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# THE CANADIAN JOURNAL OF Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XIX.

TORONTO AND MONTREAL, SEPTEMBER, 1902.

No. 9.

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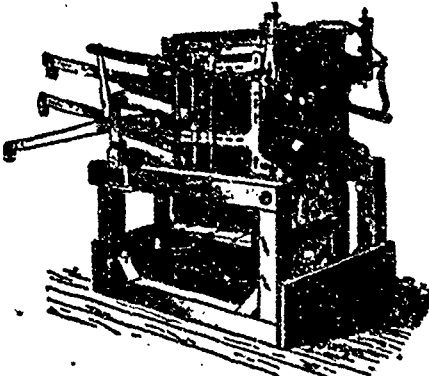
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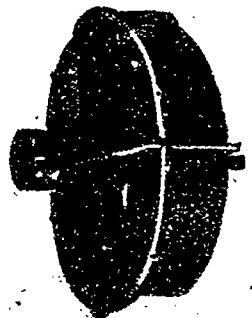
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# Canadian Journal of Fabrics

THE JOURNAL OF THE  
Textile Trades of Canada.

Vol. XIX.

TORONTO AND MONTREAL, SEPTEMBER, 1902.

No 9.

## Canadian Journal of Fabrics

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

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### THE CANADIAN TEXTILE DIRECTORY

A Handbook of all the Cotton, Woolen and other Textile manufactures of Canada, with lists of manufacturers' agents and the wholesale and retail dry goods and kindred trades of the Dominion, to which is appended a vast amount of valuable statistics relating to these trades. Fourth edition Price, \$3 00

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### A USE FOR SWEET CLOVER.

An editorial in the Globe the other day directs public attention to the extraordinary way in which sweet clover has spread over the country, until it has become a pest to the farmers in Ontario and Quebec.

This plant grows rankly, and at present its only useful purpose is to provide honey for bees. The Globe suggests legislation for eradicating this weed, but the Canadian Journal of Fabrics has shown that sweet clover can be turned into service as a material for binder twine. Some samples of the fibre made from

sweet clover stalks were sent to this office two or three years ago, and these samples were sent to M. B. Perine & Co., the well known twine manufacturers of Doon, Ont., who reported that they could utilize any quantity of the fibre, provided they could get it at a favorable market price. As sweet clover may become a great pest if not turned to account, we would suggest that the authorities of the Experimental Farm, at Ottawa and the Departments of Agriculture of the Provincial Governments should this season make experiments in curing a quantity of the stalks to be manufactured into twine at the binder twine factory at Kingston Penitentiary and at the factory in the Central Prison, Toronto. This has been a favorable year for the growth of sweet clover, and if it can be gathered and cured economically our farmers can turn into a profitable crop what will otherwise be a mere nuisance. Enough of the plant could be gathered this year to supply binder twine for the whole Dominion, if the industry were established on a commercial basis, and experience will probably show that if it can be manufactured on a commercial scale into binder twine, it can also be made into cheap twines for trade purposes, such, for instance, as lath ties, bale ties and parceling twines.

### AN IDEAL MILL TOWN.

What one enterprising and philanthropic person can do for a town is illustrated in the case of Adams, Mass., which is spoken of as the ideal mill town of New England. One family has made it so largely. Twelve years ago H. J. Plunkett operated the only mill in the place, employing about 100 operatives. When he died his possession passed into the hands of his sons, W. B. and C. T. Plunkett. From a single factory has sprung a series of large establishments. Beautiful cottages, each with its own bit of ground and garden patch, sprinkle the hillsides and gentle slopes which encircle the town, and it is here that dwell the folks who people the long rows of mills by day and work the looms and shuttles and weaving machinery that line the miles of factory aisles. Matthew Borden, after a visit to Adams, said: "Would that my city (Fall River) were like this and its people so happy and contented. This indeed is the model of my ideal, a town well named after the first dweller in the garden of Eden."

When a man settles in Adams he is looked out for.

The cotton company has a house in which he may live for a time. The way in which he can own a home is made plain to him, and when once he has taken the first step in this direction he is initiated into the ways of Adams mills and becomes a member of the great big family which has W. B. Plunkett for its head and guiding spirit. "We want the people to live in houses of their own," said Mr. Plunkett, "and in consequence of this policy you will find no long rows of dingy brick or wooden structures on the company's land. Home life is necessary to contentment and contentment is necessary to proper social conditions. We encourage thrift and good habits among the people working here and enter into their lives as freely as possible. While many tell me that Adams is a model working town, we have done nothing that is extraordinary nor attempted to bring about any idealistic conditions. The situation here is simply the outgrowth of the principle that a man is a man and not a machine." When asked to explain the system along which he conducted his big mills and the relations existing between the corporation and its 3,500 workers, he smiled and said: "We seldom talk of these things and never for publication."

Mr. Plunkett reminds us very much of a gentleman who, on a smaller scale, is doing a similar work. We refer to Mr. Gibson, of Marysville, N.B. Mr. Gibson is like Mr. Plunkett, a modest man, and avoids speaking about what he has done, but he has nevertheless succeeded in establishing that harmony between employer and employed which makes them regard each other as members of one great industrial family, and causes the latter to feel that, after all, their interests are identical with those upon whom they are dependent for their living. The more of such communities there are in our country 'he better.

#### ENGLAND'S RAW COTTON SUPPLY.

An effort is being made by the British Cotton Growing Association, with the hearty co-operation of Mr. Chamberlain, Colonial Secretary, to carry out the idea of producing a larger proportion of Britain's raw cotton supply in her own colonies, or in countries over which she has some sort of control, an idea which was referred to in the last number of the *Journal of Fabrics*. It has been found that Upper Egypt contains a cotton belt which dwarfs that of the Southern States. Major Count Gleichen, secretary of Major-General Wingate, sirdar of the Egyptian forces, addressing the Cotton Association at Manchester recently, said the experiments now concluded on the banks of the Nile show the quality of the cotton grown there to be the equal of any in the world. There are, as before stated in this journal, available 15,000,000 acres of irrigated land, and the only difficulty is the labor supply, the dervishes having depopulated the Soudan, but the completion of the Suakim-Berber railroad is expected to solve the problem, besides furnishing an outlet for

the crop. It is to be hoped the efforts of the association will be rewarded with success. It is well not to be dependent on one source of supply. This was proved at the time of the United States civil war. Who has forgotten the distress which prevailed among the Lancashire cotton operatives at that time because of the supply of raw cotton being cut off? This may be ancient history, but the lesson is still there for all future time.

—The possession of manufacturing industries, after which so many places strive, even to the extent of paying them bonuses to come, is not an unmixed advantage in the eyes of the editor of a prominent newspaper in a cotton manufacturing city in one of the New England states. This editor claims such cities would be better without cotton mills "because they now have to depend, for prosperity, on the varying financial and political influences that affect the cotton business; besides, wages in cotton mills are low, and low wages cheapen everything." As the city referred to owes its growth and present development almost entirely to the cotton mills, this statement seems harsh, and we do not believe he would really like to see the industry blotted out.

—Every year the textile market has its characteristics. A year ago it was the Oxfords, then for a time came in the black and white, known by some as the Queen's mourning, and now it is a modification of the latter, the coronation cloth. Red, green and black are the component shades of the last, making as may well be imagined, a striking novelty in wool goods. In some minds there is more or less apprehension regarding it, for the departure is considered as somewhat radical, and the style and pattern is claimed by some as not likely to be lasting, but this may be said of any new fabric, or of any new style. At all events the coronation fabric is a feature of the present market, and the ceremonial induction of King Edward VII has made its impress upon the style in which people dress.

—The textiles building of the Louisiana Purchase Exposition, to be held at St. Louis in 1904, is of Corinthian design, 525 by 758 feet and will front upon the main avenue. While not the largest in area, its position makes it one of the most spacious buildings in what has been called the main picture of the exposition. The principal entrances are on its axes, and somewhat resemble the form of the triumphal arch. At each angle of the exterior is a pavilion, forming a supplementary entrance, and these are connected by a colonnade of monumental proportions. An interior court following the general outline of the building in form and style occupies the centre space, forming a plaisance or garden of attractive arrangement and proportions. The cost of the building is \$375,000. The importance of the textile industries justifies the prominence given to the building in which they are to be illustrated.

—A vigorous agitation has been inaugurated in the Southern States for the abolition of child labour in the cotton factories. The conditions are said to be little short of slavery. A South Carolina paper makes the statement that 9,000 children under twelve years of age are employed in Southern factories, many of them being only six to seven years of age, while the hours of labor range from 5.45 in the morning to 6.30 in the evening, and wages from ten to thirty cents a day. The Southern, as well as the Northern press, have taken up the matter vigorously and are calling upon the state legislatures to enact restrictive laws. Efforts to secure such legislation in the past have failed because of the dominating influence of the mill-owners in the legislatures. Public opinion, however, is growing and the system is regarded as doomed.

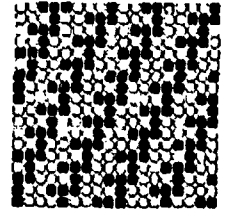
—A class in Germany dependent on textile manufacturing finds itself in the same predicament as some of our Canadian manufacturers. The bobbin manufacturers complain that, notwithstanding the active demand for their goods, they are able to make little progress, owing to foreign competition, and to the fact that the German import duties are insignificant. Statistics show that the importation of wooden bobbins into Germany has greatly increased, whereas exports have gone down, although they can still be reckoned at several million francs. In order to be effectually protected from foreign competition, the German bobbin makers are petitioning for an increase of at least 5 marks per 100 kilos. in the import duties, and they declare that unless this is granted they will not be able to increase their trade, or even keep it at its present level. However if granted the cloth makers might object, as the bobbin makers might put up the price to the home consumers. After all it is hard to get the tariff adjusted to suit everybody.

—There is a falling off in the sheep-raising industry of the eastern United States. Indeed it would seem that the sheep industry is moving westward. There are in Montana to-day, according to the estimates of Mr. Hay, Secretary of State, close on 4,600,000 sheep, which is several hundred thousand in excess of the number two years ago. The slopes of the Rocky mountains are particularly adapted to sheep-raising, and in no other place in the United States, do sheep thrive and multiply as in Montana, which, probably, is the reason why sheep-raising is falling off in the eastern States and increasing there. A great deal of eastern capital in the business has been transplanted to Montana. There has been a falling off of 31 per cent. in the number of sheep in the States of Maine, New Hampshire, and Vermont. In 1895 there were in Maine 284,345 sheep; last year the number was reduced to 236,495; New Hampshire, 106,233 in 1895, and only 48,306 last year, and in Vermont the numbers in 1895 and 1901 respectively were 226,938, and 142,506. It will be seen from these figures that Montana has about ten times as many sheep as these three States combined. Perhaps the same movement will take place in Canada. The long cold winters of the North-West are a drawback, otherwise the conditions for sheep-raising are favorable.

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WORSTED COATING, PIECE DYED.

Warp A, 2/48's worsted, 70's quality.  
 Weft B, 2/48's " " "  
 Warp 6, 140 threads, 66 inches wide in the loom.  
 On 9 or 18 healds, straight draft.  
 Reed, 15½ dents per inch, 6 threads per dent.  
 Weft B, 90 picks per inch.  
 Shrinkage in fulling, 10 per cent.  
 Clear Finish, 56 inches wide.  
 Finished weight, 17 ozs. per yard.



From the Textile Journal.

DENSITY AND EXPANSION OF WATER.

Temperature in deg. F.	Weight of 1 cub. ft. lbs.	Relative volume at t deg. F.	Temperature in deg. F.	Weight of 1 cub. ft. lbs.	Relative volume at t deg. F.
32	62.418	1.	145	61.291	1.0184
35	62.422	.9999	150	61.201	1.0199
39.1	62.425	.9999	155	61.096	1.0216
40	62.425	.9999	160	60.991	1.0234
45	62.422	.9999	165	60.843	1.0259
46	62.418	1.	170	60.783	1.0269
50	62.409	1.0001	175	60.665	1.0291
55	62.394	1.0004	180	60.548	1.0310
60	62.372	1.0007	185	60.430	1.0330
65	62.344	1.0012	190	60.314	1.0350
70	62.313	1.0016	195	60.198	1.0370
75	62.275	1.0024	200	60.081	1.0389
80	62.232	1.0030	205	59.930	1.0414
85	62.182	1.0038	210	59.820	1.0434
90	62.133	1.0046	212	59.640	1.0441
95	62.075	1.0055	220	59.577	1.0476
100	62.022	1.0064	230	59.308	1.0524
105	61.960	1.0074	240	59.032	1.0573
110	61.868	1.0089	250	58.750	1.0624
115	61.807	1.0099	260	58.460	1.0678
120	61.715	1.0114	270	58.170	1.0733
125	61.654	1.0124	280	57.880	1.0791
130	61.563	1.0139	290	57.580	1.0900
135	61.472	1.0154	300	57.260	1.0912
140	61.381	1.0169	400	53.630	1.1640

Note.—The coefficient of expansion of water is not uniform, but increases with rise of temperature. In the above table the relative volume is expressed as a multiple of that at freezing point.

Volume of 1 lb water at 32° F. = .016021 cubic feet

Ice.—The specific gravity of ice is .922, and its specific heat .504. One cubic foot weighs 57.50 lb. The strength of ice varies greatly with its quality. German tests give the tenacity as 140 lbs. per sq. in. Trautwine gives the crushing-strength as 167 lbs. per sq. in. Ice 10 in. thick will carry a crowd of any size, and on ice 15 in thick railways are often operated.—From Fowler's Mechanical Engineer's Pocket Book

The American Silk Waist Co., of Montreal, have, notwithstanding their disastrous fire, made up quite a large range of samples for fall trade, and their travellers are on the road. They are negotiating with a real estate concern to build a factory for them on United States plans.

## Foreign Textile Centres

**Bradford.**—The market continues unchanged and values have not rallied. Topmakers are disappointed in the position of merinos, but they are not willing to sell except at late rates. They consider that when the spring trade is established, and when the holiday season has closed there will be a run on the finest classes of material, and that botany tops will command better rates. For the present, however, higher quotations cannot be realized, and there is very little doing. The finest crossbreds are firm, but there is no improvement in either home-grown wool or in the low and the medium classes of crossbreds, and prices are at a very low point. Mohair is firm, and in alpaca there is little change. Yarns for export are not active, but spinners have old contracts sufficient to keep frames busy and strongly maintain quotations. The home trade is quiet, and the piece branch is still disappointing, but preparations are being made for spring.

**Belfast.**—A little more business is coming forward in linens, and though the market is inactive the tendency is towards gradual improvement. Prices rule very firm and machinery generally keeps well employed. In flax, the new crop is being spread and the weather is favorable for drying. The acreage is officially announced as 10 per cent. less than last year. The spinning end is steady, though the finer end is slowly recovering. Prices are firm at the full quoted figures. The manufacturing branch is fully sustained, enough fresh business coming in to replace orders running off. White goods for home markets are rather sluggish, but the shipping trade is slowly but steadily improving.

**Dundee.**—The jute market is firm and as the season advances good jute is dearer. Unless all the information is inaccurate, jute of high quality is to be very scarce and dear this season. No doubt, as holders see the new crop is approaching, some evince a desire to sell old crop, but still the market is steady. A highly-interesting exhibition of jute manufactures has just been held. Jute has been put to many uses, and among others it was shown in a state fit for roof and floor tiling. Several large and small pipes of a composite nature were also exhibited, jute being the predominant composite. There was a large attendance, and the articles exhibited were scrutinized most carefully. The new manufactures, if they are all that is claimed for them, should prove beneficial to the jute industry.

**Kidderminster.**—There will be no alteration in the price of any quality of Axminster or Brussels carpets next season. This decision was reached at a meeting held in London. Reports from the North state that yarn spinners, though moderately busy, complain that the prices they obtain in the present state of the wool and worsted market hardly afford a reasonable profit. Heckmondwike, Liversedge, and Dewsbury carpet manufacturers are waiting for the return of the season, and in the meantime some very beautiful designs are being put into the jacquards, both squares and narrow-loom goods. Brussels of medium quality are most thought of just now. Railway and carriage rugs are in a little stronger request, and are mostly wanted to supply shipping orders.

**Kircaldy.**—Trade continues very satisfactory, and would be still better but for the scarcity and dearth of raw material. In the linen trade mill spinners are backward about buying on this account. Linen manufacturers find recent improvements well maintained, having a fair amount of orders for their goods from various centres and many enquiries. The

linoleum and floorcloth trade is very busy. Large quantities of cloths have recently been despatched, and the outlook is favorable.

**Leeds.**—A steady business representing an average bulk for the time of year is being done in the woolen market, but merchants, as a rule, are disposed to operate cautiously in worsteds and the higher classes of woolens, prices having been increased, and though there is enough work to keep machinery employed, fresh orders are largely of a tentative character. This is in large measure due to the depression which still prevails in the shipping branch. Those depending upon the home market and Colonial requirements have less cause to complain. Australian orders are coming to hand, but they are not as large as for a few past seasons, there being considerable stocks yet to be cleared. Winter demand for the home market is tolerably vigorous, though orders are not bulky. The season promises to be fairly good for the wholesale clothing factories, which as a rule are well employed. Those doing a shipping trade are busy on South African orders, and it seems probable that much of the woolen export to the Cape will for some time to come be in clothing rather than in piece-goods. Makers of materials suitable for women's wear are now showing medium and better-class samples for next spring.

**Leicester.**—The yarn market is healthy, with more new business offering, and prices are well kept up. Choice hosiery fabrics sell freely, and the deliveries are rapidly reducing stocks.

**Manchester.**—Manufacturers of cloth seem disposed to make no concessions from quotations, even if the resolution involved the stopping of looms. Few orders have been put through. Printing cloths, however, changed hands at slight advances, and bleaching fabrics were advanced with some success. Not much was done on account of India or China, and the smaller markets counted for little. Yarn for export is in poor request, but there is a rather better request for home-trade American cotton yarns. The uncertain feeling about the new cotton crop is apparently hardening the ideas of manufacturers, but any advances are as yet quite impracticable. It begins to appear as if merchants were reconciling themselves to an advance in rates.

**Nottingham.**—There is no buoyancy in the demand for yarns suitable for this market, and quotations are nominal. The demand for millinery tulles, fancy laces, and galoons is well sustained, there is an extensive business doing in these goods and suitable insertions. Bobbin nets remain as heretofore, and there is a fair demand for curtains and furniture lace.

### FABRIC ITEMS.

Velvet will be much worn the coming season for costumes, trimmings and other purposes.

Miss A. E. Menzies has bought the well-known millinery business of E. Furner at Winnipeg.

Long & Bisby, of Hamilton, recently made a shipment of wool to Lawrence, Mass., valued at \$4,748.

The New York Silk Waist Manufacturing Co., of Montreal, held their semi-annual trolley drive on August 26.

The employees of the Diamond laundry, Montreal, went on strike, owing to the refusal of the firm to recognize the union.



Miss M. Macfarlane's millinery store at St. John, N.B., has been burned.

A fire broke out in the drying room of the Windsor Hotel laundry, Montreal, but was extinguished before it had done much damage.

The stock and fixtures of Neelands & Co., clothing and gents furnishings, Winnipeg, were sold by the assignees to T. Finklestein at 60c. on the dollar.

Chatham, Ont., journeymen tailors went on strike because the merchant tailors refused to sign a proposed schedule of prices.

The hidden tip is a new fad in shoe laces, the idea being to do away with the brassy tag. Plaid laces are taking the place of plain colors to some extent.

There has been a pretty thorough clean-up of stocks of binder twine on this continent this season. Prices have been well maintained, and those who bought first appear to have bought best.

The Boston Rubber Co., of Montreal, whose factory is at St. Jerome, have come to an understanding with the Boston Rubber Co., by which they will next season adopt another name for their goods.

Flax fibre twine has come into use this year. It is made from fibre mostly grown near Mankato, runs 500 feet to the pound, and while not as attractive in appearance as sisal, is even and strong. It promises to be a successful factor in the market. The North Dakota prison twine plant is making some experiments in its manufacture.

In Europe old shoes are now gathered up and sent to factories where they are taken apart and put through a process which reduces them to paste from which a substance is produced in imitation of morocco. Stylish designs are stamped upon this material, and wall paper, trunk coverings and similar articles are manufactured from it.

The tendency of fashion for the fall season will be decidedly more artistic than for some time past. Dress trimmings will be used to a far greater extent than for a number of years. This does not imply that there will be a superfluity of trimming. The aim will be to create an artistic effect, and there will be just enough and no more.

The drought in Australia has caused great loss among the sheep owners, many of whom have been so impoverished that they have been compelled to seek employment as bullock punchers, etc. Samuel McCaughy, the sheep king of Australia, lost over a million of his herd of a million and a quarter, and other large herders have been equally unfortunate.

Sixteen thousand shearers in New South Wales are on strike. The employers are likely to win with the help of a rival union of shearers, aided by the circumstance that there is a huge shortage through drought, of sheep fit for shearing. Neither side is in favor of arbitration, and the Government refuses to exercise its compulsory powers under the new act.

Walter McBurney is arranging for the disposal of stock in a new company which will manufacture silk, linen and cotton labels, badges, ribbons, belts and ornamental drappings, of which about \$1,000,000 worth are imported every year, principally from Germany. The head office of the Colonial Weaving Company will be at Peterboro, and Mr. McBurney, who has for some years been engaged in the sale of these goods, figures out a fine profit in the manufacture. The capital stock will be \$60,000.

The employees of the Waterloo Woolen Co. held their annual picnic at Whiteside park recently.

Frank Whelpley, of St. John, N.B., is about to remove his dry goods business to Winnipeg.

The resident portion of the Toilet Steam Laundry in Pembroke was damaged by fire to the extent of \$300 the other day.

The Chinese laundry at North Bay was destroyed by fire one night recently. The Chinamen, of whom there were five, lost about \$600.

The fifth annual reunion of the employees of the mantle department of S. F. McKinnon & Co., Toronto, took place recently at Prospect Park, Oshawa.

Spratt & Killen, of Lindsay, have shipped about 15,000 pounds of washed wool, comprising the greater part of the season's purchase, to a Toronto dealer.

J. E. Bedard, the financial member of the dry goods firm of Bedard & Chouinard, Quebec, which recently failed, disappeared soon after the assignment. He left a note saying he would not be seen again.

The Smith & McKeown Shirt Manufacturing Company has been incorporated with a capital of \$15,000. The members of the company are, T. F. Smith, R. H. McKeown, and Florence W. Smith of Westmount.

Father P. E. Grendeau, of Rat Portage, has written Mr. Creelman, of the Department of Agriculture, enquiring where he can get some goats, stating that there is plenty of rocky country in New Ontario for the raising of this class of stock.

The City Laundry in Collingwood is to be taken over by a joint-stock company, with a capital of \$10,000. The directors are to be, R. B. Osborne, W. T. Allan, W. Carmichael, W. Fleischer and Mrs. Fleischer. W. Carmichael will be manager and W. Fleischer foreman.

English cotton manufacturers are eagerly anticipating the appearance of the Northrop loom in Lancashire weaving sheds. W. Livesey, one of the directors of the newly-formed British Northrop Loom Company, is in the United States with a skilled artisan for the purpose of gleanings as much information as possible with regard to the construction and working of the loom.

Dr. John C. Cracknell, of the Deimel Linen-Mesh System Co., is on a tour round the world in the interests of his company. He says many physicians look upon the Deimel Company as humanitarians, in business for the purpose of benefiting humanity more than for the purpose of gain. The goods are made of linen, and have already been referred to in detail in The Journal of Fabrics. No doubt linen mesh goods have much to commend them from a sanitary point of view.

John Turnbull, managing director of the Paton Mfg. Co., of Sherbrooke, has been telling New Brunswick sheep raisers some truths that may be of interest in all the provinces. He says the farmers make a great mistake in tub-washing their wool. No class of wool is better suited for certain grades of worsted yarn and worsted piece goods, now very popular, but preference is given to the unwashed and fleece washed wools of Ontario and Quebec. If the farmers will sell their wool either in the greasy state or fleece-washed, they will undoubtedly find an increasing market. What should be especially avoided is the tangling of wool, which is detrimental to the perfect weaving of the goods. It is not the quality of the wool, but the treatment of it that places the New Brunswick article at a discount.



Phillips & Wrinch, Toronto, and the Boston Manufacturing Co., have a suit pending against them, brought by R. W. Parramore for alleged infringement of a patent for a hose supporter.

The Province says: Vancouver is to be a hat manufacturing centre, and soon anything from a London style to a Panama may be made in that city. The factory will be operated by a firm known as the Boston Hat Company, Wm. Taylor, manager.

Wakely & Ford is the name of a new dry goods firm in Lindsay, which succeeds to the business of R. B. Allan & Co. Mr. Wakely is an old citizen of Lindsay, Mr. Ford comes from Petrolia, where in partnership with his brother he carried on a dry goods and clothing business.

Wood yarn, as now manufactured in Germany, is stated to cost about half as much as cotton yarn. It is supplied in the natural gray state, and does not bleach well, but can be dyed almost any color. It is claimed to be well adapted for a variety of uses, such as linings for garments, bed ticks, blinds, crumb cloths, etc.

Chillis G. Oliver was drowned at Magog on August 27 by the upsetting of a canoe. About five years ago he commenced an apprenticeship in the engineering department of the Dominion Cotton Mills, where he is spoken of in the highest terms. He had been married only a few months. He was an only child, and had always lived with his parents.

K. Ishikawa & Co., dealers in Japanese goods, Toronto, report a good demand for Japanese silks, which present styles favor. Japan habutai and Japan taffeta are in good demand. There has been a big run on 20-in. Japan silk. The price has advanced 10 per cent. Silk handkerchiefs, ladies embroidered handkerchiefs and black silk mufflers are in good demand.

It is reported from Manchester, Eng., that J. & P. Coats are to furnish experts to reorganize the manufacturing branch of the English Sewing Cotton Company, and that the first-named company will control the distribution of the product of the latter. The English Sewing Cotton Company controls the American Thread Company, and the new arrangement means that over 90 per cent. of the world's production of cotton sewing thread is to be controlled by J. & P. Coats.

The Privy Council has rendered judgment in the important patent case of the Dominion Cotton Mills Company and the American Stoker Company vs. the General Engineering Company of Ontario. Judgment goes for the defendants, their lordships holding that under all circumstances, as soon as any foreign patent for the same invention expires the Canadian patent if then existing should expire also. They could find no limit as to time except that the foreign patent must both exist and expire after the Canadian had been granted and before it had ceased from any other cause.

The Toronto Globe thus expresses its view of the woolen situation: "The Canadian woolen men are claiming that they can make woolens as good as any, and that the prejudice in favor of imported goods is not well founded. We believe there is a great deal of truth in what they say, and we should like to see more Canadian woolens worn. But the fact is that the woolen manufacturer weakens his own case by asking for higher protection. Protection is a means of compelling you to buy the native product whether you like it or not. The Canadian manufacturer should take his stand on the merit of his product, and those who wish to encourage native products ought to ask for them."

Fall blouses have bishop sleeve and band cuff. In silk and finer classes of goods puff elbows will be fashionable. Lace collars will be used extensively.

At New York, the market for raw cotton is stronger, the gain being due to rumors of crop deterioration, but future prices of this commodity are purely speculative.

The Peyry metric system, said to be a most ingenious device applied to the cutting of garments, securing perfect fit in all cases, especially for tight fittings, such as ladies' dresses and mantles, is being introduced in some places in Canada. A Quebec firm is using it. The system obtained a medal at the Paris Exposition in 1900.

Many farmers wonder at the low price of wool prevailing for several years past. The secret seems to be that other material is being used. In fact the amount of shoddy used by English and other large woolen mills is simply enormous. The agricultural department are investigating the matter in the interest of the farmers.

Worsted fabrics for men's wear for next spring have opened in the United States market at a general advance of 2½ to 10 cents. Other worsteds reflected the general tone more or less, but new lines of all wool goods are still offered at last season's prices. In Canada prices are firmer. Business has been a little easy, but is improving.

This summer there has been a brisk demand for the binder twine manufactured at Kingston Penitentiary. Early in the season there were 70 tons of twine on hand, but this was soon disposed of to farmers at low rates. As soon as a fresh supply of sisal was obtained manufacturing operations were resumed, and the entire product seems to have found a ready sale.

There has been an advance in the linen market. Flax has gone up to a very high figure, and manufacturers are dissatisfied as they have never been able to establish prices on the basis of present cost. There is a disposition on the part of buyers to evade higher prices by substituting lower qualities, and cotton is being freely used in the manufacture of so-called linen goods.

Canadian cotton mills are very firm in their prices, as a result of steady demand for staple cottons and cotton goods and refuse to book orders, except at full current list prices. In one or two lines there is still difficulty in getting orders filled. This applies especially to some classes of linings. Fine sateens at present are coming from the mills very slowly. The demand for these is quite heavy, as they have largely taken the place of imported goods, the trade considering the Canadian article better value than anything of the kind offering on the market. Prices of prints for next spring and summer have been issued by the mills. They are the same as last year.

A commercial war is being waged at Charlottetown, P.E.I., between the local merchants and Dunlop, Cook & Co., a fur manufacturing firm of Amherst, Halifax and Moncton, who invaded Charlottetown and proposed to sell direct to the consumers. The city council was asked to impose a tax of \$1,000 on the outsiders, but compromised at \$300. Dunlop, Cook & Co. paid this, and opened a branch, but were met with further obstructions. The newspapers were forced to refuse them advertising space, and the merchants did all in their power to prevent them from securing premises. They have now instituted actions against two of the Charlottetown papers for \$5,000 each, and intend to fight the matter to a finish. The merchants allege that they have laid in large stocks of furs which would remain unsold if the outsiders were allowed to come in.

The Montreal Steam Laundry Co. has offered its creditors 45 cents on the dollar cash, which the inspectors recommend should be accepted.

The steamship Stevens, from Duluth to Buffalo, was burned off Port Rowan on Sept. 8. Among her cargo was 32,000 bushels of flax, which was destroyed.

The Retail Merchants' Association of Ontario, at its annual meeting in Toronto this month passed a resolution urging upon the Provincial Government to prepare for the introduction of the metric system of weights and measures by having it regularly taught in the public schools. Several other associations have within the past six months urged the adoption of the metric system in Canada. Of the comparative simplicity of this system of weighing and measuring the reader can judge by getting a copy of the metric chart referred to on another page.

A new industry has been born in Essex county, Ontario, that promises to greatly increase the agriculture of the district. Some time ago a company in Strathroy purchased 500 acres at a venture, and erected a flax mill in Esscx. The first crop has been harvested, and experts pronounce it the finest flax grown in Canada. The soil is said to be well adapted to the plant, and the success of the experiment will doubtless give birth to an extensive industry in the raising of flax throughout Western Ontario.

It is said the demand for ready-made white goods for women is increasing. Women are beginning to look upon white goods as they have upon shirts. The period when every woman believed she was the most capable person to make her husband's shirt has passed, and they regard factory made white goods for ladies and children as desirable. Most of the purchases by retailers are made from travellers. Merchants are guided in their purchases by the discretion of the person in charge of the white goods department, who accompanies him to the sample-rooms. For other classes of goods he trusts to his own knowledge. The Northwest is bringing in a good share of business in this, as well as other lines.

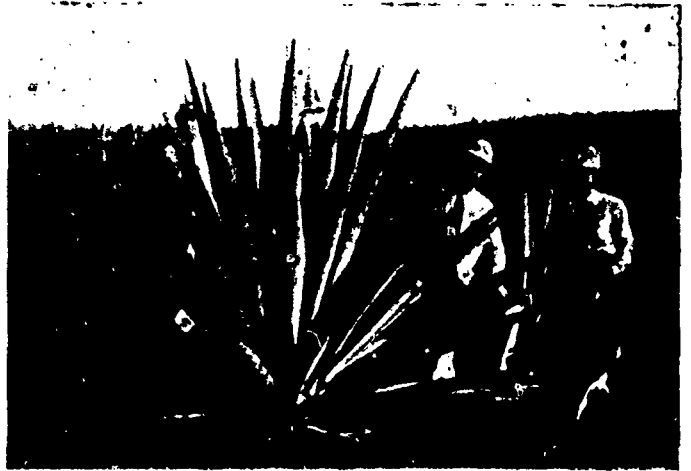
### SISAL GROWING IN THE BAHAMAS.

Sisal is so extensively used in the manufacture of twine that any facts relating to its cultivation and manufacture are of interest. The following, for the substance of which we are indebted to the Scientific American, relates to its cultivation in the Bahamas.

When the land for a sisal plantation has been selected, the young plants, which are not larger than a man's hand, are set out at intervals of several feet. In three or four years the leaves will have attained a length of three or four feet, when they are ready to be harvested. All the outside leaves are cut off close to the ground, leaving three or four around the centre still on the plant. The shining green leaves are taken to the factory, and fed into a machine where two rapidly revolving wheels, set with brass knives, quickly tear the green pulp from the strong fibre. The pulp is carried away by running water. Each leaf contains only  $3\frac{1}{2}$  to 4 per cent. of fibre, and about three-quarters of a ton a day is thus obtained. The wet fibre is carried to the drying grounds where it is allowed to bleach in the sun. When dry it is taken into the warehouse in masses of shimmering white fibre, three or four feet long. Here it is baled, under a pressure of some thirty tons, into bales of 400 or 500 lbs. to be shipped to

twine manufacturers. The fibre in this state is worth about nine cents a pound.

A single sisal fibre will sustain a strain of nine lbs., and



A Sisal Plantation.

it would seem as if it might be used for weaving fabrics the same as flax, but an examination shows that the fibre tapers from butt to tip of leaf. It is possible the shorter fibre, worth only about five cents a pound, might be used to give strength to shoddy or in making an untearable paper.

The green refuse, which amounts to about 95 per cent., and consists largely of carbonates of lime and magnesium, with 6 or 7 per cent. of potassium salts, is a valuable fertilizer, and experiments are being made with the idea that, as it readily ferments, it may prove a valuable source of alcohol and acetic acid.

Though usually known as sisal, the name is merely derived from the shipping port of that name in Yucatan, where it is extensively grown. The plant really belongs to the agave family.

### LITERARY NOTES.

Following upon the "human documents" concerning the West Indian eruptions which were printed in The Century for August, the September number presents the results of the scientific investigations made by Professors Robert T. Hill and Israel C. Russell, who were on the Dixie relief expedition which visited the islands in the latter part of May. The personal impressions and conclusions of these geologists are supplemented by maps and a large number of photographs taken by themselves and others. Besides fiction and several humorous articles, there is a paper by the author of "Elizabeth and Her German Garden," being her first contribution to an American magazine. A paper well worthy of study by serious citizens is one by Sylvester Baxter on "Civic Improvement in Street and Highway."

The October Delineator is likely to attract unusual attention on account of the fine presentation of the autumn fashions in that number. In the literary section Dr. Grace Peckham Murray continues her special articles on Child Training, and that on the backward child will prove helpful to every mother who reads it.

The P.E.I. magazine for August is a very readable number. A sketch of ancient ships and shipping, by J. T. Clarkin, an account of a tour in the Rockies in a dog cart by two

ladies, and an instalment of a series of Micmac legends, by J. S. Clark, are among the best contributions.

The first of a new series recently authorized by Congress, has been issued by the Bureau of American Ethnology at Washington. The initial number of the new series is 25, "Natick English and English-Natick Dictionary," by James Hammond Trumbull, it will be ready for distribution within a few weeks. Number 27, "Tsimshian Texts," recorded and translated by Franz Boas, is in press; several others are in preparation, including a new edition of the "Introduction to the study of Indian Languages," by J. W. Powell, and the "Diccionario de Motul, an extended dictionary of the Maya language, revised by the late Dr. Berendt, and afterward by the late Dr. Brinton, and now undergoing final revision by Senor Andomaro Molina, of Merida, Yucatan. The publications of this department are models of their kind, and it is a pity that the Canadian Government does not co-operate intelligently in this work.

The leading place in The Canadian Magazine for September is given to an article by W. J. Thorold on the significance of the King's Coronation and the colonial conference in London. Another part in the same number worthy of mention is an introduction to the leading constellations in the autumn sky, by Elsie A. Dent. This taken in connection with similar papers in other magazines, is an evidence that Astronomy is becoming one of the every day studies as it should be. The paper is illustrated by maps of the constellations, which, however, are not very well drawn or engraved.

The 30th annual report of the Silk Association of America makes a pamphlet, or one may fairly say book, of 142 pages, and contains a great mass of well arranged statistics on the silk trade of the United States. Apart from these tables, and the addresses delivered at the annual meeting, the report deals exhaustively with a proposed standardizing of the silk skein under the name of the "Standard American Silk Skein," set forth on pages 30 to 36 of the report. The tabulation of silk imports from France, Switzerland, Germany, Italy and Great Britain, by classified articles of imports for the past ten years, and by consular districts for the past three years, on pages 113 to 127, is now made for the first time in the form presented. A great deal of information is of course given about the remarkable progress of the silk mills of the United States.

The Shoe and Leather Journal strongly urges retail boot and shoe merchant to have a glove department in connection with their business. It seems reasonable that footwear and hand-wear should go together.

The Textile Trades were well represented at the Annual Meeting of the Canadian Manufacturers' Association, held at Halifax in August. Tariff matters got considerable attention. The members visited Sydney, St. John, and other points.

### CANADA'S WOOLENS GOOD ENOUGH.

The Toronto Star gives the following interview with a manufacturer, which further illustrates what the Journal of Fabrics has often stated, and shows the position of the Canadian woollen trade:

"Here is an instance of what the Canadian manufacturer is up against: A short time ago I sold some Canadian woollen goods to a house in Guelph. I didn't say they were imported goods. There was no misrepresentation. He bought them on their merits, but evidently thought they were imported, for his firm has the reputation, which they seem to

value highly, of handling only imported stuff. These particular goods were made in the adjoining town of Hespeler, and one day the Hespeler manufacturer happened in to the Guelph store.

"'Oho!' said he, 'I'm glad to see you are handling some Canadian goods now.'

"'Those aren't Canadian goods,' said the storekeeper. 'Those are Scotch tweeds.'

"'Well, anyway, I made them in Hespeler,' was the reply

"Now, would you believe it, the next afternoon we got that consignment back here, and a raking over the coals—wholly unjustified in the bargain.

"I have seen a line of Canadian goods go slowly. I have seen it labelled British and the price advanced 25 per cent., and become the best seller on the road. Now, what do you think of that?

"One time I sold a line of German goods to a man who by some mistake thought they were Canadian. They didn't go very well, and after a time he wrote asking to be allowed to return these 'Canadian goods.' He was greatly surprised when told they were German.

"I tell you that Canadian mills are turning out to-day intrinsically better values than are the foreign manufacturers in the same lines of goods. Canadian goods are being sold on their merits to-day in England and the United States.

The Canadian women have saved the Canadian manufacturing business in woollens. I can't give the ladies too much taffy on this point. Perhaps a man is a protectionist and talks loudly, and at the same time goes and buys an imported suit, while his wife buys the cloth for her dress on its merits and says nothing. And it is a fact, that Canadian goods have almost supplanted imported women's dress goods in the last few years. The women's dress goods business stayed the manufacturer over a critical period, too, about eighteen months ago.

"The men are following suit. Our business has trebled in the last two and a half years, and I can tell you that the increase has been largely due to our Canadian lines, the increase in these being quite out of proportion to the increase in imported lines. We simply cannot give the Canadian goods their due. If we praised them as they deserve people wouldn't believe us. Dyeing, too, is as well done here as in Europe.

"The tariff of 23½ per cent. against British goods does not put the Canadian manufacturer on an even plane, considering his high wages, interest, insurance, dyeing, etc. As for freight, I can have goods shipped here at less cost from England than from Canadian factories. However, if the duty was three times as great, I think some Canadian factories would lose just three times as much money, while as it is some of their Canadian competitors are paying big dividends."

### THE COTTON MARKET.

Reports of the cotton crop for the year ending 30th Aug. 1902, give the amount grown in the United States as 10,768,195 bales, which is about 350,000 bales larger than last year. For the Canadian trade orders are now being taken for spring delivery on the basis of present prices. The principal Canadian mills have sufficient stocks on hand to last till the end of November, and there is not any present prospect of higher prices. Prices in New York are spot, middling uplands 87½c; middling gulf, 9½c.

### THE JUTE CROP.

An official forecast of the coming jute crop in India has been issued. The area sown this year is estimated at 2,200,000 acres, or 87,800 acres below what is considered a normal area. The normal outturn is estimated at three bales per acre, which would give a total crop of 6,600,000 bales from the estimated acreage, but this year's yield per acre is expected to prove only 80 per cent. of the normal production per acre, and making this reduction a total crop of only 5,280,000 bales is shown. The area sown last year was estimated as 2,240,000 acres, and the yield per acre as 96 per cent. of the normal outturn, showing roughly 6,500,000 bales as the 1901 crop. It is now believed that this estimate was too low, and that the actual return from last year's sowings was 7,500,000 bales. Should the present year's estimate prove equally inaccurate, the yield will be about 6,000,000 bales.

### JUST FIFTY YEARS AGO.

Saturday Night reproduces an extract from a letter in the Toronto Examiner, just fifty years ago, which shows the opposition the sewing machine, then just introduced, met with from the working classes. The following is the extract: "By the introduction of machinery which perfects and cheapens manufactures, general interests are subserved, although individual and class interest may temporarily and partially suffer. We were led to these observations by a turnout of the working tailors of the city in procession on Monday last, with banners and music, apparently to celebrate the triumph they had obtained over a master who had introduced one of the American patent sewing machines, but who, at the dictum of the Sons of the Needle, has been compelled it is said, to give it up, or at least to give a pledge that he will no longer work it."

Commenting on this, Saturday Night goes on to say: Thus, only half a century ago, the introduction of what was unquestionably one of the most beneficent inventions of the nineteenth century was opposed in Toronto. It reminds one of the story of the man who first brought a fanning mill to Scotland, and who was denounced as an atheist for getting up a gale of wind when Providence intended a calm.

### AUSTRALIAN SHEEP FARMS.

"The sheep farms of Australia," says an American visitor, "the world has never seen anything like them. There were big flocks in the days of the patriarchs, when Abraham and Lot had to separate to get new grazing grounds. It is written that King Solomon sacrificed 120,000 sheep when he dedicated the Temple, and we know that Mesha, King of Naob, gave Jehoram, King of Israel, 100,000 lambs as tribute. The pastoral magnates of those days must have had large farms, but there are farms here in Australia as big as all Palestine. There are sheep stations one hundred miles long." These big stations, according to the writer, are actual farms. The land is divided up into great fields or paddocks, fenced with smooth wire, except along the road, where barbed wire is used. The average paddock contains eight hundred acres, but there are many which are larger. Some contain several thousand acres, and single paddocks have from two thousand to twenty thousand sheep. Out of the millions of sheep owned in New South Wales the greater number are kept in fenced paddocks. There are thousands of miles of wire netting put up as fences to keep out rabbits; the station building and wages books represent an enormous sum. The rates of wages show an upward tendency, and the rations are

on a liberal scale, necessitating food supplies in considerable quantities. "Some of the big squatters," we are told, "live like lords." They have low, one-story houses, roofed with galvanized iron. Their homes have a score or more rooms with wide verandahs running around the outside. They have many servants, and their surroundings are more like those of a feudal baron than of the ordinary sheep farmer. Most of them are well educated, many are college bred, and their establishments show all the evidences of culture and taste. There is one squatter who has a picture gallery which cost him £25,000. Others have fine libraries and music rooms, and in all you will find the leading Australian and London newspapers, especially those of a sporting character. There are large stables connected with these establishments, with horses for riding and driving, as well as those for men employed on the estate. On most stations you will find a good supply of guns and fishing tackle, and not infrequently tennis, cricket, croquet, and golf grounds." Among the employees of every station are the boundary riders, men who ride about the fences day after day and see that everything is all right. These men spend all the time in the saddle, riding forty, fifty, and sometimes a hundred miles daily. They carry their blankets with them, and at night sleep on the ground, hobbling their horses beside them. Some of the boundary riders are apprentices, and a few of them, sent out here to learn the business, get no wages. Every station has its manager and its overseers. On the larger stations there are bookkeepers and storekeepers. Nearly everyone has its blacksmiths and carpenters, its gardeners, hostlers, and men of all work. The managers get high wages. They are skilled men, and it depends largely upon them as to whether the station furnishes a profit or loss. Some of them are experimenters. They study sheep-breeding, and claim that they can increase the wool clip by doing so. One, for instance, who has charge of 150,000 sheep, recently asserted that he had raised his wool crop more than 75,000 pounds a year by improving the character of the stock. At present there are millions of sheep shorn every year by machinery. The sheep-shearing machines are run by steam, compressed air, and electricity. The force is communicated through a flexible tube like that of the dentist used for drilling out teeth, to clippers like those used by the barbers in cutting your hair. The clippers consist of little knives, which move backward and forward over each other like those of a mowing machine. They go at the rate of 4,000 movements per minute, cutting through wool as a hot knife cuts through butter, and taking it off more smoothly and cleanly than by hand. After the wool is shorn it is sorted and packed. The different parts are put in different bundles, which are sewed up in bags and are then ready for shipment to the markets. On some stations the wool is baled in packages of 390 pounds. Many of the stations are miles from the railroads, and in such cases the wool has to be carried there on carts drawn by oxen. Some carts will carry ten tons, a yoke of eight or ten oxen being employed to draw them. This makes the cost of transit to the place of shipment very heavy compared with that of conveying it to oversea ports. In New South Wales the State Government is doing its best to extend the State railway system into the most remote districts, with the object of assisting the further development of the pastoral and agricultural industries.—Commercial Intelligence.

### GLOVE MAKING.

Most people believe that France is the glove-making country par excellence, but this view is incorrect if we accept inventions as authority. That periodical tells us that Germany

has the largest number of concerns engaged in the making of leather gloves of any country in Europe, the number being over 1,100. Of these 1,000 are engaged in the making of kid gloves. There are besides, 100 tanneries for kid and 40 tanneries for shoe-making leather. There are 85 glove concerns that work exclusively for export. Of the other countries, Austria-Hungary has 350, France, 225, England, 190; Italy, 100, and Sweden, Norway and Spain, between 50 and 60 glove manufacturing firms each. Russia has only about 30. There is in Germany no important glove making centre, the industry being scattered. In Austria the glove making centres are Prague and Vienna, in France, Paris, Grenoble, and Chaumont, in England, London and Worcester, in Italy, Naples, Milan, and Turin, in Sweden, Stockholm and Malmö, and in Belgium, Brussels.

### LENGTH OF BELTING.

The following rules for arriving at the length of belting required to join up two pulleys are given in a recent number of *Wood Worker*. Suppose the distance between the centres of two shafts is 14 feet, the diameter of one pulley 8 feet and the other 4 feet, and the thickness of the belt  $\frac{1}{4}$ -inch. Then half the circumference of the 8 foot pulley is 12.5664 feet, and half the circumference of the 4 foot pulley is 6.2834. Three times the thickness of the belt is  $\frac{3}{4}$  inch, or .625 feet. Then 28 plus 12.5664 plus 6.2834 plus .625 equals 46.9103, or 46 feet and 10 15-16 inches is the length of belt. Therefore, the rule for a straight belt is this: To twice the distance between the two centres add half the circumference of each pulley, with three times the thickness of the belt.

To find the length of a cross belt the rule is more complex. First, the distance from the centre of each pulley to the centre of the point where they will cross must be obtained. If both pulleys should happen to be the same diameter, the cross will occur exactly in the centre of the space between them. If not, then that point will be in proportion to their respective diameters and may be found by the following rule: Divide the diameter of the larger pulley by that of the smaller and add 1 to the quotient. This will represent the number of parts into which the distance between the centres is supposed to be divided. Then, as the whole number of parts is to the parts taken by the larger pulley, so is the whole distance between the centres to the point where the cross will occur. Example.—A pulley 8 feet diameter is to drive one of 4 feet with a cross belt  $\frac{1}{4}$ -inch thick, the distance between the centres being 14 feet. Required the distance to the point where they will cross and the whole length of the belt. First find the point where they will cross by the foregoing rule—8 divided by 4 equals 2, plus 1 equals 3. This represents that the 14 feet are supposed to be divided into three parts, and as the diameter of the small pulley is contained in that of the larger one twice it shows that the two parts of the three must be taken by it—3 is to 2 as 14 is to 9 feet 4 inches. Now as the whole distance is 14 feet and the larger pulley requires 9 feet 4 inches the distance from this point to the smaller pulley is 4 feet 8 inches, so that the distance from the centre of the large pulley to the point where the belt will cross is 9 feet 4 inches, while the other from the same point will be 4 feet 8 inches. If a horizontal line be drawn through the centre of each pulley, extending from one to the other, and a perpendicular line also drawn through the same points intersecting it at right angles, there will be two right-angled triangles formed, the base of one being 9 feet 4 inches, with a perpendicular equal to the radius

of the 8 foot pulley, or 4 feet, while the other base will be equal to 4 feet 8 inches, with a perpendicular equal to the radius of the 4 foot pulley, or 2 feet, the belt in each case representing the hypotenuse, and as the square root of the sum of the squares of the base and the perpendicular of any right-angled triangle equals the hypotenuse, it is evident that the hypotenuse of these two figures must represent the length of belt between these two parts.

The operation perhaps will be more simple and easier understood if the whole be reduced to inches. Then 112 times 112 equals 12,544 inches, and 48 times 48 equals 2,304 inches, being the square of the base and perpendicular in inches. Then 12,544 plus 2,304 equals 14,848, the square root of which is 121.85 inches. With the other proceed in like manner—56 times 56 equals 3,136, and 24 times 24 equals 576, and 3,136 plus 576 equals 3,712, the square root of which is 60.92 inches. Now if each of these sums is doubled, and half the circumference of each pulley, with three times the thickness of the belt, be added together, their sum will be equal to the whole length of belt required in inches which, when reduced to feet, will be found to equal 48 ft.  $1\frac{1}{2}$  inches.

### AN EGYPTIAN COTTON BELT.

The British Cotton Growing Association, which, with the hearty co-operation of the Colonial Secretary, Joseph Chamberlain, is striving to render the British Empire independent of the United States so far as raw cotton is concerned, is now paying special attention to Upper Egypt, where, it is asserted, the association can develop a cotton belt dwarfing that of the Southern States of America. Major Count Gleichen, secretary of the Sirdar of the Egyptian forces, Major-General Wingate, addressing the association at Manchester recently, said the experiments now concluded on the banks of the Nile show the quality of the cotton grown there to be the equal of any in the world. There are available fifteen million acres of irrigated land, and the only difficulty is the labor supply, the dervishes having depopulated the Soudan, but the completion of the Suakim-Berber railroad is expected to solve the problem, besides furnishing an outlet for the crop.

### ROPE AND TWINE MANUFACTURING IN NOVA SCOTIA.

Some thirty years ago, the shipbuilding industry in Nova Scotia, New Brunswick and Prince Edward Island had assumed large proportions, wooden sailing vessels of large size, which took an important part in the ocean carriage of the world were built, and to supply the cordage to equip these vessels the rope works, now operated by The Consumers' Cordage Company, at Dartmouth, were built as a private enterprise in 1869. The works now occupy ten acres of land and comprise some thirteen buildings. The original establishment consisted of the rope walk, upwards of 1,200 feet from end to end and probably the longest building in the provinces, the three-story brick building and the tarring house. The rope walk to-day is the same as at the beginning, it is capable of turning out ten tons of rope per day, and is equipped with machinery of the most approved type on which cables of the largest size are made. The other buildings which have been added from time to time are of wood and are one story only. The machinery is up-to-date, a portion having been recently built in the company's own machine shop, while the greater part is of English and American origin and designed especially for the manufacture of cord-

age and twine from Manila, Sisal, New Zealand, and Mauritius fibres, Russian hemp and jute. The machinery is necessarily very varied, and as the fibres are all very long and strong, has to be large and heavy and the wear and tear is very severe. New machines are continually being invented which have to be purchased. For several years the Maritime Provinces continued to add more and more ships to their large fleet of sailing vessels, until toward the end of the seventies sailing vessels began to feel most severely the competition from the iron steamers which were being turned out from the Clyde, and very soon the building of wooden ships was to all intents and purposes abandoned, so that to-day the most desirable orders for large shrouds and hawsers are few and far between.

In the earlier years the fishing industry was a small one, but it has now assumed large proportions, and the fishing fleet which fits out every year for the bank fisheries, for Labrador, for the Gulf of St. Lawrence and for the shores round the three provinces, takes a large amount of rope. Most of this rope is small in size, but as the number of vessels is large, and all draw their supplies for outfits as well as for refitting from the home market, the annual demand is large. Besides the small rope for the running rigging and warps, each vessel fishing on the Grand Banks carries about 240 fathoms of tarred manilla cable to which to ride when at anchor. These cables are generally 9 to 10 inches. Another industry which from small beginnings has assumed large proportions is the lobster fishery, now taking annually thousands of coils of still smaller rope and a large quantity of specially made lobster marlin for the manufacture of the netting for the lobster traps. A vessel losing her cable on the Banks is able to run into Halifax and have a new cable made, probably 240 fathoms of 9 inches in a few hours, thus enabling the vessel to get to sea again the same day, or, if a short piece only is required to splice on to the broken one, this can be made the proper length without loss of time or waste of material. Had the fishermen to wait for a week, as would probably be the case, to get this cable from some large centre, the loss would be a most serious one, or were the dealers to hold these cables in stock they would have to charge a large price even for full lengths, and when short pieces were wanted they would in many instances have to sell the nearest lengths they had, which would be very costly and inconvenient.

One of the most important products of late years is binder twine. Some twenty years ago, when the automatic binder machine was invented, the rope works commenced making twine for the harvesters. The demand at first was very small, as the new machine was more or less of an experiment, but gradually as the advantages of the binder were recognized, its use became general among the farmers of Ontario, and the demand for the twine grew larger year by year. To meet this demand the binder twine factory was built in 1883. This trade continued growing until the Ontario farmers were all well supplied with harvesters and by that time Manitoba was opened up as an important wheat country, and Nova Scotia binder twine gradually found its way across the continent, as far west as the Rocky Mountains, and north to the new wheat lands of Edmonton and Alberta. Looking forward to the development of the wheat lands of Manitoba and the North-West Territory, the Canadian manufacturers of binder twine have hopefully anticipated a large market in the new West, but the result has been disappointing to the manufacturer, and the growth of the twine industry, which should have been proportionate to the enormous increase in the grain production of the North-West, is prac-

tically at a standstill. Instead of a large increase of business in that direction, and in spite of the increased acreage of wheat and notwithstanding the increase of Canadian grown grain, there has been no development of the twine industry. It is a fact that not as much Canadian twine is now consumed in Canada as a few years ago. All Canadians have been pleased with the reports from year to year of the development of the North-West, and they speak with pride of the immense wheat crop of 50,000,000 bushels in the current season. It would naturally be supposed that the twine industry would benefit thereby, and such would be the case States during the past few years have increased their production by the aid of new machinery until at present their output far exceeds the home consumption, and they have consequently put forth most determined efforts to secure the Canadian trade, which provides them with an outlet for their surplus twine. The season in the States is much earlier than it is in Canada, as the ripening of the grain follows the march of the sun north from Texas to Manitoba, and thus a large portion of the twine which is found not to be required by the American farmer is sent to Canada and sold. The Americans almost control the market provided by the North-West, and while the foreign twine is admitted to this country free of duty, if the Canadian manufacturer contemplated selling his product across the line he is met at once with a prohibitive duty of 30 per cent. Binder twine in common with many other articles, such as self binders, reapers, mowers, etc., had been subject to a moderate import duty, but for some reason this duty was removed, and twine only placed upon the free list. The machine which the farmer uses to sow or harvest his grain costs many times as much as the value of the twine he would consume, but the import duty on agricultural machinery is properly maintained. The transfer of binder twine to the free list gave the Americans a grand opportunity of entering into the Canadian market, and while this market had been unnoticed by the American manufacturers previously, they have, since the removal of the duty, made a determined effort to take advantage of the opportunity afforded them for extending their trade. This is without doubt the explanation why the long looked for development of the Canadian twine industry has not as yet taken place.

The rope works at Dartmouth now find employment for about 200 hands, many of whom own cottages of their own in the vicinity of the works, and a pretty and prosperous village has been created. There is a church where services are conducted, and a Sunday school. The social side of life is cultivated by a club under the auspices of the wealthy residents of the locality, where pleasant socials and literary entertainments help to spin out the winter evenings.

The Consumers' Cordage Co. and their predecessors who first owned the Rope Works, have done a great deal for the locality, and have given employment to an industrious portion of our population, who have in turn helped to build up the community in which they live and make it prosperous. The works have also done a great deal for fishermen and other consumers of twine, who have been able to get exactly what they need for their various purposes.—Condensed from Industrial Advocate.

—The weaving industry of Formosa has been found to be a lucrative business, and an experiment is proposed for the weaving of stuffs from the tissue of pineapples, ramie, etc which are largely exported to China.



### FINISHING PREPARATIONS.

Mr. Max Dietzmann writes to the Berlin Faber Zeitung as under:—The various preparations used for finishing fabrics and put upon the market under all kinds of high-sounding names are for the most part mixtures of substances well-known under common appellations; the fancy names given to the mixtures rarely afford any clue to their composition, and their purchasers usually have to pay a high price for a fine name and a lot of water. Some of them, it is true, are very efficient, but the finisher can always make them for himself for less than he has to pay for them ready-made if he knows his business, and therefore, what is required for finishing any particular class of goods.

The fundamental ingredients of the various compositions may be classed under three heads:—1. Thickening and stiffening substances. These include potato-pulp, starches, dextrine, gum-arabic, tragacanth, glue, gelatine, carrageen-moss, linseed and lastly vegetable gelatine—a product obtained by treating potato-pulp with caustic soda-lye and the neutralizing with sulphuric acid. 2. Substances for filling and imparting a stiff handle. Here, we have various neutral salts; common salt, Glauber's salt, Epsom salts, and phosphate of soda. 3. Substances for imparting a soft smooth handle. Such as glycerine, magnesium chloride, aluminum chloride and calcium chloride. These act by absorbing moisture from the air; the one most used is glycerine. A finishing preparation made exclusively from bodies belonging to Class 1 would give a board-like stiffness. Hence those of Class 2 are also added, and if it is required, as usually happens, especially for superior goods, to improve the handle without affecting the smoothness, Class 3 is also necessary.

By suitable mixtures, every possible finishing effect can be produced, if the effect of each ingredient is kept in view. The boiling of the composition, to amalgamate the ingredients, requires a certain amount of skill, which, however, can quickly be acquired, at no great expense, by experiments on a small scale. A very good plan is to boil under pressure in a suitable machine, such as that of Starke, of Gera, where the mass is kept stirred up by blowing steam through it. We thus obtain perfect emulsion of the starch and a quite uniform paste, without any of those lumps which are so apt to be present in pastes made in the ordinary way. Anyone who buys his finishing preparations ready-made pays freight, etc., on a large quantity of water. But he can buy the ingredients free from water, and the erection of the boiling plant entails very little expense. It is therefore obvious that it is by far the best plan for everyone to make his own finishing preparations. He then knows of what they are made, and if they do not act satisfactorily the fault is his own.

### WATER IN BOILERS.

Where does the water go to when the boiler is shut down and the steam pressure is maintained and no steam used for any purpose? A certain boiler was recently held in reserve, the steam pressure being maintained at the usual point for several hours, when it was found necessary to introduce more water. All the valves in the boiler were tightly closed and were believed to be absolutely steam tight because no steam or water could be seen escaping anywhere about the boiler. To all appearances no steam was getting away, yet the constantly lowering water level indicated that the water was in some manner disappearing from the boiler.

Numerous instances of this kind have come to light, but

no one seems to have taken sufficient interest in the matter to investigate it and discover the reason for the loss. Although the loss of fuel in such cases is small and not particularly noticeable in the total cost of operation, still it goes to show that fuel may be wasted, often much more rapidly than is apparent to the casual observer, and in ways little thought of by those who have not paid particular attention to small leaks. One instance in which the escape of steam was detected, was in the case of a boiler of the return tubular type situated in a frame boiler house, the top of the dome reaching nearly to the roof. Windows had been placed in the walls above the boiler setting to facilitate work on top of the setting, such as packing valve stems and cleaning the boiler. The valve stems had been newly packed and everything about the boiler seemed perfectly steam tight. The drips in the steam pipes leading to different machines failed to show any leakage of steam past the stop valves, yet some steam was evidently getting away, the fact being indicated by a very gradual lowering of the water level while the steam pressure remained constant. The weather being rather cold it was suggested that by opening the windows above the boiler the escaping steam, if any, would become partially condensed, and would then be visible in the form of vapor. Lowering the temperature above the boiler showed that every valve stem leaked, a column of vapor about a foot high, rising from each stuffing box. The vapor, if condensed, says The Engineer, would produce several pounds of water in the course of 24 hours and would account for a large percentage of the total amount escaping. One cubic foot of atmospheric pressure weighs about one-half ounce, so that for every 32 cubic feet of steam escaping there would be one pound less water in the boiler. This volume of steam can escape in a surprisingly short time without making sufficient noise to be heard at a distance of even a few inches from the valve or other points of escape.

The steam issuing from the stuffing boxes on the valve stems had first to pass through the packing and escaped at a velocity so low as to render it absolutely noiseless under ordinary circumstances. It was only by lowering the temperature of the boiler room and disconnecting the blow-off pipe that a slight vapor was to be seen at the blow-off valve. This vapor when condensed was merely sufficient to produce 24 drops of water per minute, yet this amounts to  $4\frac{1}{2}$  pounds of water or about half a gallon in 24 hours. This added to the steam escaping at the stuffing boxes would undoubtedly have represented a large percentage of the total loss.

Attention is not called to this matter because it represents an important source of loss in the boiler plants, but to show that the loss of water from a boiler under the circumstances mentioned is not at all mysterious.—Textile Excelsior.

### KILLED BY CHEAP LABOR.

A. F. Hawkesworth, manager of the Merchants' Cotton Company, Montreal, who has been in England, stated, in a recent interview, his opinion of the cotton manufacturing situation in Canada in the following terms: "Cheap labor in the Old Country and the preferred tariff is killing the white cotton manufacturing industry of Canada. I have been in all the leading mills of England, and carefully examined the wages paid and the operation of the various departments in a cotton mill, and found that there was a difference ranging from 25 to 35 per cent. in the price paid for piece and day labor in these mills as compared with what we are paying. Our operatives are all more or less discontented with their condition, and are looking for a better place, while the English operative is content, and remains from father to son.



year after year, in the same business. I tell you the tariff will have to be changed. The manufacturers have been at the Government for some time to give us better protection, but nothing has yet been accomplished. The present tariff, together with the preference clause, does not give us sufficient protection to meet the competition of the English cotton manufacturer in the matter of fine goods for bleaching purposes, which are, to a great extent, crushing out our white goods business. Canadian cotton manufacturers not only have a light tariff to protect them against the cheap labor of England, but they do not have as skillful operatives nor as contented as in England, and this discriminates against them in the matter of fine goods, but with proper protection Canadians could soon pay the same rate of wages as is being paid in the United States, and by that means eventually secure as good a class of operatives. Canadian manufacturers are not suffering in the production of coarse gray goods, that do not take quite as much skill in the manufacture, and that are relatively better protected, so that the whole trouble with us seems to lie in the direction of getting more protection for our fine white cottons, and I think that the Government should take this matter into serious consideration, and give us the protection necessary to save our business."

### A FREAK IN HOSE.

A new idea in freak hose was noted recently in a retail importing store on Fifth Avenue, New York. This was a man's black hose lettered up the leg with the following design:

Union Pacific .....	107¾
Baltimore and Ohio .....	111½
United States Steel .....	40¾
W. U. Telegraph .....	92¼
American Bicycle .....	7
Manhattan Elevated .....	136
Chicago and Alton .....	42

These were hose that might perhaps please the dealer in stocks and bonds. They retailed for \$1 a pair.

### QUEBEC MANUFACTURERS.

A branch of the Canadian Manufacturers' Association has been formed at Quebec. Forty-three manufacturers were represented at the organization meeting. The following officers were elected: President, G. E. Amyot, Dominion Corset Manufacturing Company; vice-president, W. A. Marsh, of Wm. Marsh & Co.; secretary, J. Picard, Rock City Tobacco Company; committee, S. H. Carrier, Carrier, Lane & Co.; G. A. Vandrey, manager J. A. Paquette; J. S. Langlois and T. S. Hetherington.

### THE STRIKE AT THE TORONTO CARPET FACTORY.

The strike among the operatives of the Toronto Carpet Mfg. Co. has led to considerable unpleasantness and some litigation, and possibly the end is not yet. After the strike occurred F. B. Hayes, secretary-treasurer of the company, went to Lowell, Mass., in search of loom fixers and weavers. He secured two brothers named Pierre and Frederick Derocher, whom he brought to Toronto. For this he was, at the instance of the Union, summoned before Police Magistrate Denison for a violation of the alien labor law. The evidence showed that in engaging the men Mr. Hayes had technically contracted with them to work in Toronto, and also that he had endeavored to keep within the law by engaging French-Canadians, former residents of Canada. These

persons, in the opinion of the magistrate, could not be termed aliens under the act, and had both men been Canadian-born no conviction could have been made. Frederick, however, had been born in the United States, his parents and Pierre having removed there from Canada 27 years ago. The court held, therefore, that Pierre was not an alien, but that his brother was. A conviction was therefore made in the case of Frederick. Counsel for the Carpet Weavers' Union asked that a heavy fine be imposed. His Worship, however, said that as in his opinion Mr. Hayes had endeavored to secure French-Canadian workers, and that in the case of Frederick Derocher he had evidently been misled, believing that both of the brothers were still Canadian citizens, he would impose the minimum fine of \$50 and costs or 30 days in jail. The maximum fine is \$1,000. The fine goes to the Carpet Weavers' Union as informers. During the progress of the case the magistrate expressed his opinion that renegade was a fit name for naturalized citizens, and that if a man leaves his own country for 27 years and then returns he is not an alien, his return is merely a sign of returning consciousness. The case has been appealed on the ground that the child of Canadian parents is a Canadian wherever born.

So far as the Carpet Co. is concerned the strike is at an end, as the places of the strikers have been filled, and the factory running full time.

### PAPER FROM SHRUB-PULP.

The Antaimoro, one of the oldest tribes of Madagascar, possesses the secret of making, from the pulp of a native shrub, a very beautiful and enduring kind of paper, resembling parchment. Each family possesses a few sheets of this paper, on which its chronicles and traditions are recorded, and the same paper is used for transcribing the laws of Mohammedanism. The paper is said to have been invented in the middle of the ninth century by a Mohammedan shipwrecked on the coast, who desired to transcribe his torn and water-soaked copy of the Koran in an enduring form.

### CARBONIZATION OF LIGHT WOOLENS.

The pieces rough from the loom are washed in warm water until all dressing is removed, the complete and thorough cleansing being the main condition of successful dyeing and finishing. After hydroextracting the pieces are ready for the carbonization. For this purpose they are put into clean water mixed with sulphuric acid to show 3 deg. Be. In this bath the woolen stuff is worked for 20 to 30 minutes to thoroughly impregnate with the dilute acid the vegetable matters that may be contained in the fabric. Then the goods are drained and hydroextracted at high speed. Then the selvedges containing ornamental cotton threads are covered with carbonate of soda, or water glass and the goods dried at 40—50 deg. C. When they are dry the temperature is raised to 80—100 deg. C. and maintained until the now concentrated acid has destroyed all vegetable fibres with the exception of those contained in the selvedges. Next follows thorough rinsing with water and soda, and fulling directly after it. After fulling and washing the dyeing can at once be proceeded with.

### ARTIFICIAL SILK MAKING.

A factory has been started at Wolston, near Coventry, for making artificial silk. The material passes through eight processes, which are as follows: Cotton waste is bought already bleached and freed from seed and grease; it is sorted

by hand on arrival to throw out all grease-stained bits and is then dried at 100 degrees Fahr. The cotton, which contains less than 1 per cent. moisture, is put into earthenware jars (one kilo in each jar), with a mixture of nitric and sulphuric acids; the temperature is kept uniform and low to prevent formation of highly-nitrated compounds. After six hours the nitro-cellulose formed is pressed into a hard cake to remove the acid liquids. The pressed cake is next roughly broken by hand, and washed mechanically till free from acid. The washed nitrocellulose is then dried in a hydro-extractor, which leaves about 28 per cent. of moisture. The dried material is put into a drum with a mixture of alcohol and ether; it dissolves to a liquid stiffer than treacle, which is next forced through a filter by air pressure to ensure a perfectly clear liquid. The clear collodion solution is now ready for the production of artificial silk. The clear solution is forced under 300-lb. and 400-lb. pressure to the silkworm machine, which "spins" the silken filament, the sticky liquid being ejected through glass jets with orifices in  $1/250$  or  $1/10$  mm. in diameter. The room is kept at a temperature of about 72 degrees F., so that the ether evaporates readily, and the collodion on its passage from the bobbin, a distance of 2 ft. 9 in., is solidified; the filaments from several nozzles meet together and are wound as untwisted thread upon a bobbin. The bobbins are next unwound on a twisting machine, which strand the several fibres into a twisted thread that is rewound on to a bobbin. The spun or twisted silk thread is reeled off the bobbins on to reels, forming skeins similar to ordinary silk skeins. The material, being nitrocellulose, is highly inflammable, and the skein is next treated with calcium sulphhydrate solution, by which, it is said, the nitro substitution product is reconverted into cellulose. This treatment is followed by a wash, next by a weak chlorine bleach, and finally by another wash, after which the skeins are dried. The dry skeins are graded as to size of thread by "dramming"—i.e., by weighing each skein, and skeins of like fineness are put together into bundles. This completes the operation, the bundles being sent to the dyer or weaver. Several of the processes are characteristic rather of a chemical works than of a textile factory, being similar to the manufacture of collodion and of gun-cotton. No. 4 has been called spinning, probably from its resemblance to the spinning of its thread by the silkworm; but instead of one twin filament only being wound by the worm into a cocoon, a number of filaments, 16 or more, meet together immediately after formation, and are wound together on to a bobbin. Operation No. 4 is a combination of the preparatory process of silk-winding, in which the twin filaments from several cocoons are wound off together on to reels, and the subsequent initial spinning process of winding the raw silk skein on to bobbins; the spinning operations thus resolve themselves into: "Winding" the raw silk fibre, and "throwing," which includes doubling, twisting, and reeling.

### DAMASKING.

A process, patented in Germany, consists in treating cotton, dyed or undyed, mercerized or unmercerized, with a solution of cuprate of ammonia, printed on by means of a suitable machine. The goods are then left for a time, best in an ammoniacal atmosphere, until the surface is fully dissolved by the cuprate. They are then treated with a solution of cellulose or silk in the same solvent, and after a time given the desired pattern by means of engraved bowls. The fabric is then dried, and rinsed with water or dilute acid. After again drying, a thin coat of varnish, which may be colored with coal tar dye, is applied to increase the lustre.

### GLOVE DYEING.

The usual processes have the great disadvantage that they dye the leather through and through. This not only wastes dye, but shrinks and hardens the leather. A recent patent claims to remove this trouble by using a solution of dye in benzole. Three ounces of a fat soluble aniline are dissolved in 200 oz. of benzole, and mixed thoroughly to a paste with soap-powder and spirit. The gloves are stretched out, cleaned with benzole, and then brushed over with the paste.—Dyer and Calico Printer.

### COATING LACE WORK WITH METALS.

The Textile Record describes a method of making metallic lacework by covering ordinary lace with a thin film of metal which has been patented by an American. In the first process the lace or similar openwork fabric, or linen, cotton, silk or other fibre, is stretched out and varnished with collodion, pyroxyline, or a similar acid-resisting varnish. Afterwards, while still sticky, this is covered with finely divided metal or bronze powder; or a thin adhesive varnish is prepared with a considerable quantity of metal powder mixed therein until a creamy mass is produced, and the lace is immersed in this varnish or metallic paint, then removed and stretched out in a form. By a brush, or a blower, or by centrifugal action, all excess of the varnish and metal is removed from the lace, leaving the mesh open but the threads coated with a very thin coating of metallic powder, and stiffened by the varnish. The openness of the mesh is preserved, and the lace may remain flexible, but in general the coated lace will be much stiffer than before the treatment, and can readily be attached on a frame. Instead of securing the first metallic coating of the lace in the manner above described, the lace may be stretched and covered by a very thin coating of varnish or shellac, applied with a brush or otherwise. When dried, this coating of shellac serves to stiffen the lace. When the shellac is dry, the surface of the lace is covered with an aqueous solution of nitrate of silver, and this is allowed to partially dry. But before this silver solution has fully dried, and before it can have had much effect to weaken the lace, the surface is again covered or painted with an aqueous solution of sulphide of potassium. The effect of this potassium solution is to decompose the nitrate of silver and leave the lace covered with a coating of sulphide of silver, which is a conductor of electricity, is comparatively inert, and will not destroy the lace by its caustic properties. After the lace has received its metallic covering, which acts as an electrical conductor, it may be stretched on a frame, immersed in an electroplating battery and there receive an electro-deposit of gold, silver, copper or other metal capable of electro-deposition.

### A NEW COTTON BLEACHING PROCESS.

A very interesting bleaching process has been worked on a commercial scale at a bleach works at Armentieres. The invention of the process is due to M. Henri Lagache, and the principle of it is to set free the hypochlorous acid from the bleach by means of carbonic acid. In its present form the invention is said to be a great success. Every bleacher has noticed that between the morning and evening of a day's work a gradual diminution takes place in the amount of bleach required for every pound of the same sort of yarn. This, it has been discovered, is due to a gradual acidification of the bath by carbonic acid formed by the oxidation of the color-

ing matters. But each day when operations are resumed this favorable state of affairs is destroyed by the making up of the bath with more bleach. Moreover, the carbonic acid escapes to a large extent during the night. These facts inspired Lagache with the idea of using neutralized bleach containing no free alkali. Then all the carbonic acid formed during the bleaching operation remains free to act from the first beginning of the day's work. The next point to be considered was what would be the best substance to use to do the neutralization. The mineral acids and the usual soluble organic acids are unsuitable, first because it is impossible to regulate their action, and secondly when the acid is added chlorine is evolved, causing waste and injury to the lungs of the work people. The use of dilute acid would thin the bleaching liquid too much and so waste time and labor.

These drawbacks would not be felt so much if a solid acid was used, such as boric or oxalic, but the use of these is found to be troublesome in practice. The best neutralizer to employ is carbonic acid, the same substance which gradually neutralizes the bleach during the bleaching operation when that is conducted in the usual way. Its action can be perfectly regulated, and it cannot set free chlorine from the bleach, but hypochlorous acid only. It further has the advantage of forming an insoluble compound with the lime, which precipitates out of the way. The neutralization may be done in a special vessel or in the bleaching baths themselves. The former is the better plan, because the other necessitates piping from a number of vessels instead of one. It must also be remarked that the neutralization makes the bath less caustic, so that tendering of the fibre is to a great extent or altogether avoided. To test the comparative value of the new process, identical pieces of calico were bleached by it and the old method. In working the former 132 lb., a saving of 14 and 15 per cent. was made. The process finds great favor with the workmen, as their work being piecework, and it being quicker than the ordinary method, their wages are increased. At the works alluded to at the beginning of this article, says the "Bulletin de la Societe Industrielle du Nord de la France," it is estimated that the process will save a ton of bleaching powder per week. The process works with mathematical regularity, and nothing unforeseen has as yet been known to occur.—The Textile Manufacturer.

### GERMAN LINOLEUM INDUSTRY.

According to a declaration made by the German linoleum makers, the capital invested in this industry, inclusive of debentures and mortgages, amounted in 1899—1900 to 32,000,000 marks, the net profits to 875,000 marks, equal to a 4.3 per cent. return on the aggregate share capital of all enterprises. This unsatisfactory result is attributed to dearer linseed oil, jute, coal, labor, and to over-production. Previous to 1898, four factories with 15,000,000 marks invested had a turnover of about 10,000,000 marks, but the present nine factories, with 32,000,000 marks, only had an aggregate turnover of 14,000,000 marks. The new tariff, the Gummi-Zeitung says, fixes high duties for the more important raw materials, whilst the duty on linoleum is lowered. The result will undoubtedly be competition of foreign makers on the German home markets, and a complete suspension of exports, foreign makers being able to produce cheaper, because the German makers, using about three and one-half millions of imported raw materials per annum, would be burdened with about 400,000 marks more than the English factories. Then the possibility is always present of foreign countries increasing the duty on imports of linoleum as a repressive measure. Apart from capital

invested, the existence of about 200 employees and 3,000 laborers is at stake, as well as orders to the amount of about 12,000,000 marks per annum placed with oil mills, jute factories, cork cutters, dye works, coal dealers, mould and machinery makers, etc. The German makers, are, therefore, now petitioning (1) that the duty on linseed (section 15), be lowered, also on linseed oil (section 164), as well as on jute fabrics; (2) to admit ochre, which does not occur in Germany in the required quality and color, duty free (section 327); to state clearly, as in the former tariff, that cork shavings are admitted "duty free," as was apparently meditated in the project of, but is not clearly defined in the new tariff (section 634 reading "cork in pieces or powder to pay three marks"), which might be wrongly applied to the raw material employed in linoleum making; and, finally, that the duty on linoleums (section 508—510), be increased to 12, 18 and 54 marks respectively.

### AUSTRALIAN WOOLS.

"Lamb's wool" is the first shearing of all sheep; that is, the lambs of the year sheared at the regular shearing time and baled and known as "Lambs' Wool." "Hoggett's" and "Hoggett ewes" are from young sheep, i.e., it is the first regular shearing of all young sheep, and among sheep-men this is known as their "first year," the age of sheep not being reckoned from the day of their birth but from the first shearing. "Wether" is the fleece of castrated rams. In Australia no ewes are castrated, all being kept for breeding purposes. "Rams" are fleeces from rams of any age. The term "cross bred," as used in referring to Australian wool, is not as well understood as it should be, hence this definition to make it plain to the student in wool: The term "half blood" explains itself in so far that it is a direct cross of the merino and some of the long-wooled English sheep. "Quarter blood" means that the above cross was first made and the offspring bred back on the long-wooled sheep. But this careful method of breeding only produces the very best cross-bred wools. Wools answering to the above terms can be graded from the most worthless flock of mongrel sheep, but they have not that high character which the Australian "cross-breds" have justly won.—Fibre and Fabric.

### ELECTRIC DRYING OF TEXTILES.

Ordinary methods of drying by the direct use of the heat produced by the combustion of coal have many drawbacks. Among them are irregularities of temperature, and the possibility of burning the fabrics, the production of smoke and dust, and last, but not least, undue expense. The Chamber of Commerce at Lyons has tried with conspicuous success the use of electrical stoves for drying textiles, and has thereby got perfect safety and quicker drying at a cost considerably less than that incurred under the older systems. Each stove consists of a cylinder of sheet iron, in the midst of which the fabric to be dried is suspended. This cylinder is surrounded by another, and the annular space between them contains the heating arrangement. This consists of tubes of copper, round each of which is wound a nickel-steel wire, covered with asbestos, and carrying a current of sufficient strength to develop the necessary heat. The temperature in the interior cylinder is usually kept at about 120 deg. C. To economize electricity as far as possible, two precautions have been taken. One is to prevent radiation from the stoves by suitable cleaning, and the other is to utilize the hot, moist

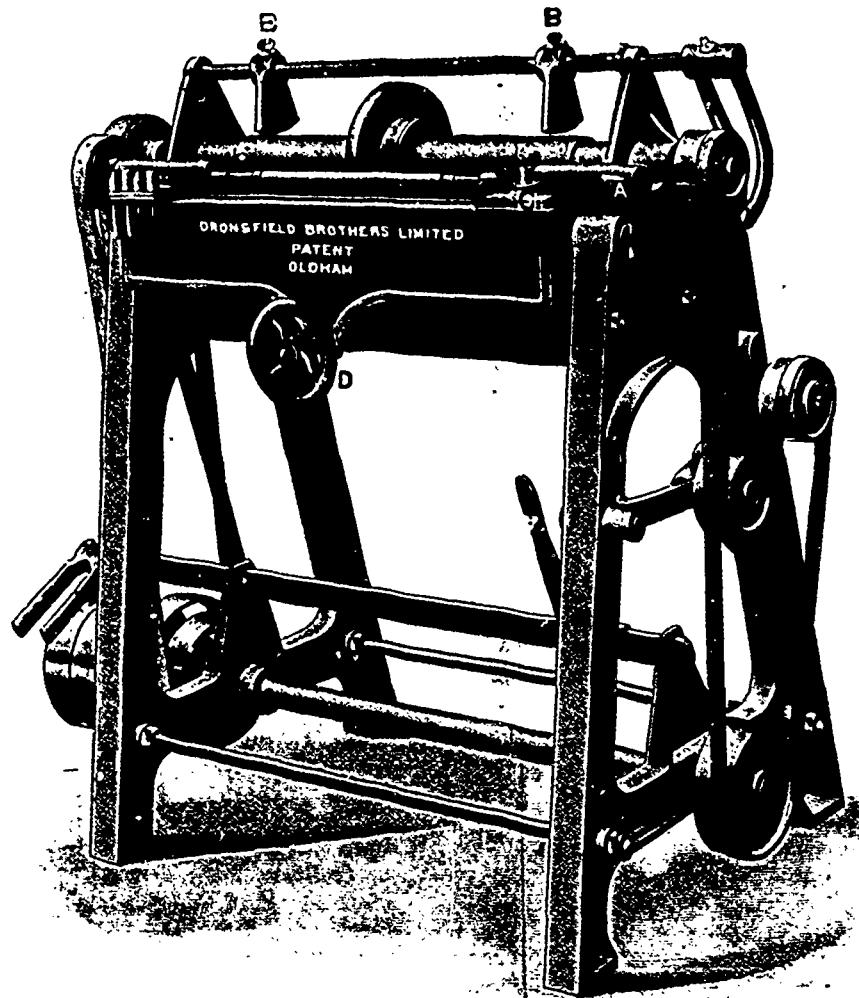
air from the stoves for other heating purposes. For small installations the cost is somewhat greater than the older methods, but on a large scale, and especially if water power is available for generating the electricity, a considerable saving is effected.—L. Riverchon, in *Cosmos*.

### ROLLER COVERING MACHINERY.

Dronsfeld Bros, Limited, Atlas Works, Oldham, whose name has long been associated with the development and manufacture of machinery employed in the covering of preparing and spinning frame rollers, are again to the fore with improvements. Their latest introduction takes the form of an improved grinding lathe. It is intended for use as a finisher, and deals with the rollers, after the covering process

The traversing movement of the disc in a lateral direction is controlled by an internal screw, the length of traverse being regulated by the position of the stops B B. As the disc comes into contact with the stops, its traverse is reversed. The centre C is movable, and can be fixed in any position to suit the various lengths of rollers. The rollers are set to the grinding disc by the hand-wheel D. The cross rail behind the slide is formed with a chamber to catch the dust, which serves in lieu of a fan hitherto used. It can be cleaned out when necessary by simply lifting the back plate. Old rollers, which have been used, and sent to be recovered, can be put to work again after grinding, thus effecting great economy in leather.

In the construction of the machine, Messrs. Dronsfeld Bros. have made every provision for the adjustment of the various parts, and due regard has also been given to strength



is completed. Its function is to grind, true up, and varnish the surface of the leather coverings, thus rendering them suitable for the work they have to perform in the spinning and preparing machinery. By referring to the illustration, it will be observed that the rollers to be ground are carried in chucks, which are supplied in three sizes to suit various sizes of rollers. The rollers are placed in position, and removed therefrom by simply turning the handle A, which works on a cam. The chuck in the movable headstock revolves with the roller against a ball bearing to ensure perfect freedom. The grinding disc is covered with special emery or glass filleting, which is secured by a clamp arrangement, and can readily be removed when required. The disc is mounted upon a tube, and is fitted with oil pads, which clean and lubricate the tube as the disc passes over it.

and stability. Such a machine as the one illustrated occupies a floor space of 4 ft. 6 in. long by 2 ft. wide, and is worked at a speed of 500 revolutions per minute.

### NOVELTIES IN MERCERIZING AND INDIGO DYEING.

Two new German patents dealing with the mercerizing of cotton have lately been applied for. One, by Schneider, of Bohemia, consists in treating the cotton to be mercerized in potash or soda lye with a wetting or fat-dissolving agent, such, for instance, as methyl, or ethyl, alcohol, benzine, aniline, kerosene, or oil of turpentine. Either one, or a mixture of the above fat-dissolvents, is added to the concentrated lye. The yarn or fabric introduced into the bath prepared

is above before coming into contact with the lye, has to pass through the defatting layer which floats on the surface. The fibre is thoroughly defatted, and is consequently acted upon quicker.

The other by Reichenbach, of Saxony, consists in intentionally shredding the yarn while mercerizing. This is effected by pulling the yarn in the soda lye bath taut, and even applying force to tear all that does not break. The yarn reconverted into fibre is then taken out from the bath and respun. Further treatment, such as dyeing, bleaching, etc., may precede respinning. Fibre of animal origin, like silk and wool, cannot be printed on with indigo. This dye requires for its complete reduction the addition of powerful alkalis to the printing pigment, which, partly or entirely, tend to destroy the animal fibre. A recent German proceeding, however, admits of printing with indigo on silks and woollens without the slightest injury to the fabrics. The process is based on the employment of solid double salts of the hydrosulphites, like sodium-zinc hydrosulphite, potassium-zinc hydrosulphite, etc., in presence of weak alkalis, such as borax, soda, soap, etc. When printing, a mixture of the above and indigo is used. The goods are then steamed, which results in a reduction of the indigo. The indigo-white becomes fixed on the fibre during the first part of the process, and during the second is gradually converted by the steam and air into indigo-blue. Proceeding as above, effects ranging from pearl-blue to the deepest dark blue are obtainable. The dye is even faster than by the former processes, and the fibre is not injured in the least degree.—Trade Journal Review.

## STRUCTURE AND PROPERTIES OF WOOL.

### Physical Properties.

Next in importance to the exterior structure of the wool fibre are its physical properties. These are three in number:

(1) Hygroscopicity, (2) elasticity, and (3) lustre.

(1) Hygroscopicity, or the power of absorbing water:

Wool is naturally hygroscopic. If raw wool be dried at 212° F. (100° C.), it will be found to lose something like 18½ per cent. of its weight, owing to the elimination of the moisture it contains; if, however, the dried wool be again exposed to the atmosphere it gradually absorbs water from the air and regains its original weight. In dry weather wool, as a rule, contains about 12 per cent. of moisture, but in damp and foggy weather the percentage of moisture may rise as high as 20 to 30 per cent. This variation in the amount of moisture has in the past led to trouble between buyers and sellers of wool. Unscrupulous sellers have taken advantage of this property of absorbing water, and by keeping the wool for some time in damp places have caused it to become abnormally damp and heavy, and have thus sold water for wool. This difficulty is now got over by the agreement which exists between buyers and sellers, that wool should normally contain 18½ per cent. of water, and by submitting the wool to official tests ("conditioning," as it is called), in specially appointed places, and buying or selling the wool according to the result of the tests. The gross weight of the parcel of wool is taken into consideration as well as its condition. Thus if a parcel contains 25 per cent. of water, the actual weight to be charged is proportionately less than the gross weight, while if it only contained 15 per cent. it would be proportionately more.

When wool is dried at 212° Fahr., it assumes a husky, harsh feel, and its strength is perceptibly impaired. Dr. Bowman states that the wool fibre really undergoes a slight chemical change at this temperature, which becomes more obvious

at 230° Fahr., while at about 260° Fahr. the fibre begins to disintegrate. According to the researches of Persoz, however, temperatures ranging from 260° to 280° Fahr. can be employed without doing any harm to the wool, if it has been previously soaked in a 10 per cent. solution of glycerine. When wool is heated to 212° Fahr. (100° C.), it becomes quite pliant and plastic, and may be moulded into almost any shape, which it will retain when cold. This fact is of much interest in the processes of hot finishing of various goods; of embossing velvet, where designs are stamped on the woven fabric while hot, and in the crabbing and steaming of woollen goods. In hat making, especially, is this property of value, for hats are moulded into shape while they are hot, and this shape is retained when they become cold.

(2) Elasticity.—This important quality of wool is readily observed by taking a long fibre and stretching it out until it breaks, when it will shrink and curl up into a shorter fibre than it was originally. A fibre having no elastic properties will not shrink up under such conditions. This difference may be seen by experimenting simultaneously with a fibre of cotton and of wool. In judging of wools and yarns, it is often of advantage to examine their elasticity, because, as a rule, those which have the least elastic properties have a more hairy nature and do not dye so readily.

(3) Lustre.—The lustre of the wool fibre is another important feature to be considered, and it varies greatly with the quality of the fibre and the breed of the sheep. Lustre depends upon the transparency of the fibre itself, and on the arrangement of the external scales. If these scales lie close to the stem of the fibre, and do not project so as to show the serrated edges when viewed under the microscope, then such a fibre will exhibit a high degree of lustre. Such wools as those of the Lincoln and Leicester sheep, show a beautiful silky lustre or sheen, while others, like the merino or most of the Colonial wools, do not show a high lustre, and are accordingly termed non-lustre wools. Sometimes fibres are met with which are straight, deficient in the curly character of a wool fibre, and which do not dye well. In some cases portions of the fibre appear to take the color all right, while other portions do not; these are generally called "kempy fibres."

Kemps are dead, lustreless fibres of wool, more resembling hair. When examined under the microscope, they are found not to possess the usual structure of wool. The external scales are generally invisible, or only appear in detached portions. They are generally opaque and dense, and have little or no elasticity, felting power, or affinity for dyestuffs. Such fibres are a great trouble to the wool sorter, dyer, and manufacturer. At the present we are ignorant of the exact cause of their origin, but it is at least obvious that the health of the animal bearing them must have been poor. Some fibres are sound up to a certain length, and then become kempy while others are kempy in the middle and good at either end.

Yarns having kempy fibres can never be dyed in full rich shades, as the kemps resist the dyeing liquor and appear as grey or partially dyed fibres. This not only gives the color a thin look, but at the same time spoils the appearance of the finished fabric. Kempy may appear even in the most cultivated sheep and the finest fleeces, but in the coarser qualities of wool they are nearly always present. It is somewhat singular that, though the kempy fibres differ so widely in physical properties from the sound wool, the chemical composition seems to be identical. Their want of affinity for the dyeing liquor must be due to their horny and less penetrable nature.

### Chemical Composition.

First there must be considered the composition of the

wool as it exists on the back of the sheep, and, second, the composition and properties of the fibre itself. Attached to the base or root of the fibre are certain glands, situated beneath the skin of the animal. These exude a greasy substance which, coating the fibres to a considerable thickness, serves to protect them from injury. The amount of this encrusting substance in different wools is very variable, and in the raw fibre it is always associated with more or less sand, dirt, and other foreign matter. The proportion of pure wool fibre in different samples of raw wool is therefore equally variable, as is shown by the following analysis, which, however, do not, by any means, represent extreme cases:

Analysis of Raw Wool.

	No. 1.	No. 2.	No. 3.
Moisture . . . . .	5.26	12.4	9.2
Sand, dirt, etc. . . . .	12.13	3.1	20.1
Yolk (greasy matter) . . . . .	46.40	25.5	39.5
Pure wool . . . . .	36.21	59.0	31.2

In order to accurately estimate the amount of pure wool in a sample of raw wool, a weighed quantity of the latter should be dried at 100° C., to ascertain the amount of moisture, and then successively treated with (1) ether, (2) water, (3) alcohol, and (4) dilute hydrochloric acid; it should afterwards be washed, dried at 100° C. for a short time, and weighed. Speaking generally, the finer varieties of wool contain a larger proportion of yolk than the coarser and less valuable sorts.

Wool, in common with hair, is chemically the most complex of textile fibres. Cotton, being a carbohydrate, is composed of but three elements—carbon, hydrogen, and oxygen, in the proportion represented by the formula  $C_6H_{10}O_5$ . In silk an additional element (nitrogen), is found, the molecule at the same time being much more complex, as is shown by the formula given for silk fibroin— $CHNO$ . Wool contains still another constituent—sulphur—and the simplest formula which will at all conform to the percentage composition contains 39 atoms of carbon. It has been considered that the wool fibre consists of a definite chemical compound—keratine—to which the formula  $CHNSO$ , has been given, but this view is probably incorrect, the fibre appearing to contain at least two, and possibly several closely allied very complex substances. It is possible, and even probable, that the outer scales have a different composition from the rest of the fibre; but, whether this is the case or not, it is known with some degree of certainty that the wool is not a simple definite chemical compound. This at once accounts for the discrepancies obtained by different chemists when submitting wool to ultimate analysis, as may be judged from the following figures:

Percentage Composition of Pure Wool Fibre.

C . . . . .	49.45%	50.5%	50.8%
H . . . . .	7.29%	6.8%	7.2%
O (by difference) . . . . .	24.13%	30.5%	21.2%
N . . . . .	15.60%	16.8%	18.5%
S . . . . .	3.44%	5.4%	2.3%

In addition to the above constituents, there is always actually present in wool fibre a small quantity of mineral matter, amounting frequently to between 1 and 2 per cent., and consisting principally of salts of potassium, calcium, iron, and aluminum, with traces of silica, phosphorus etc. The character of this mineral matter is, no doubt, largely determined by the nature of the soil upon which the sheep has been pastured.

As will be seen from the above analysis, sulphur is by far the most variable constituent, sometimes as little as 1.5 per

cent, and occasionally as much as 6 per cent. being found. It appears, as was first pointed out by Chevreul, to be present in two different conditions, one portion being free, or only in very feeble combination, while the remainder, amounting to about 30 per cent. of the total sulphur, cannot be removed without entire disintegration of the fibre. The sulphur in feeble combination very readily forms sulphides if the wool is brought in contact with metals, and dark colored stains are frequently produced in this manner. The formation of black sulphide of lead, when wool is heated with a solution of plumbite of soda, serves, indeed, as a test to distinguish wool and hair from all other fibres, since they alone contain sulphur.

Knecht has made an interesting series of experiments bearing upon the chemistry of wool. On heating purified wool with sulphuric acid, he obtained a pale brownish solution, which readily gave precipitates, with solutions of acid coloring matters. The substance which produces these precipitates or lakes he considers to be that constituent of the fibre which combines with the acid colors in an ordinary dyeing process. This lake-forming substance constitutes about 25 to 30 per cent. of the weight of wool. When neutralized by alkali, the brown acid solution deposits a yellowish white precipitate consisting of the lake-forming substance.

A body called lanuginic acid is produced by a process the converse of that above described—that is, by dissolving wool in caustic soda and neutralizing with acid. Knecht found that an acid solution of lanuginic acid has exactly the same properties as his acid lake-forming substance, and therefore considers the two to be identical. Lanuginic acid not only possesses basic properties, as indicated by its forming compounds with acid coloring matters, but also shows well-marked acid properties, giving precipitates both with metallic hydrates and basic coloring matters. The acid group, indeed, appears to be the stronger of the two, since wool dissolves more readily in alkali than in acid. A striking proof of the acid nature of lanuginic acid is afforded by the fact that it deposits a brilliantly colored lake from a colorless solution of rosaniline; this base only forms a color (magenta), when brought in combination with an acid. It is further considered that lanuginic acid is an albuminoid, since it gives the characteristic reactions of that class of bodies.

Knecht does not consider that lanuginic acid exists as such in wool, but that it is produced by decomposition of the wool. This idea is borne out by the fact that wool will not combine with the free sulphonic acid coloring matters, excepting in the presence of free acid—that is to say, since the acid coloring matters are always used in the form of sodium salts, a large excess of acid over and above that required to liberate the free sulphonic acid must be added to the dyebath. If the wool be previously boiled with sulphuric acid it may, however, be dyed direct with sulphonic acids. Coupled with the above, the fact that wool itself will dye red from a colorless solution of rosaniline base again shows the superior activity of the acid group it contains.

It will simplify matters in many instances if the wool fibre be considered to consist of a simple substance, to which the name of Keratine is given.—Textile Mercury.

—James A. Bouty, an American citizen sojourning in Brazil, has made a discovery which is a revelation to the Brazilians regarding the resources of their own forests. He has found a tree called balata, growing near Para and for thousands of miles along the Amazon River, the juice of which promises to rival rubber in the world's markets.

## 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.

The Guelph Worsted Spinning Co., will erect a large spinning factory in that city.

The Dominion Cotton Mills at Magog were shut down for a few days while repairs were being made.

The Maple Leaf Woolen Mills Co., Markham, have ordered an incandescent dynamo to light their mills.

Wm. Thoburn, mayor of Almonte, has moved into a new office erected at his flannel mill. It is fitted up in good style.

New laundry machinery has been installed at the Lindsay hospital by A. MacMurchy, of the York Manufacturing Co., Toronto.

A heater is being installed in connection with the boiler in the Perth Woolen Mill. When completed coal will be used instead of wood for fuel.

At the Dominion woolen mills, Beauharnois, four sets of cards are running nights, and they are unable to keep up with orders. Wm. Ashman has charge of the spinning.

The Canadian Woolen Mills Co., St. Hyacinthe, have sent three repeat orders for the Smethurst roving and twist gears. The last one was for 26. Many other Canadian mills are using them.

Thos. Logan, of Renfrew, is on a tour west to buy new machinery for Logan Bros.' woollen mills. His firm purpose to improve the quality of their goods as well as to introduce labor saving machinery.

The machinery has been removed from the Westport woollen mill to make way for the machinery of the International Buckle factory, which is expected to be in operation by the middle of December.

Moise Blain has entered an action claiming \$1,999 damages from the Merchants Cotton Company on account of injuries received by his son Rosario, while working in the company's mills in March last.

The Colonial Bleaching and Printing Co., Montreal, has succeeded in producing some goods, made to retail at 10c. per yard, which are fully equal to the finest French flannels. Many of the designs are elegant in appearance.

The Royal Trust Co., Montreal, has taken over the business of the Canadian Woolen Mills Co., St. Hyacinthe, to which reference was made in last issue, and will assume full control and continue to operate the mills.

A number of new looms have been set up in the Montreal woolen mills, and the weavers are working overtime. Four sets of cards have been running all night. The Excelsior mills are also very busy, chiefly on worsteds.

Mr. Butler, the retiring overseer of the weave room in the Gibson Cotton Mill, at Marysville, N.B., was tendered a farewell entertainment on August 25. Mr. Butler goes to Manchester, N.H., to take charge of the weave room in one of the largest cotton mills there.

The difficulty referred to last month as existing between the weavers and spinners and the management of the Hawthorne Mills, at Carleton Place, was satisfactorily arranged after a few days, and the operatives returned to work. The workers were granted an advance.

The valuable factory property, known as the Dundas Cotton Mills, formerly owned by the Dundas Cotton Mills Co., with 11 acres of land and a number of cottages for the use of operatives, is to be offered for sale by auction on Sept. 15. The mills have not been running for some years.

The Lonsdale Woolen Mills near Napanee, recently destroyed by fire, were owned by A. E. Lazier, and were among the finest in Eastern Ontario. They were used for the manufacture of tweeds, woolen goods and yarns. The cause of the fire is not known. The loss was about \$10,000.

Nearly ten cars of Stanfield's unshrinkable underwear, or 460 large cases containing over 130,000 garments, were shipped to merchants in Manitoba and the Northwest, from the Truro Knitting Mills Co., one day last month. This was the largest single shipment that has ever left Truro station for a point.

Part of the Paris Wincey mill had to stop running at nights recently owing to a break in the dynamo, which had to be sent to Toronto for repairs. Part of Penman's No. 2 and No. 3 mills will close for a week in September for the installation of a new pump and dynamo and a heavier engine to increase the fire protection.

The Canadian Cordage Company's works, at Peterboro, which have been running under temporary power supply, are closed for a few days to permit of the installation of new motors and other machinery. It is expected that the new equipment will be installed, and the works ready to re-open to full capacity on Sept. 15th.

Methot & Co., at Cape St. Ignace, have begun rebuilding their mill, recently damaged by fire, and expect to start operations in three or four months. They will install four additional new looms, one set of cards and 360 spindles. When completed, they will have two sets of cards and eight looms. They make yarn and cloth of all kinds.

The following are the directors of the Perth Flax & Cordage Company, of Stratford, elected at the last annual meeting: Nelson Richardson, J. H. Kenner, Joseph L. Richardson, Joseph Walsh, Thomas Holliday, sr., Walter Miller, Cornelius Quinlan and A. H. Raymond, manager. A dividend of 8 per cent. was declared. The company intends to extend its business by erecting a linseed oil mill.

Factory hands are reported to be scarce. Miss Carlyle, provincial inspector of factories where females are employed, recently returned from a trip through Western Ontario, and says the mills are all very busy, and their great difficulty is to find sufficient help. In a small town like Paris, for instance, where the Penman Company has three large mills, there are not girls enough to be had in the town, and so large numbers of the farmers' children are employed. These have now been taken home to assist in the harvesting operations, and a scarcity of help is the result.

The Hudson Bay Knitting Co. had a picnic from Montreal to Iberville on the day of the Coronation which was a wonderful success. A special train had been provided, but so many of the employees and their friends turned out that extra cars had to be provided by the C.P.R. There were thirty-two athletic events on the programme, the most interesting being a baseball match between the Knitting Co.'s employees and a team from the Salem Shirt Co.'s factory, in which the former won. Each player received a handsome gold pin. The H. B. K. Co. gave \$150 for prizes. The woman's race, in which there were 23 contestants, caused much amusement. Lunches were provided in neat boxes by the company, and each box contained tickets for coffee and ice-cream, in addition to the good things in the boxes.



One of the features of the Labor Day parade in Toronto was the presence of a number of the girls on strike at the Toronto Carpet Factory, in vans, with placards announcing the strike as being still on.

The fitters of the William Firth Co. are now erecting mules at the Canadian Cotton Mill, Cornwall, Ont. Mr. Firth, who has been living in England for some time, intends to again take up his residence in the United States.

Harvey L. Hewson, late general manager of the Oxford Manufacturing Co., Oxford, N.S., has severed his connection with that institution. He proposes erecting a new woollen mill at once, either at Amherst, Oxford or Truro. The matter is to be referred to a special meeting of the Amherst Board of Trade to see what inducements it will offer. If Amherst is unwilling to bonus his proposed enterprise, Mr. Hewson will try Truro, Oxford, or some other town.

Simeon Lamouche's petition for leave to proceed in an action to recover \$1,999 damages from the Consumers' Cordage Company, of Montreal, has been granted in the Practice Court. He alleges that he was about to leave the factory of the company, where he was employed, on December 11, 1901, he went to take his coat from a hook placed near the jenny at which he was working, when his arm was caught by the flyer and he received injuries from which he will never fully recover. He attributes the accident to the negligence of the company in having the hook placed too near the machinery, and in not putting a safety guard over the latter.

Fibre and Fabric, commenting on the strike among the employees of the Toronto Carpet Factory, says: "The employees of the Toronto, Ont., Carpet Mfg. Co., who are said to have struck against a rule requiring them to register on leaving and entering the factory, and requested that 55 hours be a week's work instead of 60 as at present, and that for the 55 hours the same wages be paid as for the 60; that employees be not required to "ring up" on leaving the factory at noon; that feminine operatives be given five minutes in which to dress; that axminster rug finishers receive an increase in wages of from 7½ and 10 cents an hour to 11 and 12½ cents, and that winders get 75 cents per hundred pounds, seem to have seized upon the opportunity to demand all they could reasonably or unreasonably expect."

## Personal

Charles W. Bates, superintendent of the Slingsby Mfg. Co.'s mill at Brantford, has left their employ.

John Stanfield, president of the Truro Knitting Mills Co., returned from Europe recently, after a two months' visit to the leading woollen manufactories.

Frank Litter, president of the International Weaving Co., of New York, paid a recent visit to Canada and was the guest of Gus. W. Lawson, the company's Montreal representative.

Thomas Norman, after thirteen years of buying and travelling for Caulfield, Henderson & Burns, of Toronto, has gone into business on his own account as manufacturers' agent. He was born in Nottingham, the seat of the underwear and hosiery business.

Robert H. Climie, of Winnipeg, formerly of London, died in Chicago, August 26th. He was in his 49th year and had made Winnipeg his headquarters for the past ten years, moving there from London. He at one time travelled for Knox, Morgan & Co., Hamilton, wholesale dry goods dealers.

The death is announced of Adam Warnock, one of the oldest and most highly respected residents of Galt, and founder of one of the leading textile industries of Canada. He was 73 years of age, and had been a resident of Galt for 69 years. He was born at Nelson, near Glasgow, Scotland. He started in the woollen business when a young man, and continued in it all his life. For 20 years he was president of the Galt Knitting Company, which position he retained until a year ago, when failing health compelled him to retire. He was also vice-president of the Gore Mutual Fire Insurance Company. He leaves a widow and two sons.

James Slessor, at one time prominently connected with the wholesale dry goods trade in Montreal, was found dead in bed on the morning of August 27. He was for many years one of the active members of the wholesale dry goods firm of James Johnston & Co., and when their business was taken over by the W. R. Brock Co., Mr. Slessor became a director, and had charge of the Montreal branch. About a year ago, while in England in the interests of the firm, he had a stroke of apoplexy, and in January last retired. When he did so he was made the recipient of a banquet and a complimentary address from the dry goods merchants of Montreal. Since then he seemed to have recovered, and retired the night before his death in apparently good health and spirits. He was one of the principal promoters and original members of the Montreal Dry Goods Association, was its president in 1891, and was very popular with the trade.

## TORONTO INDUSTRIAL EXHIBITION.

The Toronto Industrial Exhibition this year was perhaps above the average, the favorable season having materially assisted the agricultural and horticultural departments. The new Art Gallery affords an opportunity for displaying the pictures to better advantage. The new Manufacturers' Building, while well under way, was not ready for use.

In looking through the exhibits, we observed the following in the line of textiles: Fairweather, The T. Eaton Co., Stan Walker, W. E. Orr, and F. Wolf, of Toronto, all made very creditable displays of furs and fur goods. The latter also carries on the business of ladies' tailor. The Eaton Co. also showed domestic goods, lace and other fabrics from their stock. In raw furs the display from the Yukon naturally attracted much attention. It comprised a large range of skins, showing that region to produce something that is of value besides gold.

The Dominion Carpet Co., of Sherbrooke, Que., showed some very fine carpets. Their goods made a very attractive display.

The Berlin Rubber Mfg. Co. had a fine show, in which the process of manufacture was practically illustrated. Their stand was always the centre of attraction for an interested group. The Robinson & Lindsay Rubber Co, and the Kant Krack Rubbers, of Toronto, had also good displays.

Konig & Stuffman, of Montreal, had an attractive display of lace.

Kabo corsets made a good showing.

The Elliott Mfg. Co., Toronto, had an excellent display of corrugated paper and other paper and cardboard specialties.

L. Babayan, the well known Toronto importer of that class of goods, had a good display of Oriental rugs.

Ventilated mattresses were shown by the Marshall Sanitary Mattress Co., of Toronto.

Adolph Rauer, of Buffalo, made a fine display of made up flowers and cut paper for flowers, while a lady artist made

them up to order, while you wait. The goods were very pretty and natural.

The Preston Glove Co. had a well arranged display of their goods.

Cooper & Sons showed leather slipper soles, counters, etc., the use of which enables slippers to be made up at home.

East & Co., Toronto, had an excellent display of trunks, umbrellas, and other goods in those lines.

Bell's moth bags, made of fibre chamois, seem to be an efficacious means of protecting furs.

The adjustable garment patterns are a useful thing for cutters, but we do not know who was the exhibitor.

The shirt waist holder of the Brush Co., Toronto, and the perfect pant pressing and shaping machine, to be seen at 58½ King St. E., Toronto, are useful articles for keeping garments in shape.

The H. & H. Cleaner for fabrics seems to be all that is claimed for it.

Blackadar's reversible rubber heel, made in Montreal, seems to be an effective never-slip arrangement.

The Edwardsburg Starch Co., whose works are at Cardinal, Ont., had an artistic display of their goods.

The San Toy sad iron is a new device to do away with the tendency of ordinary irons to pull off or break the buttons. It is provided with a slit for that purpose.

A strawboard folding berry box, made by the Oakville Basket Co., looks as if it might displace the wooden box now generally used.

A number of washing machines were shown in the agricultural department, of the virtues of which we cannot venture to speak.

The Creelman Co., of Georgetown, showed a number of their knitting machines in operation, of which a more extended note appears elsewhere. A number of firms also had sewing machines at work.

In the Ladies' Department there was the usual display of rag carpet, quilts, embroidery, crochet work, plain sewing, etc., very excellent in quality, but revealing nothing specially new.

It is remarkable that none of the woolen or cotton mills made any display. In fact, the only fabric mill exhibit was that made by the Dominion Carpet Co. In an exhibition which draws visitors from far and near, it is to be regretted that fabrics occupied so minor a place. Perhaps the condition of the Main Building had something to do with it. We understand that is why the Toronto Carpet Co. had no exhibit.

H. J. Hill is to retire from the management of the Exhibition. Ill-health is the cause stated.

The Dominion Carpet Co., of Sherbrooke, made the only exhibit in power loom fabrics, and were well represented by J. H. Paterson, the Toronto agent. The company showed a variety of Brussels carpets, which were very generally admired in make, colors and design. They also had some pretty samples of Wilton rugs, which they are now making as the first in this line in Canada, and are putting in machinery to make art squares of the same class of goods. Although these were the only goods shown as the product of power looms there were several exhibits of hand loom rugs and carpets. These were rather above the average, and one hand-made pile rug was particularly handsome in design, and if original, some of our manufacturers ought to secure the lady as a designer.

The only exhibitors in textile machinery were D. K. McLaren, Montreal, and Toronto, and Creelman Bros. Georgetown. The former had a very practical display of textile mill supplies and leather belting, in the Machinery

Hall, and the latter some fine samples of knitting machines located in the Main Building. These were chiefly machines for domestic use. These were mounted on handsomely finished stands, which when not in use were convertible into tables and parlor stands. Two styles of these cabinet machines were put on the market this year for the first time, and one of them is designed to provide a complete knitting mill for family use. As our readers know this firm also make power knitters, and their latest machine for mill use is a machine for making the thumbs of gloves. The thumb is ribbed and the inside is knitted with a loop, so made as to form a lining for that part of the glove.

—Jas. Kendry, M.P., of the Auburn woolen mills, Peterboro, has sold his house to Hon. J. R. Stratton, Provincial Secretary of Ontario. It is said to be the finest residence in the town.

—The L. S. Watson Mfg. Co., of Leicester, Mass., are sole agents on this continent for the Prouty spinning and twisting travelers. These travelers are manufactured by the Prouty Wire Co., who have manufactured traveler wire for years. A sample box of travelers will be sent to any mill who will send the L. S. Watson Co. samples of the travelers they are now using, the sample box to correspond exactly with the samples submitted by any mill.

—An investigation is going on at Hamilton regarding a nuisance which affects the Imperial cotton factory. The Freeman fertilizer works are in the same vicinity, and the smell is so offensive that the factory windows have to be kept closed. At the enquiry before the health authorities, G. T. Grantham, manager of the cotton factory; Wm. Bell, superintendent, and W. B. Moodie, book-keeper, were examined as witnesses. Bell stated that it made the operatives ill, so that they could not do their work efficiently.

—A Hebrew carpet and furniture dealer on the East Side who does not observe the Sabbath of his people so strictly as do most of his race, was standing in front of his store one Saturday when a neighbor said to him: "I am sorry to see a good Jew, as you are, persist in doing business on the Sabbath." "Do you call this business?" replied the dealer, pointing to a roll of carpet in his doorway marked "Brussels, 50 cts. a yard." "Why, this is not business, it's charity."

—A patent has been taken out in Germany whereby the cotton is attached to a spring during the process of mercerization. The consequence is that the spring is deformed by the contraction of the cotton, and when that ceases exerts a stretching force always exactly equal to that of the original contraction. The result is that the cotton is stretched back to its original dimensions and lusted without any threads breaking or losing any of their natural elasticity.

—A South Africa, British and Colonial Exhibition is to be held at Cape Town in November and December, 1903, and January and February, 1904. This will give a splendid opportunity for Canadian manufacturers to exhibit their goods and secure a share of the growing trade in that important dependency. A. P. Baker, of Cape Town, is general manager. We presume a Canadian commission will be appointed, as in the case of the Paris, Pan-American, and Glasgow Exhibitions, in which case the work will come under the supervision of the Department of Agriculture.

**WEIGHT OF ONE SQUARE FOOT OF METAL.**

Thickness.	Imp. W. Gauge.	Dec. of an inch.	Wrought Iron.	Steel.	Brass.	Gunmetal.	Copper.	Lead.	Zinc.	White Metal.
			lb.	lb.	lb.	lb.	lb.	lb.	lb.	lb.
7/0	.500	19.87	20.40	21.86	22.68	22.87	29.59	18.72	20.88	
6/0	.464	18.44	18.93	20.38	21.04	21.18	27.66	17.37	19.36	
5/0	.432	17.16	17.62	18.87	19.58	19.75	25.74	16.19	18.02	
4/0	.400	15.89	16.32	17.45	18.14	18.26	23.67	14.97	16.68	
3/0	.372	14.78	15.18	16.28	16.86	17.01	22.17	13.94	15.52	
2/0	.348	13.83	14.20	15.21	15.78	15.92	20.74	13.05	14.52	
1 1/0	.324	12.87	13.22	14.16	14.68	14.81	19.31	12.14	13.51	
1	.300	11.92	12.24	13.08	13.60	13.70	17.75	11.23	12.51	
2	.278	10.97	11.26	12.07	12.52	12.63	16.45	10.35	11.51	
3	.252	10.02	10.29	11.02	11.43	11.53	15.03	9.45	10.52	
4	.232	9.22	9.47	10.14	10.57	10.61	13.83	8.70	9.68	
5	.212	8.43	8.66	9.27	9.67	9.70	12.64	7.95	8.85	
6	.192	7.63	7.84	8.40	8.75	8.78	11.44	7.20	8.01	
7	.176	6.86	7.04	7.55	7.87	7.90	10.29	6.48	7.20	
8	.160	6.36	6.53	7.00	7.29	7.32	9.54	6.00	6.68	
9	.144	5.72	6.13	6.30	6.56	6.58	8.58	5.40	6.00	
10	.128	5.08	5.22	5.58	5.83	5.85	7.62	4.80	5.33	
11	.116	4.61	4.73	5.07	5.29	5.31	6.91	4.35	4.84	
12	.104	4.13	4.24	4.54	4.73	4.75	6.20	3.89	4.34	
13	.092	3.66	3.76	4.03	4.17	4.21	5.49	3.45	3.84	
14	.080	3.18	3.26	3.50	3.63	3.66	4.77	3.00	3.34	
15	.072	2.86	2.94	3.14	3.26	3.30	4.30	2.70	3.00	
16	.064	2.54	2.60	2.80	2.89	2.92	3.81	2.40	2.66	
17	.054	2.14	2.19	2.35	2.44	2.46	3.21	2.02	2.25	
18	.048	1.91	1.96	2.10	2.18	2.20	2.86	1.80	2.00	
19	.040	1.50	1.63	1.75	1.81	1.83	2.38	1.49	1.67	
20	.036	1.43	1.47	1.57	1.63	1.64	2.14	1.35	1.50	
21	.032	1.38	1.31	1.41	1.46	1.47	1.92	1.24	1.34	
22	.028	1.11	1.14	1.22	1.26	1.28	1.66	1.05	1.16	
23	.024	.95	.97	1.04	1.08	1.00	1.43	.89	1.00	
24	.022	.87	.89	.96	.99	1.00	1.30	.82	.91	
25	.020	.79	.81	.87	.90	.91	1.18	.74	.83	
26	.018	.71	.73	.78	.81	.82	1.06	.67	.74	
27	.0164	.65	.67	.71	.74	.75	.97	.62	.68	
28	.0148	.58	.60	.64	.65	.66	.87	.54	.61	
29	.0136	.54	.55	.60	.61	.62	.81	.50	.57	
30	.0124	.50	.51	.55	.57	.58	.75	.47	.52	

—"I want to see some Brussels," began the prospective customer. "Carpets, sprouts or point lace?" asked the floor walker, briskly.

—Cathcart Wason, who is known as the knitting M.P., has resigned his seat in the British House of Commons, for Orkney and Shetland Isles. He gained his title by the habit of knitting socks in the smoking room of the Commons. At one time he was a farmer in New Zealand, and a member of the colonial legislature.

—Miss Jessie M. S. Gray, factory inspector for 1\* ington, in her annual report refers to her visits to the abodes of house workers, and says: "I found an artificial florist making violets at 3-4d per gross, each flower having to pass through her hands four times. The woman said she made on an average 9d a day. An ordinary price for making men's long silk ties is 4d to 5d dozen; making paper bags, 4d to 5d per 1,000; making tucked blouses. 2½d each; ladies' long jackets, 8d each. The women take out and carry back the work to the shop and warehouse, and provide their own machines and cotton."

THE NEW

**French Shoddy Picker Machine**

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High Test Awarded at Paris Exposition, 1900.

Of SILK, WOOL, COTTON, WASTE, JUTE, etc., it will produce fifty per cent. more production than the Garnet Machine on one-half the power.—Has no rival on the market.

**Toronto Woollen Machinery Company**  
118 DUKE STREET, TORONTO.

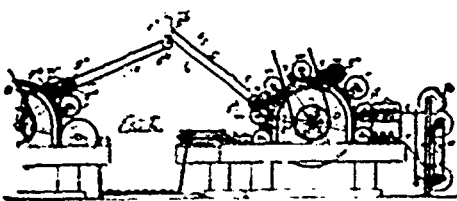
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Sole Agents for Canada and the United States.

Prices on Application.

Prices on Application.

—The year 1907 was a poor one for the silk industry of the world, contrary to expectations. The transactions in all European markets averaged 20 per cent. less than in previous years



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need have no more waste ends now that the **Perfect Waste End Saver** has come into the market. Perfect in every way, it needs only to be fairly tried to be appreciated.

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SHORT METER!****This is a Decimeter, or One-tenth of a Meter.**

10 millimeters—1 centimeter. 10 centimeters—1 decimeter. 10 decimeters—1 meter.  
A meter is equal to 39.37 English inches.

The Metric System of weights and measures will soon be introduced into Canada and the United States. You will, therefore, find it a useful study. Its principles can be learned in ten minutes. In the metric system every measure, whether of volume, capacity, length or area, is related to the meter, and is based on our decimal system of notation. To show its simplicity the whole system of weights and measures is explained on a single chart, 40 x 14 inches, containing diagrams of the actual sizes of the fundamental weights and measures. This chart will be mailed post-paid to any address in the world on receipt of 10 cents. Address

**BIGGAR, SAMUEL & CO., 62 Church St., Toronto, or Fraser Building, Montreal****Opinions of the Press****CHART OF THE METRIC SYSTEM.**

The publishers have received many letters complimenting them on the issue of the popular Chart of the Metric System of weights and measures. The following are a few sample opinions:

I have very much pleasure in seeing you step to the aid of those pressing the Metric System to the front. I shall be glad to call the attention of teachers to your chart. The Metric System has for a number of years—since I came into office—been taught in all the schools of the province; and the metric measures are those called for in the returns from all our high schools—dimensions of school rooms, etc. I have much pleasure in sending you a few copies of my brochure on the "Three Great Reforms," in which it will be seen that for a number of years I had been an advocate of the system—even in the conservative city of Toronto. Wishing you much success.—A. H. Mackay, Superintendent of Education, Nova Scotia.

I am in receipt of your favor of the 7th ult., together with a copy of The Canadian Engineer for June, and a specimen of the Chart of the Metric System prepared by your firm. I am very pleased to read your article, but I wish particularly to compliment you on the chart. It is, I believe, the best I have seen for explaining briefly the principles of the Metric System. It will afford my committee much pleasure to hear of this awakening interest in Canada. Australia too is showing a growing disposition to adopt Decimal Coinage and Metric Weights and Measures, and here we keep gaining a step month by month.—E. Johnson, Secretary Decimal Association, London, Eng.

We see that you, too, advocate the general adoption of the Metric System of weights and measures, and we believe that as much as possible everywhere the same means should be employed to accomplish the desired aim. The widest possible distribution of your chart would no doubt be a good step forward. We request you therefore to forward to us two copies

for our office and for the library of the American Society of Dyers.—L. M. Carriat, Philadelphia.

The Monetary Times has a review of your Chart of the Metric System. I notice the price is stated at ten cents per copy, but if you have any other more expensive editions printed, I should be glad to receive a copy or two; as it is my intention to frame a copy (if possible), and present it to the library of the society of which I am an associate, viz., the Incorporated Accountants (Eng.). It is high time that British traders and accountants awoke to the necessity of adopting decimal coinage and measures. Enclosed please find \$1 (Canadian), to cover your expenses for as many copies as the remittance will pay for. Trusting you will be able to assist our efforts on this side to foster "intercolonial and home-country" trade, and lessen the tide of German competition, which is a danger to all the English-speaking countries, if Germany gets the upper hand (both politically and socially), and assuring you of the awakening of the British to their surrounding dangers of subsidized continental competition.—E. Woodroffe, 121 Stapleton Hall Road, Stroud Green, London, England.

Please accept my thanks for the Metric System Charts. The adoption of the Metric System must shortly take place, as everything is to be said for it and next to nothing against it. As to the chart, I consider it is a valuable one, and one which every progressive citizen ought to have in his home. The mass of information, which it explains, is handled in such a simple manner that anybody can understand it without becoming in the least confused as to the use of the different terms, which is the only drawback, that I know of, to the Metric System. There is no doubt though that, if the system were adopted, the terms would be abbreviated to suit the rapid business methods this side of the Atlantic. I expect that a number of people, to whom I have shown the chart, will be calling upon you for copies of it ere long, as they have already expressed intentions of doing so.—Dermot McEvoy, Mechanical Engineer.

TEXTILE PUBLICATIONS.

In order to accommodate readers of The Canadian Journal of Fabrics, the publishers will be pleased to mail any book in the following list on receipt of the publisher's price, duty free. Books on technical and practical subjects, not in this list, can be obtained and mailed at publisher's prices. In ordering, please give full address, written plainly:

- 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 Ainley .....\$1 00
- Technology of Textile Design; explains the designing for all kinds of fabrics executed on the harness loom, by E. A. Posselt ..... 5 00
- 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
- The Jacquard Machine Analyzed and Explained; explains the various Jacquard machines in use, the tying up of Jacquard harness, card stamping and lacing, and how to make Jacquard designs, by E. A. Posselt..... 3 00
- Textile Calculations; a complete guide to calculations relating to the construction of all kinds of yarns and fabrics, the analysis of cloth, etc., by E. A. Posselt.. 2 00
- 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

- Worrall's Directory of the Textile Trades of Yorkshire, comprising the woolen, worsted, cotton, silk, linen, hemp, carpet, and all other textile mills, giving looms and spindles, and the various lines of goods manufactured, etc .....\$2 00
- Worrall's Textile Directory of the Manufacturing Districts of Ireland, Scotland, Wales, and the counties of Chester, Derby, Gloucester, Leicester, Nottingham, Worcester, and other centres not included in preceding works, with capacity, products of mills, cable addresses 2 00

CHEMICALS AND DYESTUFFS.

Business as usual at this time of the year is quiet. Market steady.

Bleaching powder .....	\$ 2 25 to \$ 2 50
Bicarb. soda .....	2 00 to 2 05
Sal. soda .....	0 85 to 0 90
Carbolic acid, 1 lb. bottles .....	0 40 to 0 50
Caustic soda, 60° .....	2 35 to 2 60
Caustic soda, 70° .....	2 60 to 2 85
Chlorate of potash .....	0 10 to 0 11
Alum .....	1 35 to 1 50
Copperas .....	0 70 to 0 80
Sulphur flour .....	1 70 to 2 00
Sulphur roll .....	1 90 to 2 00
Sulphate of copper .....	5 50 to 6 00
White sugar of lead .....	0 07 to 0 08
Bich. potash .....	0 7½ to 0 08
Sumac, Sicily, per ton .....	50 00 to 58 00
Soda ash, 48° to 58° .....	1 30 to 1 40
Chip logwood .....	1 90 to 2 00
Castor oil .....	0 08 to 0 09
Cocoonut oil .....	0 10 to 0 11

—The first cotton mill in America was established in Beverly, Mass., in 1787. It was designed to manufacture cord and bedticking.

NEW BLACK FOR WOOL



Absolutely Fast ONE DIP Black

Unequalled for depth of shade. Users of black should investigate. Fastest Black on the market.

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HEADQUARTERS, FOR

Caustic Potash 90%	Carbonate of Potash
Chlorate of Potash	Bleaching Powder
Phosphate of Soda	Refined Cutch A.K.C.

**WRIGHT & DALLYN, Agents, Hamilton, Ont.**

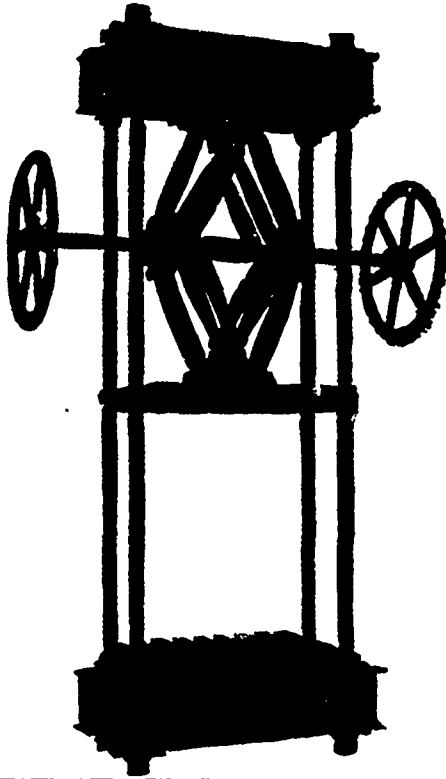
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**Bismarck Brown, Chrysoidine,** Crystals and Powder. Largest makers in the world.  
**Soluble Blues**—all shades.  
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**Reduced Indigo. Wood & Leather Stains.**  
**Ortho-Nitro-Toluol & Para-Nitro-Toluol**  
Specialties for Cotton, Wool and Silk Dyers, Paper Makers, etc.

# BALING PRESS



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## TAPESTRIES IN HISTORY.

In the course of a lecture delivered by Prof. Charles E. Dana before the Philadelphia School of Industrial Art on the subject of tapestries, the speaker said that if the Egyptian women who wove beside the Nile 5,000 years ago were to come to life today they would find the looms, although somewhat larger than those they used, very little changed in other respects. The part played by tapestries in the world's history was shown to be an important one. They had been of historical value in preserving a record, not otherwise obtainable, of costumes and customs. Legends were preserved by means of them and religious subjects were common in the early designs.

"In the Orient of old, tapestries and other weavings were only for high dignitaries," said Professor Dana. "A tent constructed for one vizier had a centre pole 108 feet high. To construct the tent required the work of 150 men for nine years. We read much in the Arabian Nights of gorgeous hangings, but the specimens that have come down to us have proved to be nothing more than crudely embroidered pieces of linen. The French were the chief nation in encouraging the weaving industry. They offered great inducements to the best Flemish weavers to settle in France, and did everything to further the art. In the Reign of Terror, however, the trade received a setback by a decree forbidding the weaving of men's figures in carpets. Men were not made to be trodden on, it was said."—Carpet and Upholstery Journal.

—At the end of the year 1901 there were only four woolen mills in India operating 594 looms and 22,986 spindles; capital invested about \$1,500,000.

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**Hamilton Cotton Co.'s**  
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**CARD**  
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**Tapestry Carpet Plants... A. F. CRAIG & CO., LTD., PAISLEY, SCOTLAND**

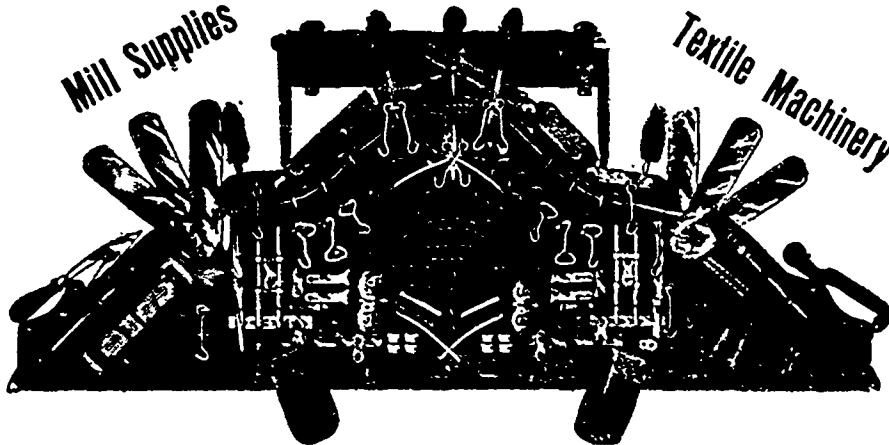
**Also a System of Burring Wool.**

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## WOOL

Mill Supplies

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Finishing  
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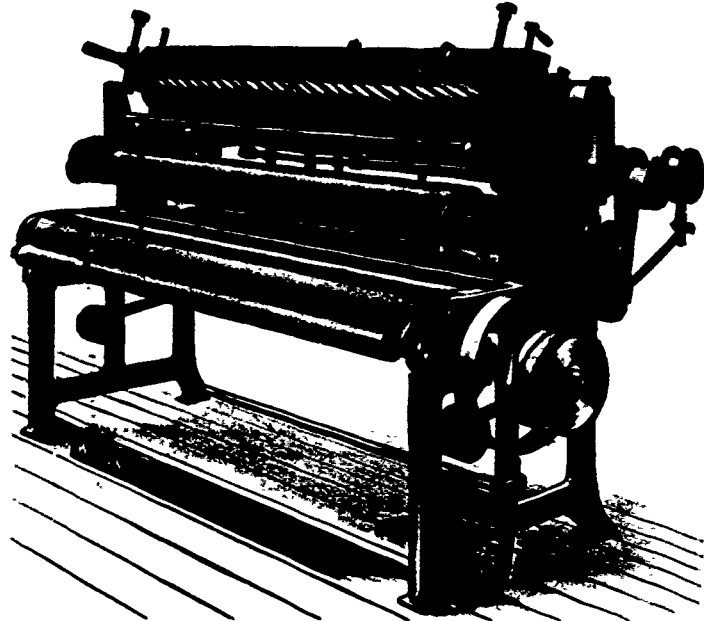
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Agent for Warps: GEO. REID, 11 & 13 Front St. E. TORONTO.

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Complete Cloth Finishing Plants  
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Wool and Cotton Drying Machines  
Improved Self Acting Mules  
Winding, Warping and Sizing Machines  
and other Woolen Machinery  
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## KER & HARCOURT,

ESTABLISHED 1857



MANUFACTURERS.

Orders by Mail  
will receive prompt  
attention

Parry Sound, Ont.

—An administrator has been appointed for the estate of William Clark, the Paisley thread manufacturer, who died at Newark, N.J., on July 7. The value of the estate is not known, but the personal property amounts to over £1,000,000. The will provides for £60,000 to be set aside and the interest paid to the widow, who will also have the family home and all the proceeds of life insurance. On the death of the widow the £60,000 in trust shall revert to the estate. The residue of the estate is to go, share and share alike, to the four children.

—Fall styles in men's overcoats are said to favor the Chesterfields, one light and the other heavy. The covert will again be in evidence, being in favor for wearing over a sack coat and in favor for general knockabout purposes. A storm ulster of a heavy, loose description for rough weather will likely be popular. An Inverness or a long, straight box overcoat, with vertical openings on the hips, will be the correct thing for evening wear. Straight hanging over-sacks of various lengths, some with down slanting and others with peaked lapels, others with plain and still others with plaited backs, will likely be much used. They will be made double and single breasted full box style. The storm overcoat will likely be a straight hanging box style of good length, with a whole back and fly front. The collar will be of velvet. The four-button single-breasted sack will be a leading favorite. It will be half-shaped, small roll collar, front slightly cut away and bluntly rounded into the bottom



**EVAN ARTHUR LEICH**

35-36 Mason Bldg., Boston, Mass., U.S.A.

IMPORTER OF

**Textile MACHINERY**  
Etc.

Sole Agent for the U. S. and Canada for

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Platt's Cotton, Woolen and Worsted Machinery.

Sole makers of Brown's Patent Carding Rollers for wool—give woolen yarn a worsted appearance.

Platt's Special Machinery for making English and French Worsted Yarns.

Platt's Special Machinery for making Cotton Waste into Yarns.

Also Sole Agent for U. S. and Canada for

**Messrs. MATHER & PLATT**  
Salford Iron Works, Manchester, England.

Bleaching, Dyeing and Finishing Machinery and Archbutt-Deeley System of Softening and Purifying Hard Water.  
The Best System on the Market.

Wool Washing and Drying Machines. Garnett Machines, French and English Napping Machines. Sykes's Card Clothing for Cotton. Critchley's Card Clothing for Woolen and Worsted. Varey's Fallers. Harding's Pins and Circles. Dronsfield's Grinders and Emery Fillet.  
Comber Aprons, Condenser Aprons, etc.

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ESTABLISHED 1859

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477 Broome St., NEW YORK

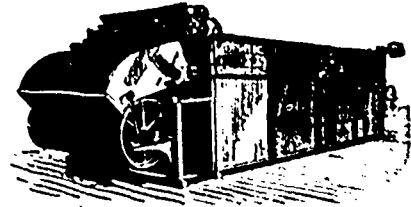
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Or, How to Choose and How to Use Lubricants for any description of Machinery

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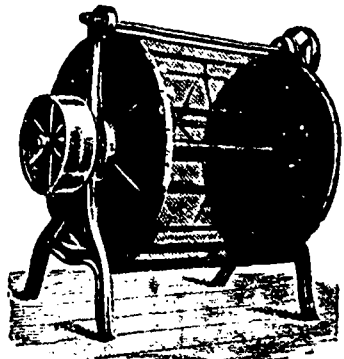
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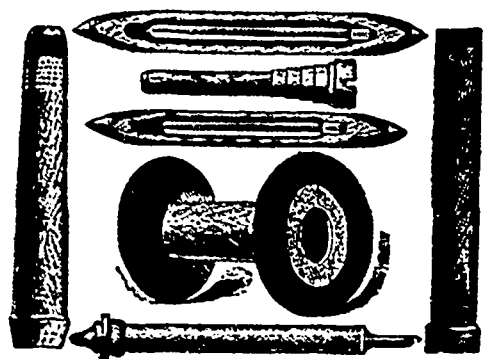
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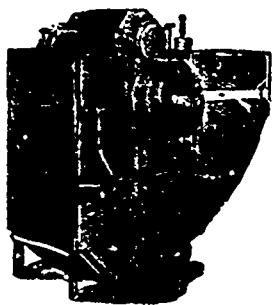
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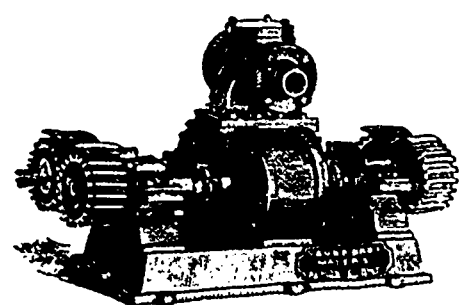


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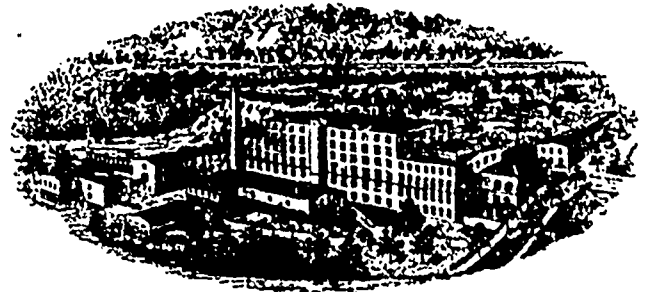
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 Rotary Fulling  
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Dead Spindle Spooler for Warp or Dresser Spools,  
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**Oil-  
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**METRIC  
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Look for the Advt. of the  
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For Cotton and Gingham Mills, Bleacheries,  
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Manufactured by **Elliot & Hall,** Worcester,  
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**New England  
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**Richardson's  
 Revolving  
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For use  
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This Ventilator is balanced, has ball bearings  
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**BIGGAR, SAMUEL & CO., Publishers**

FRASER BUILDING, MONTREAL,

62 Church Street, - - - - - TORONTO

—Pale red silk stockings are being worn in Paris with black shoes, having red heels.

—The wool and hide warehouse of J. E. Brown, Hamilton, was badly damaged by fire on September 14.

—H. G. Kirwin, of Lennoxville, has resigned his position in the Merchants Bank to take a position with the Dominion Carpet Co.

—A shopkeeper in Sinza has been sentenced to pay a fine of \$500 on a charge of watering cotton that was used for trade purposes.

—In the New York vacation schools small hand looms are operated by the pupils, who are taught the designing and structure of cloth.

—Shetland shawls measuring 2 or 3 yards square, weighing under 2¼ ounces, are usually sold at £30 to £40 each, and often represent the sole work of a knitter for eighteen months, and are so fine as to be easily passed through a lady's finger ring.

—When the residents of a town or village have but one industry upon which to depend to gain a livelihood, the prosperity of the community is necessarily coincident with the operation of that industry, successful or otherwise. Hardly a better illustration of this fact could be cited than the closing of

the Greenwoods mills of Mt. Vernon-Woodbury Cotton Duck Corporation at New Hartford, Conn. It is estimated that already six hundred persons have left there and it is expected that after the mills close for good, September 1st, fifteen hundred or two thousand will have removed, which is considerably more than one-half the population. The mills have been in operation nearly seventy years. The new owners, who formed a combination of the duck manufacturing interests, will transfer the business to Tallahassee Falls, Fla., where there is cheaper labor and longer hours are worked.

—A contemporary says: Six machines, costing \$4,000 each, have been brought from Germany by a large American firm of hosiery manufacturers, and have been set up by men from the factory, who will instruct the operators in the manufacture of high-grade lace hose and half-hose. These machines are the first of the kind to be set up in the United States. The class of hosiery to be manufactured will retail from 75 cents to \$1.50 per pair.

—Some three years ago the Shah of Persia gave the Minister of State the exclusive right for fifty years to spin and weave cotton and woollen fabrics in that country. The concession permits the beneficiary to associate with himself either foreign or domestic capital and other aids, and a member of an Austrian weaving establishment has been requested to form an association for the exploitation of the Persian monopoly.

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Importers and Manufacturers of  
all kinds of

**BUTTONS AND FANCY GOODS.**

Sole Agents for

**JACQUOT & CO.'S FRENCH BLACKING**

Sole Agents for the  
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Established 1848.

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**CHINA CLAY**—Finest and Low Qualities  
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"**BIRD & STAR**" & "**LION**" BRANDS

**FREEMANS** (Shippers)

20 Bucklersbury, LONDON

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Manufacturers of all kinds of

**Hackle, Gill, Comb and Card Pins, Picker Teeth, Needle  
Pointed Card Clothing in Wood and Leather for  
Flax, Jute, Tow, etc.**

Hackles, Gills and Wool Combs made and repaired; also Rope Makers' Pins, Picker Pins, Special  
Springs, Loom and Shuttle Springs, English Cast-Steel Wire, Cotton Banding and General Mill Furnishings.

**Bloomfield Avenue and Morris Canal, NEWARK, N. J.**



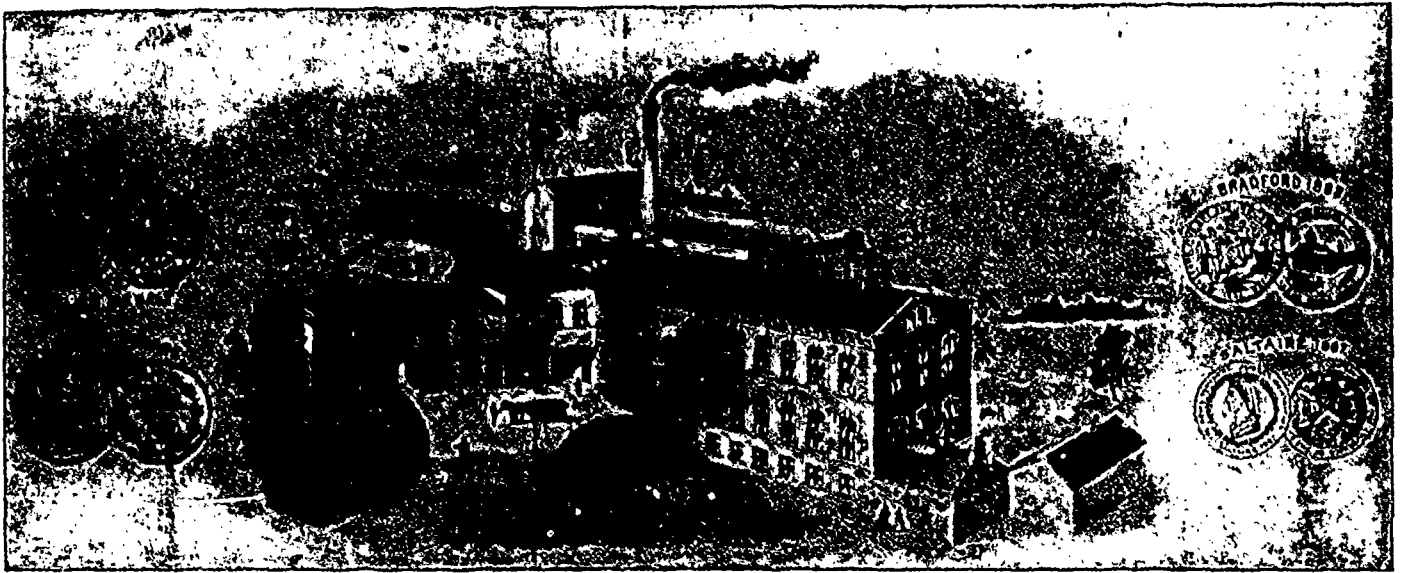
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This cut represents Barlow's Pat. New Picker  
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Mill Furnishings of every description.

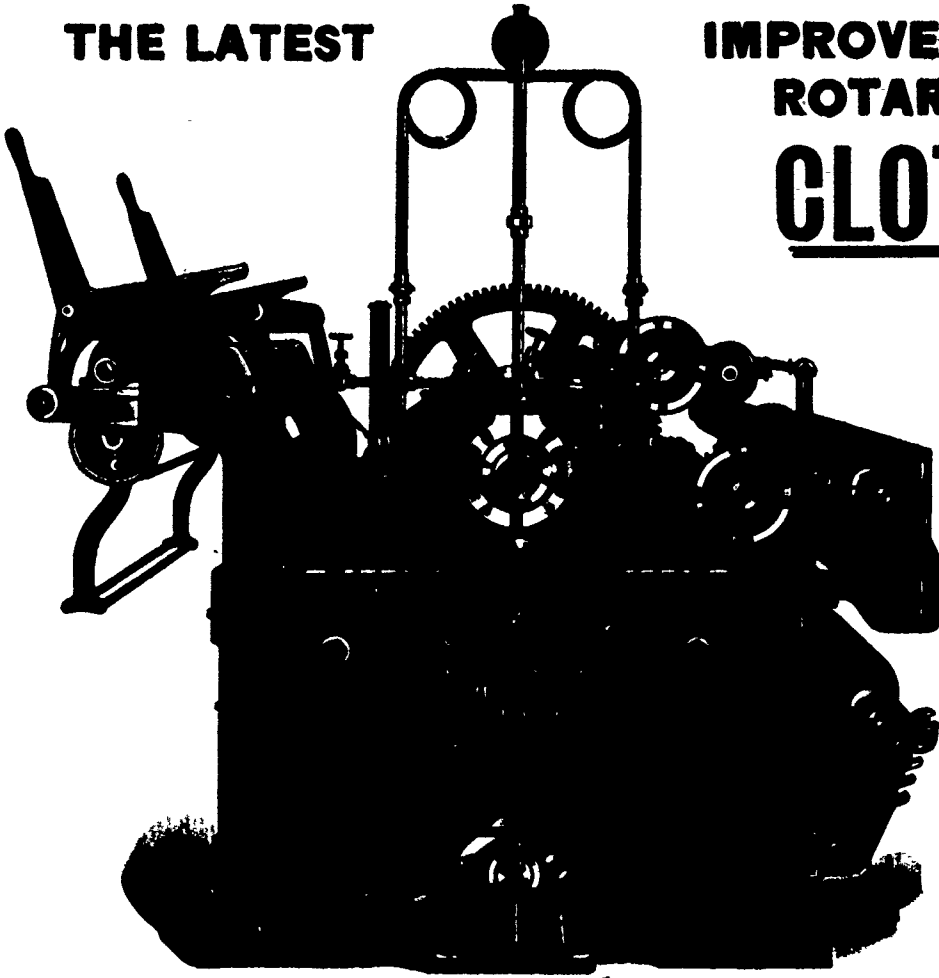
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for exposed situations.

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The bed plates are self-adjusting, the levers that operate them being mounted upon sliding steel fulcrum bars within the frames. The trussing apparatus of the bed plates is so arranged as to permit not only a forcing of the centres of the bed plates in a forward direction, toward the cylinder, but also away from it, which is of the utmost importance if the bed plates should ever become sprung. Bed plates and cylinder after being cold finished, are ground absolutely true while heated by steam at 75 lbs pressure, insuring perfectly straight and uniform pressing surfaces. Pressure is applied and removed instantaneously, and by power.

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## WOOL MARKET.

The wool market is on the whole quiet. This is due largely to the firmness of holders, who look for an active demand from the mills, which promise to be fully employed.

In London the arrivals of wool for the fifth series of auction sales number 212,348 bales, including 65,000 forwarded direct.

In Boston trade is quiet, and the tone of the market continues very firm. One element of strength is the fact that the members of the wool trade are not borrowers of money to the extent that they were at this time last year, as they have already sold a sufficient amount of wool to ease them materially.

In New York stocks of foreign wool have decreased materially, owing to small importations. The market is quiet but strong. In Philadelphia there was one large sale of territory wool, otherwise the tone was quieter, and buyers bought sparingly.

The Montreal market is bare of foreign merino wools, and prices have advanced a little in consequence. A few small parcels have been sold within the past week at full prices. The manufacturers are all fully employed at present, but the mills are not so many as they were some years ago. The colonial wool salesmen in London on Tuesday next, with an expectation of another advance on all fine wools, which are scarce.

In Toronto there is a fair movement in this season's clip, and a number of lots have gone to the United States. The presence of a United States buyer in the province caused some comment, but it is understood he represented a couple of Boston speculators, and that what he picked up is going into store in Boston in prospect of an advance. Prices are steady. Pulled wools quiet. For fleece there is fair enquiry. Canada washed, 14c.; unwashed, 7½c. For pulled the demand is small. Market steady. Extras, 18c. to 19c. Supers, 14c. to 15c.

—The market for ribbons is firm, and prices show an inclination to advance.

The Liverpool Cotton Association has resolved that after October 1 trading in American cotton shall be in hundredths of a penny instead of sixty-fourths, and the discount of 1½ per cent, will be abolished.

—A Philadelphia man has devised a scheme for facilitating the singeing of hosiery, etc., by rendering the nap non-inflammable. This is accomplished by the first or dizing treatment in dyeing, the chroming or finishing treatment in dyeing following the singeing. When treating cotton stockings which are dyed fast black by the aniline process, the hosiery is first saturated in a solution of a pound of potassium or sodium chloride, one-half a pound of bluestone, and four or five pounds of aniline salt or aniline oil. This mixture is known as aniline black solution.

Established 1838.

41 Highest Awards.

# Wilson Brothers Bobbin Co., Limited

Telegrams "Wilson, Cornholme"  
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**Card Grinding**  
are obtained by using 

**DRONSFIELDS' PATENT  
GROOVED EMERY FILLETING**  
SPECIALITIES; MACHINES FOR GRINDING CARDS  
MACHINES FOR COVERING ROLLERS WITH LEATHER

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Atlas Works, OLDHAM, ENGLAND.

EIGHTY 6'

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IRON & BRASS FOUNDERS.

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## CARD CLOTHING TETLOW'S

Stock in Canada

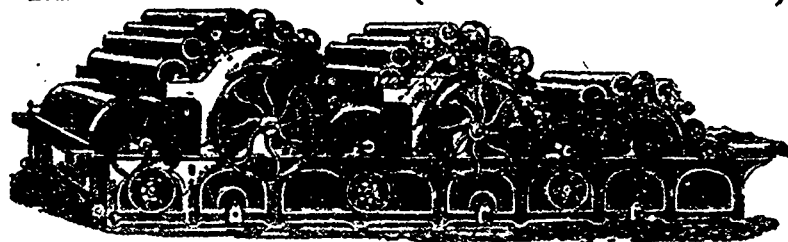
### Condenser Aprons

Buffed Surfaces  
Plain & Grooved

Oak-Tanned and White Belting  
Cotton Banding, Rim Spindle and Braided  
Shuttles, Pickers, Heddles, Harness  
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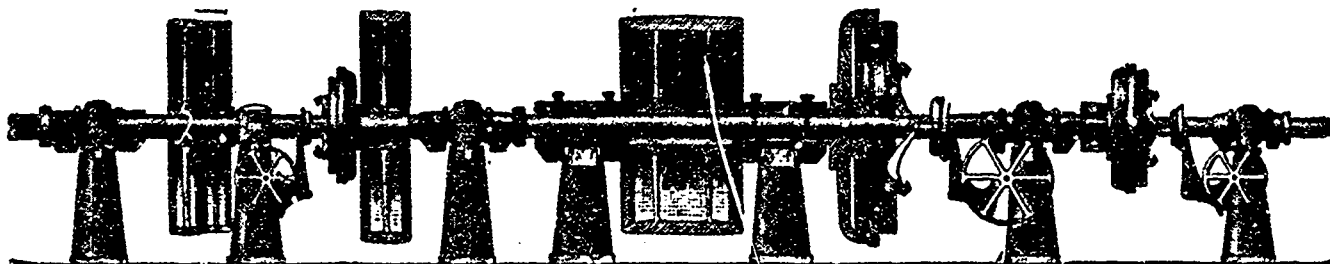
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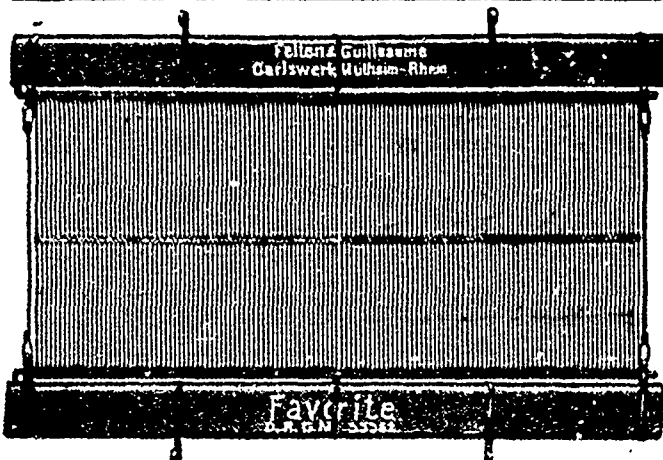
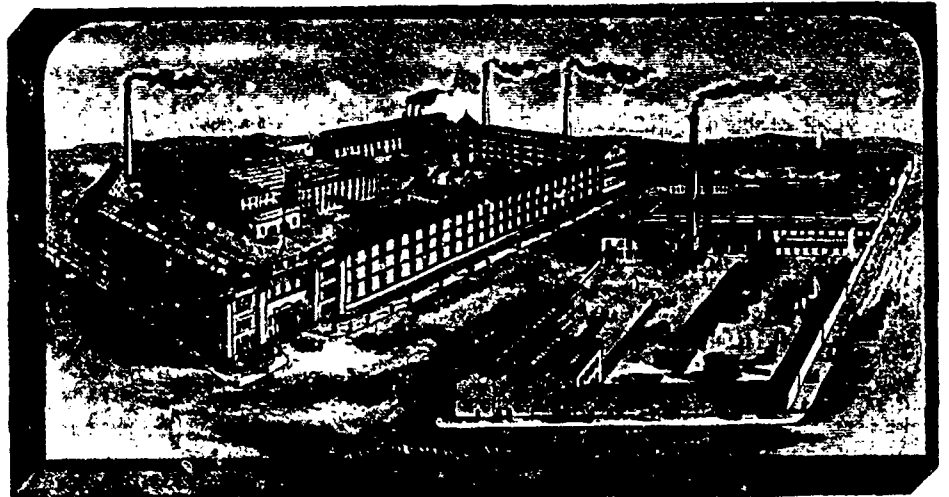
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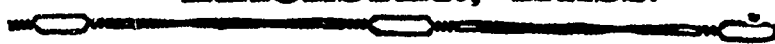
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