the ports opened by this expedition there were about 175,000 bales of hemp of all classes. Hemp has sold here in the last few days as high as \$30 Mexican a picul, which would make the whole crop worth somewhere near \$4,500,000 gold dollars. The insurgents have been making some trouble at Donsol and Legaspi. They have been restraining the peaceably inclined from coming back into the towns, and so there are no laborers to handle cargo for the ships. It is the regular thing, when the Americans go into a town for the natives to run out, all of them, as fast as they can go. Then in the course of a day or two they all come back. The Legaspi and Donsol insurgents are not only preventing this return, but they are shooting at the outposts in the night. A battalion of the Fortieth has been sent to Legaspi, and the disturbance will not last long.

THE BRITISH PREFERENCE.

An influential deputation waited on the Dominion Government, May 11th, to urge the claims of the Canadian manufacturers to consideration in the matter of the further reduction in the tariff on British imports made at the present session of Parliament. There were present among others: President Ellis and Secretary T. A. Russell of the Canadian Manufacturers' Association, and a number of our leading woolen manufacturers, among whom were, B. Rosamond, M P. Jas. Kendry.

M P; Boyd Caldwell, Geo. Pattinson, A. W. Brodie, J. Morley, J. Sykes, Dick, Ridout & Co., and others. The Manufacturers' Association through its president and secretary introduced the woolen manufacturers to the Government, with the assurance that the claims of the woolen men had been investigated by the Association, and that it supported their demand for further consideration. The Government was represented by Hons. W. Mulock, D. Mills, Patterson and Minister of Finance Fielding. The case for the woolen manufacturers was fully stated by Geo. Pattinson, who showed by a most elaborate exhibition of cost of production that Canadian manufacturers would be at a disadvantage if the change were made as proposed. They wanted the British preference to be maintained, and they did not object to its being increased so long as it was a preference of British over foreign goods in Canadian markets, but they did not wish the duties so reduced as to give the British manufacturers an advantage over the Canadian producer in the Canadian market. To secure this the woolen manufacturers have asked the Government to advance the duties on imported woollens from 35 to 45 per cent., and then with the added British preference all Canadian goods will enjoy protection of 30 per cent., and the British goods will still have the advantage of a preference over the foreign production.

CANADIAN COTTONS.

The Dominion Cotton Co. issued a circular, April 17th, drawing attention to the fact that the price of packing cases of various sizes and kinds had gone up 50 per cent.

The Colonial Bleaching and Printing Co., Ltd., is looking for orders for fancy huntings. Montreal Cotton Co., Ltd., is still refusing orders. Canadian Colored Cotton Co.'s mills are very busy, and production is somewhat easier; no further advances are expected at present.

The Merchants Cotton Co. issued a booklet last month containing their price list on all lines. The figures show a rise on an average of 7½ per cent. since October last.

In April butter and cheese cloths were marked up about 5 per cent.

Wm Parks & Son, St. John, N.B., have withdrawn some lines of flannelettes and skirtings, having sold as many as they can make during the next three months, and have advanced the price of carpet warps 1c. per lb.

In future the cotton companies intend to charge for freight, casing or baling on all fall goods.

THE WOOL MARKET.

Toronto.—The weakening in the wool market, both coarse and fine, which has been so marked since the beginning of the year is still the chief point of interest in the market. The present series of Colonial wool sales in London shows a further sagging in prices, amounting in some lines to ten per cent. Sales of Canada wools and English wools of same quality as Canadian in the Boston market are reported to have been made recently on a basis of 29 cents, delivered, which is equivalent to 16 cents on this market. Very little washed wool will be on the market here till next month, and unless changes take place the new clip is expected to open at about 16 cents.

Montreal.—On the Montreal wool market some small sales were made previous to the opening of the London wool sales, which opened May 8th at 5 to 10 per cent decline. The general opinion is that before the close it will regain the price lost at the opening as all fine wools are very scarce. Capes now in Montreal are at 20 to 23c., and Natsls. 23 to 25½c., B.A., 40 to 45c. The market is quiet.

Among the Mills

Co-operation is one of the guiding principles of industry to-day. It applies to newspapers as to everything else. Take a share in "The Canadian Journal of Fabrics" by contributing occasionally such items as may come to your knowledge, and receive as dividend an improved paper.

Brown & Wigle, Kingsville, Ont., are running their woolen mill overtime on blankets.

The Warton, Ont., woolen mill has been bought by Porter, Leith & Co. Ezra Hallman will be manager.

The employees of Beardmore & Co.'s tanneries at Acton, Ont., to the number of 150 were out on strike recently.

A demand of assignment has been made on H. Garayet, hosiery manufacturer, Montreal, who has, however, filed contestation of the demand.

The Laurentide Pulp Co.'s mills at Grande Mere, Que., were saved from total destruction by a change in the wind, while the sawmill and sulphide mill were burned down.

The Dominion Cord and Tassel Co. has moved to a larger and better factory at 502 St. Paul street, Montreal. It hopes in future to turn out work more promptly and in larger quantities.

Some excitement was caused in Thorold a few days after the canal outrage by three unknown men attempting to enter the premises of the Canadian Colored Cotton Co.'s mill during the night.

George W. Ward, formerly superintendent of the Almonte, Ont., Knitting Co., and later in business for himself in Alton, Ont., died recently at Orangeville, Ont. He had been in poor health for a long time.

The Perth, Ont., Woolen Co., Ltd., is now turning out padding felt with the felt plant which we some months ago mentioned was being installed. Later on a varied line of felts, both fine and coarse will be produced.

The enlargement of the Dominion Brussels Carpet Co., Sherbrooke, Que., spoken of in our last issue, will also, it is stated, include a tapestry plant, and the company speaks of next year adding an ingrain plant.

C. E. W. Dow, of Atlanta, Ga., the southern representative of the William Firth Co., of Equitable Building, Boston, has been in Boston attending the convention of the New England Cotton Manufacturers' Association.

A large force of men are working at the new power house for the Montreal Cotton Company at Valleyfield, Que. There will be developed about 3,000 h.p., and there are about a thousand looms waiting for this power. The company expects to have the thousand new looms making goods by the 1st of July.

Leopold, Cassella & Co., Frankfort a. Maine, have sent out a sample card folder, containing 266 dyed samples in fashionable shades produced with easily levelling dyestuffs, all of which are dyed at the boil, with the addition of from 10 to 15 per cent. of bisulphate of soda.

Fire in the mills of the Schofield Woolen Co., at Oshawa, Ont., April 22, did damage to the extent of about \$25,000. The centre section of the premises was destroyed, together with the contents. The fire commenced in the centre of the buildings near the offices, and spread in both directions. The main building was in three stories, brick, with a tower, and was divided into three sections, the north and south ends being separated by fire walls, which prevented the spread of the fire and the destruction of the premises. The mills were equipped with the latest machinery, and at the time of the fire a large stock of raw material was on hand, as the firm was very busy, employing about 125 hands and working overtime.

Geo. Upton is now running his woolen mill at Nicholson, Ont., full time.

The People's Steam Laundry Co., Ltd., of Grand Forks, B.C., has been incorporated with a registered capital of \$10,000.

W. Hirst, superintendent of the Slingsby mills, Brantford, Ont., died April 28th, much regretted by his friends.

H. Wells, employed in the Woodstock, N.B., woolen mills, had his right hand and arm badly crushed in the machinery recently.

The Syer carpet factory is to be moved from Port Hope to Milton, Ont., the latter town having devoted \$10,000 to secure the transfer.

The Hawthorn woolen mills, Carleton Place, are closed for stock-taking. The combine which now controls the mills will put in a new engine and boiler.

Fire recently destroyed the premises of W. C. King, Peru, near Milton, Ont., where Mr. King had carried on for many years the business of tanning and dyeing sheep skins, etc.

J. T. Calvert, S. Carter, R. Dodds, C. Kloefer and Eleanor Calvert, have been incorporated as the Guelph Worsted Spinning Co., Ltd.; capital, \$40,000; chief place of business, Guelph, Ontario.

R. W. Boys, who has been overseer of weaving in the mills of Wm. Parks & Son, St. John, N.B., for some time, on the eve of his departure for Williamstown, Mass., was presented by the overseers with a handsome pipe.

C. McArthur, D. J. McArthur, W. Williamson, Margaret McArthur and J. McDonald, Montreal, have been incorporated as Colin McArthur & Co., Ltd., to carry on the business now carried on in Montreal by Colin McArthur & Co.

P. Weidner, Detroit, U.S.; F. S. Wiley, Port Arthur, Ont.; J. Flett, N. W. Rowell and J. G. Shaw, Toronto, have been incorporated as the Nepigon Pulp, Paper and Mfg. Co., Ltd.; capital, \$250,000; chief place of business, Port Arthur, Ont.

G. A. McPherson and W. F. Payne, proprietors of the Guelph Waterproof Clothing Co., have bought the business of the Moorehouse Mfg. Co., which also manufactures waterproof clothing, awnings, tents, etc. The business of both firms will be carried on by the former in its own premises.

J. M. Baillie, superintendent of Pictou county asylum, Stellarton, N.S., has resigned to accept the management of the Eureka Woolen Mfg. Co., which position he will assume some time in June. Mr. Baillie has filled the position of superintendent of the asylum for over eleven years.

W. Firth, president of the William Firth Co., importers of textile machinery, and who is also president of the American Moistening Co., will spend his usual vacation in England this summer with his family, and will return on SS. "New England," leaving Liverpool September 24th, and in future reside in Boston.

The motion to have a receiver appointed to the Imperial Woolen Mills Co., Ltd., Streetsville, Ont., whose affairs we discussed in our last number, has been enlarged to allow time for the parties to collect further evidence. In the meantime creditors have begun to take proceedings with a view to recovering judgment on their claims.

L. G. H. Tarrant, who has recently left Magog, Que., to enter the employ of the Colonial Bleaching and Printing Co., was presented by the members of the Memphremagog brass band with a beautiful fowling piece, as a token of regard. Mr. Tarrant has taken a great interest in the band, and was for many years its president and manager.

H. M. Balcer, who has been actively engaged in the wholesale manufacture of gloves, mitts, moccasins, shoes, etc., at Three Rivers, Que., ever since 1852, has recently sent out a circular to the trade, stating that owing to advancing age he is about to retire from business.

The firm of Ker & Harcourt, spool and bobbin manufacturers of Parry Sound, Ont., have leased a sawmill at the mouth of the Shebenshekong river, on the north shore of the Georgian Bay, as their own is insufficient to furnish them with stock. They have also greatly increased their staff of workmen, and are putting in more machinery to meet the large increase of business.

An order for clothing has been given the Sanford Manufacturing Co., Hamilton, Ont., by the Imperial authorities, amounting to 30,000 two-piece uniforms of khaki serge for the army in Africa. The contract calls for the delivery of the uniforms in four months, in lots of 2,000 per week. The forwarding is direct, under the supervision of the Dominion Government, and Alexander Dynes is the inspector appointed by the Government.

About fifteen witnesses were examined in the Toronto Police Court recently, in connection with the theft of 34 bales of wool stock from the Smith Wool Stock Company, Jarvis street, Toronto, mentioned in our last issue. The wool was valued at \$1,100, and the thefts extended over a period of two months. Thomas Hayes, Chas. O'Leary, Fred. Egan and Thomas Campbell were charged with stealing the wool. Campbell pleaded guilty, and the others not guilty. The wool was taken in express wagons direct to a Hebrew dealer in rags on Mand street, where it was sold. Campbell took the blame for the party. He said he stole the goods, and hired the others to help him in carting the goods away. Hayes and O'Leary were discharged. Egan was sent to the Central Prison for eighteen months, and Campbell was given four years in Kingston Penitentiary. Both Egan and Campbell have previous convictions.

The William Firth Co., 150 Devonshire street, Boston, Mass., has recently received the following orders: The Hampton Mills of Easthampton, Miss., a repeat order for cards of John Hetherington & Sons' make, Manchester, Eng. The Stafford Mfg. Co., of Fall River, Mass., slubbers, intermediates and rovings, of John Hetherington & Sons' make, Manchester, Eng. The Hargraves Mills, Fall River, Mass., combers, ribbon lap machines, comber lap machines and carding engines. The Millen Cotton Mills, of Millen, Ga., spinning frames: these will be of the Fall River Machine Co.'s make, for whom the William Firth Co. are Southern agents. The Iceman Cotton Mills, of McColl, S.C., 6-head combing machines, sliver lap machines and ribbon lap machines, made by the well-known firm of John Hetherington & Sons, Manchester, Eng. The Tifton Cotton Mills, Tifton, Ga., spinning frames, made by the Fall River Machine Co., Fall River, Mass. The Corsicana Cotton Factory, Corsicana, Texas, machinery for their mill, to include spinning frames, except spinning frames of the Fall River Machine Co.'s make, the entire order will be made by John Hetherington & Sons, Manchester, Eng.

Matthew Bernstein, clothing manufacturer, 85 St James street, Montreal, has assigned on demand of E. Mansfield, executor of the estate of the late P. Mansfield. The principal creditors are: M. Vineberg & Co., secured, \$14,062; Boyd & Co., secured \$5,000; Firth & Co., Bradford, Eng., \$3,836; Wyld, Darling & Co., Toronto, \$2,286; J. A. McCarville, \$562; J. A. McCuaig, \$990; H. H. Wolff & Co., secured and ordinary, \$1,182; Ester Ichbitzky, \$1,000; S. Kolber, indirect, \$1,000; Molsons Bank, indirect, \$1,800; Jno. M. Garland, Sons & Co., Ottawa, \$1,063; Dick, Ridout & Co., Toronto, \$1,544; Canadian Bank of Commerce, secured, \$3,800; Goodyear Rubber Company, \$1,999;

J. P. Loban, New York, \$1,148; Jas. Wood & Sons, Manchester, Eng., £421; H. Roth, Manchester, Eng., £289; Jean Monnal, Belgium, £268; Sirgden & Lovett, Leeds, Eng., £286; Geo. Bretles & Co., London, Eng., £313; Schwartz & Levin, wages, \$700; B. Stern, \$600. At a meeting of the creditors, C. A. McDonnell was appointed curator, and the following were named as inspectors of the estate, John W. Ross, of the firm of P. S. Ross & Sons, at the instance of the European Exporters' Association; Mr. Barbeau, representing Wyld, Darling & Co., Ltd., of Toronto; Mr. Whatmuff, of Firth & Co., Burslem, England; J. A. McCarville, Wolff & Co., Montreal.

FABRIC ITEMS.

Golub & Slomensky, wholesale clothiers, Montreal, are opening a branch in Ottawa, under the style of the Imperial Clothing Co.

Rothschild Bros. & Co., of New York, wholesale buttons and general agents for the continent of America for Jacquots' celebrated French blacking, have moved their Canadian office from Front street to 78 Bay street, Toronto. The newly finished building into which they have moved is well built and well lighted, and much more centrally situated. F. H. Cragg is agent for the firm in Canada.

An abandonment of property has been made by Hector Prevost, Montreal, dry goods dealer, to Caverhill Kissock, in compliance with a formal demand. The principal creditors are: Caverhill & Kissock, \$4,000; Gault Bros & Co., \$600; S. Green-shields, Sons & Co., \$1,000. Thibaudeau Bros. & Co., \$1,200; A. Racine & Co., \$1,000. J. Macdonald & Co., Toronto, \$1,000; I. H. Dufresne, \$3,300. Dame A. Authier, \$3,000.

In the Customs case of the Queen vs. Fitzgibbon, Schaf heithn and Co., which has been before Judge Burbidge in the Exchequer Court for some time, R. Kaunengriesser, who was confidential clerk for the firm in Berlin, Germany, has given some sensational evidence. The case turns on the difference between the invoices, of which the importing firm had two sets. The suit is taken by the Government for the recovery of customs duties not paid at the time of importation as a result of alleged undervaluation. The total amount claimed by the Government is \$144,352.

H Shorev & Co., Montreal, are placing on the market an imitation fur overcoat called the Cape Buffalo, which is claimed to be of remarkably fur like appearance and of great durability.

The Hudson's Bay Company's stores and offices at Winnipeg, Man., are now lighted throughout by electric light, supplied by their own lighting plant, which has been installed at a cost of about \$7,000. This is the largest private plant in Western Canada, and it supplies electricity for 39 1,800 c.p. arc lamps and 500 incandescents of 16 candle power each.

LITERARY NOTES.

Among the timelier articles in The Century for May is an essay by Andrew Carnegie entitled "Popular Illusions About Trusts." The writer contends that the popular welfare is increased by trusts. An editorial in the same number entitled "The Real Danger of Trusts," sets forth wherein they are a menace to the independence of the individual and the state. The sense of humor that gave piquancy to Richard Whiteing's story of social contrasts, "No. 5 John Street," is conspicuous in his treatment of "Parisian Pastimes" this month. In the second and last of his profusely illustrated papers on "The National 'Zoo' at Washington," Ernest Seton-Thomson, author of "The Biography of a Grizzly," dwells particularly on the opportunities such a reservation offers to wild animals to retain the

habits of exercise, etc., on which their happiness and health depend. "Significant Ignorance of the Bible" records entertainingly the results of certain attempts by the author, President Thwing of Western Reserve University, to determine to what extent the Bible has ceased to be a book familiar to the average collegian of either sex. "The All-American Route to the Klondike," by Edward Gillette, and "The Maharaja's Water Carnival," by the artist-author, R. D. Mackenzie. The two leading serials—Mr. Morley's "Oliver Cromwell" and Dr. Mitchell's "Dr. North and His Friends"—maintain their interest. This number of The Century appeals to lovers of art by its frontispiece portrait of Wordsworth at seventy-seven and its reproduction of Rembrandt's "Rabbi with the White Turban;" "Art in Modern Bridges," by Montgomery Schuyler, with pictures of famous bridges, actual or proposed.

J. H. Patterson, stenographer for Ker & Harcourt, Parry Sound, Ont., has been caught contributing to "Idle Moments" in The Canadian Magazine.

We have received the complete report of the Silk Association of America for the year ending March 27th. It includes addresses at the twenty-eighth anniversary banquet of the association on February 8th; the statistical tables, which this year are more complete than formerly, and show the world's production of raw silk and the relation of the American silk industry thereto as regards raw silk and manufactured goods imported, revenue duties collected, etc.

The May number of the Canadian Magazine is redolent of sea breezes and pine forests. The summer attractions of every province of the "new power that has arisen in the West" are set forth in well written and illustrated articles. Among these are "Summer on the Pacific Coast," by Julian Durham; the "Georgian Bay Archipelago," by W. R. Bradshaw; "Tourist Attractions in Ontario," by W. B. Varley; "A Seaward View" (New Brunswick scenery), by A. M. Belding; "The Ottawa Valley," by Norman H. Smith; "Amid Cliffs and Sand Dunes" (P. E. I. sketches), by Beatrice Rosamund, and an "Eastern Holiday," being descriptions of various scenes extending from Ste. Anne de Beaupre in Quebec to Annapolis in Nova Scotia, by Jean Blewett. There is a good story by Charles G. D. Roberts, and a character sketch, with a good portrait, of James Bain, the able librarian of Canada's best public library.

"Woolen and Worsted Loom Fixing" is the title of a serviceable little handbook for loom fixers working on plain or fancy worsteds and woolens. The author, Albert Ainley, of Lawrence, Mass., states that his first intention was to make notes of the various remedies, little tricks, etc., valuable to a loom fixer, but his design expanded to the present handbook. As he would have given a good deal, earlier in life, to have known some of the wrinkles contained in his book, he reasonably concludes that the younger generation, as well as many of the old hands, will be benefited by what he now sets out to explain. The book contains 104 pages, arranged under 18 chapters, of which the following are sample headings: Belts, the picking motion, the shuttle binder, hanging off, filling, kinking, cutting and stop motion, crooked and flying shuttles, box jumping, bobbin splitting, adjusting and starting looms, chain building, shuttles, etc. The price of the book is \$1, and it may be ordered through this office.

Those who know the textile handbooks already compiled by E. A. Posselt, of Philadelphia, will expect to find some valuable material in his latest work "Textile Calculations," and they will not be disappointed. In the 144 large pages of this book is an immense amount of information and a great variety of time-saving calculations and tables, relating to cotton, woolen, worsted and silk yarns and cloths; as well as a great variety of facts not commonly known concerning the structure

and nature of textile fibers and fabrics. The tables and facts here worked into shape for reference must have cost an immense amount of time and labor, and in view of this the price of the work, \$2, will appear extremely reasonable.

IMPERIAL TRADE NOTES.

The following are among recent enquiries relating to Canadian trade recently received at the office of the Canadian High Commissioner, Victoria street, London, Eng.

Manufacturers of halters with web heads, and of rope reins, want Canadian agents.

A firm in Colombo, Ceylon, want Canadian buyers for cocoanut oil, coir-yarn, etc.

A Bradford, Eng., house, enquires for the names of Canadian seed crushing firms.

A firm of paper makers' agents want to secure agencies for Canadian mills.

A correspondent in Manitoba desires to enlist capital for a paper mill.

DEATH OF ALBERT TILT.

Albert Tilt, president and treasurer of the Phoenix Manufacturing Company and president of the Silk Association of America, died on Wednesday, May 2nd, after a lingering illness.

Mr. Tilt was born in Boston fifty-nine years ago, six years after his father, Benjamin B. Tilt, had come to this country from Coventry, England. The elder Tilt was a practical and skilled workman, and was one of the pioneers in the silk industry of the United States. At his death, in 1879, Albert Tilt succeeded him as president and general manager of the Phoenix Manufacturing Company. In the upbuilding and development of this concern, which now has mills at Allentown and Pottsville, Pa., as well as at its headquarters in Paterson, N.J., Albert Tilt was a conspicuous figure, having been admitted to partnership with his father on attaining his majority in 1862.

THE LONDON WOOL SALES.

The third series of the wool auction sales of 1900 opened in London, May 8th. There was a large attendance, but competition was only fair, as the offerings were small and of poor quality. The offerings numbered 6,358 bales, most of which were taken by the home trade. Superior merinos were 10 per cent. lower and inferior merinos showed losses of from 10 to 15 per cent. Fine cross-breeds were off 10 per cent., coarse cross-breeds 5 per cent., Cape of Good Hope and Natal snow whites 7½ per cent., and greasy 5 to 10 per cent. Numerous foreign buyers were present, but they were merely onlookers. Following are the sales and prices obtained: New South Wales, 600 bales, scoured, od. to 1s. 1d.; greasy, 8d. to 11d. Queensland, 900 bales, scoured, 9½d. to 1s. 1d.; greasy 8½d. to 10d. Victoria, 300 bales, scoured, 6½d. to 1s. 3d.; greasy 7½d. to 11d. New Zealand, 3,000 bales, scoured, 6½d. to 1s. 2½d.; greasy, 4d. to 11d. Tasmania 200 bales, greasy, 5d. to 1s. Cape of Good Hope and Natal, 200 bales, scoured, 9d. to 1s. 8½d.; greasy, 7½d. to 8½d.

The offerings at the auction wool sales May 15th were very small, amounting to but 5,056 bales. The home trade continued a good buyer of lower greasy and best scoured at full rates. Good grades of merinos are slightly dearer. The attendance was good. Following are the sales in detail: New South Wales, 1,800 bales, scoured, 5d. to 1s. 1½d.; greasy, 5½d. to 1s. 4d. Queensland, 200 bales, scoured 1s. to 1s. 7d.; greasy, 7½d. to 10½d. Victoria, 800 bales, greasy, 8½d. to 10d. West

Australia, 100 bales, scoured, 1s. 1½d.; greasy, 7½d. to 10½d. South Australia, 200 bales, scoured, 7½d. to 1s. 2d. New Zealand, 2,300 bales, scoured, 6½d. to 1s. 3d.; greasy, 5d. to 10d. Tasmania, 100 bales, greasy, 5½d. to 10d. Cape of Good Hope and Natal, 100 bales, scoured, 1s. 8½d. to 1s. 11d.; greasy, 7½d.

TEXTILE IMPORTS FROM GREAT BRITAIN.

The following are the sterling values of the textile imports from Great Britain, for the months of March, 1899-1900, and the three months including March, 1899-1900.

	Month of March		Three months to March.	
	1899.	1900.	1899.	1900
Wool.....	£ 496	£ 6,393	£ 3,599	£ 17,988
Cotton piece-goods	47,717	69,418	184,519	234,606
Jute piece-goods.....	8,528	14,173	23,786	35,303
Linen piece-goods	18,158	20,376	56,053	65,297
Silk lace	1,354	1,636	4,249	6,477
" articles partly of	2,424	5,386	8,835	17,587
Woolen fabrics	25,663	40,623	84,645	134,451
Worsted fabrics.....	42,157	53,137	183,502	202,595
Carpets	31,699	45,718	74,384	104,039
Apparel and slops	27,722	38,521	63,920	88,501
Haberdashery	16,592	19,434	56,680	56,750
Writing-paper, &c.	1,819	2,379	5,045	5,766
Other paper	771	868	1,984	2,346

THE BOER AND THE BIBLE.

The Boer has had the reputation of being a man of piety, and a Bible reader, but it is remarkable to what degree he is a student of the Old Testament, ignoring the New. Those who have read the speeches of Paul Kruger will have observed that almost every one of his public utterances contains some quotation from, or reference to, the Bible, and almost invariably from the Old Testament. Considering this trend of the Boer mind, it is interesting to understand what is laid down in the Old Testament concerning the relations of the Israelites to aliens. Take for instance the franchise as framed under the Mosaic law, and as treated in the injunctions and exhortations of the prophets. In every instance where the relations of the children of Israel to the Stranger (or alien), were brought in question equal rights and privileges were emphatically enjoined. This great principle of fair play and equal rights is set forth in so many different ways, and on so many varying occasions, as to make the application of it beyond all question even to the meanest understanding. The following are among the references to the status of the Stranger in the Land of Israel, both socially and politically, and if the reader will look up the connection of these passages with other portions of the law, the force of their application will be more clearly seen.

Numbers, 15th chap., 29th verse—Ye shall have one law for him that sinneth through ignorance; both for him that is born among the children of Israel, and for the stranger that sojourneth among them.

Deut. 27: 19—Cursed be he that perverteth the judgment of the stranger, fatherless and widow. And all the people shall say, Amen.

Lev. 24: 22—Ye shall have one manner of law, as well for the stranger as for one of your own country, for I am the Lord your God.

Num. 9: 14—And if a stranger shall sojourn among you, and shall keep the Passover unto the Lord according to the ordinance of the Passover, and according to the manner thereof, so shall he do. Ye shall have one ordinance both for the stranger and for him that was born in the land

Num 15: 15 and 16—One ordinance shall be both for you of the congregation, and also for the stranger that sojourneth with you, an ordinance forever in your generations. As ye are, so shall the stranger be before the Lord; one law and one manner shall be for you and for the stranger that sojourneth with you, an ordinance forever in your generations. As ye are, so shall the stranger be before the Lord; one law and one manner shall be for you and for the stranger that sojourneth with you.

Ex 22: 21—Thou shalt neither vex a stranger nor oppress him; for ye were strangers in the land of Egypt.

Ex 23: 9—Also thou shalt not oppress the stranger: for ye know the heart of a stranger, seeing ye were strangers in the land of Egypt

Lev. 25: 6—And the Sabbath of the land shall be meat for you, for thee and for thy servant, and for thy maid, and for thy hired servant, and for thy stranger that sojourneth with thee.

Lev. 25: 35 and 36—And if thy brother be waxen poor and fallen in decay with thee, then thou shalt relieve him, yea, though he be a stranger, or a sojourner, that he may live with thee.

Deut 1: 16 And I charged your judges at that time saying: Hear the causes between your brethren and judge righteously between every man and his brother and the stranger that is with him.

Deut. 10: 18 and 19—He doth execute the judgment of the fatherless and widow, and loveth the stranger in giving him food and raiment. Love ye, therefore, the stranger, for ye were strangers in the land of Egypt.

Deut 26: 11—And thou shalt rejoice in every good thing which the Lord thy God hath given unto thee, and unto thy house; thou and the Levite, and the stranger that is among you

Ezek. 47: 21-23—So shall ye divide this land unto you according to the tribes of Israel. And it shall come to pass that ye shall divide it by lot for an inheritance unto you, and to the strangers that sojourn among you which shall beget children among you, and they shall be unto you as born in the country among the children of Israel, and they shall have inheritance with you among the tribes of Israel. And it shall come to pass that in what tribe the stranger sojourneth there shall ye give him his inheritance, saith the Lord God

It will be remembered that the six cities of refuge established as a protection against lynch law, and for the safety of those who may have "killed a man unawares," were for the benefit of the stranger as well as the Israelite. The indignation expressed by Ezekiel (22 chap., 29 verse), against his people was not merely because they had oppressed and robbed people, and had vexed the poor, but that they had oppressed the stranger, and the very climax of their iniquity was the last named offence "The people of the land have used oppression, and exercised robbery, and have vexed the poor and needy; yea, they have oppressed the stranger wrongfully" In Malachi, chap 3, verse 5, God's judgment is denounced "against those who oppress the hireling in his wages and turn aside the widow and fatherless, and that turn aside the stranger from his right."

Finally, it looks as if the 28th chapter, 15th, the 43rd and 44th verses of Deut may now be applicable to the Boers as a result of their oppression of the Outlanders:

"But it shall come to pass if thou wilt not hearken unto the voice of the Lord thy God to observe to do all his commandments . . . The stranger that is within thee shall get up above thee very high, and thou shalt come down very low. He shall lend to thee and thou shalt not lend to him. He shall be the head and thou shalt be the tail."

PIRN WINDING.

(Continued from our last).

The weight on the top of the spindle, which is in the form of a heart, somewhat accelerates the glazing of the weft by its additional pressure on the pirn and the consequently increased friction. The head may with advantage be made as light as possible, having regard to the firmness of the built pirn, which may be retained by increasing the drag on the weft; but this is not advisable beyond a certain point, especially for tender weft or for rove weft, which is liable to draw out and produce irregularity in its gauge. Beyond any irregularity in the setting or arrangement in the pirn frame, the operative winder requires some little attention and probably strict instructions on a few minor points. Each pirn should be entirely stripped before starting to re-wind upon it, no short lengths of weft allowed to remain on the neck or nether portion of the pirn, and the thread should not be allowed to assume the role of a scarf on the neck of the pirn when lashing on the weft, because of its slovenly appearance and the possibility of lashing it round the cone portion of the pirn, thus enabling it to completely unwind. Another point of neglect is to allow the weft (at the commencement or after piecing up the thread) to run slack and wind on the pirn at a position below the cone portion or below the portion assumed by the guide rail at its lowest point; the strayed weft produces a continual drag when unwinding in the shuttle, which often results in a breakage when weaving. A more criminal inattention to duty is the lashing on of the weft a second time without removing the thread which was broken in a first attempt. This not only leaves waste upon the pirn, but deceives the weaver when she is watching for the finish of the weft, and if the practice is allowed to become common the weaver will also usually allow a greater margin of weft on the pirn to ensure success in continuing the supply of weft, and an increased amount of waste is thereby incurred. The lifting of the pirns with their spindles from contact with the warves is a duty which should receive attention immediately a thread of weft is broken, because the extra revolutions with the friction on one layer of weft subjects that layer to greater liability to be glazed or cut by the cup.

The cross pins which are fixed near the head of a pirn winding spindle are a source of destruction to the pirn bobbin if allowed to get bent back at the ends, which they are liable to do by constant pressing into position. The bent pins wear a countersunk opening in the pirn head, and the incline which is formed from the slot in the top of the pirn head causes the spindle to rise without the pirn and does not give it its requisite motion; whereas if the pirns are kept at right angles from the spindle the pressure is equal throughout, and the requisite motion can be obtained.

The disk pirn winding frame possesses some advantages over the cup frame, a greater amount of weft is placed on the pirn, and a firmly-wound pirn can be obtained without excessive drag on the yarn; also the weft is wound from the hank at one uniform speed, the pirn increasing in speed as the weft travels towards the small diameter of the cone. In the cup frame the spindle revolves at one speed, and the weft is taken at a slower speed when the guide rail is nearing the bottom of its traverse.

The disk frame is economical for use where mule weft is employed, if the colors are those which can withstand the friction formed by the pressure on the yarn produced by the driving disks which cause the bobbin to revolve, but the difficulty of glazed weft experienced with the cup frame is not eliminated by this process of winding.

When rove weft is wound upon the disk frame the pressure on the weft causes it to present a flattened instead of a circular appearance, which shows to a disadvantage when woven in the

cloth and compared with a similar cloth woven with weft prepared on the cup frame.

It is essential, in order to obtain the best results with each kind of frame, that the pirns should have the same bevel or incline of cone as will exactly fit the concave opening in the cup, or the corresponding bevel of the driving disc or flange of the disk frame; any irregularity must cause variation of friction, which means a tendency to vary the shade of colored weft which is wound thereon. The point is worth attention when ordering renewals, or more particularly when tempted to purchase second-hand pirns which have been gauged to a frame the product of a different maker from the one to which you wish to apply them.

Pirn winding frames were formerly provided with a shallow box which was fixed on the top of the frame and intended to hold the empty pirns, which is a handy position for changing, and the full pirns were dropped into a tin or other receptacle placed on the floor. The above plan is still adopted by a number of manufacturers, but where cleanliness and neatness are considered of merit another plan is brought into use. The pirns are not carried about in tins, but on trays provided with outstanding pegs or pins. Each peg is the position reserved for one pirn, and they are thereby kept apart. The pirn frames and the looms are provided with stands to receive the trays, and the position of the stand being higher than the working part of the yarn in the loom and frame, a covering of fluff or other droppings forming on the filled pirns is avoided. When trays are provided the winder and weaver need not handle the weft on the pirn, and by holding the tip each pirn can be placed in position, and is ready for removal to the shuttle tongue in the same way.

The handling of the weft often disturbs the build of the weft on the pirn, and should be avoided as much as possible when best whites and light tints of color are in use, especially during hot weather, when there is more likelihood to stain the yarn.

The trays provide a position for each pirn and the quantity of breakages caused by the pirns being left on the floor or dropped in transit will be considerably reduced. Half trays are provided for check looms (in which some colors are not very extensively used), in order that the requisite complement of colors can be placed on the loom. Each weaving shed has its weft which is commonly used, and also weft which is very seldom employed. When the more rare kinds are used it is necessary to take precautions to ensure that little or nothing is left on the pirns, or in this way large quantities of pirns would have to be stored away and a very large stock would be required.

If the person who gives out the weft is not capable of calculating the amount required, the quantity should be supplied especially if more yarn is on hand than will be sufficient for present use, and only small quantities wound at a time if more than the calculated quantity is used.

Another advantage of thus calculating the quantities of weft is the opportunity it opens out for taking notes of the comparative percentage of weft used from the different spinners in relation to the calculated quantity, and to this extent testing either the honesty of the weft or the wastefulness of the operatives.

THE SISAL INDUSTRY.

A paper on "The Bahamas" was read at a meeting of the Royal Colonial Institute, held in London, on March 6th, by Sir William Robinson, a former Governor of those islands. Sir Neville Lubbock presided.

Sir William Robinson stated that there were about nineteen inhabited islands and numerous bays and islets in the Bahama group. The present population was roughly estimated at 54,000, of which the white population numbered 10,000 or 11,000. From a physical point of view the negro population was superior to

the black inhabitants of any West Indian island he had been in. The negroes in the Bahamas lived a free, open-air life, were not addicted, as in sugar-growing colonies, to somewhat excessive "nips" of rum, were splendid sailors, and quite as much at home in the water as on dry land, in fact they were a hardy, amphibious race. On the whole the black people were a good tempered lot, and were thoroughly loyal to Her Majesty the Queen and her representative. The Government spent £4700 a year on education. This expenditure was most thoroughly appreciated and taken advantage of by the lower and middle classes. There had recently been a considerable improvement in the financial condition of the colony. The revenue of 1899 was £76,697. The public debt amounted to about £112,000. The population was naturally increasing, and the general community ought to be an unusually law abiding and religious one, as there were no less than 274 churches, chapels, and meeting houses—mostly Wesleyan and Baptist—in the various islands. The total imports into the colony in 1898 were valued at £238,336, of which £170,766 worth came from the United States of America, and £59,009 from the United Kingdom. The annual importation of rum, gin, and other spirits amounted to only 35,000 gallons. The average consumption, therefore, per head per annum was about half a gallon, this being probably the lowest to be found in any subtropical colony. According to the report of the Colonial Secretary, the exports of 1898 were valued locally at £174,860. Of these £104,900 worth went to the United States, £29,727 to Great Britain, and £17,325 to France. The most valuable export was that of sponge, and no less than 1,207,000 lbs. weight of sponge, valued locally at £97,000, were exported in 1898. The best sponge was valued at about 40s. a cwt., and that of the lesser value at about 20s. This interesting fishery gave employment to a large number of men and boys, and some 500 schooners were engaged in it. Some of the most beautiful fruits in the world were raised in the Bahamas—viz., pineapples, oranges, lemons, watermelons, grape fruit, guava, tamarind, Avocado pear, and bananas, and those were exported in large quantities. For example, two and a quarter millions of oranges were shipped in 1898, as well as 215,329 grape fruit. Upwards of four million pineapples were also exported in the same year. A sugar loaf pine costing 1¹/₂d. and cut ripe, was far superior to a hothouse pine in England. Since the abolition of slavery, cotton had ceased to be cultivated to any great extent, although plants still thrive in some of the islands, notwithstanding the irrepressible ravages of the "cotton-bug." The sugar cane was cultivated in small patches, not for the production of sugar, but for chewing purposes. The introduction, or rather extended cultivation, of tobacco was inaugurated in 1875, and had fair success. Cigars were exported for the first time in 1878. The introduction of tomato cultivation was commenced in 1875; 12 boxes were exported in 1876, and in 1879 no less than 8,130 boxes were shipped to America. Over 80,000 cocoanut trees were planted in the Bahamas from 1875 to 1881, and these should now be in full bearing. He was afraid, however, that since that time the cultivation of some plants and fruits and vegetables had unfortunately fallen into disuse, and that the planters' attention had been withdrawn from them to the attractive speculation of sisal fiber, which certainly promised at one time to be a magnificent venture. Later reports attributed to it a somewhat will o' the-wisp character. He was glad to hear, however, direct from the colony that the prospects of sisal were decidedly improving. Those who selected their land carefully were doing very well, and, with the present troubles in Manila, were getting handsome prices. The directors of the Bahamas Sisal Plantation recently stated that "our sisal properties in Inagua, Abaco, and elsewhere are generally speaking, in an excellent and flourishing condition and that with careful and economical management in the future.

and the price averaging even from £20 to £25 per ton (it is now £38) a bright and encouraging return is in view of the shareholders. That opinion was also held by the Government authorities, for the Colonial Secretary wrote, "The sisal industry is being invigorated by the recent rise in prices, and the 20,000 acres now under cultivation will shortly multiply by tenfold the colony's output of fiber." That was very satisfactory, for a few years ago the most sanguine anticipations were entertained as to the splendid results which would follow from the extension of the cultivation of sisal hemp. It was expected that the revenue would at least be doubled or even trebled by this industry; but in 1897 only 400 tons were exported, in 1898 550 tons, and prices rated so low that several companies and other enterprises interested in it came to utter grief. From further reliable information which he had just received he was justified in stating that the sisal industry in the Bahamas promised after all to be a success. The unfortunate collapse of Mr Chamberlain's plantation at Andros, and of some minor ones at Abaco, was due chiefly to the selection of lands unsuitable to the growth of the plant, and it had naturally had a damaging effect upon the industry. This had now been practically overcome by the perseverance and energy of other companies—notably of the Bahamas (Inagus) Sisal Plantation located on the Island of San Salvador, where the company was cultivating lands purchased from a local owner. Those lands were well adapted for the growth of the plant, and he was informed that the export of fiber this year would conclusively prove that investments in that industry were neither disappearing nor undesirable. The prices, £38 per ton and upwards, which had ruled throughout 1898 and 1899, furnished proof that such investments of capital were at present, at all events, profitable.

COTTON AND SHODDY MIXES.

Seeing mention of spinning cotton on the woolen principle in your paper leads me to think it is getting to be a common thing amongst the woolen mills. In one 15 set mill, three set were on all wool lots. The use of worsted yarn may account for the use of so much cotton, shoddy and wool mixtures, but it shows the trend of woolen manufacturing. Having charge of spinning in a jeans mill at one time also making cassimeres. I met these mixtures quite often, and it was sometimes a problem to make it spin well enough to get off a fair production. Our greatest success was by working the stock with as little oil and water as possible. The lots were run through the picker until the final run and packed away in bins, and as much torn down and oiled and run through as needed for a couple of days' work. Then, by not loading the cards and running quickly, with close setting, the size of roving in proportion to quality of stock and size to be spun, with even condensing, good results followed. On the mule a soft draw off was generally successful on medium stock. Drawing scrolls with adjustable drop on back end to give a slow start, with side pieces to follow up the delivery of roving and dropping to small part of scroll, with a gain of carriage on the delivery of rollers, are important factors to the spinning of cotton mixtures on woolen mules. On warp yarn the take up and back off motion need our attention to avoid kinks on very coarse work and some finer mixes. The spinner must avoid poor splicing and knots, for the stock do not always carry any surplus strength unless made that way. As a general thing, the addition of cotton helps the working of a lot but does not take the place of wool. I have handled 80 per cent cotton on six-run back which made very nice work, I suppose there are others and will be others who can do the same with like conditions.—R. J. F. in Fibre and Fabric.

—A new loom, the invention of Charles F. Perham, was shown in Boston to the New England cotton manufacturers and the members of the National Association of Manufacturers who visited "The Hub" last week. One of the new devices peculiar to the machine is an automatic arrangement whereby should a filling thread break the disabled shuttle is dropped out and a new one dropped in. No matter how fast the machine may be running or how fast the goods are being woven the change is effected. There is also a device which stops the loom should a break occur in one of the warp threads. It is further claimed for this loom that there are fewer parts in motion when it is at work than in the ordinary looms, this simplification rendering it more easy to run.

WANTED—Good Crompton Loom Weaver to work on pick and pick patterns. J. R. CHASE & CO., Nottawa Woolen Mills, Nottawa, Ont. 5-1

WANTED—At once—a Carder who can dye and superintend the making of good yarn; also a jack spinner. THE MANITOBA FELT AND YARN WORKS, Brandon, Man. 5-1

WANTED—Immediately—A finisher for one-sett mill; good on white blankets, (wool and flannels); steady work to good man; state wages. JOHN CHILDHEROSE & SONS, Eganville P.O., Ont. 5-1

LOOMS FOR SALE—Six Narrow Crompton Looms, immediate delivery; 3 x 3 and 4 x 4 boxes; first-class order. GEO. PATTINSON & CO., PRESTON, ONT. 5-1

In the High Court of Justice. Queen's Bench Division.

MR. JUSTICE BRUCE. WILSON BROTHERS BOBBIN CO., LTD., AND HERBERT WILLIAM WILSON V. WILSON & CO., BARNSELY, LTD. SATURDAY, 27TH JANUARY, 1900.

A Perpetual Injunction was this day granted against the Defendants, restraining them, their servants and agents from infringing the Letters Patent No. 5559, of the year 1895, for "Improvements in means for strengthening and protecting tubes and bobbins used in the preparation and spinning of fibrous materials." And it was ordered that the Defendants should pay to the Plaintiffs damages, to be ascertained on enquiry, and costs. The Judges also certified to the validity of the Plaintiff's patent.

The above has reference to the Patent Cornholme Shield, with "beaded" or "colled" edge for fastening. 3-3

Felt and Woolen Factory and Plant FOR SALE

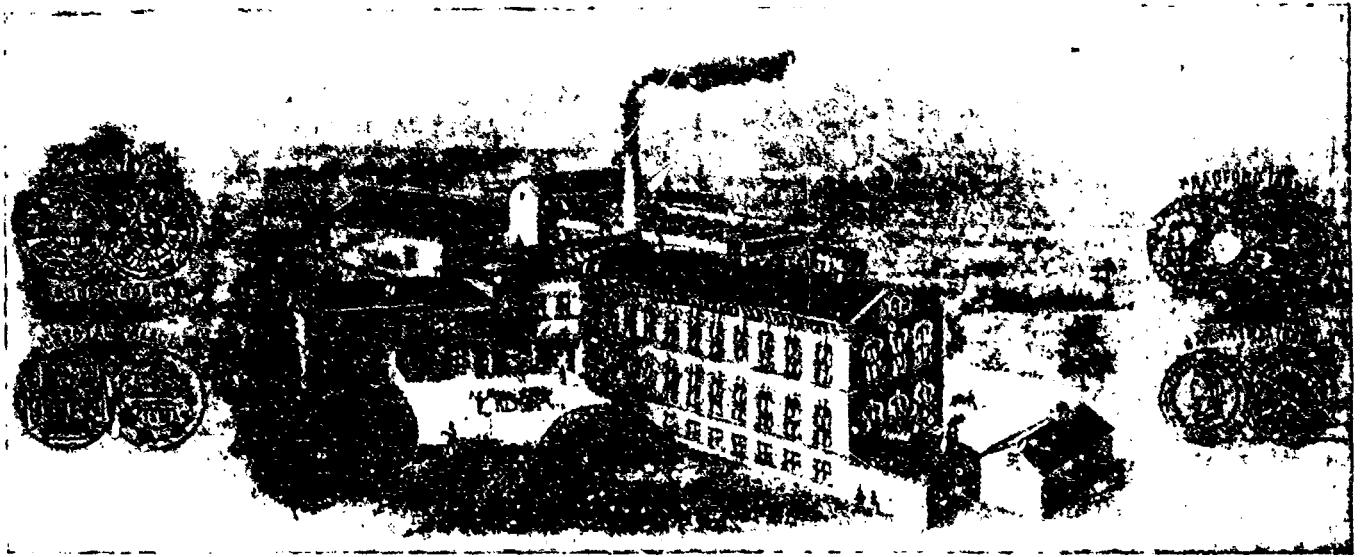
IN THE SUPREME COURT OF THE NORTH-WEST TERRITORIES, JUDICIAL DISTRICT OF WESTERN ASSINIBOIA.

In the Matter of the Winding up Act and the Qu'Appelle Felt and Boot Company, Limited.

Sealed Tenders will be received by A. D. Dickson, of Qu'Appelle Station, Barrister, Liquidator of the above Company, up to Friday, the 1st day of June, 1900, for a Felt and Woolen Factory at Qu'Appelle Station, N.W.T., consisting of a one sett woolen mill, complete in every detail, with felt plant and shoe factory attached. Floor space about 10,000 square feet; steam heated throughout; buildings and plant almost new and in good running order. There is now on hand a complete stock of wool and supplies.

Tenders will be received for the plant and stock together or separately. Further particulars may be had on application to the undersigned, T. C. Johnstone, Barrister, Regina, or A. D. Dickson, the Liquidator, Qu'Appelle Station. Dated at Regina, North West Territories, this 7th day of April, A. D. 1900.

HAMILTON & JONES,
Solicitors for Liquidator




JAMES YATES *and* SON

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Joint Inventors and Patentees of combined
Round and Flat Wire Cards.

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 With Methods of Determining the Purity and other Properties of Oils etc.
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 Post-paid Fraser Bldg., MONTREAL, Can.

The Canadian Woolen Mills Co., Ltd., is now operating the various mills of the combine, from Toronto, where J. F. Morley, the general manager, has his office. It is said that the company is negotiating for the control of the woolen mill at Streetsville, Ont., which is just at present so much in the public eye, owing to F. Clary's management.

JOHN WHITAKER REED CO.

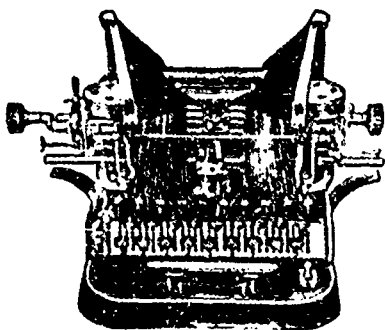
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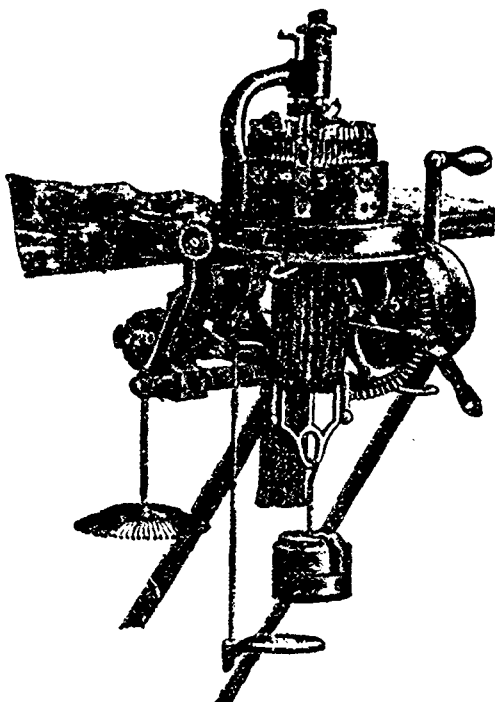
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- Loom Fixing; a handbook for loom fixers working on plain and fancy worsteds and woollens; containing chapters on shuttles and bobbins, and their management, head motion putting in warps; filling; adjusting and starting new looms; chain building, etc.; 104 pages, by Albert Amley\$1 00
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- Structure of Fibers, Yarns and Fabrics, the most important work on the structure of cotton, wool, silk, flax, carding, combing, drawing and spinning, as well as calculations for the manufacture of textile fabrics, by E. A. Posselt 5 00
- Textile Machinery Relating to Weaving, the first work of consequence ever published on the construction of modern power looms, by E. A. Posselt..... 3 00
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- Wool Dyeing; an up-to-date book on the subject, by E. A. Posselt 2 00
- Worrall's Directory of Cotton Spinners, Manufacturers, Dyers, Calico-printers and Bleachers of Lancashire, giving the mills of the British cotton district, with

- number of looms and spindles, products of the mills, cable addresses, etc\$2 00
- Woolen and Worsted Loom Fixing. A book for Loom fixers, and all who are interested in the production of plain and fancy worsteds and woollens; by A. Amley. \$1 00
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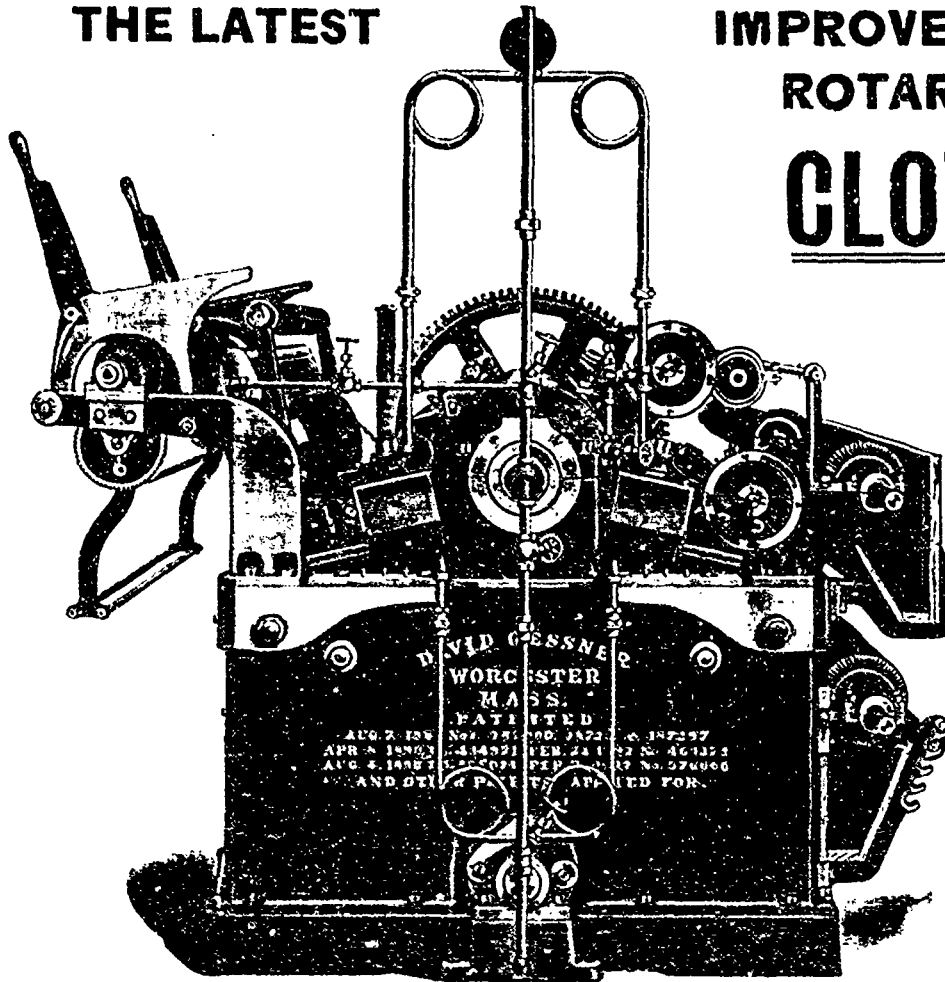
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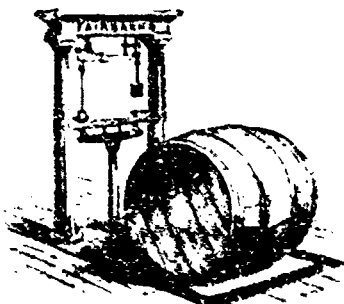
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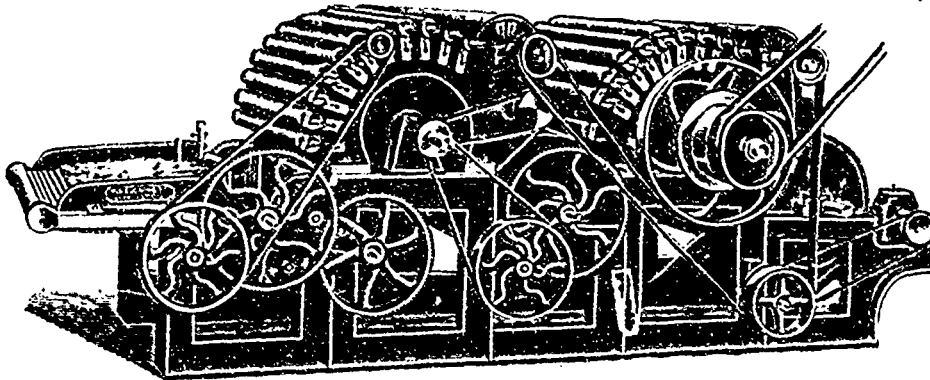
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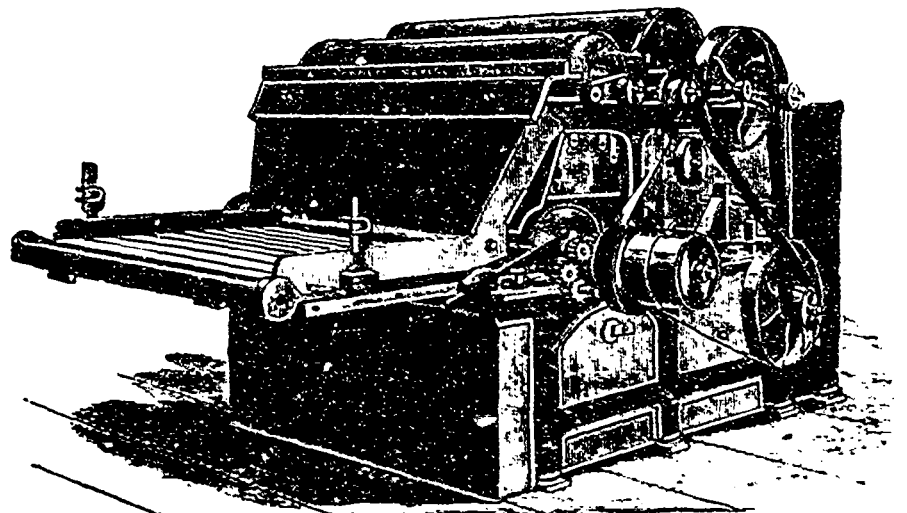


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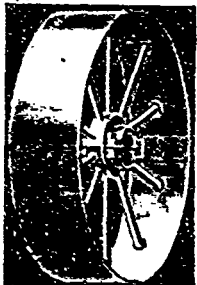


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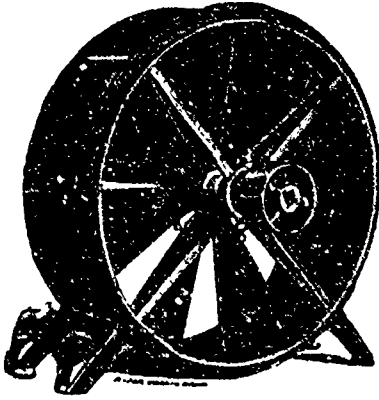
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The Canadian Textile Directory

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THE CANADIAN TEXTILE DIRECTORY is more than a mere directory of names. It gives facts and figures about the textile trades of Canada which have been attempted in no other work. It contains not only lists of all the general stores, retail dry goods dealers, hat and fur dealers, clothiers, haberdashers, tailors, milliners, etc. (the retail lists contain over 19,000 names), but all the wholesalers and commission merchants or manufacturers' agents in similar lines, and all the mills and factories engaged in manufacturing fabrics connected with the textile and kindred trades. It is the only work in Canada which gives a full list of the boards of trade, commercial travelers' associations, and dry goods and kindred associations, while the immense amount of statistical information, such as the details of the imports and exports of dry goods, etc., the tariff of Canada, of the United States and Newfoundland, sterling exchange rates, etc., make it indispensable in an office of any pretensions.

As an example of the information given in the various lists of manufacturers, the following shows the form of report of the Woolen Mills. Name and address of Proprietors, and names of the Officers (if a joint stock company) the capacity in sets of cards, looms and spindles when established, whether water, steam or electric power, description of goods manufactured, whether the mill has a dye house, and names of selling agents, if any. Corresponding information is

given concerning the other mills, of which the following is a list. Asbestos miners and manufacturers, manufacturers of awnings, batting (wool and cotton), bedding, binder twine, braids, buttons, caps, carpets (including hand loom weavers), children's wear, cloaks, clothing, collars, cuffs, cordage, corsets, cottons, embroidery, feathers, felts, flags, flax, fringes, furniture, gloves, hair cloth, hats (straw, felt and cloth), haberdashery, horse covers, hosiery, jute goods, lace, ladies' wear, mantles, mats, mattresses, men's furnishings, millinery, mitts, neckwear, oil cloth, oiled clothing, overalls, paper, pulp, pins, print goods, regalia, rope, rubber goods, sails, tents, shirts, shoddy, felt, straw goods, suspenders, tarpaulins, tassels, thread, tow, trusses, linens, umbrellas, upholstery, wadding, water-proof garments, webbings, window shades, worsteds, etc. The woolen mills include the carding mills, manufacturers of tweeds, blankets, flannels, yarns, homespun, and all other piece goods, carpets, felts, and all kinds of knitted fabrics. The cotton mills include all classes of cotton piece goods, yarns, wadding, batting, etc. There is also a complete list of the tanners and curriers, laundries, dyers, dealers in raw wool, furs, etc. Under each heading the whole of Canada and Newfoundland is included.

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—A company has been formed in Frankfort a. M., Germany, for the manufacture of artificial silk, which will be known as the Vereinigte Kunstseidenfabriken Akt. Gesellschaft, Frankfurt, a. M. This company, which has a capital of 2,500,000 marks, will purchase the now existing factories of the Chardonnet Company in Spreitenbach, and of the Lehner Company, of Zurich, Switzerland, with all their patent rights, etc. It also intends to start another factory for the manufacture of artificial silk in Germany.

—United States Consul Hughes, of Coburg, Germany, states: "I wish to call attention to Professor Foechlin's method for the bleaching of cotton and other vegetable fibers by passing them through a bath of 100 liters (264 gallons) of water, 10 kilograms (22 pounds) of lime, and 50 kilograms (110 pounds) of bisulphite of soda. They are then steamed for an hour or two under a pressure of from 1 to 2 atmospheres, rinsed again and dried. The bisulphite can be replaced by hydrosulphite of lime. The cotton or other fiber may be boiled in the bath for a few hours, instead of being steamed. Another process is to subject the goods for six hours under a pressure of two thirds of an atmosphere to a liquid composed of 1000 liters (264 gallons) of water, 10 kilograms of dry caustic soda, 10 kilograms of soap, 1 kilogram (2.2 pounds) of calcined magnesia, and 30 liters (7.9 gallons) of peroxide of hydrogen; then rinse, souse, rinse again and dry. The white obtained is said to be much better than can be had with hypochlorite, and best of all does no damage to the fibers or fabric."

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The Best System on the Market.

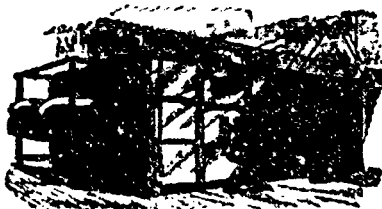
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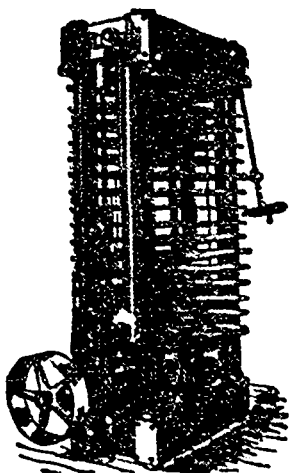
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Spooling & Doubling
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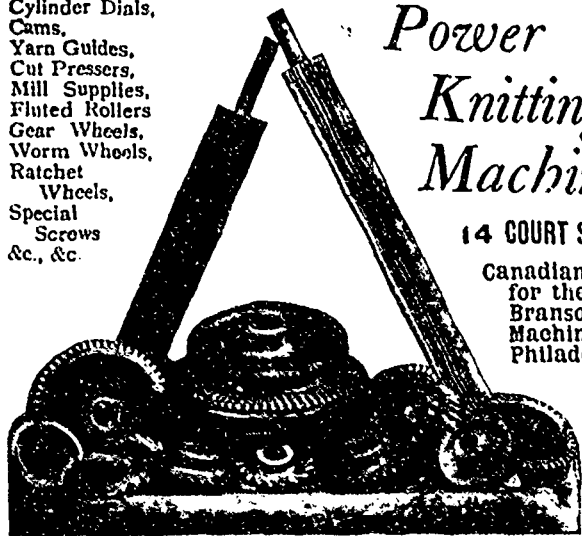
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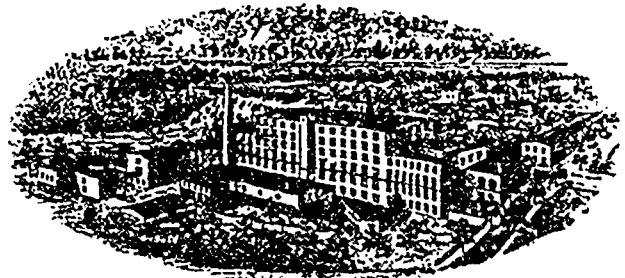
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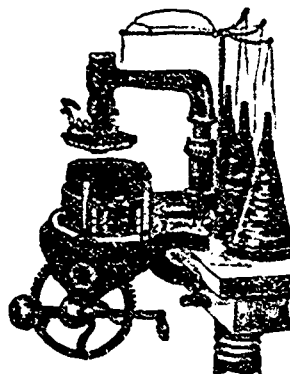
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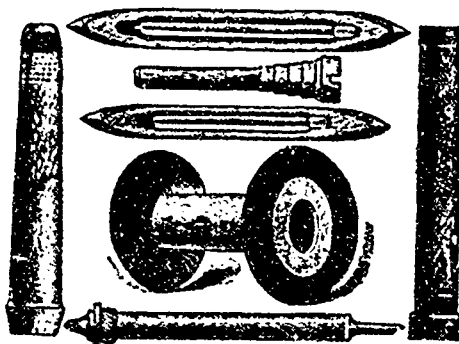
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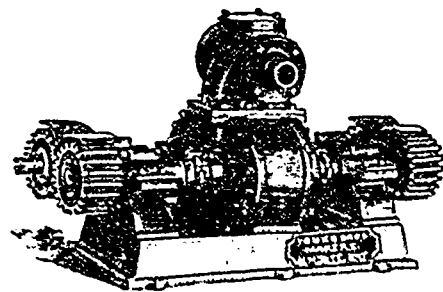
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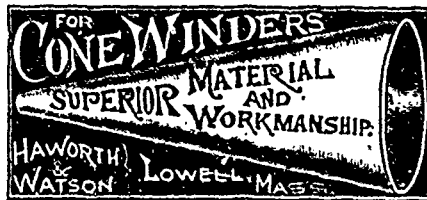
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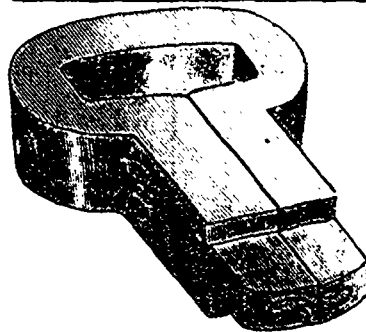
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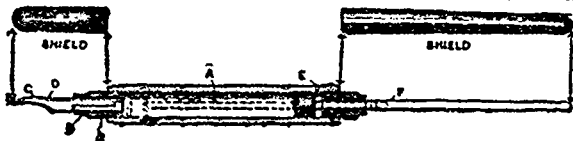
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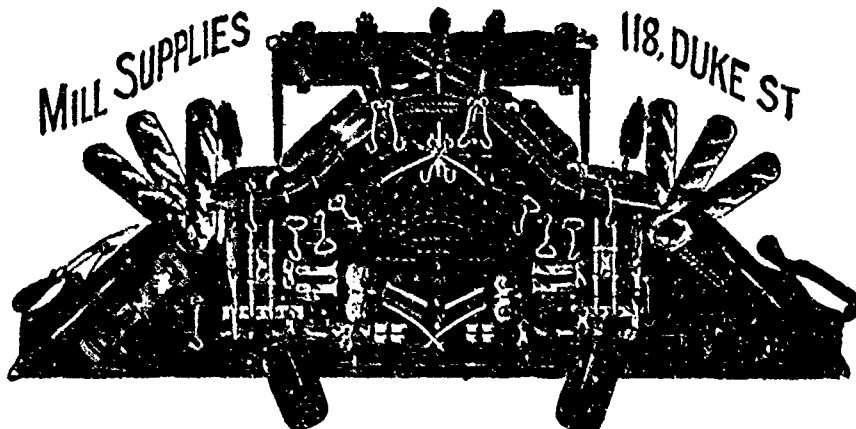


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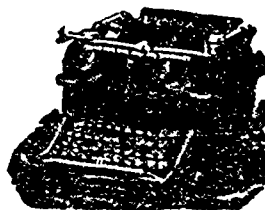
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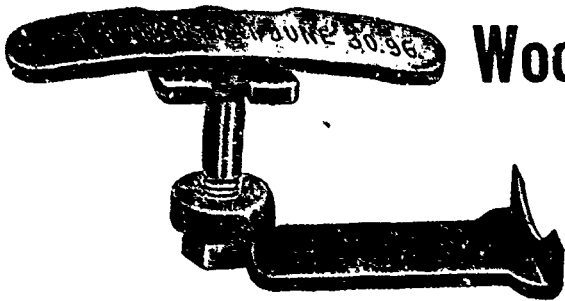
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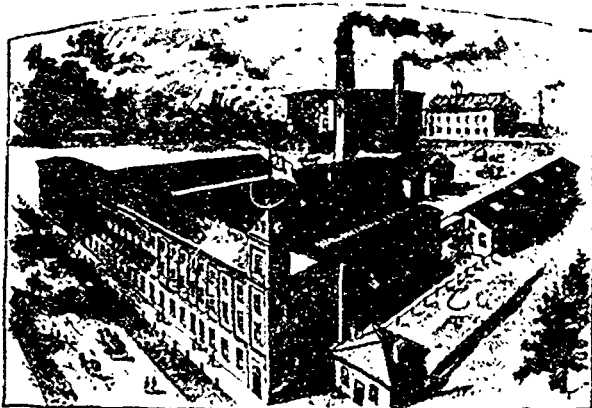
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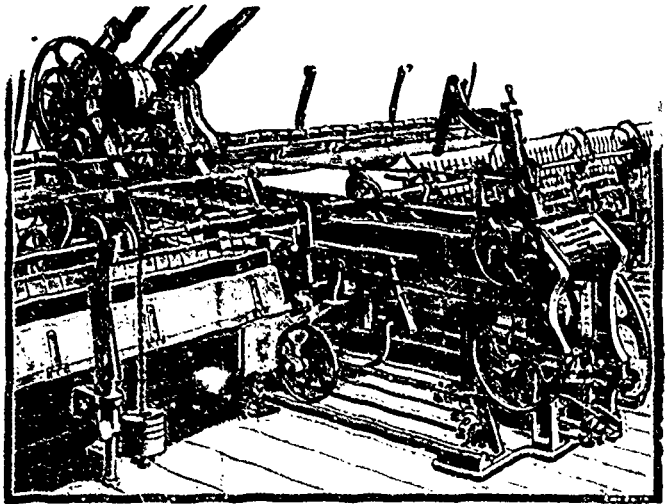


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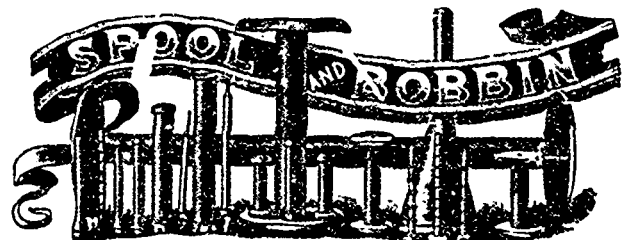
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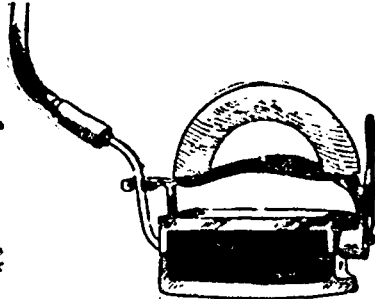
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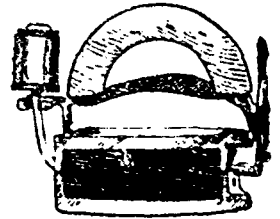
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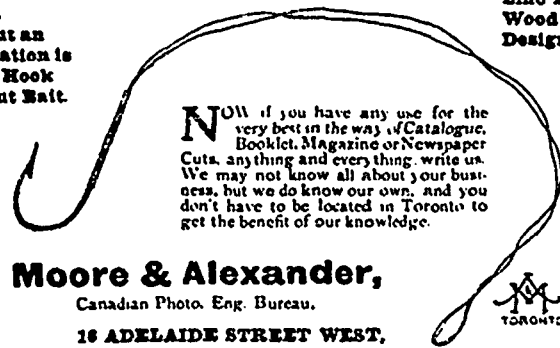
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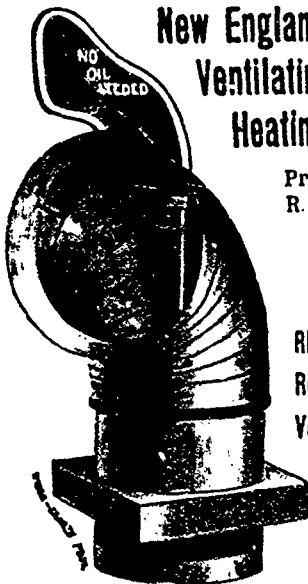
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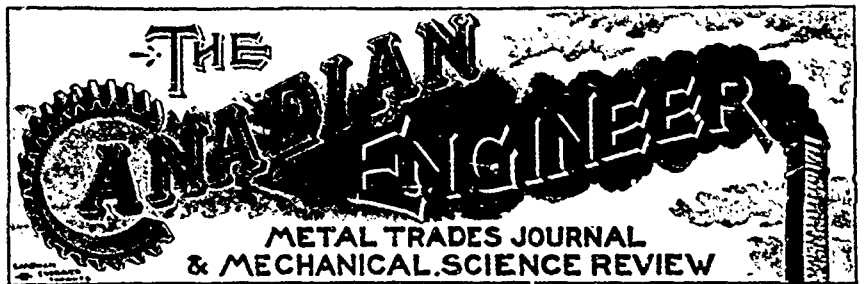
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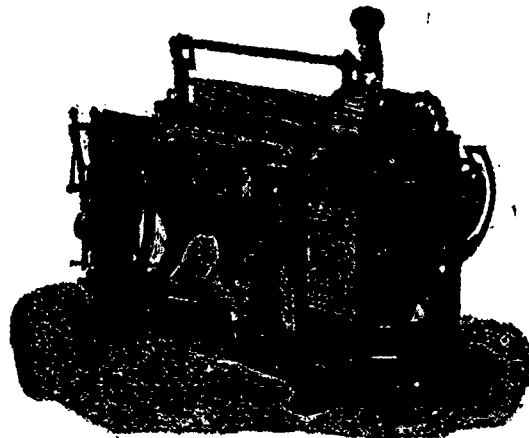
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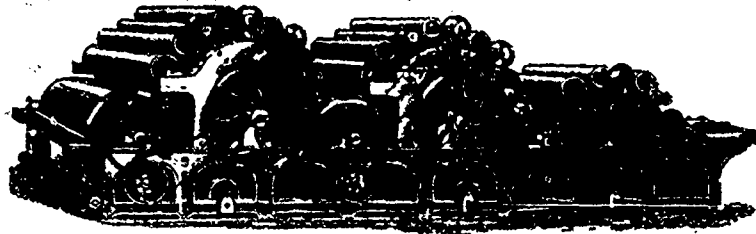
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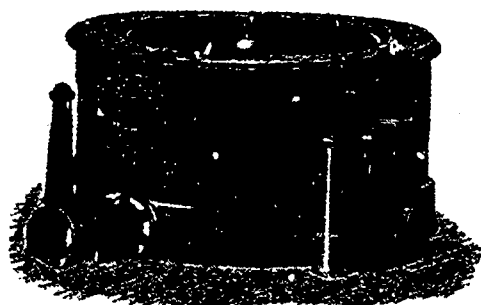
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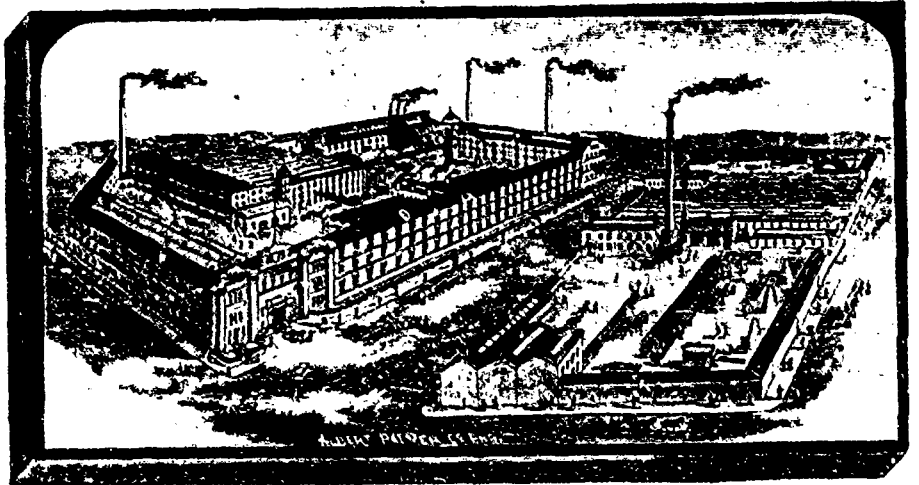
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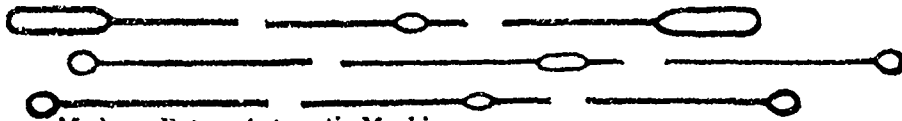
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