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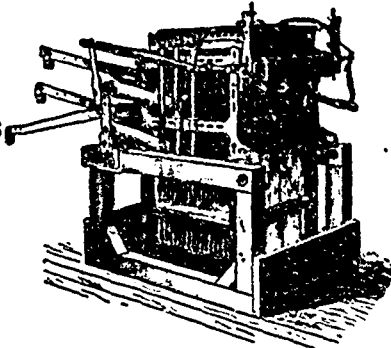
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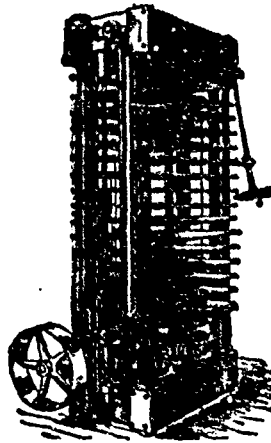
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# CANADIAN JOURNAL OF Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

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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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### THE WORLD'S WOOL PRODUCTION.

Two different estimates, widely varying in the totals arrived at, have just been made of the wool production of the world. One has been made in England by A. E. Garrett, F.R.G.S., and the other in the United States by the National Association of Wool Manufacturers of the United States. The former gave the world's yearly production in 1890 as follows:

	Lbs.
United Kingdom .....	138,000,000
Europe .....	450,000,000
United States of America .....	322,000,000
Australia .....	511,000,000
River Plate .....	272,000,000
Cape .....	91,000,000
All other countries .....	160,000,000
<b>Total .....</b>	<b>1,944,000,000</b>

Apparently he included Canada and Mexico in the United States figures. He estimates the world's production for 1900 at "considerably over 2,000,000,000 lbs.," but gives no details, only remarking that Australia still leads, and that "South America and Continental Europe came next with about 500,000,000 lbs. and 450,000,000 lbs., respectively, while the United States and Canada combined made a bad fourth with only 272,000,000 lbs."

The figures compiled by the National Association are more satisfactory as to details, and are probably more correct. They estimate the world's product for 1900, as follows.

	Pounds.	Pounds.
<b>Europe:</b>		
'Great Britain and Ireland .....	140,232,392	
Russia, including Poland .....	361,100,000	
France .....	103,610,000	
Spain .....	102,600,000	
Germany .....	49,590,000	
Austria Hungary .....	64,300,000	
Italy .....	21,451,000	
Portugal .....	13,410,000	
Sweden and Norway .....	8,200,000	
Turkey and Balkan Peninsula .....	67,500,000	
All other Europe .....	14,000,000	
		<b>945,993,392</b>
<b>North America:</b>		
United States .....	288,636,621	
Canada .....	12,000,000	
Mexico .....	5,000,000	
		<b>305,636,621</b>
<b>South America:</b>		
Argentine Republic .....	370,000,000	
Chile .....	7,500,000	
Brazil .....	1,500,000	
Uruguay .....	96,000,000	
Venezuela .....	15,000,000	
All other .....	20,000,000	
		<b>510,000,000</b>
<b>Central America and West Indies .....</b>	<b>5,000,000</b>	
<b>Asia:</b>		
Russia .....	60,000,000	
British India .....	85,000,000	
Asiatic Turkey .....	33,000,000	
Central Asia .....	46,000,000	
China .....	35,000,000	
All other .....	15,000,000	
		<b>274,000,000</b>
<b>Australasia .....</b>	<b>510,000,000</b>	

Africa:	
Algeria and Tunis .....	30,425,000
Egypt .....	3,000,000
Cape Colony, Natal, Orange Free State	100,000,000
All other .....	1,000,000
	134,425,000
Oceania .....	50,000
	2,685,105,013
Total .....	

<sup>1</sup>Great Britain and Ireland, product of 1899. <sup>2</sup>Fleece washed.

<sup>3</sup>Washed and unwashed.

The allowance made by the Association for Canada is a fair one. No yearly tables of wool production are compiled by any Canadian province, except Ontario, so that only a rough guess can be made. The Ontario returns for 1900 show that the wool clip of this province is 5,805,921 lbs., to which should be added the wool taken from slaughtered sheep and lambs, which a well-informed wool merchant informs us will amount to about 450,000 lbs., so that the total production of Ontario for the year will be a little over six million pounds. As the wool production of Ontario in past years has been slightly over that of all the other provinces combined, it will be seen that the foregoing allowance for the whole Dominion is perhaps not far astray, although the wool clip of the North-West Territories has been increasing at a greater ratio than that of all the rest of Canada in the last three or four years. In fact, the Territories are the only portions which will show an increase in the next census, as the old provinces, including Ontario, have been at a standstill in this respect for the last ten or fifteen years. The total given by the Association for the United States includes washed, unwashed, and pulled; as in the case of Canada. It appears that since the Act of 1897, reimposing the duty on wool coming into the United States, there has been an increase of about 50,000,000 lbs. in the annual production of United States wool, and a corresponding increase of 3,803,413, or 10 per cent. in the number of sheep. It is worth noticing, however, that this increase has been limited, practically, to the ranching States; and, moreover, not only is it the fact that these ranching States are the only ones to show a large development in the sheep raising and wool growing industry, but this development went on in several ranching States, right through the free-wool period, preceding the present wool duty regime. This would appear to confirm the experience of Canada, that wool production is less controlled by tariff legislation than by internal conditions, such as the demand for mutton for home consumption, and export, etc. The average weight of the United States fleece is figured out the same as last year, or 6.46 lbs. The average shrinkage is 61.1 per cent., which is a slight increase due to the increase in the growth of the Territorial wools, which give a heavy shrinkage. Compared with the year 1890, the wool production of the United States has fallen by about 20,000,000 lbs., and

taking a general survey it appears that Australia is the only country in the world that shows a steady and consistent increase in wool. Australian flocks have been known to double their numbers in four years, and under favorable circumstances her production can be brought up to a thousand million pounds annually. Quality in wool is chiefly a matter of climate, and experience has shown that the merino of Australia leads the world, having for long years surpassed South Africa and all the European countries, from which the merino sheep were originally imported. In South Africa a good staple of merino wool is grown, but partly through the lack of care, skill and industry of the Boers, who are the principal sheep farmers, and partly through diversion to other better-paying pursuits, such as Angora goat raising, ostrich farming, etc., the sheep industry of those colonies has been at a standstill for some time, and the quality of wool has rather retrograded. It requires a campaign of education among the Boers to bring South African wool back to where it ought to be. Heretofore, the wool principally favored by Canadian manufacturers for mixing with home-grown wools, and for making the medium to fine ranges of merino wool goods, has been South African, but Australian wools are being imported now to a greater extent than ever. These purchases are chiefly made in London at the Colonial wool sales, and not directly imported from the countries of origin.

Referring, again, to the United States wool trade, the compilers of the bulletin from which we have quoted, arrive at some interesting conclusions from the mass of figures they have gathered. After stating that the state of the domestic wool market is a reflection of the market abroad, and that it is not necessary to look for local causes (which we presume include tariff legislation), they indicate a change in American habits in the matter of clothing in the following:

"Indeed, it is a question whether the statistics do not justify the statement that there is a falling off in the wool consumption of the American people. On the basis of the domestic supply, the foreign imports, and the imported goods—estimating three pounds of wool to each dollar in value of the latter—we estimated the per capita consumption of wool in 1890 at 9.07 greasy pounds, as against 8.52 pounds in 1880. Assuming the clip of 1899 at 272,191,330 pounds, there was retained for consumption in the United States, in 1900, after deducting all exports from the imports, a total of 420,197,228 pounds. The value of imported fabrics for the year was \$27,000,000, which adds 81,000,000 pounds of wool, a total of 501,000,000 pounds which, with a total population of 76,295,220, shows a per capita consumption of 6.7—an apparent loss since 1890 of 2.3 pounds per capita. There has been a steady increase in the population of the country—apparently about 21 per cent. since 1890—and an enormous falling off in the value of imported wools. Yet the sup-

plies of wool required to meet the demand for domestic goods are no greater than they were in 1890. This is assuming also that the abnormal wool imports of the free wool period have passed into consumption, and are no longer a factor in the supplies. In the present general prosperity of the country, the people are buying goods with quite as much freedom as was ever the case; it would seem to follow, therefore, that the use of cotton goods as a substitute for woollens has been increasing of late years. The advances which the cotton manufacture has made in the direction of imitating various makes of woollens have been very great in these ten years. So also has been the advance in the use of cotton in connection with wool, and this use has been stimulated by the unwillingness of the buying public to pay prices for woollens which are commensurate with the increased cost of wool since the restoration of the duty on the latter. Even with cotton at 10 cents a pound, the difference between its cost and that of wool at 50 cents a scoured pound is so great in these days as to encourage the use of more or less cotton in fabrics which will not command prices which allow a fair return, provided the materials used were all wool. A duty of 11 cents a pound on wool advances its cost so materially that it is now distinctly tending to reduce its consumption in this country. It has not been possible, notwithstanding the general advance in prices, to obtain the values for woollen goods which ruled prior to the tariff revision of 1894. Yet the wool and labor are costing just about as much as before." These conclusions distinctly point to the failure of the United States wool tariff to effect what it was intended to effect.

—We wish our readers a very merry Christmas and a happy New Year. If they live to see the beginning of the year they will also see the beginning of the 20th century. It is a long wish, but we hope that many of them will live to see the end as well as the beginning of the century which bids fair to be the most remarkable age of the world.

—Great Britain leads in the art of waterproofing; Germany in that of dyeing, at least in some departments of textiles. In consequence, a large trade is done between the two countries, the German manufacturers sending over the finer of their woven fabrics to England to be waterproofed and returned in the finished condition, and the British yarn manufacturers in certain lines sending over their undyed yarns to be dyed and returned for finishing in England. Some of the protected German interests have protested against this practice under the belief that if it were suppressed, it would increase the sale of German yarns abroad, but when the case came to be looked into, it was found that the yarns were of a class that is not, or cannot be, produced in Germany. The Hamburg Chamber

of Commerce, in a report on the subject, cited several cases which showed the complicated character and the relations of this interchange of industry, and which disclosed, incidentally, the ignorance and indifference of one protected industry to the interests of another in the same country.

—Mention has been made of the recent congress at Paris, convened with the object of bringing about a universal system of numbering yarns. The congress, it will be remembered, advocated applying the decimal system to the numbering of yarns of all kinds in all countries, and the co-operation of British manufacturers appeared to be the only thing required to bring about its early adoption. W. D. Shaw, of Huddersfield, who had been sent as a delegate from that district, reports that since the congress, he has visited the heavy woollen districts, such as Leeds, Dewsbury, and Batley, and found that the commercial men of those places were decidedly in favor of the proposed change, for the sensible reason that it would help their trade abroad. This, one would think, would in turn induce the manufacturers to move in the matter, as increased trade abroad means increased work for themselves. Mr. Shaw, in an address to the Huddersfield Chamber of Commerce, pointed out that not only was it necessary to adopt the metric system, but to put all yarns on one basis. English exporters foolishly, as he thought, stuck to the old system, and they feared to adopt the decimal, because by doing so they would lose their old prestige. It was very difficult, under the present system, for foreigners to arrive at an estimate of the value of yarns, especially those in which cotton and wool were mixed. It seemed to him to be an old-world rule-of-thumb system, and one that ought to be done away with. A discussion took place as to whether the cotton people should be communicated with, and it was decided that other Chambers of Commerce, connected with the woollen, worsted, cotton, and silk trades be communicated with with the idea of ascertaining their views as to the enforcement of the metric system in their several trades. It therefore looks as if the manufacturers of England were at last awaking to the fact that the advantage possessed by other nations in having the metric and decimal systems is one of the causes why so much foreign trade is slipping out of their hands.

#### WOOL SORTING.

In an article on spinning processes in *The Textile Recorder* (from which the accompanying cuts are reproduced), E. B. Fry, headmaster of the textile department of the Keighley Technical Institute, has the following remarks on wool sorting in England:

The variation in the quantity of fleeces is greatest in the crarser wools, while in the merino and fine crossbred wools it is comparatively small, and in consequence of this much of the

Colonial wool is not sorted at all in this country, but is merely classed in the fleece at the sheep-shearing station and packed in bales which only contain one quality of fleece, each fleece, however, having had the coarsest wool, or skirtings, round the legs and tail end removed, these portions being packed by themselves and sold as inferior qualities.

In the coarser wools, similar to the English classes, the variation in quality in the fleece is very much greater, and they are carefully sorted, and the different qualities placed separately for use as required. At the present time sorting is not carried out to anything near the extent that it was 15 to 20 years ago, for in some cases then 14 to 17 different qualities would be taken out of some of the English fleeces, while at the present time not more than five or six would be taken from the fleece of the same class, and in these earlier days the Colonial and cross-bred wools were also sorted to a much larger extent than now. Many firms specify their different qualities of wool by letters or numbers, which are merely private marks indicating certain qualities, but there is a growing and advantageous tendency to specify all the qualities of wool as the counts to



FIG. 1.—DISTRIBUTION OF QUALITIES IN A LEICESTER FLEECE.

which they will spin. It being impossible to spin the coarser wools to fine counts, each quality of wool is specified by a number representing the highest counts to which that particular wool may be spun satisfactorily, thus 40's quality would indicate that this wool may be spun to any counts up to and including 40's, but that you could not produce 50's or 70's counts from it. Again a wool of 100's quality would satisfactorily spin any counts up to 100's, and so on. If a fine wool is used to produce coarse counts or thick yarn, the counts and quality are generally both specified, thus we may have 2/40's/72's, indicating that we have 2/40's counts spun from a 72's quality of wool.

In any fleece the finest wool is always found on the shoulders, and the next qualities on the sides, neck and back, the worst being always towards the tail end, while the skirtings round the legs and tail and some portions of the belly are always much lower in quality than the rest of the fleece.

In Fig. 1 a photograph is shown of a fleece of Leicester wool, spread out flat, and the figures in the spaces indicate on

one side of the centre the qualities which we might expect to find in these parts of the fleece; thus on the shoulder we have 44's quality, and round this up to the neck and extending slightly backwards a portion of 40's quality, then a strip of 36's along the sides towards the hind legs, followed by 30's quality along the top of the back and extending down to the legs, while the tail end of the fleece and the skirtings might be about 24's quality. The opposite side of the fleece contains a similar division of qualities, for if any fleece is divided fairly evenly down the centre of the back the two halves will contain similar qualities in the corresponding portions. It is not intended to imply that we shall always find 44's quality in

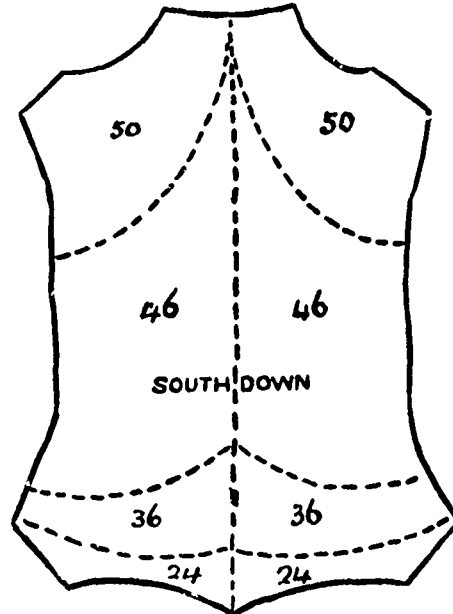


FIG. 2.—DISTRIBUTION OF QUALITIES IN A SOUTH-DOWN FLEECE.

the position indicated in every Leicester fleece, or that the qualities of 40's, 36's, and 30's will always occupy the proportion of spaces indicated, but the qualities here given may be taken to represent a good average fleece, and more or less divergence from this might be expected in different fleeces both as regards the qualities and their proportion to each other.

Again, in Fig. 2, the position of the various qualities is indicated in an average Southdown fleece, and, in this case, ranging from 50's down to 24's; but the sorting is not carried out to as great a degree as in the Leicester, because the greater portion of the fleece shows less variation than in that class; and as will be seen from the diagram, more than three-fourths of the wool ranges from 50's to 44's or 45's, and then there is a considerable falling off in quality at the tail end of the fleece.

#### STATIONARY "CELLS" IN THE DRYING OF TEXTILE FIBERS.\*

In the ordinary and well-known method of drying fabrics or yarn, the material is led on to steam-heated rotating cans or cylinders, passing from one to another for the entire length of the machine, with or without the assistance of guide rolls, as the case may be. There is more or less trouble with this method of drying, arising from the fact that these cylinders must rotate while they are receiving their steam supply, and that the water of condensation must be continually removed.

The only apparent way to admit steam to the cylinders, and to get the water out of them, is through the journals. These

\*Paper read by Charles H. Fish, Dover, N. H.

journals, however, must be made hollow, and must also be packed in such a way that the steam will go into the can and not blow out into the room, and the condensed water must be made to flow from the can into the proper drip pipes without leaking. To accomplish this there are several methods now in use by machine builders. In one of the most successful it can readily be seen that it undue friction is to be avoided the gland which presses against the packing must not be screwed up too hard. It must, however, be screwed up hard enough to prevent leakage.

Investigation will probably show that in practice most cylinder journals do have the packing screwed up harder than necessary, for as long as the packing is leaking the attendant will continue giving it another turn with the wrench, without regard as to whether the packing itself is in good condition or not. On sets of cylinders the adjustment of the different stuffing boxes will vary from a very hard "set up," which makes a good form of brake, to a loose or slack adjustment of a bad leak. At the very best, with intelligent care, it is certain that a great deal of power is absorbed by the numerous stuffing boxes. The cost of labor and material used in repacking the journals is also quite an item.

Of course, the larger in diameter the journal, the more power is lost in friction. This seems to place a limit on the size of the steam opening into the cylinders. As to the difficulties in getting the water of condensation out of the cylinders, it must, as we have said, come out through the hollow journal, and as it would not do to let the cylinders run half full of water, some means must be provided for raising all the water to the height of the journal. There are some devices for doing this work at low speeds, but they are more or less inoperative at high speeds of rotation. There is a bucket or scoop arrangement which is in common use. As the steam is condensed, the resulting water is supposed to drop to the bottom of the cylinder, where the bucket scoops it up as the can rotates, raising it until it gets to the height of the journal, when it is free to run out into the atmosphere or drip piping. At high rotative speeds, however, the effect of centrifugal force is to retard and even prevent the proper discharge of the water from the bucket. Then again, the buckets, being out of sight and located where there is no opportunity to get at them easily, are liable to become inoperative and remain so, either by getting bent or by filling up, or by breaking away from the shell or head. Usually the first definite intimation of any trouble with the buckets is the collapse of the cylinder, caused by the sudden condensation of steam, or by the weight of the water it contains, although often cylinders run for years with their usefulness greatly impaired on account of improper drainage. I think it is safe to say that the majority of cylinders running to-day are imperfectly drained.

It will also be noticed that when the bucket is at or near the top during the rotation of the can, there is nothing to prevent steam escaping out of the drip outlet.

There is also a syphon arrangement often used for getting water out of cylinders. This arrangement depends, at least for starting, on an excess of pressure inside of the can over that of the atmosphere or system of piping into which the drips are discharged. After the discharge is started, and as long as the end is sealed by water, it may act as a siphon. The excess of pressure at starting must be great enough to raise the water to the height of the journal. It is a well-known fact that at times, in consequence of a large amount of steam being condensed in a cylinder, the internal pressure is very low. With a syphon, as with the bucket, we are never sure just what the conditions are inside the cylinder, whether water is collecting or not. At high speeds the syphon is even less effective than

the bucket, as the water, instead of remaining in the bottom of the cylinder, tends to follow up the side, out of reach of the syphon tube. Another objection to the syphon arrangement is the complication in packing the journal to prevent leakage. It is very common to have the syphon for taking out the condensed water pass through the same journal that the steam is admitted. This is a bad practice, however, as the entering steam is being continually cooled by the stream of water from the cylinder. Moreover, to get suitable size openings, the journal must be large, causing frictional losses.

Another trouble found with drying cylinders is their inability to collapse from external pressure caused by the formation of a vacuum inside. To guard against this the ordinary form of drying cylinder is equipped with air valves, which are supposed to prevent the creation of a vacuum by admitting air into the can whenever the pressure inside falls below that of the atmosphere. These air valves, however, do not always prevent collapse.

A cylinder which was designed with a view of overcoming the objection to the ordinary buckets or syphons, is now in use at the Cochecho Print Works. The principle is that of an Archimedes screw supplemented by a converging spiral at each end, terminating in a hollow journal. The water of condensation falling to the bottom of the can is pushed along to the farther end where the converging spiral empties it into the hollow journal. The steam going in at one end has got to traverse the whole length of the spiral passage before it can get out. There are no short cuts. The steam has to go where it will do the most good, and cannot escape until it has done so. This can works well at high or low speeds, draining the water almost to the last drop. Centrifugal force does not affect it adversely, as even if the water tends to cling to the side of the can it cannot get away from the screw which is continually pushing it along. Moreover, the pressure of the entering steam is always directed toward clearing the passage of water. This pressure acts in this way regardless of the speed. Another advantage in this construction is that the spiral acts as an internal brace, making collapse impossible. For constructive reasons this device is more suitable for the small cans for which it was designed than it would be for larger ones. The other disadvantages remain, also, in that it must revolve and the journals must be packed.

What has led us to seek an improvement over rotary cylinders, in addition to the reasons given above, is the difficulty in arranging them compactly. They occupy too much space for the drying surface available. Take the shell of a three-foot cylinder, flatten it into a long narrow ellipse; you have the same heating surface remaining, but look at the space occupied. That has been reduced to an astonishing degree. Heating surface without bulk is what we are after.

We have recently designed and built at the Cochecho Manufacturing Company, a cloth drying machine made up of elliptically-shaped plates, or "cells," arranged in tiers. These cells are crowned just enough so that the cloth in passing from one guide roll to another is in full contact with each surface. It is obvious that they may be grouped in one, two, three, four, or even more tiers. When arranged in tiers they are so placed that each surface of each cell is substantially tangent to the surface of the cell above and below, or its guide roll. The object of more than one tier is to permit of a compact arrangement, and to keep the size of each cell as small as possible. The cloth is drawn over the cells by guide rolls, part or all of which are driven positively. Steam is admitted to them through openings near the middle of their height. The water of condensation flows off by gravity, the pipe connection being made at the lowest part of the cell, so that each is perfectly drained at all times.



### THE CHROME MORDANTING OF WOOL.

Geo. H. Hurst, in Dyer and Calico Printer.

For the proper dyeing of such colors as logwood black, alizarine red, brown or blue, Diamond Black, etc., on woolen fabrics, it is of the greatest importance that they be properly mordanted with such agents as iron, chrome and alumina, for, if not, no good results can be obtained. Of all the mordants applied to wool, by far the most important are those of chrome, and dyers and color chemists have paid very considerable attention to the methods of applying them to wool, and many methods have been devised for the purpose. It may be convenient and not without interest if we pass in review those methods which are now in use, or been proposed for the application of wool mordants to the wool fiber.

Chromium has the property of forming two distinct series of compounds, and members of both these series are in use in wool mordanting. One of these two series are the basic chromium salts like chrome alum, chromium fluoride, chromium acetate or bisulphite of chrome, which are compounds of the green basic oxide of chromium with acids; these are mostly of a green color. The other series of compounds, such as bichromate of potash and bichromate of soda, are compounds of the acid oxide of chromium, chromic acid, with basic oxides like potash and soda; they are yellow, orange, or red in color. When wool is boiled in a solution of such salts as chrome alum, fluoride of chrome, there is some slight decomposition, and oxide of chromium is deposited in the fiber where free acid, as hydrofluoric acid from the fluoride or sulphuric acid from chrome alum is found in the bath. The wool thereby acquires a greenish-gray color. When wool is boiled with solutions of bichromate of potash or of soda, decomposition also occurs, but in this case the reaction is more complex in character, and on the wool is formed a deposit of both the acid and basic oxides of chrome and the wool becomes of a yellowish or brownish olive color. Now it is found that when wools mordanted or boiled in these different ways are subsequently dyed, two different effects are obtained; for example, with logwood the wool which has been boiled with chrome alum or fluoride of chrome acquires a blue color, while that boiled with bichromate takes a black color, and as the latter result is due to the oxidation of the coloring principle, haematoxylin, of the logwood, the mordant so obtained is called an "oxidizing" mordant, while the other, not having such action, is called a "non-oxidizing" mordant. With some dyestuffs it is desirable that a "non-oxidizing" mordant should be obtained, while, with others, an "oxidizing" mordant will yield the best results. By adding to the bath of the chromium salt such bodies as oxalic acid, tartaric acid, tartar, lactic acid, sulphuric acid, the degree of decomposition of the chromium compound is altered and increased, and the wool fiber becomes more efficiently mordanted, and so fuller and deeper shades can be dyed. Now the manner in which these substances, or assistants as they are called, are used, causes the different modes of mordanting the wool.

Of the two different classes of chrome compounds, the basic series are of far less importance than the acid series, and we may conveniently begin our study of the chrome mordants with these. Perhaps, of all the chromium salts, although the youngest in regard to the time it has been in use, the fluoride is that which is most largely in use. The mordanting bath is made from 4 per cent. of the fluoride with 2 per cent. of oxalic acid, which has been found to be the best assistant for this salt of chrome. It is best to enter the wool into a lukewarm bath, then heat slowly up to the boil and work for 1 to 1½ hours at just the boil or a little below it. As a rule good and even mordanting is obtained, but it is rather dear, and does not work

well in copper kettles; further, there is a tendency for the wool to become harsh. It is only used with those dyes which do not work well with bichromates on account of the oxidizing tendencies of the latter compound. Of late years it has come much into use for the one-bath process of dyeing wool with such dyes as Diamine Fast Red F, Chrome Fast Yellow, Diamond yellow, Alizarine Yellow, where the wool is dyed first in the usual way and then fluoride of chrome, usually about 3 per cent., is added to the bath to fix and develop the color.

Chrome alum is sometimes used in mordanting wool; the best assistant to use is oxalic acid, although often tartar is employed. The best proportions to use are 10 per cent. chrome alum and 2 per cent. of oxalic acid, or 3 to 4 per cent. tartar. Chrome alum is not economical to use, as it is not completely decomposed in the bath, and the whole of the oxide of chromium it contains is not deposited upon the fiber. It is fairly cheap, which is much in its favor, and it leaves the wool fiber fairly soft. It has been proposed to use oxalate of chromium as a mordant, and as this decomposes completely in the bath no assistant is necessary, but the article does not seem to have been used on the practical scale.

In the mordanting of wool there is little choice between the bichromate of potassium and bichromate of soda. The latter is the cheaper of the two; it is more soluble. On the other hand it tends to leave the wool harsher than the potash salt, and so wool-dyers prefer to use the latter, although a little clearer and not so soluble. By the use of different assistants and by regulating the duration of treatment the bichromates can be used to produce either an "oxidizing" or a "non-oxidizing" mordant on the wool, although it is obvious that it must be much easier to produce the latter than the former.

The active mordanting agent in the bichromates is chromic acid, but although that is now a commercial article, yet it does not seem, at any rate in this country, to have been used in the mordanting of wool. In the United States O. P. Amend patented its use, and this process is controlled there by the Amend Process Co. The Amend process is carried out in the following manner. A bath at about 150 deg. is prepared, and to this is added 6 per cent. acetic acid. After working the cotton in this bath for half-an-hour, 1 per cent. of chromic acid is added and the working continued for a further half-an-hour, when 6 per cent. sodium bisulphite at 70 deg. Tw. is added; at the end of half-an-hour the process is ended. By this process a "non-oxidizing" mordant is obtained, the acetic acid helps to reduce the chromic acid, while the bisulphite, owing to its strong reducing properties, completes the reduction of the chromic acid to chromic oxide, which is deposited on the fiber.

In the dyeing of logwood blacks on wool it is usual to mordant with 3 per cent. of bichromate of potash and 1 per cent. of sulphuric acid, when there is formed an oxidizing mordant upon the fiber. By the addition of sulphuric acid to the chrome bath a corresponding amount of chromic acid is set free, and this deposits partly upon the wool and is partly decomposed so that a mixed deposit of oxide of chrome and chromic acid is thrown down upon the wool. In practice it is customary to retain the mordanting bath and to add fresh material to it, and it has been observed that the mordanting action is better with old baths than with new ones, but after a time the bath changes and begins to work badly. This has been shown to be due to too much bichromate accumulating in the bath, which can be avoided by adding rather more than 1 per cent. of acid after the first bath, or rather less of bichromate. The proportions of 1 of acid to 3 of bichromate should not be exceeded, or otherwise it is found that the wool becomes harsh and over-chromed, and a good black cannot be got. Too much care cannot be taken in washing the wool after chroming so as to get rid of any excess of bichromate that may be left un-

changed in the wool, for any such bichrome will certainly react upon the logwood and make it turn green.

In some degree the mordanting with potassium bichromate and sulphuric acid resolves itself into mordanting with free chromic acid, for that is the active element that is separated in the bath, and in that case we really arrive at the Amend process. There is no doubt the potassium sulphate which is present in the mordanting bath has some influence on the rate of mordanting. While it is essential for the production of a chrome-logwood black that the mordanting bath shall contain free acid so as to produce the oxidizing mordant in the greatest possible degree, yet where a non-oxidizing mordant is wanted it might be possible to economically procure it by first treatment in a bath of bichromate and sulphuric acid followed by a treatment in a bisulphite bath to ensure the decomposition of the chromic acid on the fiber into chromic oxide. Bisulphate of soda has been used, but it has no advantage over sulphuric acid, and is much dearer.

There is one rather important point which may be noted here; in mordanting with bichromate and sulphuric acid the bath should be kept near the boil, say from 195 deg. to 200 deg. F. It is not essential that it should be actually boiling or that strong ebullition be maintained. Too high a heat is always to be avoided in dealing with wool, for it has, especially in the presence of acids and other bodies, a serious influence on the structure of the wool fiber, rendering it harsh and unfeltable, and that is not desired. So the lower the bath is kept the better, and one advantage that is claimed for the Amend process is that it can be worked at a lower heat, 180 deg. to 190 deg. F., than is possible with the older processes, and so it leaves the wool softer and more active, which is by no means a small one. Some dyers think that in order to mordant or dye wool properly it is necessary to work at a full boil. This is by no means essential; the only advantage to be gained is a little quicker working, but by giving a little longer time at a lower heat the same effective mordanting or dyeing is attained without so much risk of making the wool harsh and hard.

(To be continued).

### LITERARY NOTES.

When sending Christmas or New Year's souvenirs to friends abroad we would commend to our Canadian readers the Canadian Magazine, Toronto; the Prince Edward Island Magazine, Charlottetown; and the Newfoundland Magazine, St. John's, Nfld. The price of the first-named is 25 cents, the second 5 cents, and the last named 10 cents, and all contain good matter creditable to Canadian writers and more or less appropriate to the time.

Among the attractive Canadian books for the holiday trade, one that is very daintily presented from the press of William Briggs, Toronto, is a volume of poems, under the title of "In Bohemia." The author is Mrs. Sterry Hunt, daughter of the late Judge Gale, and widow of the late Dr. Sterry Hunt, one of the most eminent of Canadian geologists. Mrs. Hunt was born with a poetic taste, and many of her poems written for the periodical and daily press, over the signature "Canadienne," when she was Miss Gale, will still be remembered by readers of poetry. While the dramatic sketch which gives the title to the book may be open to criticism on dramatic grounds, the poems which form the body of the volume show poetic power as well as true poetic art. The verses, "To an English Violet in Foreign Lands," are not only charming, but memorialize an incident in the life of our Queen, which is well worthy of such a memorial. "Lines on the visit of Prince Jerome Napoleon to Canada, August, 1861," are prefaced by the following comment: "At the time these verses were written, the author, in

common with many others, cherished the brightest visions of an era of prosperity and progress for France—material, moral and spiritual—in the not distant future. Succeeding events, even before the Franco-German war of 1870, proved too well the futility of such dreams." This is the closing stanza of the poem:

"Let but thy future, France, fulfil  
This opening promise bright;  
Let Peace those surging passions still  
That waken with thy might;  
Let that calm pride of worth be thine  
That shames the pride of power,  
And ever brightest seems to shine  
In misery's darkest hour!"

Upon which The Montreal Gazette in an appreciative notice of the book observes that "the wish is not inopportune, even now." The volume throughout gives evidence that its author is a woman of refined mind and elevated tastes, and its typographical appearance is in harmony with its contents. There are several pretty illustrations, among them being a scene in old Montreal, illustrating the poem "A Summer's Day in old Montreal" (Toronto: William Briggs, \$1).

We have received a dainty and artistic volume entitled, "Field Flowers," containing a selection of Eugene Field's best and most representative works. This book is handsomely illustrated by thirty-two of the world's greatest artists—who have contributed their work free out of admiration of the poet—and the volume is given as a souvenir to anyone contributing one dollar or more to the Eugene Field Monument Souvenir Fund.

The Christmas Century is resplendent in an appropriate colored cover designed by Herter; and the frontispiece is one of a group of full-page and minor decorations, richly printed in color and tints, illustrating the great ode "On the Morning of Christ's Nativity," which is reprinted from Masson's edition of Milton's poems. Special attention has been paid to color printing in The Century of late years, but it is believed that nothing else that has been done in the magazine quite equals in richness of effect the results that have been attained in this number. Not to speak of a fine budget of light reading, the articles of serious interest are: "The Struggle on the Peking Wall," by W. N. Pethick, private secretary to Li Hung Chang, describing a critical moment in the fortunes of the besieged legation; "With the Peking Relief Column," by an American war correspondent, Frederick Palmer; "Significant Knowledge of the Bible," offsetting President Thwing's recent paper on undergraduates' unfamiliarity with Biblical incidents; "Paths of Hope for the Negro," by Jerome Dowd, and "What More Than Wages," a study of recent efforts by employers to admit their "hands" to a share in the profits of their business.

### NETTLE FIBER IN TEXTILE MANUFACTURES.

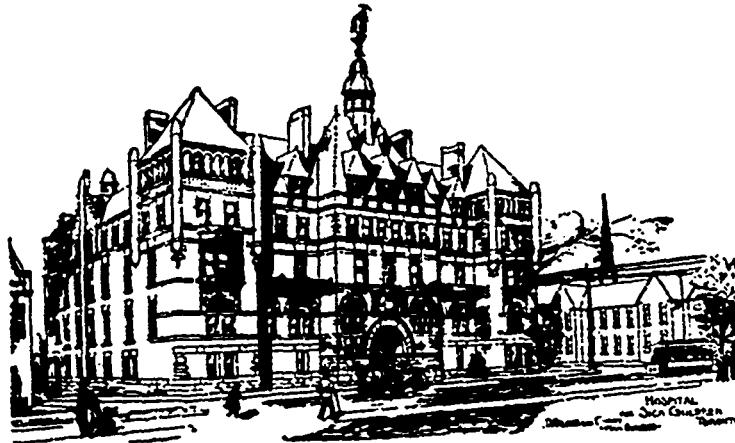
The American Consul at Glauchau, Germany, reports that nettle fiber has of late come greatly into favor in the manufacture of fine yarns and tissues. In Germany, there are factories which use these fibers both in spinning and also for ulterior purposes. In nettle-spinning alone, over 10,000 spindles and some hundred workmen are employed. The raw material is imported almost exclusively from China, whence 3,000 to 4,000 double cwt. (661,500 to 802,000 pounds) are annually sent to Germany. Nettle fiber produces one of the finest tissues obtainable from any known kind of vegetable fiber. In view of the importance which this seems likely to attain in connection with the weaving industries, it is intended to introduce the cultivation of nettles, if possible, into the Cameroons. The idea is to prepare the products of this experimental culture at the

place where they are obtained, and test them in German factories. Should favorable results follow from these experiments, it is intended to organize nettle-growing enterprises on an extensive scale. There is no lack of this raw material all over Canada, and if it succeeds in Germany it will be well to look into the possibilities of the nettle fiber industry here

### HOSPITAL FOR SICK CHILDREN, TORONTO.

The Hospital for Sick Children, Toronto, is an institution entirely maintained by charity, and J. Ross Robertson, proprietor of the Evening Telegram, who is chairman of the Hospital Trust, deserves great credit for his generous and untiring work in its behalf. Last year the roll numbered 5,776 patients, and it costs over \$30,000 yearly to maintain the hospital. An

Indian cotton manufacturer was not long in discovering that his profits might be enhanced by the introduction of dyeing, and forthwith colors became a feature in the product of our mills. The millowners could not at first see the need of spending money on specially trained dyers, when the country contained so many men of the trade; but it was soon apparent that the pot-dyer was a very expensive servant in a mill where uniformity of work was an absolute necessity. There were endless disputes about goods delivered, or about to be delivered, which could only be ended by a sacrifice of part of their value. The millowners were now prepared to appreciate the services of the English dyer, who, by simply adhering to the business as he was taught, produced the desired colors with uniformity. Then came the Technical schools which were to save the cost of foreign assistants and open a new field of usefulness to edu-



SICK CHILDREN'S HOSPITAL, TORONTO.

appeal is being made by the hospital trustees this year for \$19,000, the sum required to entirely free the hospital of its debt.

Donations may be sent to Mr. Robertson or to Douglas Davidson, secretary-treasurer Hospital for Sick Children, Toronto.

### THE INDIAN DYER.

The Indian dyer offers one of the most instructive "awful examples" of native craftsmanship to be found in this country. He belongs to a period that dates back many centuries, and his methods are so ingrained that he is the despair of the industrial reformer. His method deals with scraps and hand-ends, a single piece of cloth—a bundle of yarn. His pigments are pounded barks, chips of wood, and mineral oxides aided by natural salts; his measure of quantity a handful, and he attaches a solemn significance to the quality of the well water he uses, although he cannot tell anything of its constitution. It is almost needless to say that he cannot dye two articles, whether they be cloth or parcels of yarn, exactly of the same shade. His work is very poorly paid, and yet he has no notion of economy of materials. The inability of the Indian dyer to produce the same shade twice in succession may be observed in every Indian made carpet having a colored ground. Each parcel of yarn is clearly recognizable on the surface of the carpet, and it seems never to have occurred to the weaver to mix all the shades so as to have a uniform ground effect. The buyer recognizes the carpet to be genuine by this irregularity of shade, and thus a peculiarity that would, in any other country, cause a serious reduction in price, is actually regarded as a point of merit. So much for the caprice of fashion. The

educated Indian youths. We have recently been enquiring into the results of this movement as far as it concerns the dyeing industry, and we learn that although the native youth can take his schooling and pass his examination, he has an almost incorrigible habit of neglecting the exact details of regular duty of any kind. He will delegate his most important duties to a workman, and he often manifests a singular inability to convert the laboratory process into a commercial process, that is to say, to devise apparatus of a suitable kind for a dyeworks. There was not long since a dyeing and bleaching department attached to a Bombay mill, which was no doubt arranged by some one who called himself a dyer. There was no building, a shady tree provided the roof, which was supplemented for rainy weather by a tarpaulin. There were some zinc baths by way of vats, and a bucket or two. Water was heated by means of a steam-pipe projecting from an adjoining wall. There may have been a thermometer, but we did not hear of it. After each operation the remaining dye liquor was thrown away just as might be done in the smallest village when the dyer had dyed a single article and had no immediate use for the remaining liquor. In Europe, no proprietor of a factory would allow a dyeworks to be laid out as above described. He knows enough of how it ought to be built; here it is different. A laboratory experiment is made to establish the result of some chemical or mechanical operation, but it does not establish the cost price of work in a factory. Materials are thrown away after use which would be economized in industrial operation. The student dyer has much to learn when he leaves the laboratory for the dyehouse. For example, a lot of yarn may take up two-fifths of the dye from a bath, and if the bath is thrown away the whole of the dyeing material must be charged to the yarn,

although only two-fifths are utilized. The bath has lost so much of water and a certain proportion of chemicals. It will not dye another lot of exactly the same shade as the first, and the water is reduced in temperature. The dyer must be able to restore the bath to its first condition so as to continue the process and produce exactly the same shade; and finally when the job is done the remains of the bath were thrown away is a very small loss, as it may be divided into the whole lot that has been treated.

Accuracy in weighing and measuring is of the greatest importance in the result of dyeing. When the crude materials of the jungle are used, weighing and measuring do not always insure uniformity, for barks and woods do not always contain the same amount of pigment. The same may be said of earths. The chemically prepared dyes now so largely used in India are much more certain in their effects, but being much more concentrated than the jungle dyes, care in their use is absolutely necessary. Many Indian dyers waste as much of their material as would represent the whole profit of the European dyer. They will even attempt to bleach cloths containing a colored heading. A few of the dyers who have had a chemical training have done well, and are making a useful career; but a great many more seem to answer to the descriptions of "youths with a mouthful of chemical formulas and a head that is empty." What is the reason of this? These young men come apparently from the same classes that produce some of the smartest brokers in the world. Is there some inherent defect in the men, or is the fault due to the method of their education?—Indian Textile Journal.

### AZO-ALIZARINE COLORS.

Editor CANADIAN JOURNAL OF FABRICS.

Sir,—We always read your esteemed journal with great interest, as we certainly think it occupies a unique position in the Canadian trade. We notice that you inserted an article on page 337 of your November issue, which was possibly rather misleading to the trade. From the particular wording it might leave your patrons in doubt as to the origin or source from which it came. On its face it does not show that it is a circular issued by the convention of Alizarine manufacturers, and therefore rather onesided. As you know, the convention, which governs the prices of Alizarine dyes, is very strong, and has put prices up in a most marked degree. Naturally manufacturers, such as our good friends the Dye Works, formerly L. Durand, Huguenin & Co., of Basle, are doing a very satisfactory business as a result of these high prices. As to whether Huguenin's "so-called" Azo-Alizarine colors are, or are not Alizarine dyes, is a chemical question entirely outside of the dyer's sphere. The question that interests the practical dyer is whether they will do the work, or will do equal work to the "Alizarine" colors. Our results point rather to prove the strength of the Huguenin position in the market. This is further shown by the fact that the convention of Alizarine manufacturers thought it necessary to issue such a circular to the trade. They must have been feeling the competition of our friends, Messrs. Huguenin, very considerably, to have sent out such a carefully worded and painstaking statement of their point of view. We do not wish to enter into a dispute in your columns as to the relative merits of the two classes of dyes. We would rather that the practical dyer determined this for himself, and we can best show you our confidence in saying we leave this question with the utmost pleasure to the dyer's own decision. We rather think in justice to us, you should insert this letter in some part of your paper, as we will be very pleased at any time to send samples of these colors to any dyer who wishes to contrast them.

Montreal, December 12, 1900.

W. T. BENSON & Co.

### YARN COUNTS.

All yarn counts are based upon the theory that a certain length of thread weighs a given weight, be it pounds, ounces or kilograms. In the United States the avoirdupois pound is the base used mostly, that is, the several counts contain each so many yards to the pound. The run system of counts contains, for No. 1 run, 1,600 yards, weighing 1 lb. avoirdupois; 2 run contains just twice 1,600 yds., or 3,200 yards; 3 run, 4,800 yds.; 4 run, 6,400 yards, and so on through the entire counts. The woolen cut system, much used in Philadelphia and the west, contains for one cut yarn 300 yards to a pound. The worsted system contains for No. 1 yarn 560 yards; cotton, 840 yards for No. 1 yarn. To find the yards per pound for any count in a given system we multiply the yards in one pound of No. 1 yarn by the counts given. The answer will be the number of yards in one pound of that count. Example: How many yards in a thread of No. 20 worsted:  $560 \times 20 = 11,200$ . How many in a No. 40 worsted:  $560 \times 40 = 22,400$ . How many in a 20-cotton thread:  $840 \times 20 = 16,800$ . In a 40 cotton thread,  $840 \times 40 = 33,600$ . It will be seen that cotton contains one-half the number of yards more in a pound than does worsted, and worsted contains just two-thirds of the yards contained in a cotton count, so we may find the yards in one from the other as follows: A No. 40 cotton count contains 33,600 yards to the pound; how many yards in a pound of 40 worsted ( $33,600 \div 3$ )  $\times 2 = 22,400$ , which is a problem in proportion, viz:  $3 : 2 :: 33,600 : 22,400$ . When we wish to reduce the counts in one system to that of another we use the following rule: As the yards per pound of No. 1 yarn in the required system is to the yards per pound of No. 1 yarn in the given system, so is the count of the given to the counts of the required system. Example: What is the equivalent in cotton counts of a No. 30 worsted? As cotton is the required counts, the yards per pound of cotton will be the first term of the proportion. Then we have  $840 : 560 :: 30 : 20$ , and to reverse this and convert 20's cotton to worsted we have  $560 : 840 :: 20 : 30$ . The explanation of this rule is, we multiply the yards per pound in any given system by its counts and divide the product by the yards per pound in the required system; the answer will be the counts in that system. Worsted to cotton:  $560 \times 30 = 16,800$  and  $16,800 \div 840 = 20$ . Cotton to worsted:  $840 \times 20 = 16,800$  and  $16,800 \div 560 = 30$ . If we use yards per ounce we obtain the same result. There are  $52\frac{1}{2}$  yards in an ounce of No. 1 cotton, and 35 yards in an ounce of worsted, so we would have  $52\frac{1}{2} : 35 :: 30 : 20$  or the reverse,  $35 : 52\frac{1}{2} :: 20 : 30$ ; or again we may reduce the terms to their lowest factor and arrive at the same, because dividing them by the same number does not alter their relation to one another;  $840 : 560$  as  $3 : 2$ . So we would have  $3 : 2 :: 30 : 20$ , or in the question of runs to worsted it would be  $7 : 20$  or the reverse  $20 : 7$  to convert worsted to runs. Example, what size worsted equals a  $5\frac{1}{4}$  run thread  $7 : 20 :: 5\frac{1}{4} : 15$ . These rules will work well in any system where the high counts are finest.—"Emeritus," in Fibre and Fabric.

### NEW COLOR MAKING DEVICE.

Under the auspices of the Society of Dyers and Colorists, a lecture was recently given at the Bradford Technical College on "Color Matching," by Arthur Duffon, late head master of the dyeing department of the Bradford Technical College, and W. M. Gardner, the headmaster of the same department. The authors exhibited a number of patterns dyed to approximately match in daylight, but which showed very great variations when seen by gaslight or the electric arc. By means of a series of absorption spectra they explained how these variations in color arose, and traced the difficulties of color

matching to the fact that all coloring matters were more or less transparent for red light. Artificial illuminants, gas, incandescent gas, acetylene, the electric arc, all differed in character from daylight, and great inconvenience was experienced by dyers owing to the lack of a reliable light for matching in dark weather. Messrs. Dutton and Gardner have invented a lamp which promises to be of great value to all workers in color. It consists of an electric arc lamp enclosed in a glass globe of pale blue tint of such character as to bring the light into exact accord with daylight.

### TEXTILE PATENTS.

The following are among recent Canadian patents, relating to the textile trades:

No. 68,616—Cotton compressor; by the Indo-Egyptian Compress Co., Boston, Mass. This is a press for compressing cotton and other fibrous materials. The material is fed to the press through perforations in the head-plate, and is compressed in successive layers.

No. 68,687—Carpet stretcher and tacker; by Chas. P. Knapp, Detroit, Mich.

No. 68,765—Machine for burring wool; by Grabel Eplurius Unum Huckaby, Malden, Mass., U.S.A. A machine for burring and cleaning wool. The machine has a reciprocating bar and blade so constructed as to move in the arc of a circle.

### DR. DOWIE AND THE LACE MAKERS.

We noticed some little time ago the advent of Dr. Dowie and his endeavors to induce some of the Nottingham lace workers to emigrate to Illinois, where the "rev. gentleman" is about to found a new city, "Zion City," which is to be, we are told, "a city of righteousness, which is of God," and where every man will receive "his due." The phrase, as we write it, recalls Hamlet's words, "Use every man after his desert, and who shall 'scape whipping." The quotation is not utterly without its application to the case in point. Dr. Dowie is better known now than he was when we wrote the previous note, and we confess we read with pleasure a Reuter's telegram in Wednesday's papers to the effect that the Board of Inquiry of the United States Immigration Commissioners have decided that, as lace making is not a new industry in the United States, six men, two women, and seventeen children from a town near Nottingham, England, who have arrived on the "Waesland" for Dr. Dowie's contemplated lace factory in Illinois, should be deported as violators of the Contract Labor Law. We never thought to have had a good word to say for the Contract Labor Law of the United States. In this particular instance it has done exactly what we could have wished to be done.—Warehouseman and Draper.

Since the reports appeared on which the above paragraph was written, the lace makers, after being sent back to New York for deportation to the Old Country, were the subject of an official second thought, and were afterwards allowed to return to Illinois, where they appear to be now at work.

### THE WOOL MARKET.

There is very little to be said of the Toronto and Hamilton wool markets. Very little stock is offering and prices nominally as follows: Fleeces, washed, 16 cents; unwashed, 9 to 10 cents; pulled, super, 16 to 18 cents; extra, 19 to 21 cents.

Quotations at Winnipeg are 8 to 8½ cents for unwashed, and 12½ cents for washed.

Montreal—Very little change in fine wools since our last quotations; some good sized sales have been made lately at

present prices without making any concessions. A few lines of Capes have been sold as low as 13 and 13½ cents in the grease, but they are faulty. Capes in good sound condition are held at 14 to 15 cents; some have been sold within a few days at the latter figure. Canadian wools are scarce and a little higher. Prices are obtainable Northwest, none in this market. Of Australian a few bales in the grease are being held here about 20½ cents.

According to latest mail advices from Buenos Ayres, the prospects of the wool clip in Argentina are very far from cheerful. In addition to the loss of 10,000,000 sheep from floods and fluke, the persistent rains had largely helped to spread scab, besides preventing proper curing, and thus there was very great reason to fear that the clip, both in quantity and quality, would be inferior to last season's. The liquidation of the clip will, it is said, undoubtedly be a tedious business, and experts do not expect anything like activity in the market till about January. This will give Australian wool-growers a chance.

Fuhrmann & Co., Melbourne and Sydney, report under date 27th October: The opening sale of the Victorian wool season was held on the 17th October, when a catalogue of about 1,100 bales was submitted to the usual large attendance of Continental, English and local buyers. Owing to the depressed state of the trade in Europe, great anxiety was felt as to the level of prices that would be established. The catalogue, though small, was compact and fairly representative, and from the outset the bidding was very spirited, and prices exceeded in many instances the general expectations. At a range from 35 to 40 per cent. below last year's opening rates Yorkshire buyers and local manufacturers and scourers competed very lively, whilst the support given by the Continent was of little importance. As the sales progressed the selection became more indifferent owing to the reluctance of the owners to offer their wools, and with somewhat weaker news from London values receded a fraction, and may now be quoted fully 40 per cent. below last season's opening, or 50 to 55 per cent. below last year's highest level. Speaking generally, this year's clip, as seen so far, appears to us heavier in the grease and in a more irregular condition than last year's. The Victorian wools had a good season and promise to turn out sound, carrying less burr, but more yolk than in 1899. The Riverina district is expected to send bright and sound wools from the west and east, but clips from the Central Riverina vary greatly in condition and yield. West New South Wales and Queensland wools show in a marked degree the effects of the severe drought. Central and East New South Wales appear to turn out heavier and more burry or seedy than last year. Shearing in West Victoria has been delayed, and the first Geelong sale postponed until the 2nd November. It is estimated that the proportion of fine merino wools will be considerably less than last year, as a falling-off of 75,000 to 80,000 bales of Merino wool is expected this season from Queensland, where the total production last year was about 200,000 bales.

—We have received from Jack & Robertson, Montreal, agents for the Society of Chemical Industry in Basle, sample cards illustrating their Chrome Fast Blacks F, R and BB, on wool in hanks, wool on piece goods and woolen felts. These wool blacks are not interesting colors as such, but by an after-treatment with bichromate, remarkably fast shades are obtained on wool, loose and in hanks, on piece goods, woolen felts and worsted yarns. The shades obtained in following the directions laid down in the card, are fast against light, air, washing, fulling, acids and shrinking, and as their special properties we would point out that they dye level shades, penetrate well, close fabrics and still keep the wool soft.

**DEPRESSION IN GERMAN TEXTILES.**

Reference was made in last issue to the depression now prevailing in the textile trades of Germany. The Upholstery Trade Review, New York, takes up the subject and says: Many establishments have reduced their output, which means that laborers have been dismissed. In many districts the unemployed are moving away, houses are empty, and stores where laborers were in the habit of buying are in tight circumstances. A general distress among textile workers is everywhere apparent. The wages of a weaver in good times are seldom more than 12 marks (\$2.85) per week. To-day in many districts he is earning only 8½ marks (\$2.02). How a man can provide honestly for a family, pay rent, taxes and debts from this amount, is incomprehensible, especially since daily necessities, rent and coal have become so much dearer. Among the spinners conditions are no better than among the weavers. Numerous spinners have been dismissed, hours have been shortened and wages reduced. The output of worsteds has been reduced one-third. Not only is this the case in Germany, but in other countries as well. Many old firms will be compelled to close down entirely unless a change for the better sets in shortly. In the dress trimming industry everything is at a standstill. Throughout the Erzgebirge laborers are seeking employment in the mines. The coal strikes early last spring led to such high prices for fuel that many factories were closed down. The scarcity of coal caused much distress among the poor people last winter, which was an exceptionally severe one. The price of coal to-day is 25 per cent. more than it was one year ago, and bids fair to go even higher. Inasmuch as one half of the population of the Empire felt the rise in coal at once, they were compelled to cut down expenses in other things. The effect of this was noted in many industries. Again the high price of coal increased proportionately the price of production, and this became especially noticeable in foreign countries where German products were compelled to compete with the products of other nations. In addition to this, the present troubles in China do not promise to mend matters.

The real secret, however, of the present stagnation in many branches of German industries is this: German foreign markets have not increased proportionately with the increase of home production. During the past year German exports to China and South Africa have practically ceased. The Empire's exports to the United States, England, the Orient, South America and the Balkan States have been on the increase, but these markets have fallen short of consuming all that German manufacturers have produced. Then, the most powerful factor with which German industries have had to contend has been the development of independent industries in those countries where Germany has always had her best markets. Especially has this been the case in the United States with all textile products. For instance, the exports of woollen goods from Greiz to the United States in 1895 were valued at \$1,008,300. In 1899 the value of exports of the same kind of goods was only \$48,842.

**THE UNITED STATES COTTON CROP.**

The Statistician of the Agricultural Department this month reports 10,100,000 bales as the probable cotton production of the United States for 1900-1901. In the making of this estimate the same methods and agencies have been used that were employed last year. Many thousands of ginneries have, however, made reports for the first time. The estimated yield, in pounds of lint cotton per acre, is as follows: Virginia, 180; North Carolina, 199; South Carolina, 167; Georgia, 172; Florida, 133; Alabama, 151; Mississippi, 150; Louisiana, 234; Texas, 226; Arkansas, 223; Tennessee, 177; Missouri, 275; Oklahoma, 318; Indian

Territory, 289. The acreage, after eliminating all land from which no crop whatever will be gathered, is estimated at 25,034,734.

The Government's estimate on cotton was a complete surprise, but had the more effect since last year's Agricultural Bureau estimate of 8,800,000 bales was followed later by the actual marketing of 9,100,000 bales, and a final commercial estimate of 9,450,000 bales. The trade considered the estimate as 300,000 to 500,000 bales larger than had been expected, and therefore bearish. As a result, there has been heavy selling from all directions, and in the absence of sufficient demand, the price of all the options for future delivery from the current month to August, broke from 40 to 50 points. The excitement in the trade has been high, as most brokers held large stop-loss orders on cotton which had been bought recently on an idea that the Government's estimate on the size of the crop would be about 9,500,000 bales, and thus confirm the very low estimate put out by Neill, the English expert.

**THE UTILIZATION OF THE WASTE IN COTTON MILLS.**

The paper on this subject, read at the late meeting of the New England Cotton Manufacturers' Association, by E. W. Thomas, agent of the Tremont & Suffolk Mills, of Lowell, was one of the most important ones that were read. The mills of which Mr. Thomas is the agent have perhaps given the working of cotton waste more attention than any other corporation in this country, and, through their knowledge of this, they have made a great deal of money, especially during the last four years. There are many fabrics that are made almost entirely of cotton waste and there are some large mills where every part of the waste is cleaned and put into their goods.

It is as easy for the cotton manufacturers in this country profitably to use up their waste as it is in any country, if they will put in machinery for doing this. It will be time well spent if our cotton manufacturers who want to work up their waste would call on E. A. Leigh, of the Mason building, Washington, D.C., Platt Brothers, agents for this country and Canada, and see the cuts of machinery made by this firm for cleaning cotton waste. This is exactly the same machinery that is used for this purpose in the countries where the working of waste has attained such a science, and mentioned in Mr. Thomas' paper. The late F. A. Leigh, Platt Brothers' former agent in this country, was instrumental in introducing machinery into several of our large cotton mills for this purpose, and such machinery has paid for itself several times over in the saving it has made.

The trouble is, our cotton manufacturers have not given this subject the investigation which they should have done, and therefore some of them have not saved what they might in this department; but there are other mills that have put in Platt's machinery for doing this work, and every particle of the cotton fiber is saved. An interview of ten minutes with Platt Brothers' agent in this city would furnish one with a large amount of information about how to work cotton waste, and any mill that will put in machinery for this purpose can effect a great saving in this department.—Boston Journal of Commerce.

**PATENT MEDICINE ADVERTISEMENTS.**

*Editor CANADIAN JOURNAL OF FABRICS.*

Sir.—Referring to the article on medical advertisements in a recent number of your journal, would state that your condemnatory remarks were fully justified. The average medical advertisement is a vile thing, and ought not to be found in so-called respectable family journals, nor yet in religious ones—if those accepting such stuff can be termed "religious." Frequently the medical advertisement is of a crime-suggesting kind, and a law making it criminal to offer for publication or to

publish such would be most desirable; then "to make the punishment fit the crime" there should be no option of a fine, as the profits on medical preparations referred to are very large, and the advertising contracts extensive, so that the loss of a few hundreds of dollars occasionally would be no deterrent. The position taken by The Canadian Journal of Fabrics in refusing to accept medical advertisements is much to be commended, and it is to be hoped will find many imitators.

Montreal, December 10, 1900.

EHLANA.

### PYROGENE COLORS.

The Society of Chemical Industry for Basle have brought out a new series of colors, called Pyrogene. A sample card shows Pyrogene Blue R, Direct Pyrogene Blue, Pyrogene Black B, Pyrogene Black G, Pyrogene Blue R. It appears, is a much stronger product than Immedial Blue C. Direct Pyrogene Blue is advantageously employed as a bottom color for Indigo, being exceedingly fast to washing, besides dyeing also in a cold bath. Pyrogene Black G is also a much stronger product than Immedial Black FF. Contrary to the remark of the sample card, it is now found that it is not absolutely necessary for goods which are dyed with Pyrogene Black B and G and Direct Pyrogene Blue to be kept constantly under water during the whole dyeing process, provided the hanks be rapidly and continuously turned on wooden sticks.

#### DIRECTIONS FOR DYEING PYROGENE COLORS.

**Dissolving of the Dyestuff.**—Take the required quantity of coloring matter, add 2-3 of ordinary sulphide of sodium or 1-3 of concentrated sulphide of sodium, and 1-3 of soda, and dissolve the whole in boiling water while stirring well. Example: For 100 kilos. of cotton to be dyed black the first bath would be dosed with: 15 kilos. of Pyrogene Black B or G, 10 kilos. ordinary sulphide of sodium, or 5 kilos concentrated sulphide of sodium, 5 kilos soda crystals, N.B. (Pyrogene Green exceptionally dissolves and dyes better without sulphide of sodium).

**Dyeing Process.**—Dye in wooden or iron vessels, and use iron or lead pipes; copper vessels and pipes have to be avoided. For every 100 kilos of cotton to be dyed black, for instance, put the above mentioned solution into a bath containing 2,000 liters of water, and add 40-50 kilos. of common salt. Enter the cotton at 50 deg. C., raise to 80-90 deg. C., dye  $\frac{3}{4}$  of an hour, and rinse immediately 5 or 6 times until the water shows no more trace of dye-stuff. A soaping at 60 to 70 deg. C., brightens the shades, and gives the cotton a softer touch. For light shades, in place of common salt the same quantity of sulphate of soda may be employed. The proportions given above and also on the shade card, are understood for the initial bath; they may be reduced progressively by at least 1-3 for old baths. For instance: 15 kilos of Pyrogene Black B or G, 10 kilos of ord. sulphide of sodium or 5 kilos of con. sulphide of sodium, and 5 kilos of soda being required for the first bath; for the third one, 10 kilos of coloring matter, 4 kilos of ord. sulphide of sodium or 2 kilos of con. sulphide of sodium, and 3 kilos of soda will be sufficient, as well as 10 to 15 kilos of common salt.

**Cold Bath Dyeing.**—The Pyrogene colors can also be dyed in a cold bath, which however, will require about  $\frac{1}{2}$  more coloring matter than will be necessary for a given shade dyed in a warm bath. Besides, the liveliness of the shades will be diminished.

#### SPECIAL METHOD.

**Pyrogene Blacks B and G.**—We have found that it is not necessary to keep the cotton hanks continually under water by means of bent sticks, provided they be rapidly and constantly worked on the dyebath. Pyrogene Blacks B and G dye the

lists of pieces on the jigger level shades also, whereas other similar sulphurous colors turn them reddish and bronzy. By a subsequent treatment with 4% of iron-alum, or 4% of green vitriol, or 5% of chrome-alum, during half an hour at 80 to 90 deg. C., the shades of these blacks become fuller and faster.

**Pyrogene Blue R.**—Direct dyeings by means of this dyestuff are not interesting, but on treating same with lye of Javelle or lye of caustic soda, very lively blues result, which are exceedingly fast. We recommend two proceedings for developing Pyrogene Blue R.

(1). For 100-kilos of cotton prepare (in wooden vessels), a fresh bath of 2,500 liters of cold water, 70 to 90 liters Javelle's lye prepared as per foot note, 33 liters caustic soda lye at 40 deg. Be. Enter the cotton well squeezed, but not rinsed, turn for one hour, and then rinse in lukewarm or cold water. A soaping at 40 to 50 deg. C. brightens the shade considerably.

(2). Pyrogene Blue R oxidizes better, and gives fuller shades than the similar products which are offered in the market; by suspending the cotton hanks in warm damp air, the dyestuff oxidizes into a beautiful indigo tint. An addition of 1% of turpentine oil in the dyebath, influences favorably on this oxidizing process, the duration of which varies according to the temperature and the degree of dampness of the air, from 1 to 4 hours. But without injury to the goods they may be hung in the damp air for a longer time if found convenient. Pyrogene Blue R can also be developed by the other proceedings in use for this class of dyestuffs.

Pyrogene Blue R dyes in the same way as the other Pyrogene colors, but if the shades are to be developed by the above mentioned proceeding No. 2 recommend to replace soda by the double or triple quantity of caustic soda lye. Dye goods absolutely free of chlorine only, chlorine produces white spots. The shades of Pyrogene Blue R are suitable for discharge work with chlorate of soda and yellow prussiate of potash in the usual way.

Direct Pyrogene Blue deserves a special mention, being the fastest and at the same time the cheapest blue in the market. Its shade remains unaltered after a thorough washing at the beil with soap and soda. It is advantageously used as a bottom color for indigo, giving a cheaper and faster blue than this latter dyestuff alone.

**Topping.**—The Pyrogene colors fix basic dyestuffs excellently, and the topping does not lessen their fastness to washing.

The Pyrogene colors are thoroughly fast to washing (Direct Pyrogene Blue is in this respect still superior to Pyrogene Blue). Very fast to light (Yellow and Green slightly less than the other brands). Fast to Acids, Fast to Alkalies, Fast to hot iron.

Jack & Robertson, 7 St. Helen street, Montreal, are agents in Canada for the products of this society.

#### ANTHRACENE FOR WOOL.

The same society have introduced Anthracene-Acid-Yellow-G, which in consequence of its excellent properties, is an important product for fast dyeing of wool, which they offer to interested parties.

Anthracene-Acid Yellow-G, by after treatment with bichromate of potash or fluoride of chrome, produces a deep

**Preparation of Javelle Lye.**—29 kilos of bleaching powder are mixed with cold water to a paste of 110 liters, to which are added 17 $\frac{1}{2}$  kilos of ammonia-soda, previously dissolved in 50 liters warm water, and 40 liters of cold water, forming a total liquid quantity of 200 liters. Stir well for half an hour, then leave standing over night, draw off the clear liquid and add to the deposit in one or two times sufficient water to obtain finally 500 liters of Javelle lye.

and rich yellow of remarkable fastness against light acids, alkalis and milling. It substitutes with great advantage similar dyestuffs already on the market, as: Anthracene Yellow, Bulling Yellow and Chrome Fast Yellow, and is advantageously adopted for shading of, for instance, Anthracene Red.

Wool is dyed with 10% sulphate of soda and 3 to 5% acetic acid. Enter at 40 deg. C., boil 30 to 45 minutes, then add 1 to 1½% bichromate of potash, or 4% fluoride of chrome, and boil another half hour. Dycings with fluoride of chrome produce a little more greenish shade.

For silk dyeing with Anthracene Acid Yellow use broken soap bath, and brighten with acetic acid. Here also it can be used successfully as a shading color, particularly for dyeing fast against rain (umbrella stuff).

Jack & Robertson, 7 St. Helen street, Montreal, are the Canadian agents, and will send prices and samples on application

**TEXTILE IMPORTS FROM GREAT BRITAIN.**

The following are the values in sterling money of the exports from Great Britain to Canada for October and the ten months ending October of this year and last

	Month of October.		Ten months to October.	
	1897.	1900.	1899.	1900
Wool.....	£4,254	£2,137	£18,843	£35,473
Cotton piece-goods .....	31,084	33,147	443,295	569,417
Jute piece goods.....	7,929	10,541	95,574	122,124
Linen piece goods .....	11,411	6,642	145,772	161,347
Silk lace .....	724	427	12,847	12,392
" articles partly of .....	3,552	1,904	44,048	47,090
Woolen fabrics .....	17,950	12,037	276,967	380,225
Worsted fabrics.....	26,908	22,445	474,244	520,842
Carpets .....	11,389	5,848	167,599	200,831
Apparel and slops .....	19,021	15,772	205,177	237,074
Haberdashery .....	8,852	8,180	143,845	140,605

**THE IDEAL SHEEP FOR THE WOOLEN MANUFACTURER.**

In the annual report of the Live Stock Associations of Ontario, just published by the Provincial Government, John A. Craig, professor of animal husbandry in the Iowa State College, gives a paper on the ideal sheep for mutton, for the "feed lot," for the butcher's block, for the consumer and for the woolen manufacturer. Dealing with the last named aspect of the subject, the writer makes some observations, which though applying specifically to conditions in the American west, are not without interest to the Canadian manufacturer as well as the Canadian sheep breeder. He says:

The Market Kinds of Wool.—It is but fair to give consideration to the qualities that the wool manufacturer desires in discussing our ideal sheep. Though the returns from the fleeces are not very large, yet the sheep breeder must consider it so that his profit may be as great as possible. To arrive at the qualities that influence the prices of wool, let me present to you a study of the Chicago market. There are four kinds of wool coming into that market based largely on the condition of the fleeces. These are what are known as domestic wool, territory wool, blanket wool and carpet wool. Domestic wools are clean and bright, just such as you would expect to come from fleeces that have been grown under what might be called domestic conditions; that is, the sheep are given shelter, fed well and otherwise have good management. This results in a clean bright wool which the market classifies as domestic.

In contrast to this is the territory wool. This is termed territory wool because it is dirty and discolored. It is the

wool that comes from sheep managed and cared for in a way very similar to that which is common in territories. The sheep run out the year round, and their fleeces become full of sand, chaff and other foreign material.

The poorest kinds of wool that go to market are known as carpet and blanket wool. The worst feature in regard to this wool is the presence of dead hairs, as these fibers do not absorb dye readily it has to be manufactured into carpet and blankets. When we understand the nature of the fleece of the original sheep, that it consisted of a growth of hair with a downy skin growth of wool, and when we see the improvement of breeding which has reduced the hair and increased the wool, we can easily understand that when sheep are neglected, the tendency is for their fleece to revert to its original condition. Domestication by man has tended to completely remove the hair and give us the fine fleece of wool which grows on the well bred sheep of to-day. Neglect on the part of the breeder will surely result in the sheep reverting to the kind of fleece it originally possessed. In regard to the discrimination of the market for these kinds of wool, it may be said that the domestic wool as a rule brings three to four cents a pound more than the territory or blanket. Our ideal sheep, then, must produce clean, bright wool, free from dead hairs.

The Market Classes of Wool.—The classes of wools in nearly all markets depends upon length and strength of fiber. The length of the staple and its strength are very important features from a commercial point of view. Wools are generally known as short stapled, the carding wools which are used for woolen cloths, or long-stapled or combing wools which are used for worsted cloths. Among the breeds the long-stapled wools include the Lincoln, Leicester, Cotswold, Romney Marsh and Black Face or Highland. The short-stapled include all the Downs, Southdowns, Hampshire, Oxford, Cheviot and the Welsh. The basis of this classification is plain, and the reasons for it are readily understood. The manufacturer of woolens desires a short-stapled wool, for such a wool has better felting qualities and usually more serrations or spirals than the long wools. The idea in this work is to produce the yarn in which the fibers are transversely disposed to the axis or length of the thread. In yarns of this nature this feature is termed "pile." The points projecting from the centre should be numerous, so that in felting the fabric unites, and also when the cloth comes to be finished it will appear on top like fine short fur.

On the other hand, in worsted goods, the object is to stretch the fibers and lay them parallel with each other, and this produces a yarn, even, strong and composed of as fine fibers as possible. In this process of manufacture, it is easy to see that the length and the strength of a fiber includes its most valuable characteristics.

There is another classification that is more definite than this, but it is very similar in nature. The wools according to their length and strength in the Chicago market are divided into clothing which is short, being about two inches, or it is weak; then there is the Delaine class, which is a fine wool from two to three inches in length of fiber. The other class is the combing, which is a strong wool over three inches long. This classification it will be seen depends altogether on the length and strength of the wool. Considering first the clothing wool, which is used for making flannels and certain kinds of rough cloth, shortness in the fiber is its leading characteristic. If the fiber of a fleece, however, is four inches long, it would on its length be classified as combing wool, but if the fiber has a weak spot in it it readily breaks and passes from the combing class into the clothing class and drops two or more cents per pound in price. The Delaine wools are fine wools that are no longer than three inches. They are used for making the finest kinds of cloth. The combing wool must in the



first place be strong and stand the process of combing, and the greatest length is desired.

The markets value these wools at this time so as to give a preference for a fine strong fiber which is three or four inches long. This is because it is this kind of wool which makes the cloths that most people are wearing. From this it will be seen that the *Delaine* and combing wools are those that are desired by the manufacturer, and it will be found that these bring a cent or two more per pound because they are of this class, having the length and strength of fiber that are required in the combing of wool. Our ideal sheep, then, should grow a sound wool of the combing class. Such a sheep must have a dense fleece and not be subject to very severe exposure. When a sheep experiences a chill it at once affects the circulation of the skin and influences the growth of the fiber, making it unsound in spots. The market does not make any difference as to where this unsoundness occurs, whether it is of weak bottom, middle or top. Thrift on the part of the sheep is a necessary condition for growing a sound fiber. The wool on a sheep grows from a small sack in the skin, and passes from the skin through a small opening which may be easily contracted or expanded according to different influences. The influences are various, and for that reason let me emphasize the importance of a dense fleece with as good constitution and thrift as possible on the part of the sheep so as to be least affected by external conditions.

**The Market Grades of Wool.**—The market generally recognizes five grades of wool based altogether on the fineness of the fiber. According to the size of its fiber, wool is arranged into three grades; fine, medium and coarse. No exact measurement limits the division of these, yet the market draws a close discrimination in them. Owing to the fact that the combing wool has been most in demand in the past, a wool in which much strength is desired, the medium grades have had the preference. At this time the fine grades are advancing in price. Our ideal sheep, then, in regard to the grade of wool, should produce one that is fine or medium.

**Market Qualities of Wool.**—I have presented in a general way the leading features that influence the prices of wool, but there are yet a few others that have some importance and should be considered when we have the privilege of idealizing. The characteristic of lustre is one that is of considerable importance in getting the highest price for a fleece.

**Lustre.**—This refers to the glistening appearance of the fiber when it is held to the light. This is independent of the amount of yolk, and it is also quite distinct from the brightness of the fiber, although yolk in a fleece may add to the lustre of the fiber, yet all lustrous wools have this characteristic independent of the amount of yolk that is present. The chief advantage from a commercial standpoint that attaches itself to the lustrous wools is that they more readily take the delicate dyes. Wools in the market are known as lustrous or dull, according to the appearance of the fiber. The lustrous fiber has the appearance of having been varnished, while the dull one does not show the least tendency to glisten when held in the light.

**Brightness.**—Brightness is quite distinct from lustre, as it refers altogether to the color of the wool. In the market, wools are said to be bright or dark as they vary in this characteristic. The bright wool is one that has a clear white color, while the dark wool is one that has become discolored from the soil on which the sheep have ranged, or it may be through fasturing among burned stumps. Brightness is always characteristic of the domestic wool, and discoloration is a feature of all Territory wools.

**Yolk.**—This is the grease or oil that is naturally secreted by the skin. As before indicated, the yolk in the fleece is an

indication of the healthiness of the sheep. The yolk is secreted in the skin, but it passes down through the fiber and finds an outlet at the end of the fiber. If you will notice sheep on certain days, when the weather is close and the sheep are likely sweating, the yolk seems to accumulate on the end of the fiber, and if you were to run your hand over the fleece at that time, you would find it become oily. The yolk comes out of the ends of the fibers mostly and works back into the fleece. In some flocks the quantity of the yolk has been increased and encouraged in selection in breeding in every way so that heavy fleeces might be obtained. The ordinary fleece in which the yolk is abundant in proper quantity will lose nearly one-third through washing it in hot water. This grease is of no value to the manufacturer, and it represents a direct loss to him when it is in the fleece in too large quantities. The feeding and the management undoubtedly influence the amount of yolk.

Feeding sheep foods that are rich in oil seems to further the secretion of grease and especially in feeding with such rations as are generally given to fattening sheep, the quantity of yolk seemed to increase. In our work in fattening lambs, we have found that those lambs which have received grain from birth, invariably shear heavier fleeces than those that had grain only during the latter three months of fattening. By washing samples from the fleece of these sheep, we found that the increased weight of the fleece was almost altogether due to the increase of yolk which the grain-fed lambs secreted. The presence of yolk in proper quantities is of chief importance because the fleece becomes soft through it. It is made more compact. Its condition remains bright and clean, and further it is a safe index of the thriftiness of the animal.

**Softness.**—By pressing the fleece with the hand the softness of it can be readily approximated. This feature is opposed to harshness. The softness of the fleece not only depends greatly on the management, but also on the nature of the food and the soil. In reference to the soils, those that are rich in sulphur have been observed to have the most influence on the softness of the wool. It is interesting to know that in one hundred pounds of wool there are at least five pounds of sulphur, and it seems that the abundance of this in the food has an effect on this feature of softness in the fleece. It is well known that the soil has a strong influence on the properties of wool, especially in regard to softness. Clay soils are considered to produce the softest wools, of the best lustre, and next to those rank sandy soils, and lastly those of the nature of limestone. Chalky soils have been noted for the deterioration they produce in the softness of wool. Harshness of the fleece is generally due to an absence of yolk which has resulted from ill-health on the part of the sheep from exposure. If you will consider the nature of the fiber of wool, it is easy to understand how anything, such as ill-health or exposure, which affects the secretion of yolk is certain to make wool harsh. A fiber of wool is covered with a series of scales which overlap in a similar manner to the shingles on a roof. When the secretion of yolk is abundant these scales fit closely to the fiber, but when the secretion of yolk is stopped from any unnatural cause, the scales stand out from the fiber very similar to warped shingles on a roof. The result of this is that the fibers lock, and when you feel the fleece that has fibers of this nature, they seem to grate each other very similarly to file shavings. The wool is harsh and dry and when pressed it gives that grating feeling which is also characteristic of an unhealthy fleece. It is this that produces what is generally known as cotted fleece.

To briefly summarize the characteristics that the manufacturer wants, I would say that our ideal sheep from the manufacturers' point of view should produce a domestic, *Delaine* or combing wool of medium grade, sound, lustrous, bright and soft.

## Foreign Textile Centres

**MANCHESTER.**—Both spinners and makers of cloth are firm in their prices, though no great amount of business has been transacted in either branch. Yarns made from American cotton have been in indifferent enquiry, and spinners all report very little doing. Some few manufacturers here and there have been putting forward offers, but, as a rule, the majority seem to be fairly well covered for the time being. Cloth enquiries just now lead to few sales of any moment. India offers are fairly numerous, though buyers and sellers generally fail to come to terms owing to the low limits sent forward by the purchasers abroad. A few sales for China have been mentioned. In home trade cloths and colored goods there has been the usual movement without any marked change. Small repeat orders keep coming in the Rochdale flannel trade, but they are not of any size at present, as most warehousemen are taking stock, and not disposed to increase their holdings during this month. Manufacturers are not pressing for orders, as the majority of them have plenty of work in hand which will last them for some months yet.

**BRADFORD.**—The position in this market is unsatisfactory. Topmakers are keeping up rates, and during the past week 19d. has been realized for a good 60's top, but consumers are not disposed to follow these advanced prices with anything like freedom, and there are those who assert that not only does the present demand in the piece department not justify the attitude of topmakers, but they doubt whether the sales in the early months of next year will support the values at present prevailing in this market. With all this uncertainty as to the future it will be well understood that buying is not great in volume, and that consumers are exercising the utmost caution in their transactions. Manufacturers are busier than they have been, but that is not saying very much, for the number of orders placed is not near so great as it ought to be at this time of the year. Those engaged on bright descriptions are getting most to do, and it is evident that this class of material will again take the fancy of the retail consumer next spring. But even for these goods the orders placed are not of such volume as justifies manufacturers in being very cheerful, and the prices secured are the cause of no little complaint. Those who have taken up the question of the weighting of worsted coatings are not allowing the grass to grow under their feet, and within the past few days they have had a conference with dyers in the Leeds and the Huddersfield districts for the purpose of inducing them to sign the agreement not in future to resort to the practice. The dyers, of course, are in a difficulty. They realize that all merchants and manufacturers will not join the movement, and they are afraid that if they pledge themselves not to weight worsted coatings they will lose the other trade of those who want the goods putting through that process.—Warehouseman and Draper.

**NOTTINGHAM.**—The Calais strike has not, up to the present, made much appreciable difference in business here, but if the operatives there are out for any lengthened period Nottingham must eventually benefit. It is difficult, however, for an ordinary Englishman to understand the French temper. British workmen of all trades are voting money for the locked out Calais operatives, and their motives for doing so are misrepresented by French masters and men. The commoner qualities of fancy millinery laces are not meeting with much attention. Higher priced goods, in Valenciennes, Torchons, and allovernets are selling well; and manufacturers are showing no inclinations to lower their prices.

**BELFAST.**—The amount of new business forthcoming is very limited, and principally confined to sorting up parcels in fancy linens, etc. There is no likelihood whatsoever of any decided improvement in the turnover before the New Year. Prices keep very firm notwithstanding the absence of fresh business. The yarn market is almost stationary, a little business being transacted in the coarse numbers. The handkerchief trade is fairly good, especially in fancy borders, mottoes, etc. There is also a growing demand for lace bordered and lace cornered handkerchiefs, and Irish hand-made tatting borders are in good demand at present for handkerchiefs. In the various miscellaneous manufacturing trade business is up to the usual standard, and the majority of makers are well booked for spring. Powerloom linens for bleaching are selling quietly and steadily. Cloth for dyeing and hollands are in moderate and slightly better request, and unions are in fair demand. Dress goods continue to sell steadily. There is a quiet and improving demand for damasks and household linens, and a fairly active sale for the various makes of handkerchiefs. Handloom linens for bleaching continue in quiet demand.

**SOUTH OF SCOTLAND.**—The Draper's Record correspondent writes: Preparations are being made for the starting in Johnstone of a new factory for the production of cotton and linen threads. Rates in the Glasgow cotton yarn market are firm, and buyers are paying last week's prices, in spite of the reaction in cotton. There is not much business passing, and little disposition is shown to anticipate requirements. Better reports are to hand regarding the South of Scotland tweed trade. Orders are being booked somewhat freely, and, as makers are being pushed for early deliveries, a few of the mills are running overtime. Cheviots and good Saxonies continue to be in demand. The outlook is promising. The effort to convert Stewart and McDonald's business into a limited liability concern has not been crowned with success. It is difficult to suggest a reason for the apathetic attitude of the public, but the debentures were not fully applied for, and the directors decided not to go to allotment. It is announced that the proposal to amalgamate the firms engaged in Nottingham and Ayrshire lace industries has fallen through. The reason is that for a considerable time past the Scotch houses have had greater advantages as regards wages, labor, and other charges than has been experienced in the Midland counties of England.

### FABRIC ITEMS.

The Star Whitewear Co., Berlin, Ont., is at present very busy, and intends being in its new factory by the first of the year.

A few days ago R. Wetstein, of R. Wetstein & Co., cloth cap manufacturers, St. Paul street, Montreal, fell down the elevator shaft in his warehouse, about 20 feet, and sustained severe injuries to his back.

The Toronto Carpet Mfg. Co reports a very heavy demand for their large art rugs and hall rugs. A notable feature of this season's trade is the quantity of these floor coverings that are being ordered in solid colors.

Williams, Greene & Rome Co., Berlin, Ont., have let the contract for a large addition to their shirt and collar factory. It will be a three-story structure, of brick, 40 x 60 feet dimensions and will be erected on the north side of the present building. The building is to be ready for use on Feb. 1st.

F. Joseph Pelletier, dry goods dealer, Montreal, has assigned at the instance of Thibaudeau Brothers and Co., with liabilities of \$15,000. The chief creditors are Gilbert Gagnon, \$5,859, Thibaudeau Brothers, \$2,412; S. Greenshields, Sons & Co., \$2,000; W. R. Brock & Co., \$1,518; Gault Brothers and Co., \$1,090.

The Beatty Mfg. Co. have started the erection of a five story factory at the corner of King and Portland streets, Toronto, for ladies' and childrens' whitewear.

A. R. Kerr, of the well-known dry goods firm of A. R. Kerr & Co., Hamilton, died a few days ago at the age of 65. He was a native of Ayrshire, Scotland, and came to Canada in 1855.

The Linotype Co., Montreal and Toronto, report that Montgomery, Ward & Co. have just ordered ten more Oliver typewriters, making a total of 48 Oliver machines now in use by this firm. This is a typewriter of Canadian design and manufacture.

Frank Edgar, for forty years employed with the wholesale dry goods house of Mackay Bros., Montreal, and more recently an active partner till the business was wound up, died last month at Westmount, Que. He was about 60 years old, and left a family of three sons and three daughters.

An application has been submitted to the town council of St. Henri, Que., from G. H. Harrower, manufacturer of shirts and shirt waists and blouses, Montreal, asking what advantages the council was prepared to offer in the event of his firm opening a factory in St. Henri.

Charles J. F. Price has resigned his position with the Allen Mfg. Co., manufacturers of blouses, collars and cuffs, etc., and has started on his own account as manufacturers' agent, representing New York manufacturers of ladies' wear, such as shirts, dressing gowns, petticoats, bath robes, etc. His office is in the Board of Trade Building, Toronto.

We have received from Alling & Cory, paper manufacturers, Rochester and Buffalo, N.Y., a very useful four-sided type measure. On one side the inches are shown, and on the other sides the different sizes of type are shown according to the point system.

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## Among the Mills

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**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.**

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Mr. Pointer, foreman in McLean & Scott's woolen mill, has removed his family from Wakefield, Que. to Pembroke, Ontario.

R. Kenneth, tent and mattress factory, Calgary, has sold out to J. G. Terry, manager of the tent department of the Great West Co.

The felt and boot factory at Qu'Appelle Station, Assa., which is offered for sale, is now in the hands of S. H. Caswell & Co., who offer it at \$6,000.

William McIntosh, for eight years an employee of the Williams-Hurlburt Co.'s knitting factory, died at his home in Collingwood on December 2nd.

Joseph Laundry has taken charge of the mule room in the Riverside Woolen Mills, Montmorency, Que. Harold Holson succeeds F. W. Hicks as boss carder at the same mill.

The arrival of A. F. Gault, of Montreal, is reported in England. It was understood that Mr. Gault was visiting England to purchase new machinery for the Montreal Cotton Co.

A large iron pulley burst at the Dominion Carpet Co.'s works, Sherbrooke, on Nov. 20th, and almost destroyed the big driving belt. The works were closed down for a couple of days as a result of the accident.

Edwin Luscible, who has been employed in the woolen mills at Brantford, has gone to Simcoe, Ont.

Rife & Co., woolen manufacturers, Wainerton, Ont., are asking the town for a loan of \$10,000 in order to increase their output and employ a larger number of hands.

The Wright Hat Company, London, Ont., has been converted into a joint stock company; capital, \$40,000; provisional directors, B. G. H. Wright, S. A. Wright, N. Rowell, M. C. Rowell and N. W. Rowell.

The Beaver Rubber Clothing Co., Montreal, has been changed into a joint stock company; capital, \$60,000; provisional directors, A. V. Roy, Arthur Roy, E. L. Rosenthal, E. Gauthier and A. Masson, Montreal.

H. D. Martin, formerly manager of the Dominion Cotton Mills Co. at Windsor, N.S., was married on Oct. 31st, to Miss Clara Cambridge, at Dennysville, Me. Mr. Martin is at present manager of a large cotton mill at Newry, S.C.

William Kelly-Kenny, charged with intimidation during the strike of the Montreal Cotton Company's mill, Valleyfield, Que., was arrested a short time ago, and tried before the court. He was found guilty and sentenced to three months' hard labor.

The Cardigan Overshoe Co., Stratford, Ont., has been changed into a joint stock company; capital, \$20,000; provisional directors, R. M. Ballantyne, K. C. Turnbull and W. Willocks. The company manufactures knitted tops for a combination rubber overshoe.

F. Lightcap, hide and wool dealer, Winnipeg, returning from a trip to the ranching districts of Western Assiniboia and Southern Alberta, says, ranching in that region is becoming a great thing. The sheep raising industry is expanding, and the ranchers find a good market for their surplus stock in British Columbia.

D. Bell, of Baltimore, the newly appointed superintendent of the Imperial Cotton Company, Hamilton, Ont., has taken charge of the equipment of the company's plant now being erected in that city. Mr. Bell was for years connected with the firm of Wm. E. Hooker & Sons, Baltimore.

The Manufacturers' Association of Montreal have amalgamated with the Canadian Manufacturers' Association of Toronto. Under this union there will be an executive committee for Montreal, of which Frank Paul, of Belding, Paul & Co., silk manufacturers, is chairman. Among those on the committee who are connected with the textile trades, are John J. McGill, of the Canadian Rubber Co., A. H. Sims, shirt manufacturer, and C. R. Whitehead, of the Dominion Cotton Mills Company.

J. D. Hill, an employee of the Truro, N.S., Knitting Mills Co., met with a serious accident recently, which resulted in his losing his left hand. Mr. Hill, who has charge of the machine shop in these mills, was in the dry room in mill No. 1, looking at a new drying machine which had recently been erected, when a wrench, which was in his hand, came in contact with the machine, and in making an attempt to grasp the wrench, his hand was caught in the rapidly revolving cylinder and completely taken off.

F. Talbot and W. S. Dresser, of the Dominion Brussels Carpet Co., Sherbrooke, have taken the sensible plan of referring their dispute (alluded to recently), to arbitration instead of going to law. Five citizens of Sherbrooke have agreed to act as arbitrators, and are engaged on the case this month. The dispute is in part a legacy from the old carpet business at Elora. The arbitrators have full powers, and it is provided that in case either of the parties refuse to carry out the conditions of the award to be made, he shall pay the other party a penalty of \$1,000.

Richard Westwood, boss weaver of the Guelph, Ont., Carpet Mills, has left.

A. Melson, boss dyer of the Guelph, Ont., carpet mills, has resigned and is succeeded by Mr. Robinson.

The carpet factory at Breslau, Ont., is working overtime at present, and has taken on eight new hands within the last few weeks.

J. Queenville, who recently resigned his position in Montreal, has been engaged as boss carder at the Dominion Cotton Mills, Magog, Que.

The position left vacant by Richard Smith, who was for many years in the woolen mills at Way's Mills, Que., has been filled by Frederick Bishop.

The Elmira Felt Company received their charter on Nov. 27th, and appointed the following directors: I. Hilborn, A. Kimmel, M. Weichel, J. P. Luckhardt and A. H. Erb.

D. Shepherd, who has been filling an important position as dyer in a large woolen mill in Bennington, Vt., came home to Almonte on Dec. 3rd., and will not return to Bennington.

William Kelly, formerly overseer in the mule room of the St. Croix cotton mill, Milltown, N.B., but who has been holding a similar situation in a Lewiston, Me., mill, died recently. He received injuries at work which resulted in death.

Samuel Ernsley, formerly at Lowell, Mass., is now boss drawer in the Paton mills, Sherbrooke, Que. Mr. Ernsley was formerly in charge of drawing and spinning in G. C. Moore's "Brookside" mill, Westford, Mass.

Anna Remillard, an employee in the Dominion Carpet Co., East Sherbrooke, Que., had her right hand caught and crushed in the gearing, while cleaning some machinery in the mill, on December 8th, making it necessary to have her thumb amputated.

A new weaving establishment is proposed for Carleton Place, but the raw material of this factory is to be metal and not wool. Thos. Forrester & Co., now of Montreal, will start a factory for weaving brass and copper wire into screens and wire cloth for paper mills, etc., if the town will grant certain privileges. They promise to employ 50 hands.

The highest recorded export of United States cotton was in 1898, when the total weight shipped was 3,897,200,752 lbs., which realized \$232,325,992. The high water mark in price, however, was reached in 1890, when a crop of 2,464,460,578 lbs. brought \$250,571,334 or 10.16 cents per lb. The crop of the cotton year 1900 was 3,081,571,252 lbs., which realized \$245,485,209 or nearly 8 cents per lb.

Regarding the removal of J. F. Morley, general manager of the Canada Woolen Mills, Ltd., from Waterloo to Toronto, *The Waterloo Chronicle* says: Mr. Morley came to Waterloo some twenty-four years ago, and was at the head of one of the departments in the Waterloo Woolen Company for four years when he was appointed manager. Under his management the business prospered greatly and became the greatest employer of labor of any industry in town. The success of the company was largely due to the skill, practical knowledge and foresight of Mr. Morley. He was not only an untiring worker himself but had the happy faculty of getting along with those with whom he was associated with the least possible amount of friction and of promoting the harmony between employer and employees so essential to the success of any large enterprise. He served for a number of years on the Free Library Board, and for a term or two in the town council, and gave liberally to every philanthropic enterprise.

The Baird woolen mill, Almonte, and the Mississippi woolen mill, Appleton, have been closed for some time past.

Moodie Bros. are reported to be preparing to start a woolen mill, or knitting factory at Orangeville. No particulars are at hand.

About \$50,000 is being spent in finishing and dyeing machinery, and in power plant at the two mills of the Canada woolen mills, at Carleton Place.

A new Northey pump has been put into Watchorn's woolen mill at Merrickville to provide fire protection, not only to the mill but to the village.

By the explosion of a gasoline stove the job dyeing works of Mrs. Wedlake (the Washington Dye Works), Rossland, B.C., took fire, and was completely gutted the other day.

Geo. Reid & Co., Toronto, have shipped some machinery to the Brown & Wigle woolen mill, Kingsville, also to Geo. Coupland's mill at Creemore and to the new felt mill at Elmira.

The Eureka woolen mills, Eureka, N.S., has just placed an order with D. K. McLaren, Montreal, for rings, doffers and fancies, with the stipulation that the goods must be of English make.

F. Talbot is endeavoring to raise a company to establish a new carpet factory at Sherbrooke, Que., but there appears to be some doubt as to whether the city would give assistance to a second brussels carpet factory there.

Ebenezer Hood, who operated a small hand machine knitting factory in Toronto some years ago, has been offered ten year's exemption from taxes, and some assistance in procuring a site and building at Havelock, Ont., to start a knitting factory.

The Victoria woolen mill and plant, Almonte, referred to in last issue, has been placed in the hands of Geo. Reid & Co., 11 Front street, east, Toronto, for sale. Particulars will be given in next issue, but meantime those interested should write Mr. Reid.

William Algic, of Alton, Ont., is starting at that village a second knitting factory for ladies' underwear. It will have six or seven body machines with corresponding other machines, and will produce about 40 dozen per day. It is expected the factory will be in running order in about a month.

The preliminary enquiry was commenced at Beauharnois on the 14th inst, before Judge Sicotte, in the case of the nine persons accused of rioting in October last at the Montreal Cotton Company's mills, Valleyfield. The day was spent in examining witnesses for the prosecution, and an adjournment was then made to suit the convenience of both the judge and the defence.

The Marmora Herald states that "Fuller & Allport, proprietors of Bancroft woolen mill, have dissolved partnership. Mr. Fuller is negotiating the purchase of D. Mitchell's mill at Tamworth." As the Marmora mills, owned by Mr. Fuller, have been closed for some time, we are skeptical about the last item of information, unless the negotiants are acting for other parties.

On the night of the 16th ult, the great dam of the Chambly Power Co. at Chambly Canton, Que., from which electric power is conveyed to Montreal, burst, owing to the loosening of the concrete from defective cement, and caused damage to the amount of about \$40,000. The power-house itself was not injured, but the Richelieu woolen mills were greatly damaged by being flooded, and much machinery was destroyed. The stock of wool, dyestuffs and goods in process of being dyed was ruined.

Several workmen recently imported from the States by the contractors for the erection of the Imperial Cotton Company's building at Hamilton were deported by the alien labor officer, Mr. Williams. The men were mostly plumbers and steamfitters, and had brought down their tools.

C. Gray & Co. proprietors of the Cannington Knitting Mills, have leased that very desirable brick building on the corner of Laidlaw and Munro streets, opposite the town hall, and will have it remodelled and renovated and fitted up with all the latest machines made for knitted goods. They will move into their new premises early in December, and will then have one of the finest knitting mills in Central Ontario—Cannington, Ont., Gleaner.

Mention has already been made of the new woolen mill being built by the Western Canada Woolen Mills Co., Medicine Hat. The prospectus of the company has been issued showing a capital of \$125,000, upwards of \$20,000 of which has been subscribed in the town. The site has been granted by the corporation, together with tax exemption for ten years. It is proposed to manufacture blankets, flannels, tweeds, kerrseys, and a full line of woolen goods.

Herbert M. Farr, the head of the Farr Alpaca Co., of Holyoke, Mass., died last month at the age of 59, leaving a widow and two daughters. His widow was a daughter of the late Jacob Hespeler, after whom the town of Hespeler, Ont., was named, and served on the council for eight years during his residence there. Mr. Farr was one of the promoters of the pioneer worsted factory of Canada, the firm of Randall, Farr & Co. having started a worsted mill in Hespeler about 1860. They made worsted yarns, nubias, clouds and "lustre goods," but failed, not through lack of energy, but partly through lack of favoring duties, and partly through lack of perseverance under the adverse conditions of the time. Mr. Farr threw up the business after a few years, and moved the plant to Holyoke, where he had much better success in a wider field. He had made a good deal of money in previous years as contractor for the building of stations on the Grand Trunk. Mr. Randall, his partner, was his brother-in-law.

As already mentioned, the Wentworth Knitting Co., of Hamilton, of whom Messrs. Harris, Bower, McGowan and Dr. McCabe were principal shareholders, have sold out to G. B. Perry of the same city. Mr. Perry, who was formerly with Taylor & Co., has engaged as foreman Mr. Spaulding, son of Mr. Spaulding of the C. Turnbull Co., of Galt, and is getting the factory in good shape, under the name of the G. B. Perry Knitting Co. The factory is in the old Laidlaw foundry building, Mary street, which provides ample room for future extensions. The present equipment consists of four body machines, two sleeves, one facer and seven sewing machines. The products are ladies', childrens' and men's ribbed underwear of medium to fine quality. The present capacity is about 25 dozen per day, but new machinery is being put in to increase this capacity to over 100 dozen per day. The factory is also turning out a specialty in the form of the patent "McLaughlin Mufflet," for which Mr. Perry is the licensed Canadian manufacturer. It is a knitted chest pad for winter wear. It has the appearance of a sweater when buttoned on the neck, and is easily taken on and off. It is selling well. This factory is operated by electric power.

A figure of no mean prominence in the Canadian textile trades was removed on the 1st inst. by the death of Senator Donald McInnes, who passed away as the result of a stroke of paralysis. Hon. Donald McInnes was born in Oban, Argyleshire, Scotland, in the year 1826, his father being a Highland grazier. With his family he came to Canada, and settled on a

200-acre farm in the township of Beverly. This the father cultivated until his death, in 1852. The late Senator, after finishing his education, was employed in various mercantile pursuits, finally forming a partnership with a Mr. Prentice in a general mercantile trade, the firm name being D. McInnes & Co., Hamilton. This partnership was a most successful one, and the business was continued after Mr. Prentice's death by Mr. McInnes, his whole energy being turned to the dry goods trade. This he worked up to the point where he did a wholesale trade of over a million and a half per annum. Mr. McInnes suffered a heavy loss in the fire of 1879, which completely destroyed the building. He was interested in the first cotton mill of Ontario, established at Thorold, a history of which was given in a recent number of this journal. He was afterwards one of the promoters of the Canada Cotton Co. (now one of the mills of the Canadian Colored Cotton Mills Co.), then the second largest mill in the country, and was a warm advocate of home manufacture in the woolen and other branches of the textile trades. For years the deceased made his residence at Dundurn Park, Hamilton, which he sold to the city last year. In 1863 Mr. McInnes was married to Amelia, fourth daughter of the late Hon. Sir John B. Robinson. Mrs. McInnes died some years ago, and the following family is left: Beverley McInnes, the eldest son, who lives with Lord Mountstephen, in England; William R., the general freight agent of the C.P.R. at Winnipeg; Duncan, who is a captain in the Royal Engineers, and took a most prominent part in the relief of Kimberley in the South African war now closing; Charles S., of the law firm of McCarthy, Osler & Co., Toronto; and Mrs. A. H. Campbell, of Toronto.

### MADAGASCAR SPIDER SILK.

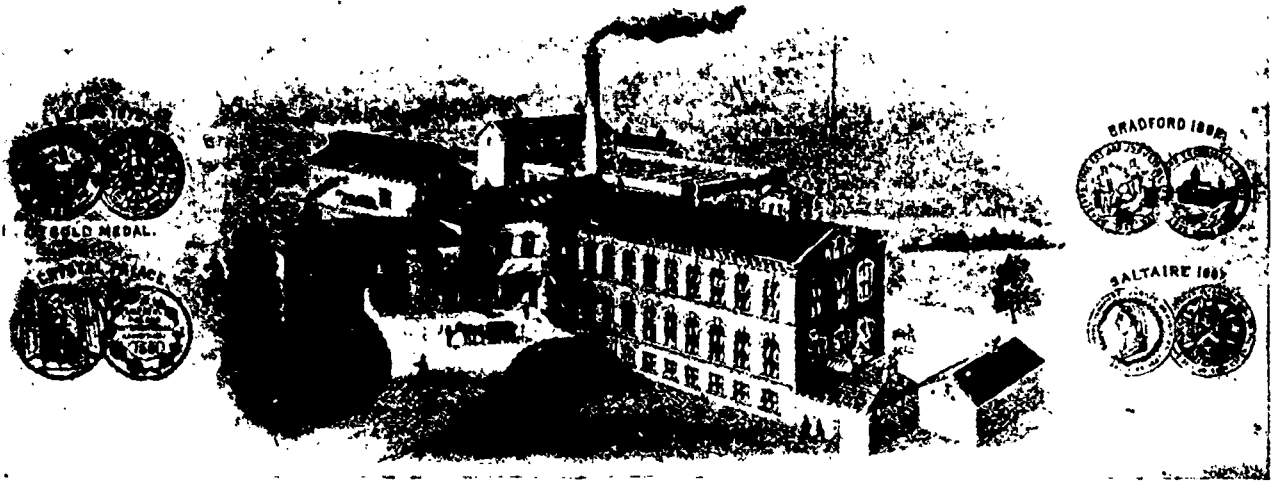
When Lemuel Gulliver visited the Grand Academy of Laputa he was introduced to one professor, the walls and ceiling of whose room was "all hung round" with cobwebs. "He lamented," said Gulliver, "the fatal mistake the world had been so long in of using silkworms while we had such plenty of domestic insects, who infinitely excelled the former, because they understood how to weave as well as spin." He proposed, therefore, to revolutionize the silk industry by employing spiders as substitutes for silkworms, and hoped by regulating their food to save the expense of dyeing. For this purpose a vast number of beautifully colored flies had been collected, upon which the spiders were to be fed, with the assurance that the webs would take a tincture from them. The whirligig of time brings its revenges. The project which was so satirized by Swift in the early years of the last century has become

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a sober fact in the later years of the nineteenth century; though whether spider silk will ever be commercially valuable is a question we cannot answer. It is to be remembered, however, that no European spider has yet been successfully utilized as a silk producer and the Madagascar spider, from which the silk is at present obtained, is a very different creature from any of those with which we are familiar. He supplies a much stronger thread, and is himself very much larger than the garden or the house spiders of the United Kingdom.

We learn from a contemporary that a French writer who recently paid a visit to Tananarivo, in the Island of Madagascar, says that the spiders are brought from the country in light baskets by Malagash women on the day upon which the silk is to be reeled, and they are placed in a frame in groups of one or two dozen, each in its separate cell. "It is important," we are told, "not to mutilate or wound them during the operation, since they are capable of being submitted to four or five successive reelings in a month, representing about four thousand yards of thread." The Malagash girls in reeling the silk "touch the end of the abdomen of the imprisoned spiders with the finger, and then gently withdraw the latter, carrying along in a single bundle the twelve or twenty-four threads to a hook that unites them into a single one, whence they afterwards start for the bobbin on which they are wound." The silk, it is said, is of a wonderful golden color. The experiment has not apparently gone so far as to realize the idea of Swift's professor for saving the expense of dyeing. Perhaps that will not be attempted for another hundred years. Meantime, we fancy the silkworm silk will continue to hold its own in the markets of the world.—Warehouseman and Draper.

#### SUBSTITUTE FOR TARTAR EMETIC.

The firm of Zwiéger Nachfolger, of Zwickau in Saxony, have brought out Antimontannate as a substitute for tartar emetic in mordanting goods. It has shown itself superior to all others for use with tannin. It is readily soluble in hot water, and is much cheaper than tartar emetic. By its use the dye-baths are completely exhausted, which is not the case with tartar emetic, and its use enables a fuller color to be got on the cotton with the expenditure of a smaller amount of dye, while the colors come out brighter and more level, especially with light shades. With Antimontannate it is no longer necessary to first bleach yarn when dyeing light shades such as Methylene Blue, as the raw fiber can be dyed just as it is. The new mordant is used exactly in the same way as tartar emetic. To fix the kg. of tannin, or the corresponding quantity of sumach, a maximum of 500 grammes of Antimontannate is required, and for light shades 400 grammes are enough. The quantity is thus about the same as would be required of tartar emetic, but the price is only half. For light shades the goods can be mordanted and dyed in the same bath with Antimontannate as well as with tartar emetic. The dyeing should be assisted with alum, the quantity of which must, however, be kept within certain limits, which are—for every 300 litres of bath, 250 and 400 grammes for lighter shades, 125 and 200 for medium shades, and 80 and 100 for dark ones.

—The new plant at Valleyfield of Geo. H. Hees, Son & Co. is now turning out a line of tapestry goods that does credit to Canada. Their looms are constantly busy on these goods, and the demand for them has been ahead of their production, but by increasing their looms, they are now making prompt deliveries of these popular goods. There are lines of fine goods,

that, owing to the limited demand, would not pay to make in Canada, and these goods Hees, Son & Co. import in such large quantities that they are able to sell at prices less than the trade could import direct. They claim to be headquarters in Canada for lace curtains, and as they carry in stock over one hundred thousand pairs of these artistic goods, their claim seems justified.

#### THE LAW AND THE PROFITS.

Our readers will remember the assignment of the Cloak Mfg. Co., of Toronto, a year ago with liabilities of about \$80,000. Of \$59,000 due to the Quebec Bank that institution claimed \$13,000 as privileged. A number of the other creditors contested this claim, but the bank has been upheld by the court. Against this decision the creditors in question threaten to appeal. This case bids fair to be another illustration of the case with which money which should go to creditors is transferred to the pockets of legal gentlemen. It appears that when this question regarding the bank's preferred claim came up there were orders in the Cloak Co.'s hands in the course of execution amounting to \$6,000. The bank suggested that in the interests of the business these orders should be filled, and if the decision of the court on the disputed point went against the bank the \$6,000 would be there in the form of cash instead of unfinished goods. This should have been manifestly in the interests of the creditors generally, for delay in the filling of the orders would mean the cancellation of some of them with depreciation in the value of such goods as could not have been sold in the season they were made for. Meantime the bank suggested a conference directly with the creditors concerned, so that if they failed to agree some friendly form of arbitration might be sought, to avoid those legal expenses which usually eat the vitals out of an estate that gets into court. However, the clique of creditors, acting under legal advice, preferred law to conference, and the result is that while the bank's position has been maintained by the court, the legal gentlemen are getting the money that might have been divided among the creditors.

#### GHOST RUNS SIX LOOMS.

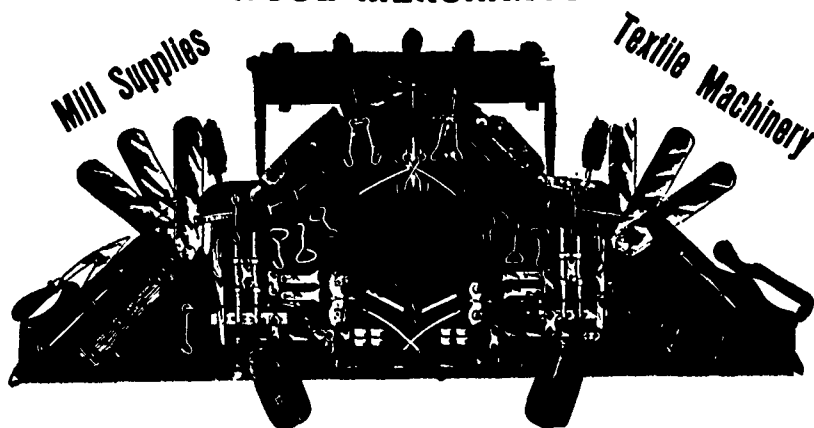
The superstitious people of Burlington, Vt., are much excited over the nightly appearance of a ghost at the Queen City Cotton Mill. One year ago a young woman in the employ of the mill was run over and killed by a tram at a crossing near her home at Lakeside Park. There was no trouble until a few nights ago, when the night watchman of the mill told of seeing strange sights and hearing queer noises in the night. The watchman says that about midnight he heard a noise coming from a remote corner of the mill. The noises sounded like the running of weaving looms. He was not scared, and is not superstitious. There he found six looms running at full speed, without any apparent motive power, and cloth was being woven without any guidance. Later on in the night he saw a white figure walking back and forth in the working room, and the object would disappear as soon as he attempted to approach it. The man reported the matter to the mill authorities, and was ridiculed. Satisfied that he had seen something, he got some men to stay with him the next night. They also saw the same spectacle, and are now firm believers in spooks.

This happened some days ago, and every night visitors to the mill have been treated to the same sight. It is claimed that fitting lights are seen about the big room, and that big webs of cloth are strewn about the floor, being taken from large piles, where they were placed during the day.

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# A \$3.00 Book for \$1.50

As it is the custom to have Christmas bargain sales we are now falling into line and offer the **CANADIAN TEXTILE DIRECTORY** for a limited time at half price, namely, **\$1.50**. This offer is open to January 31st, 1901. There is only a small remnant of this edition left, so write or call at once.

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

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

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

The number of copies left on hand is limited and those wishing to secure a copy before the edition is exhausted should order without delay. Address,

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- Technology of Textile Design; explains the designing for all kinds of fabrics executed on the harness loom. by E. A. Posselt ..... 5 00
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- Woolen and Worsted Loom Fixing. A book for Loom fixers, and all who are interested in the production of plain and fancy worsteds and woollens; by A. Ainley. \$1 00
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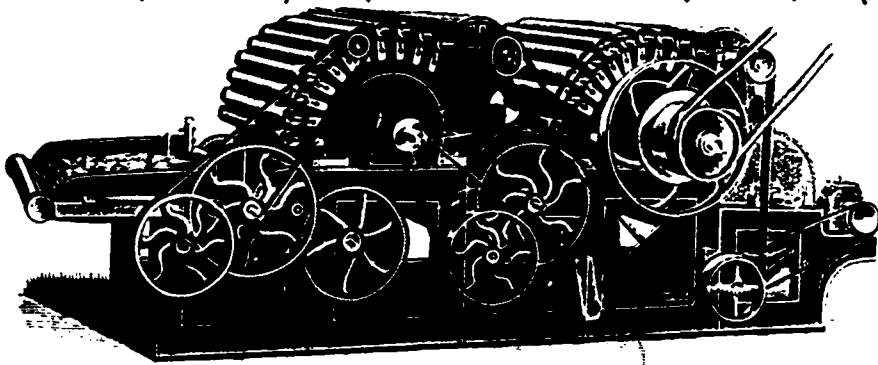
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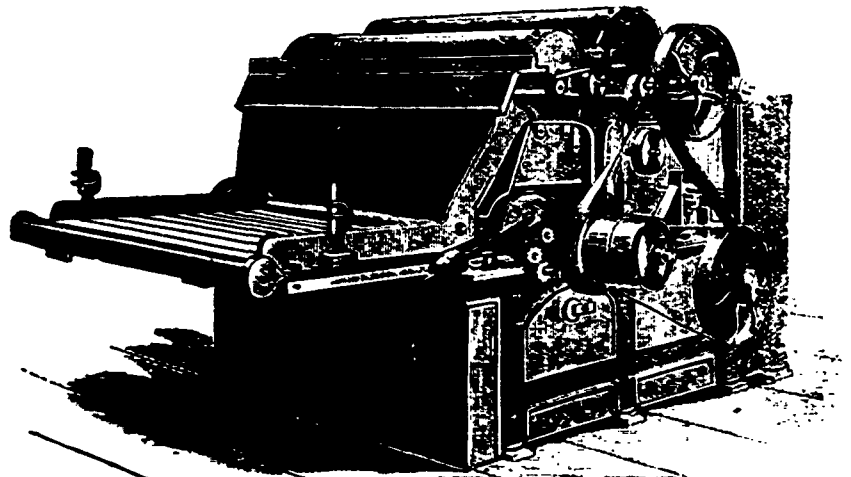


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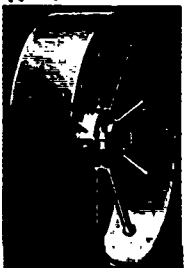


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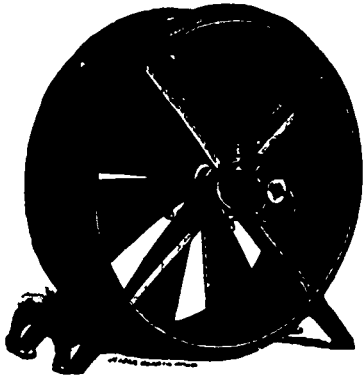
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The annual meeting of the Montreal Dry Goods Association was held in Montreal a few days ago, when the president's report for the past year was submitted and adopted, and the following officers were elected: President, James Rodger; vice-president, W. D. Howell; treasurer, George Sumner; directors, Alphonse Racine, James Slessor, R. N. Smyth and Ben. Tooke.

**YARNS**

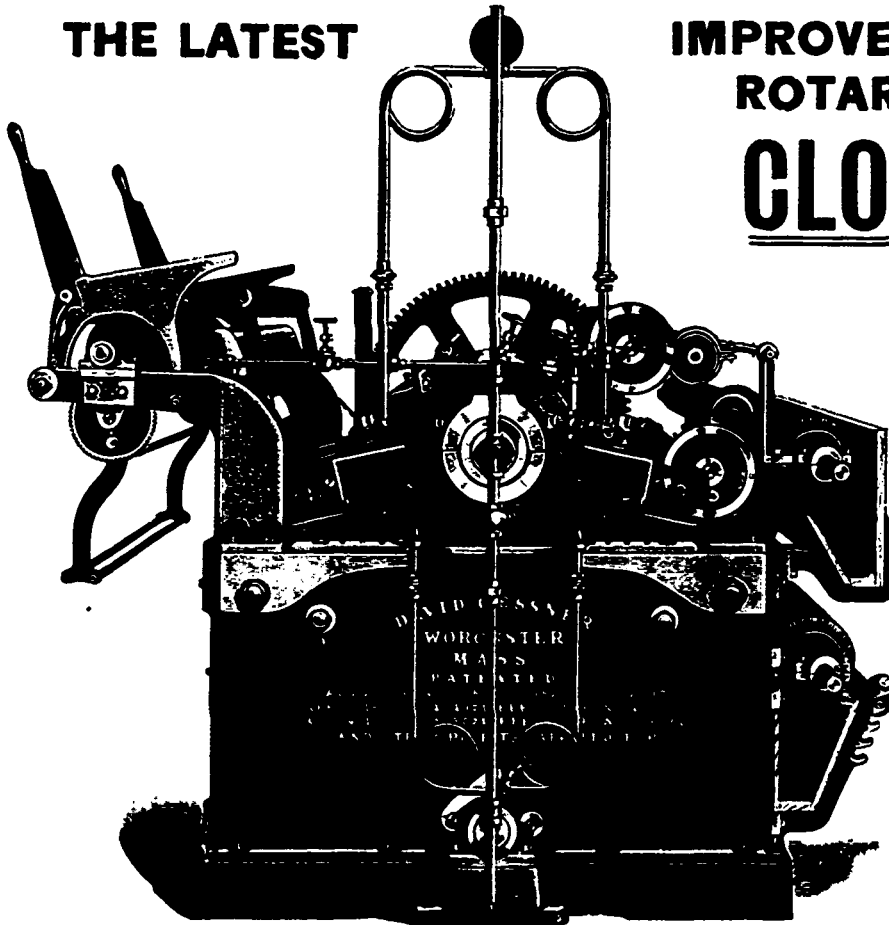
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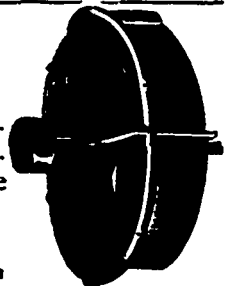
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Tape Picker Loops, Leather Strapping  
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Illustrated Catalogue sent on application.

### MASTERPIECE OF WEAVING.

Lombardy, once unrivalled in Europe for its textile fabrics in silk and linen, has just made the Pope a unique present as the gift of the province for the Holy Year. It is an altar cloth for the private altar of His Holiness, and its design and texture are elaborate to a degree which, it is contended, has no parallel even in the long records of Italian art weaving. In no previous composition ever woven in Italy has the number either of weft reels or warp cards exceeded 6,000, while in the Pope's new altar cloth the numbers are respectively, 17,700 and 142,000. The style is Gothic Venetian, and the composition represents, with a rare wealth of symbolism, the principal Gospel truths. Another distinguishing feature of this beautiful work of art is that every thread is pure white.—London Express

—A movement has been started by Bradford merchants to prevent the "growing practice of weighting worsted fabrics," by adulteration. It was hoped that the practice was dying out instead of increasing, but it is attributed to the high price of wool which has ruled for some years past. The adulterants used are commonly mineral salts, such as sulphate of zinc, alum, lead and magnesia. Some of these chemicals, it is contended, not only add their own weight to the cloth, but increase the weight by their tendency to absorb and retain moisture, but the liability of such cloths to mildew would make the practice of keeping them damp rather risky. It is a significant feature of this movement against weighting worsteds that some of the manufacturers join the merchants in condemning the practice.

—We understand that in the Pan-American Exposition at Buffalo in the summer of 1901, there will be no department devoted exclusively to textiles, but there will be working exhibits of some textile processes, and exhibits of textile fabrics. Textile machinery will be shown in the general machinery hall. If the cost is not great it might pay some Canadian mills to be represented



## 'Cyclone' Fans

are marvels of efficiency

They ought to be; it took us fifteen years to produce a design that gave universal satisfaction. Our New Catalogue B is free for the asking, and is a veritable encyclopædia on drying and ventilating.

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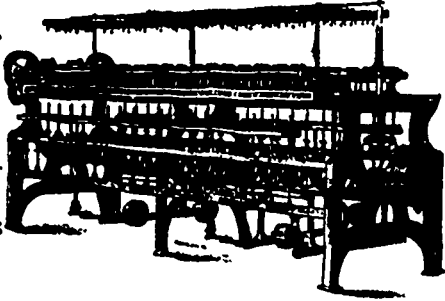
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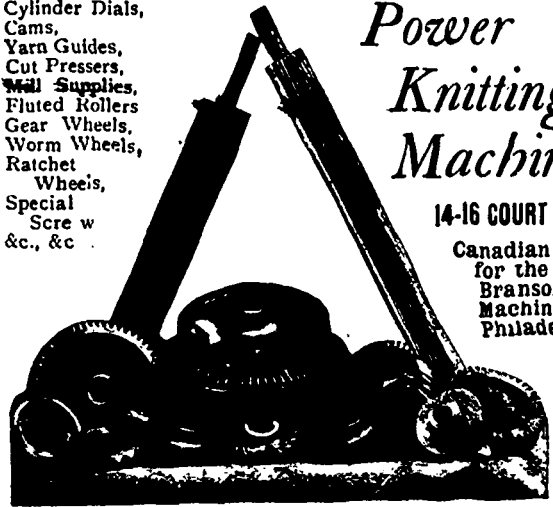
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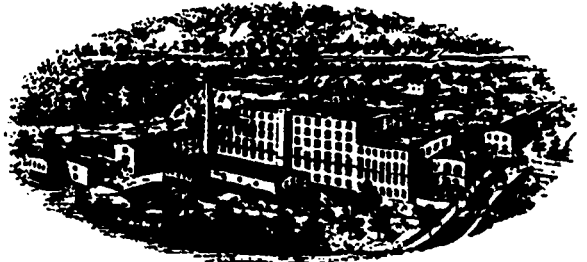
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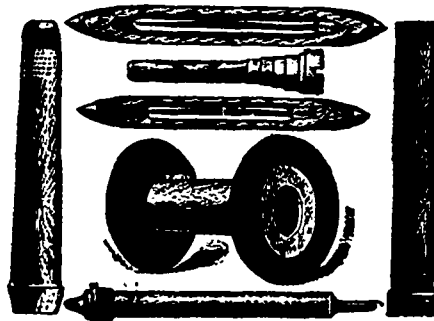
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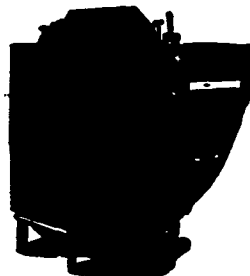
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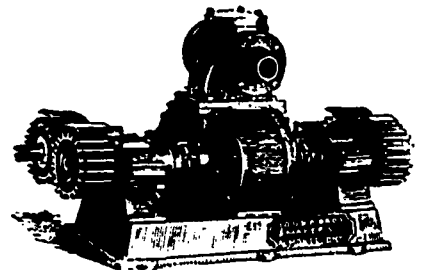
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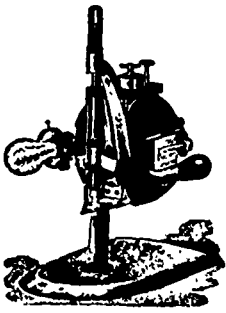
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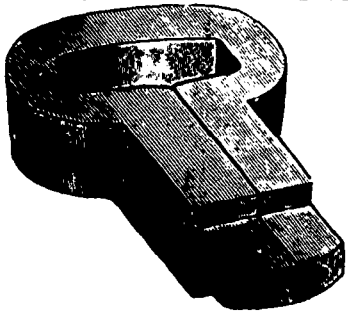
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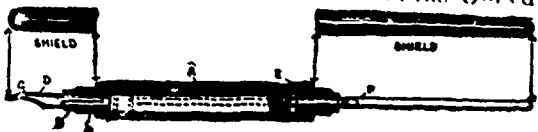


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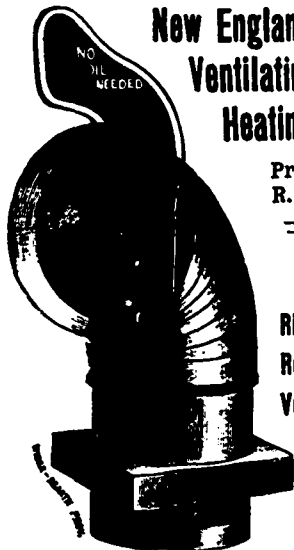
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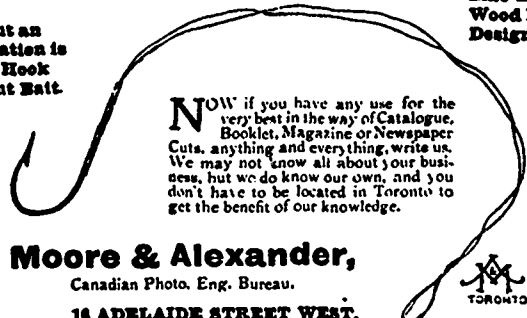
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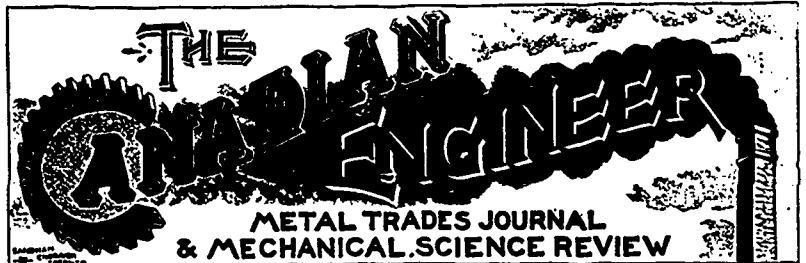
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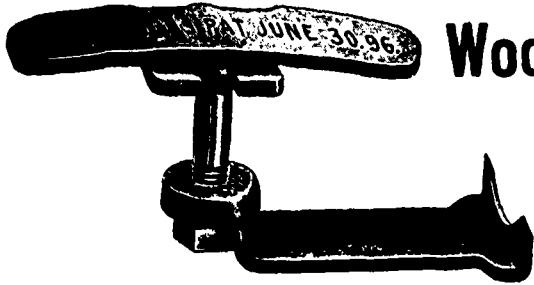
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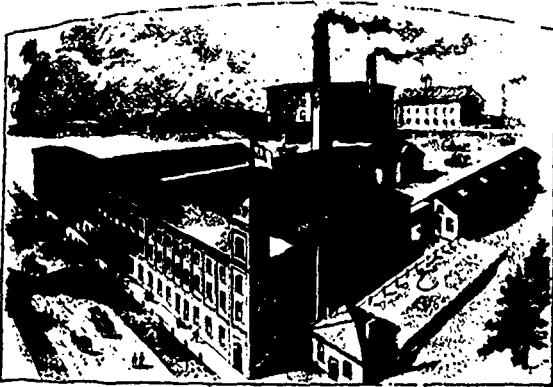


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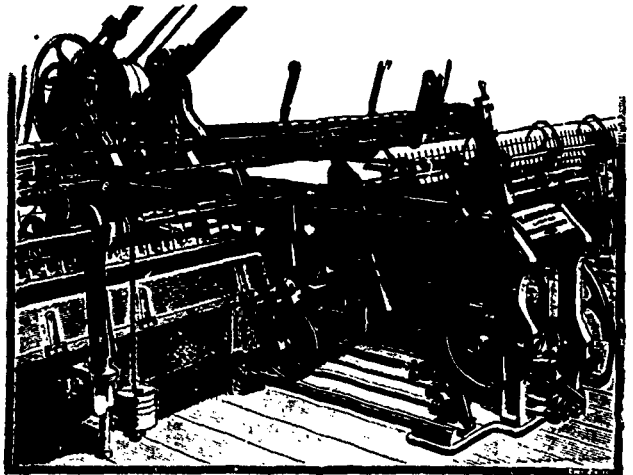
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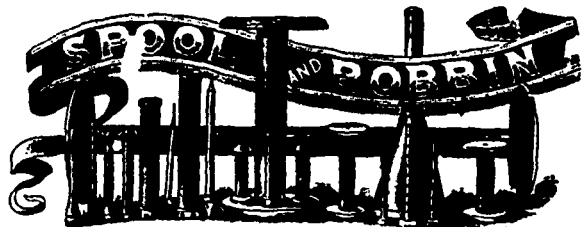
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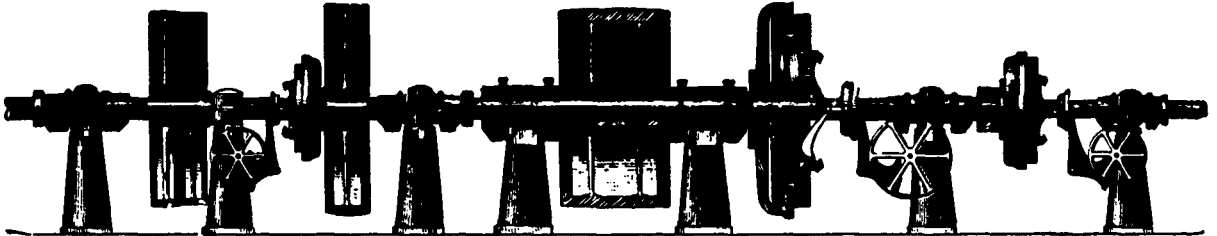
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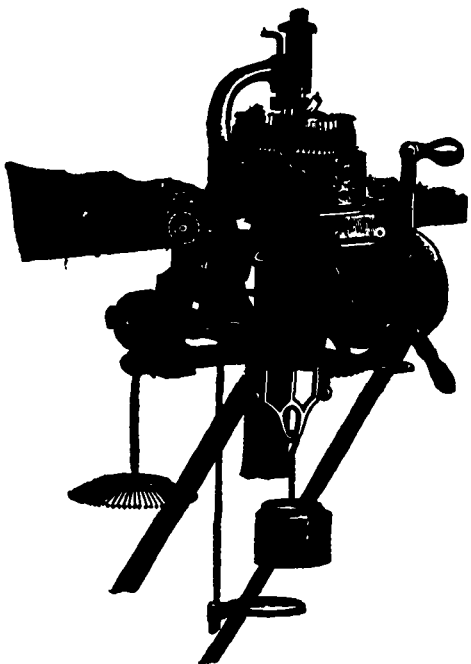
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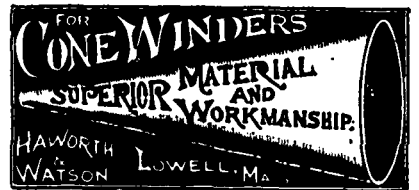
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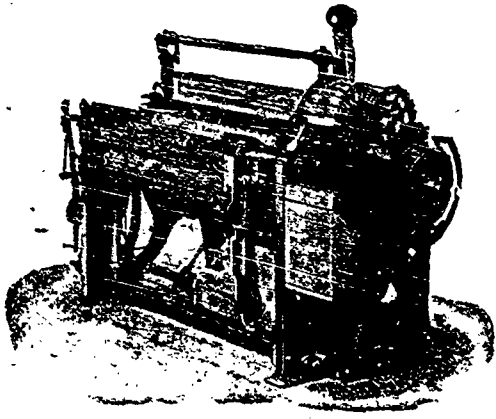
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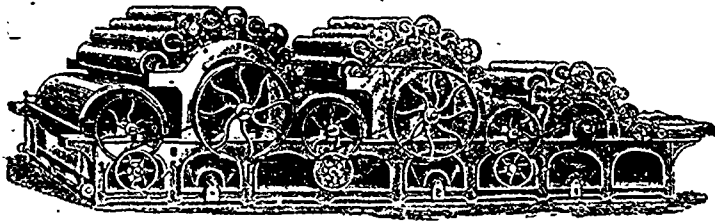
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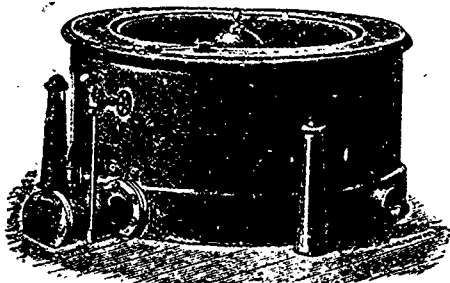
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Special Machinery for the Manufacture of Binder and Ordinary Twines

Good's Patent Combined Hacking  
and Spreading Machine

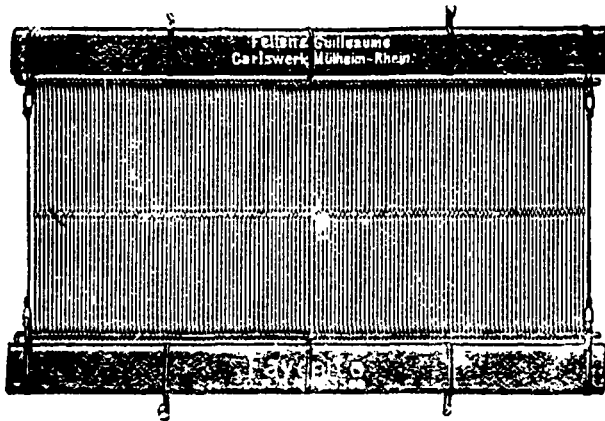
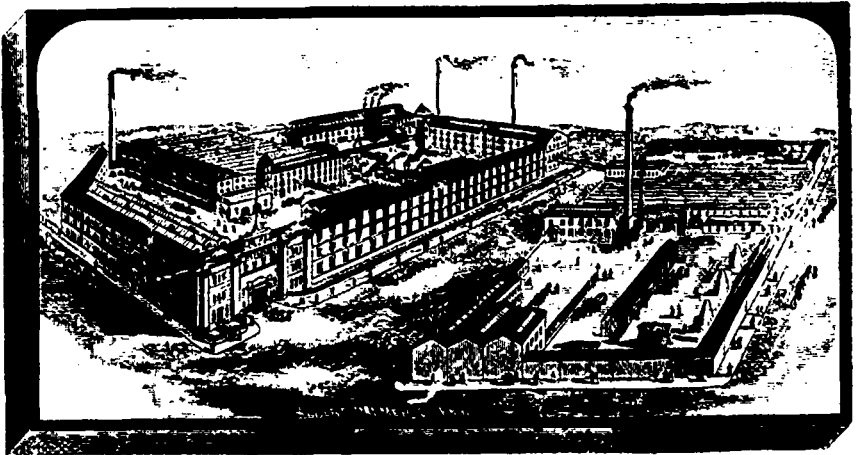
Patent Automatic Spinning Frames  
Improved Laying Machines

and other special machinery for the  
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ALSO OF

Brownell's Patent Twisting and Laying  
Machines for Twines

Council Medal, London, 1851, Grand Medal,  
Paris, 1867; Prize Medal, Moscow, 1872; Diploma  
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delphia, 1876; Gold Medal, Paris, 1873; Highest  
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