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# CANADIAN Journal of Fabrics

THE JOURNAL OF THE  
Textile Trades of Canada.

Vol. XVIII.

TORONTO AND MONTREAL, JUNE, 1901.


No. 6.

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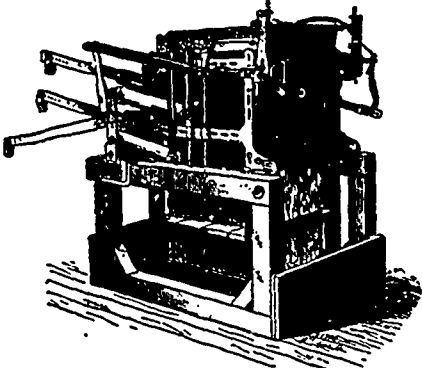
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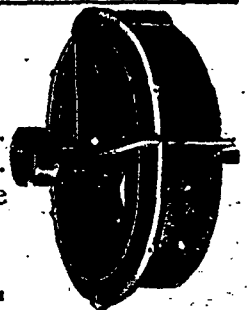
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# CANADIAN Journal of Fabrics

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No. 6

## Canadian Journal of Fabrics

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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.

BIGGAR, SAMUEL & CO., Publishers,

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### THE COAL-TAR COLOR TRADE.

There is money to be made in the manufacture of coal dyes as is proved by recent annual reports issued by German manufacturing firms, some of whom have declared dividends varying from 10 to 25 per cent. The Badische Anilin und Soda Fabrick of Ludwigshafen, has a dividend of 24 per cent.; the Farbwerke Vorm Meister, Lucius, und Bruing of Höchst-am-Main, one of 20 per cent., and the Farbenfabriken Vorm, Fr. Bayer & Co., of Elberfeld 18 per cent., while the well-known exporters, Cassella & Co., of Frankfort, and Kalle & Co. of Biebrich, and many others have dividends that cannot be called small. The "Textile Mercury," commenting on these figures, contrasts them with the earnings of similar firms in the old country, which find it as a rule difficult to pay any dividend at all, and seeks an explanation. The British goods are equal in every respect to the German manufactures,

and are produced at about the same total cost; for while British labor may be more costly yet the raw material can be bought cheaper. The market is at hand, and yet German and Swiss dyes are everywhere. The same conditions prevail in our colonies. The explanation is a simple one and yet fully in accord with progressive business methods. The German dye makers have pursued a policy of "specialties," and have aimed at bringing out new ideas from year to year and even from month to month. These specialties are protected by patent rights in every country where patent rights are granted, and of course the prices charged includes profit enough to account for the dividends alluded to. The British firms on the other hand content themselves with making dyes which are made by every other dye maker, and the trade is secured by reduction of prices, leaving room for little profit. While the Germans have gone ahead the British makers have pursued a stand still policy, and have in consequence taken a back place. And this they will have to do until they change their methods and adopt the plans of their competitors. The demand for coal tar dyes is enormous, and there is no reason why British companies worked on the German plan should not pay well.

### NOW IS THE TIME.

The technical schools specifically devoted to textiles, in Great Britain and Europe may be counted by the hundred, and the United States has several of these schools whose work is extending steadily and rapidly, and which by the way have attracted a number of Canadians who go abroad for this training because they cannot get it at home. Every large textile town in Great Britain has some kind of technical school designed to educate its youth along the lines of its industrial specialties. When will Canadian provincial governments and Canadian textile towns awake to the loss they are sustaining, prospectively and immediately, by their apathy or ignorance in this matter? We hope they will do so before their industries are crippled by the rising tide of foreign competition from textile centres which have long since realized that the only way to hold their trade is by the scientific training of their young people, neither neglecting the industrial nor the artistic side of the business. One of the best monuments a minister of education in the province of Ontario or Quebec could rear for himself would be the foundation of a textile institute, and it is a co-incidence that we have

an application from a Canadian now living abroad who would undertake the work of organizing it, and at the same time a proposition from a Toronto gentleman who is willing to interest himself and others in the work if the government will do its part. An unknown friend has just sent us copies of the New Bedford "Mercury" containing an account of the work done by the New Bedford Textile School, recently started in that Massachusetts town. We quote a part of the report in this issue just to show what can be accomplished by a little public spirit and enterprise. Considering the crisis which is approaching the Canadian woolen mills, those concerned in this branch of the textile trades in particular should bestir themselves if they would avoid the ruin which has threatened it ever since the Dominion government has called upon the woolen manufacturers to pay the heaviest part of the tribute of loyalty demanded by its preferential tariff.

#### REPUTATION IN TEXTILE MANUFACTURES.

The care with which orders for clothing have been placed this season should enable mill men as well as clothing manufacturers to see the necessity of maintaining their lines up to certain standards. It is often the case that more care is paid to design or to style than to quality. Of course an attractive design counts for much, but the mere design or appearance of goods does not always give a fair idea of its value, which is sometimes better than it looks, but too often the reverse. Imitation of goods that are in demand, but on a low priced basis is a dangerous trap into which many manufacturers fall, to their ultimate cost. Not that they do not sell their goods for the time being, but that in their haste to secure the market by the production of cheap imitations, they lower the standard of quality and for so doing inevitably suffer loss of reputation. The public will always buy cheap goods, but no matter how low the price they require some wear-resisting qualities in addition to the appearance and style which have principally induced them to purchase. The manufacturer is in business not for this season or next but as a permanency, and his success depends upon the standard qualities of his articles, and not on the transient designs or finish. Manufacturers who have achieved the best results in the woolen manufacturing owe their success in no small measure to their strict adherence to certain standards. They have a fixed standard for their fabrics below which they refuse to go, no matter whether their output runs to fine grade, medium grade or even to low grade wherein the greatest temptation lies. There is a point below which it is not merely unsafe but dishonest to go in cheapening their fabrics for at that point the consumer fails to receive full value for the price paid and the manufacturer begins to throw away his reputation and the reliability of his goods. There are times when this adherence to an honest standard may appear to tell against success for the time being, and when the manufacturer may feel a passing regret that he did not send forth his goods under false colors; in the long run, however, he who safeguards his reputation for making goods that are

reliable as well as cheap and up to date will find that he has done wisely.

#### COTTON ACREAGE AND CONDITION.

Owing to the backwardness of the United States cotton crop at the present moment, and the uncertain effects of the recent heavy rainfalls in some of the cotton growing states, the present reports of the cotton status will be liable to correction later. The acreage for this year, while showing an increase of 5.05 per cent. is not so large as was anticipated. The profitable results of last year's crops led to liberal estimates being made; and had conditions remained as they were at the end of December, when cotton was quoted at 10 $\frac{1}{8}$ , the cotton area would have been larger. But early in the spring a steady decline in price set in, and on May 18th reached the lowest point, 8 $\frac{1}{8}$  for middling uplands, and from 6.98 to 7.17 for futures in the coming November. This upheaval of prices has had without doubt a limiting effect and the quantity of new ground has been restricted. Enough cotton has however been planted to secure under favorable conditions a crop that should yield 12,500,000 bales; these figures being based on the crops of 1897 and 1898, when 23,000,000 acres were under cotton cultivation; the actual acreage this year being 26,000,000. The floods of 1897 aided the crops of that and the succeeding year most materially, the increase per acre in 1897 on account of the rich deposits left by the floods, being estimated at 33 pounds, or a total of 1 $\frac{1}{2}$  million bales. Though rain has been plentiful this season, no such natural benefits are acquired, but the use of artificial fertilizers promises to have beneficial results, for no less than 406,547 tons of Charleston phosphates have been utilized this present season, as against 80,000 tons used 20 years ago. The older cotton areas are adopting the fertilizing system, the yield being profitably increased thereby. New ground in Oklahoma shows 20 per cent. increase over last year. Indian territory 14 per cent., Florida 10 per cent., and Western Texas 6 per cent. As to the maturity of the cotton crop evidence points to its being a late one, even more so than last year—the average temperature of May being lower than in the two previous years and the rain fall during the same month was above normal. Though no harm has been done yet germination has been retarded.

#### UNITED STATES COTTON TRADE.

The Cotton goods exported from New York for the first five months of the year as compared with the same period of 1900 will be of interest. The total figures are 94,222 packages, value \$4,302,502 showing a decreased value of over 40 per cent. as compared with those of last year, when 182,759 packages, value \$7,563,276 were exported. The Chinese trade has suffered most and the figures give evidence of the complete stagnation of that country, for whereas last year to the beginning of June 110,467 packages were exported, this year's returns for the same period show only 21,879 packages. The United States is

not the only sufferer in this respect for China received a large share of Japanese yarns, and this trade has been completely shut down since the Boxer troubles; the amount of decrease in the Japanese export to China in 1900 being in actual figures £840,307. The Korean trade however with Japan remained practically unaffected by the war troubles. This country which at the present time receives nearly half of Japan's cotton exports may prove an excellent market when the Japanese cotton manufacturing trade resumes its normal condition and recovers from the depression caused by over expansion after the China-Japan war,

The exports from New York to India show a decrease, the figures last year to end of May being 7,857 packages and for the same period 1901, 1,739.

Increased exports are noted however with Great Britain—1901, 2,183; 1900, 949; Africa—1901, 4,016; 1900, 2,201; South America—1901, 27,877; 1900, 20,048. Increased commercial enterprise and the South African war account for these trade gains.

It is noteworthy that U. S. exports of cotton manufactures to Canada have also fallen off in spite of the keen competition with Canadian mills which is now going on. U.S. returns show that their exports of cotton goods of all kinds to Canada were 5,693,529 yards for the nine months ending March 31st of this year as compared with 6,642,097 yards for the like period of 1900, and 14,595,118 yards for the same nine months of 1899. It should be pointed out however that the import of raw cotton for consumption in Canadian mills has also fallen off this year. The figures for the nine months of the past three years being as follows: 1899, 43,953,591 pounds weight; 1900, 49,139,813 pounds; 1901, 41,871,377 pounds.

#### DANGERS OF THE PREFERENTIAL TARIFF.

It is officially announced from Berlin that after July 30th, Germany will extend the most favored nation treatment to the products of Great Britain and her colonies, "Canada excepted." This is nothing new, and is simply a confirmation of the position Germany took when the Canadian Government denounced the commercial treaties with Germany and Belgium in 1897. It means that the products of Canada entering Germany will continue to pay a higher rate of duty than those of Great Britain, the United States or any other country working under the favored nation rule. It is as well just now to clear up a misapprehension that exists in the minds of many, including a number of our own newspaper editors on this subject. There is a notion that Germany is hitting back or having revenge upon Canada because of the preferences our Government has given to products of Great Britain. This is quite a mistaken idea. The attitude of Germany is, to use the language of diplomacy, perfectly "correct." When the Canadian Government denounced the treaties with Germany and Belgium it said in effect "we wish to end our present relations with you; we will no longer allow your products to come in on the terms we accord to Great Britain." Germany's answer was: "As a commercially

independent nation, if you discriminate against us, and withdraw from the arrangement we have with you in common with Great Britain, you cannot expect to enjoy at our hands the favors you now withhold from us." It is we who terminate the contract, and our action toward Germany is analogous to the termination of a contract between two private firms. The party who demands the cancellation of the contract cannot complain if the arrangement made in substitution of that contract turns out to his own disadvantage. We cannot therefore blame Germany for the position she takes now. Nor can we blame German merchants for taking advantage of the condition of trade which enables them to ship to Canada, via England, goods which undergo partial manufacturing or finishing processes while in England. We can only blame those merchants who do deliberate smuggling under the cloak of this "partial manufacturing" arrangement in Great Britain. If the preferential tariff is to be continued, this smuggling might possibly be stopped by according the preferential duty only to such goods as are wholly made in Great Britain, and to make sure that only such wholly-made-in-Britain goods get the preference, it could be provided that shipments must be made direct from its factory of production. Such goods could be ordered as usual through a wholesale house or commission agent, but it could be provided that the shipment must be made direct from the factory, or clear proof furnished that it was wholly, and not partially, made in Great Britain. We are speaking now as to textile fabrics only. In other lines such as metal goods it would be impossible to decide on a fair interpretation of what should constitute complete manufacture, as Great Britain uses such a variety of raw materials and partially manufactured items in the production of her various goods. Even in many lines of textiles it would be difficult to draw the line, though in cloths, yarns and knitted goods a safe, general rule might be made.

But the truth is beginning to dawn on us that the preferential tariff itself is a mistake. It is a mistake because in practice it opens a wider door to smuggling than a flat rate of duty against all countries. We cannot establish custom houses in Great Britain, and in most cases we cannot determine what are really British goods. In giving a preference to goods from the Mother Country we are opening a door to any other nation under heaven to get the benefit of the preferential tariff if they only send them via the British Isles, where they can be put through a fictitious process of "finishing," and from what we can learn European nations are fast learning the trick. This is opening up a profitable business to a certain class of middlemen in the exporting towns of Great Britain, but it has done but little good to the bona fide British manufacturer, and it will do less and less good as the new and easy method of smuggling becomes perfected. Canadians should pause and review the situation. Sentiment does not mix well with business. If nine out of ten of us were to ask ourselves why we looked kindly on the preferential tariff, we should find that it is because we feel we owe the Mother Country a debt for the protection she has afforded this country in years past and for which we have practic-

ally never paid a cent. But why should not this tribute of gratitude be made in the form of a direct annual money contribution, so that we know what we are paying and why we are paying it? Let the contribution we make go for the benefit of the British nation, and not for the benefit of a few individuals who shares the spoils of the preferential tariff with the foreign houses they represent. As a means of helping the bona fide British manufacturer the preference has proved a failure; as a means of establishing an easy method of smuggling it is unequalled. So far as German trade is concerned we note that, apart from what goods may get into Canada under the low tariff via the British Isles, the direct exports of Germany to Canada have actually increased in the more important lines since the present tariff was put in force. Experience has condemned this tariff on another ground. It is inequitable, both in the benefits it confers on a few classes of British goods to the exclusion of other classes, and in the incidence of the competition it throws on certain classes of Canadian manufacturers, leaving others untouched. We have already pointed out how in the textile trades the Canadian woolen mills receive the full impact of competition from British manufacturers, who in certain classes of goods have almost a monopoly of the markets of the world, while in other branches of textiles not a single home industry is affected.

TRADE WITH NEWFOUNDLAND

The trade returns of the colony of Newfoundland for the fiscal year ending June, 1900, are published in neater form than hitherto and give the imports and exports more in detail. The textile trade of Canada with the Island will be a matter of interest to our readers and we give below the values of the various items in comparison with the exports of Great Britain and the U. S. there in the same lines. Owing to the more detailed classification now made we cannot compare every item with the returns of previous years, but as far as they can be got we quote from the Canadian Textile Directory the figures of the Canadian exports of 1886 and 1896 along with those of 1900, so that the development of our textile trade with the island can be seen at a glance.

IMPORTS OF NEWFOUNDLAND.

	From Great Britain.	From Canada.	From United States.
Hemp, jute & flax manufact'r's.	\$ 3,079	\$ 71	\$ 1,876
Bags and sacks, empty . . . .	38	1,404	14
Blankets . . . . .	19,456	1,048	4,547
Braces and suspenders . . . . .	4,144	407	1,438
Buttons . . . . .	3,785	3	123
Carpets, etc . . . . .	12,722	277	238
Crapes (black) . . . . .	2,386	45	...
Linens . . . . .	39,698	762	1,741
Embroideries, laces, etc . . . .	42,460	642	580
Dyed fabrics . . . . .	179	14	10
Oilcloth . . . . .	5,912	444	1,275
Gloves, woolen . . . . .	10,225	233	35
" kid . . . . .	8,145	101	392
Feltings . . . . .	184	4,471	649
Hair mattresses, etc. . . . .	493	2,928	439
Material for mattresses . . . . .	...	14	67
Wool cards . . . . .	52	1,046	9
Hats, caps, bonnets, etc . . . .	47,931	1,428	2,707
Fur caps and hats . . . . .	3,457	1,200	291

Rubber clothing . . . . .	9,444	4,510	1,859
" mats, etc. . . . .	3,330	...	507
Lamp wicks . . . . .	43	3	442
Oiled clothing . . . . .	1,801	17,910	15,304
Oiled silk and cloth . . . . .	17,833	25	1,413
Paper hangings . . . . .	10,973	3,756	254
Ready-made clothing, woolen	154,815.	4,180	4,207
" " linen & cotton	6,968	1,351	3,604
Corsets . . . . .	8,675	4,897	1,725
Collars, cuffs, etc . . . . .	12,189	154	1,132
Ready-made shirts . . . . .	19,518	956	3,758
Ready-made shirts & undercl'th	19,881	16,816	20,664
Ready-mades, shirts, socks and stockings . . . . .	968	698	549
Ready-mades, blouses . . . . .	1,166	9	...
Ready-mades, socks & stockings	13,708	1,045	367
Ribbons . . . . .	14,666	41	94
Sewing and embroidery, silk . .	32,160	1,780	665
Shawls . . . . .	3,019	108	...
Umbrellas . . . . .	4,755	143	198
Velvets, etc., silks . . . . .	16,579	35	192
Webbing . . . . .	318	...	7
Window shades . . . . .	70	447	216
Canvas . . . . .	10,259	8,847	37,355
Cotton bats . . . . .	15,675	16	229
" grey and white . . . . .	204,204	13,409	22,899
" prints . . . . .	410	...	132
" duck . . . . .	8	139	7,993
Cordage . . . . .	119,674 lbs.	80,805 lbs.	18,244 lbs.
	(value \$11,195)	(value \$10,811)	(value \$1,635)
Dyes . . . . .	554	1,905	355
Flannels and surges . . . . .	37,227	2,920	7,791
Nets and netting . . . . .	13,307	6,698	19,229
Oakum . . . . .	31,280 lbs.	4,642 lbs.	...
	(value \$1,320)	(value \$276)	...
Tweeds, cloths, etc . . . . .	96,485	15,811	3,067
Twines for fishery purposes . .	8,359	1,956	13,727
" sailmaking . . . . .	1,266	406	392
Women's & children's dress gds	112,871	4,809	2,109
Yarns, woolen & worsted . . . .	20,993	142	...
Wool carding machines . . . . .	...	...	544
Sewing and knitting machines .	1,012	961	5,500
Asbestos . . . . .	207	...	216
Apparel . . . . .	1,944	4,754	2,928
Cotton yarn . . . . .	6,158	582	...
Hemp yarn . . . . .	116,270	112	14,670
Linen and twines . . . . .	1,847	261	6,299
Unmanufactured wool . . . . .	54	1,780	3

TEXTILE IMPORTS FROM CANADA.

	1886.	1896.	1900.
Hemp, jute & flax manufacturer's	\$ ...	\$ ...	\$ 71
Bags and sacks, empty . . . . .	5,059	...	1,404
Blankets . . . . .	...	...	1,048
Braces and suspenders . . . . .	...	...	467
Buttons . . . . .	...	...	3
Carpets . . . . .	...	...	277
Crapes (black) . . . . .	...	...	45
Linens . . . . .	...	...	762
Embroideries, laces, etc . . . . .	...	...	642
Dyed fabrics . . . . .	...	...	14
Oilcloth . . . . .	...	...	444
Gloves, woven . . . . .	...	...	233
" kid . . . . .	...	...	101
Feltings . . . . .	...	...	4,471
Hair mattresses . . . . .	...	...	2,928
Material for mattresses . . . . .	...	...	14
Wool cards . . . . .	...	...	1,046
Hats, caps, bonnets, etc . . . . .	...	...	1,428
Fur caps and hats . . . . .	1,364	...	1,200
Rubber clothing . . . . .	2,179	12,813	4,510
" mats, etc . . . . .	...	...	...
Lamp wicks . . . . .	...	...	3
Oiled clothing . . . . .	...	9,511	17,916
Oiled silk and cloth . . . . .	...	...	25
Paper hangings . . . . .	513	53	3,756
Ready made clothing, woolen	1,175	7,323	4,180
" " linen & cotton	...	...	1,354
Corsets . . . . .	...	...	4,897
Collars and cuffs . . . . .	...	...	154
Ready-made shirts . . . . .	...	...	956
" " & underclothes	...	...	16,816
" " socks & st'k'ngs	...	...	1,843
" blouses . . . . .	...	...	9
Ribbons . . . . .	...	...	41
Sewing and embroidery, silk . .	...	...	1,780
Shawls . . . . .	...	...	108
Umbrellas . . . . .	...	...	143



Velvets and silks .....	....	....	35
Window shades .....	....	....	447
Canvas .....	67	12,771	8,847
Cotton bats .....	....	....	16
Cotton, grey and white .....	....	....	13 4' 9
" prints .....	....	....	....
" duck .....	....	....	139
Cordage .....	4,507	15,649	80,805 lbs (value \$10,811)
Dyes .....	....	....	1,905
Flannels and serges.....	....	....	2,920
Nets and netting.....	....	....	6,698
Oakum .....	115	203	4 642 lbs. (value \$276)
Tweeds, cloths, etc. ....	....	....	15,811
Twines for fishery purposes.. } fish tackle	887	15,290	1,956
Twines for sailmaking.....	....	....	406
Women's cloth'g & dress goods	....	....	4,819
Wool carding machines.....	....	....	....
Sewing and knitting machines	....	617	961
Apparel .....	....	....	4,754
Cotton yarns.....	....	....	582
Hemp yarns .....	....	{ 178 }	112
Woolen and worsted yarn ....	....	....	142
Lines and twines .....	....	....	261
Unmanufactured wool .....	....	510 (free)	1,780
Old junk.....	760	....	....
Woolen and cotton goods of all kinds .....	22,054	37,800	....
Total .....	\$38,680	\$112,718	\$152,566

**BANK MANAGER AND COMMISSION MERCHANT ON THE WOOLEN TARIFF.**

At the annual meeting of the Bank of Montreal, a few days ago, E. S. Clouston, the general manager, in the course of his address said: "In the last year there has been an increased demand for Canadian products in consequence of the Boer war in South Africa. On the other hand, the woolen manufacturing industry has not been prosperous, and I am sorry to say the outlook for the lumber trade is not of the best, prices ruling low, and the markets being congested, and we can only hope for an improvement before the season finishes. There are also signs of overproduction in textile goods, and in the manufacture of pulp, which only need judicious restraint to be put on a good basis. We must not forget the return of the wave and get so far beyond our depth as to lose our footing."

R. K. Stevenson, of Stevenson, Blackader & Co., manufacturer's agents, Montreal, representing Canadian cotton and woolen mills, was asked by a Star reporter whether he endorsed Mr. Clouston's opinion.

Mr. Stevenson said: "The condition of affairs is exactly as outlined in the address of Mr. Clouston. The woolen industry in Canada is worse at the present time than at any time during the last twenty years and, unless some change takes place in the near future, all those mills that are not most favorably situated in every respect will be forced to close down and go out of business. At the present time many mills are only running part of the time and others only part of their machinery, and the situation is becoming more serious day by day. That this is apparent to others outside of the woolen industry is evident, and no one is in a better position to judge than the gentleman at the head of our largest financial and banking institution, Mr. Clouston. The low tariff, resulting from the application of the increased preference, is most largely accountable for this. Prior to the operation of the preferential tariff, the duties on the various classes of woolen goods were, generally speaking, 35 per cent., and under this tariff manufacturers were doing a fair, healthy business, and steadily improving the quality of their product. The tariff changes, however, first of the 12 1/2 per cent. preferential, afterwards, of the 25 per cent. and finally of the 33 1/2 per cent. reduced the tariff now to 23 per cent., which on the great volume of cheap goods imported, forms practically no protection. What disastrous effects this low tariff has had on the woolen manufacturing industry in Canada may be seen from the facts that the imports of woolen goods increased from \$6,295,057 in 1897, to \$8,933,007 in the fiscal year ending June 30th, 1900, which was before the increased preference came into effect. The increase during the present year as shown by the monthly returns of trade and navigation, is still

greater. I have not the figures before me at the present time, but I believe that in many lines the imports for the nine months of the fiscal year just passed, equal the total imports in the same class for the whole of last year. You can readily understand what the introduction of from three to four million dollars' worth of more woolen goods into the country means to the woolen industry. It means smaller orders to local mills, and whereas the manufacturers once received orders for several thousand yards of one weight and pattern, they now receive orders for a few hundred yards and often much less, thus necessitating continuous changes of machinery and hence an increased cost of production of from 10 to 15 per cent. \* \* \* The most serious competition comes, not from goods of substantial, well made cloth, but from the cheap grades that are put on the market from the continent through England and from England. They are beautifully got up in appearance, but made of most inferior stuff, being mostly composed of cotton thread filled with shoddy and waste, and made by expert workmen such as we have not got in Canada. This material looks well and feels soft and pliable, but has absolutely no wearing qualities. This coming into Canada at from 16 to 22c. a yard, and often sold in job lots at rates very much below, makes the ad valorem duty a mere bagatelle, and it is a class of stuff undesirable from the point of view of the manufacturer and much less desirable from the standpoint of the consumer. The more honestly made goods from Canadian mills and made out of Canadian wool, are put on the market at from 20 to 40c per yard. This is a serious competition. Those who seriously believe in the preferential tariff intended it to apply only to British goods, but as a matter of fact, goods made in Germany and Belgium also come in under its application. These are shipped to England in huge bales and are there cut into shorter lengths and rolled on an English board and come to Canada, competing with the goods made by honest Canadian workmen under the preferential tariff, although not 5 per cent. of British labor has been put upon them. The result, I fear, will be most disastrous to the whole woolen industry. In the first place, those mills not most favorably situated for manufacturing, will be compelled to close, but even the strongest and best established mills will feel this keen competition from inferior goods. Already this is seen in many localities. Hespeler, in the Province of Ontario, is practically maintained by the woolen establishments therein. Already two hundred woolen employees have been dismissed in one week, 67 bought tickets for the United States. What is taking place in Hespeler is taking place in other centres, and will continue much more seriously than at present. The manufacturer, too, will have to resort to cutting of wages and reduction of expenses in every possible way. This means that they will lose the services of the more expert workmen, and have to depend upon unskilled labor, the result of which will be disastrous to the industry, as it means the production of a class of inferior goods in Canada, thus injuring the reputation of Canadian woollens for years and years to come. The only remedy that is possible is the placing of the tariff on a better basis. The woolen manufacturers have asked simply that they should have a sufficient tariff to place them on an equality with their competitors in Germany and in Yorkshire, and unless this is done quickly, the industry will receive an injury from which it cannot recover for many years. During the past session of Parliament, representations were made to the Government asking for an increase of the tariff. The decision seemed to be, however, not to change the tariff that session. The woolen manufacturers feel, however, that this cannot go on much longer. The Government is possessed of the facts and their policy with other industries new to Canada and whose success is yet somewhat problematic, would lead to the belief that they would not wilfully by their policy ruin an industry which has been established in Canada from the earliest days of manufacturing and which at present employs probably 12,000 work people and represents an invested capital of fifty million dollars. Further, the injurious effect is being felt by the farmers and the dealers in wool. The price for wool is exceptionally low, nor are higher prices expected from the Canadian mills so long as they are compelled to use every possible means to cut down expenses and reduce the amount of their output. I may say that I am glad that Mr. Clouston has spoken out freely and frankly on this matter, as it is one of vital interest and should receive the promptest attention from the Canadian Government."



## HUMIDITY. ITS IMPORTANCE IN WOOL MANUFACTURE.

BY EDWARD W. FRANCE, OF THE PHILADELPHIA TEXTILE SCHOOL.

Of all the many problems with which the merchant and manufacturer of woolen materials has to deal, one of the most important and I believe least understood by the rank and file is the hygroscopic nature of the fibre in relation to its commercial valuation, and also the influence of this property on the many processes through which the fibre must pass during its manufacture.

It is a well-known fact that all textile fabrics possess this affinity for moisture to a greater or less degree, but the wool fibre, it seems, possesses this quality to a far greater degree than either of the other fibres. By the hygroscopic quality of wool is meant the power by which wool is capable of absorbing a considerable amount of moisture without in the least altering its external appearance. The amount of moisture which may be present in the fibre at any one time will be largely dependent upon the physical condition of the fibre together with the temperature and humidity of the atmosphere.

Notwithstanding the great influence this hygroscopic property has upon the weight of wools and wool products, it is only within the last few years that any serious attention has been given to this important subject by the wool manufacturers and merchants of this country, and then only by a few who may be termed the leading ones; while on the other hand the foreign manufacturers and dealers have been giving this question the closest of attention for many years.

I believe it is the raw silk industry of Europe to which we are indebted for the first steps which were taken in this direction, although the silk fibre does not possess the affinity for moisture to anything like the same degree that wool does, yet so important a bearing has it upon commercial transactions in so high-priced a fibre as silk that to-day there exists in all the principal European centres of the industry what is known as conditioning houses, where this hygroscopic condition of the fibre is determined when bought and sold.

The value and importance of these conditioning houses to the silk industry was soon apparent in the improved relations existing between the buyer and seller, and it was not long before such uniformity of regulation was considered to be of equal benefit to the wool industry. As long ago as 1857 these conditioning houses were in existence in France, the principal one being established at Roubaix. Belgium in 1860 established such houses and fixed by law the allowable percentage of moisture which the product of wool may attain when bought and sold by weight.

England in the early eighties became cognizant of the fact that European buyers discriminated between her worsted tops and yarns and those of her continental competitors. Through a report of a Royal Commission, authorized by an act of Parliament to study the industrial conditions existing on the Continent, it was discovered that this state of affairs was due to the irregularities in weight of products from English mills, as compared with the authorized weights by continental conditioning houses. The result of this investigation led to the establishing in 1887, at Bradford, England, under municipal control, but by an act of Parliament, an official conditioning house, which has had a very beneficial effect upon this line of manufacture ever since. In order to fully understand the working of such a house, I deem it advisable to digress somewhat at this point and give a brief description (compiled from one of our Consular Reports) of this most useful adjunct to the English wool manufacturing industry.

The condition g house at Bradford is modeled after institutions of a similar character on the Continent, particularly the well-known one at Roubaix, France. Some idea of the importance and proportion of this latter institution may be gained by citing the fact that no less than from 250,000,000 to 400,000,000 pounds of textile materials are conditioned annually.

The English house at Bradford, like that at Roubaix, is equipped with the most approved scientific appliances requisite for accurate conditioning of all classes of materials. Its location in this city was largely due to the fact that Bradford represented the centre, so to speak, of the English woolen industry, and particularly the worsted

export trade, which trade was most directly effected by the discrimination of its continental competitors.

Although primarily established for the benefit of the export trade, the merchants and spinners were quick in recognizing its importance to the domestic trade, in that the certificates of this conditioning house were universally accepted as a basis of arbitration in the settlement of disputes arising out of claims for shortage. This is possibly from the fact that all the tests were carried out scientifically, and being legalized by an act of Parliament, its certificates are accepted as evidence in courts of law with respect to weights, condition, and descriptions of goods under dispute.

The conditioning, however, is entirely optional, but is customarily resorted to by both buyer and seller, their confidence being strengthened by the legal status of the establishment. In its scope this conditioning house is authorized to determine:

First—The average content of moisture present in wool, tops, noils, and yarns.

Second—The correct gross and tare weights of all cases, bags, bales, and packages of material.

Third—The true conditioned weights of samples of wool, tops, noils, and yarns, after scouring, cleaning, and drying.

Fourth—The correct counts, length, twists, and strengths of yarn.

Fifth—The measurement of length in all goods sold by the yard. All tests are made in duplicate; the results and calculations are worked out by separate methods and persons. Thus every precaution is taken to secure the most accurate results. A certified report is then made, which is strictly confidential, for the merchant or manufacturer for whom the tests are made.

The testing for the amount of moisture is carried out by ascertaining the absolute dry weight of the samples, to which is then added the standard percentage of moisture in order to give the true invoice weight. This standard is supposed to represent the amount of moisture absorbed by the fibre under average normal conditions of humidity and temperature; the average normal conditions having been determined by scientific verification covering a period of one year in the north of England. The allowance for regain as authorized by the Bradford Conditioning House on different wool materials is as follows:

Wools .....	16 %
Tops combed with oil .....	19 %
Tops combed without oil .....	18½ %
Noils .....	14 %
Worsted yarns.....	18¼ %

The allowance for regain of moisture allowable by the Continental Conditioning House at Roubaix on wool and wool materials is as follows:

Wools ....	14¼ %
Tops .....	18½ %
Wool yarns .....	17 %

All necessary expenses for making these tests are of course borne by the party having the tests made.

The conditions of humidity in the United States are not the same as they are in England, and consequently materials imported into this country from England will show considerable difference in weight, proportionate to the difference in climatic condition of the two countries, that is, material will lose in weight on this side of the Atlantic because of a less amount of humidity in the atmosphere, and often the American importer will be at a loss owing to the fact that the standards adopted in England and on the continent are not representative here.

This will be best illustrated by stating a little instance which happened in Philadelphia during the first year of the workings of the so-called "Wilson Bill," or free wool law. Shortly after the law became operative, representatives of foreign top makers appeared in the market with the purpose of making sales of their wool products—tops. Each solicitation of sale would be accompanied by the statement that they would agree to furnish you with a conditioning house certificate, explaining at the same time the meaning of the same.

That was an innocent-looking statement; it looked at first as though you would not be required to pay for any more than you

actually received. Sales were made, and I am informed of one manufacturer who secured upwards of 50,000 pounds of tops with the conditioning house certificate attached. They came to this country and stood for a few months, and when they were brought out and weighed up they were found to be about 6 per cent. short in weight. When the buyer hunted up the broker from whom he had purchased the tops, he found out that the conditioning house certificate, upon which he had relied, simply meant that he had bought the tops at the percentage of regain which was allowable by law on the Continent, and he was compelled to pay for his 18¼ per cent. of moisture.

The merchant or manufacturer who through necessity is forced to procure his wool from Europe, is in as bad or worse condition than he who purchases his wool in this country, as far as the question of moisture in wool is concerned, for no matter how well he may be versed on this subject, and assuming that he has purchased his wool on a certificate from a conditioning house, and had further been allowed a percentage on the difference between the normal humidity, as existing at the time and place of purchase, and the percentage which is acceptable on the Atlantic seaboard of the United States, nevertheless he is still at a disadvantage, since the government here does not recognize this hygroscopic property in wool when fixing the duty on the wool as it is landed on our wharves.

For illustration, take the wools that are shipped from Australia, via London to the United States, to be transhipped in London. The steamship company which carries the wool from Australia to London charges freight on the gross weight of the wool as it left the Australian port. When it is discharged from the Australian steamer in London for shipment via some line to an American port, the usual custom is for the line coming to America to re-weigh this wool and establish a basis for its freight charges, or to allow the shipper to add 2 per cent. to the gross weight as shown on the Australian invoice, thus making a new basis for freight charges to the American port. This addition of 2 per cent. to the Australian weight, or the increased actual weight, which may be found by re-weighing, is solely a gain in weight by the absorption of water in transfer.

The custom house weighers weigh every bale, and the custom house officers collect the duty on the face of the invoice, after which a supplementary bill is rendered for the difference between the face of the invoice and the actual weight as found by these custom house weighers. The government then claims this difference at 11 or 12 cents per pound, and the shipper is forced to pay so many cents per pound on the water absorbed from Australia or from London to the American port. There is no need of protest, as no rebate will be given, and as the case stands now, there is no recourse of any kind for the shipper.

When this wool goes into any of the American mills along the Atlantic sea board, and is exposed to the average normal humidity of the Atlantic coast, it will in most cases return to about the weight of the Australian invoice if shipped in the summer time, or to the London invoice if shipped in the winter time. This question does not only apply to the wool as a raw product, but to the finished yarns and semi-finished products of tops, and also by-products and remanufactured products composed of wool. Indeed, it is a more serious question when considered in relation to these latter products than to the raw wool.

For illustration I will quote you a little instance of a merchant who was selling the by-product of a mill to a manufacturer in Philadelphia. This merchandise went into a store of a Philadelphia merchant and was kept on the upper floor of his building. It then went into the mill and was kept in one of the steam-heated rooms in the mill.

The manufacturer was in the habit of taking from the merchant this merchandise on the merchant's weight for years. One of his superintendents began to weigh the material as they used it, and did so for two or three months. He found that the material as it went into the machinery was lighter in weight per bag than when it came from the merchant. He made claim on that lot, and in addition made claim on all this material the merchant had delivered to him for years back.

After considerable controversy it was agreed to refer the matter to

a reputable manufacturer who had considerable experience in the line of raw materials. The referee asked the manufacturer if his experience had ever led him to consider the question of humidity in the materials he purchased, and was he aware that such contained anywhere from 12 to 18 per cent. of moisture. He said "No." He was further asked if he had not bought the material under the usual custom recognized in the trade, and he stated "Yes." Both the manufacturer and the merchant agreed that the material was sold under the usual custom, and that the custom had been followed out in every particular.

The manufacturer made the complaint that in all these years he had been paying for so many pounds of water per bag of wool, upon which he had not reckoned, and had thereby lost all the profit he had calculated on, that it was not just that he be asked to pay for the difference of weight in the material between the time of purchase and the time of manufacture. The referee stated that as the custom of the trade had been followed out in every particular that no court in the land would recognize his claim, and that there was only one thing for him to do, namely for him to conform to the custom of the trade in the matter of purchase, and settle the account. As a result the manufacturer agreed to withdraw his claim for all past shortage, and an equitable settlement was made for stock on hand.

The above illustration is only one of many which have come under my observation or attention, and proves that some of our manufacturers have but very little conception, if any, of this important question, and in many instances I am quite sure that calculations have been made as to costs and through neglect of this particular knowledge have caused losses to be sustained which were charged up to some other cause or reason, and charge appeared finally in the profit and loss account.

Due to the fact that there is no official recognition or regulation governing this varying and uncertain condition to which wool products which are sold by weight are continually subjected, there results constant confusion and misunderstanding between manufacturers and their customers.

It is no stretch of the imagination to assume that some manufacturers will take undue advantage of the latitude allowed for the variation in moisture, and thereby make prices on their products which are not representative of their true value, and it is partially due to this fact that certain of our leading worsted manufacturers have been compelled to adopt definite standards to which their products must conform, and by which they sell.

From experimentations made by Erben, Harding & Co., of Philadelphia, since 1884, the normal percentage of humidity was found to average about the same as that found by the Arlington Mills, which proves that this standard may probably be taken for the normal average of the eastern seaboard of the United States.

While the selling of their materials with a certain percentage of regain for moisture is just and fair between these firms and their customers, it does not, however, give them the proper protection with regard to their competitor, because a lower price per pound on standard materials can be quoted, and the difference in price can be covered by additional moisture. This condition of affairs could be easily remedied, and a uniformity of trade conditions could be arrived at by establishing legal conditioning houses.

There seems to be no reason in my mind why we should not have them in this country, except that the manufacturers have not united in calling the attention of Congress to their necessity. There is little doubt but that the Congress of the United States, if it were informed of the general consent of the manufacturers to a standard form of humidity, would take measures to provide a standard for the delivery of woolen and worsted products sold by weight, which would be as well known as our standards of money and our standards of weight and measures.

While we perhaps could not expect that these conditioning houses could be placed in all of the different wool purchasing centres, yet for foreign wools, yarns, etc., and for the manufactured products in this country, the larger part of which is made along the Atlantic seaboard, one conditioning house in New York, one in Boston, and one in Philadelphia, under the federal law of the United States, and governed somewhat after the plan as in common use in Bradford and the Continent,

would, I believe, be of inestimable value to the manufacturing interest, especially those of wool.

Up to this point this question of humidity has been dwelt with simply from the commercial standpoint, but upon further investigation you will find that it is also a question of prime importance in the technique of all wool manufacture. Especially is this true in the worsted branch of the industry, where its influence must be calculated with in all the processes of carding, combing, drawing, and spinning, both from the point of maintaining a regularity in sizes of numbers or counts, and in order to preserve the good spinning qualities of the fibre itself.

It has long been a recognized fact that the moisture and temperature are two important factors in the proper regulation of the spinning or of otherwise manipulating the cotton fibre, and much stress has been laid on the suitability of one district over another for purposes of cotton spinning, on account of the proper atmospheric conditions which may exist. Apparently a high degree of humidity is most favorable together with narrow limits in the variations of temperature, these two conditions securing the most satisfactory results, through their influence in reducing to a minimum the electrical charges which the fibre acquires during its manipulation, and in preserving the fibre in a proper state of softness and elasticity, most conducive to the best results in the manufacturing process.

While cotton depends so largely upon atmospheric conditions for its plasticity, wool is artificially treated with oils and lubricating emulsions to give it, in a measure, the required pliability, nevertheless experience has demonstrated that humidity plays a part of almost equal importance in the wool manufacture as that of cotton. This is evidenced by the fact that up to within quite recent times it was generally thought by those skilled in the art that certain qualities of wool could only be spun to their highest possible numbers in worsted yarns in localities where the humidity and other atmospheric conditions were of a specified nature.

Sir Henry Mitchell, a recognized expert in the English worsted trade, when appearing before a Royal Commission in 1885, gave the following testimony "I do not think Americans will ever be able to make yarns as good as we can in this country. The climate in the United States is very unfavorable for the spinning of worsted yarn. The very great changes which take place, the intense heat in summer and the intense cold in winter, are very unfavorable to the spinning of worsted yarn. A moist climate is more suitable for them."

Sir Henry Mitchell overlooked the fact, apparently, that nature may be tempered by art, and he was evidently not fully cognizant of what was being done even at that time in the cotton industry of England to artificially control the conditions of humidity in the atmosphere, for notwithstanding the fact that Lancashire, England, was considered as one of the most favored of localities for cotton spinning, yet even manufacturers in that district, in some instances, resorted to methods of injecting steam into various departments of their mills in order to achieve as nearly as possible a uniform condition of humidity.

Ever since the important role which humidity plays in the spinning industries has become recognized, this practice of artificially tempering the various conditions of nature to the requirements of textile manufacture has had more and more attention paid to it, with the result that various mechanical appliances have been perfected for the proper regulation of the humidity of the air in our textile mills.

If we regard this question of humidity in respect to the maintaining of a regularity in the counts of numbers of yarn passing through the process of manufacture, it will at once be seen that proper results can only be attained by preserving a delicate adjustment in the amount of moisture contained in the fibre. If this amount varies without due allowance being made for it, a proportionate variation will occur in the respective count which it is desired to produce. Some manufacturers in order to ensure uniformity of their product make daily tests for moisture in their materials during the various stages of manufacture, and any variation in the percentage is corrected by a corresponding correction in the humidity of the room in which it is being worked.

We do not wish to be misunderstood, however, in this latter statement that corrections in size of materials are simply made by the increase or decrease of moisture. What we do mean is that the

material is tested for moisture, and the aim is to keep a certain percentage of moisture at all times in the material, not only for good working quality, but so that in the finished product, when the full percentage of normal regain has returned to it, the counts will not be altered thereby. Again, the electrical influences are practically allayed and good spinning qualities are attained.

All that Sir Henry Mitchell, the English expert, said as to the reason why we could not spin fine worsted yarns in this country on an equality with England, namely, that our atmosphere was not moist enough, applies with equal force to the woolen spinning and to the worsted trade, and while it is a fact that spinners of worsted yarn are recognizing more and more every day the benefits of a regulated and relative humidity in their work rooms, woolen manufacturers or spinners of woolen yarn as a rule have not awakened to its importance at least so far as it relates to the installation in their mills of methods or devices for controlling the humidity of the atmosphere.

Oils and emulsions, it is true, do give a pliability to the stock while going through the cards so long as the degree of moisture can be maintained, but unless the heated card room wherein the stock is being worked is provided with some form of appliance for humidification, evaporation is bound to take place and the stock will gradually become less and less moist, even to the point of becoming wild, so to speak.

This is the reason why so many woolen carders resort to the use of steam jets on the fronts of the condensers, the use of which is proof positive that electrical influences are at work. It is no uncommon thing in the card room to see fibres of wool so highly charged with electricity that they will adhere to all non-conducting surfaces in bristle like form, standing straight out at right angles to these surfaces. The reason of this phenomenon is that wool being a poor conductor, when in a dry state is easily charged with electricity, generated not only through the slippage of the belts and the friction of the machinery, but also from the rubbing of one fibre against another.

In this manner fibres become charged with different kinds of electricity, in consequence of which they repel each other, thus causing undue waste in carding, and also giving rise to much difficulty in the spinning operation, the fibres when in this condition not having affinity for each other.

In a moist condition the wool fibre is not so susceptible to electrical influences, and does not so readily become charged. These same electrical disturbances are even more noticeable in wool stocks which have been dyed certain colors than in those in their natural condition, and all sorts of tricks have been adopted by carders to endeavor to overcome the so-called electrical troubles.

Some find that the working quality is much improved by spreading the stock on a concrete floor for a day or two before using, others add an extra amount of emulsion, and still others introduce common salt into the emulsion with the object of preventing the electrical charges arising on the fibre. Another often practised trick among carders, especially on cold frosty mornings, when the atmosphere is heavily charged with electricity, and the steam jets on the front of the condensers do not yield the necessary relief,—the application being too local,—is to spray the rub rolls and aprons with water by means of a hand brush. This oftentimes gives temporary relief, but is not a good practice to resort to owing to the liability of swelling of the leather, aprons, and rolls, all of which goes to prove that the electrical disturbances in carding and spinning of the wool fibre may be prevented to a very large degree by proper atmospheric conditions of humidity as well as temperature.

It has long been conceded that the wool fibres should not be dried at too high a temperature after scouring or dyeing; indeed the best condition for drying is the ordinary temperature which gives what is known as air dried wool, leaving the wool with its normal amount of moisture. Dried at higher temperatures there is danger of making the wool too dry, which always results in injury to the fibre.

Therefore, in all artificial methods of drying, it should be the aim never to reduce the amount of moisture below that which is normally present in wool when dried in the open air. This also holds true in the finishing of both worsted and wool fabrics, as too great a heat will often effect a serious injury in both the strength and handle of the goods. This should be a point of careful observance, and a definite

amount of moisture should always be present in the fibre, for if more than a certain amount of moisture is abstracted from the fibre, it becomes altered in its physical properties, and its good qualities suffer severe deterioration. The elasticity is ruined, and the tensile strength greatly diminished.

Many of the just criticisms relative to the feel or handle of the finished fabric are, without question, due to a lack of knowledge on this particular point. There is, however, another point to this question of moisture on finished goods, which strangely enough becomes a fault, not of omission, but of commission; that is to say, instead of obstructing more moisture than is good for the fabric, there has been a growing practice among some European manufacturers to increase the amount above the normal by adding to the fabric in the process of finishing, various substances which have the property of attracting water. This is what is known as "loading" and bids to become a serious menace to honest manufacturers as well as to the purchasing public.

For instance, a piece goods which ordinarily weighed 12 ounces per yard is raised to 14 ounces, a gain of 16½ per cent. It is claimed however, that the feel and physical properties are not altered, but as goods are sold on a basis of weight, as well as on yardage, it becomes quite a factor in the hands of the unscrupulous manufacturer, and gives him an advantage over his honest competitor.

To such an extent is this adulteration being practiced in some parts of Europe that legislation has been called for, with the hope of stopping this growing evil or at least regulating it.

I have touched briefly and hastily upon a few, but only a few of the practical problems in whose solution the question of commercial success or failure often turns, and to the profitable discussion of which the schoolmaster may hope to be able to offer an occasional contribution. That the school should be asked to do so, and that the school is coming to be regarded by hard headed business men as a source from which information and assistance in connection with the practical conduct of the factory and the mill is to be expected, is the momentous and significant fact in the history of modern education.

What has been said above in regard to the triumph of the trained mind over climatic disadvantages where worsted spinning is concerned, is quite as true in numberless other cases—of dyeing, for example, which used to be regarded, not so many years ago, as something which could be successfully carried on only in the neighborhood of certain rivers, or mill ponds, but which is now known to be a matter of intelligent mastery and judicious application of fundamental truths which chemistry has to teach. The fact is that the secret of industrial success is to a rapidly increasing extent becoming less and less a matter of natural aptitude and advantage, and more and more of scientific knowledge and disciplined skill.

This knowledge and this skill it is the business of the school to impart, and as the industrial world has only just awakened to a recognition of this principle, so we are only on the threshold of the progress which its recognition will render possible.

Industrial and commercial success are no longer to be expected, except as they are directed by trained intelligence of the kind which is developed not by the haphazard experience of traditional craftsmanship, but by the systematic application of organized instruction.

## THE CARPET TRADE IN CANADA.

Editor CANADIAN JOURNAL OF FABRICS.

A notice in The Kidderminster Shuttle that representatives of three carpet manufacturing firms in that town were en route for Canada provides quite enough justification for referring to the Canadian carpet trade which, as a woolen trade, naturally is suffering from the Government's ebullition of loyalty to the Mother Country, at the expense of native industries. There is no doubt that many do not believe the oft repeated cry that the woolen industries are declining; or, if they do, the cause is attributed to local influences or other reasons. The old proverb of convincing a man against his will remains true; and politics have a curious habit of producing intellectual myopia, rendering clear vision of facts an impossibility for the time being. Previous to 1897 the carpet manufacturers in Canada were able to keep up business because internal competition kept yarns at reason-

able prices and the duty on imported carpets was high enough to enable them to hold the market, even in spite of the excessive duty on the raw product. However, the Jubilee or the Cobden medal between them wrought a change, the preferential tariff of 33½ followed to refute any doubt that may have previously existed regarding the loyalty of Canada's woolen manufacturers, and an increase of 60 per cent in the importation of carpets into Canada since 1897, explains why the three Kidderminster firms are now expecting large orders when the happy hunting grounds shall have been stalked by their representatives. In 1897 British carpet exports to Canada were valued at £139,313, and in 1900 the figures were £217,897. These figures must be without meaning to loyal politicians, if they do not practically spell "ruin" ultimately for Canadian carpet and woolen industries together. It is true that the people and the people's purchasing power have increased since 1897 and that the trade in carpets from the United States has decreased very considerably, that the benefit of both these conditions is being reaped not by Canadian manufacturers but by others. The Kidderminster representatives of the Old Country firms will be able to say where the trade has gone and what a blessing (to them) the preferential tariff has been.

Yours truly, INGRAIN.

Toronto, 10th June, 1901.

## IMPROVED SHODDY PICKER.

A German has constructed a yarn and rag picker which he claims is much superior to any machines heretofore used for this purpose. The Ost. Woollen und Leinen Industrie gives a description of the machine in which the writer states that the stock picked on this machine has a much better staple than is found in material picked by the machines heretofore in use. The machine is built with teeth set in different degrees of fineness to suit the different kinds of stock to be treated. Thus for matted fleeces, knit goods, threads, etc., the teeth are not set so close as for old rags, tibets, flannels, cotton and vicunas. This new picker differs from the ordinary machine principally by its having two or more sets of feed-rolls. This permits of a much thinner layer of stock at each set than can be employed on the old picker, without a corresponding loss of production, while the staple is not broken as much.

The machine turns out a larger production than is possible by the ordinary rag picker, as the former is 30 inches wide as compared with a width of 12 or 16 inches in the latter. Another feature is the peculiar shape of the casing which permits of the feed rolls being set much closer to the cylinder, accompanied by a much better combing of the stock by the teeth of the cylinder. The cylinder runs much slower than the ordinary picker cylinder, being 100 revolutions per minute for the former, compared with 750 for the latter. By a suitable carrier the stock which has passed through the machine and failed to be sufficiently picked is brought back to the upper feed rolls to be again subjected to the process. The finished material passes underneath, and can be blown into a room or carried direct to the baling machine. It is said the machine does not require over 2½ horse power. The space occupied is about 10 feet in length, 7½ feet in width, and 8 feet in height. The machine weighs about 4,700 lbs., and the production in ten hours varies from 1,800 lbs. to 2,200 lbs. of picked stock. Owing to the saving of the staple the stock is more valuable, and one of the leading manufacturers of Germany estimates this increased value at from 2 to 3 cents per pound, and the Austrian journal states that dealers, consumers and even shoddy manufacturers recognize that old methods cannot compete with this new machine. A company has been organized for the introduction of the machine in Germany.

## NEW ANILINE COLORS.

Rhoduline Heliotrope 3B and Rhoduline Blue R are two new additional products to our series of Rhodulines, the Heliotrope B brand of which was offered towards the end of last year. Rhoduline Blue R produces a light blue shade of a reddish hue remarkable for its good fastness to light, alkalis, washing and acids. With reference to

the application of these new products in dyeing, what has already been mentioned concerning the old brand equally applies to these. Like the older brand, they are chiefly adapted for employment in all branches of printing, including oiled and unoled cotton cloth. Good results can also be obtained in dyeing cotton cloth previously treated with tannic acid and discharged with caustic soda. Dyed shades cannot be discharged with oxidising agents, but they can be mercerized very well. Both products are adapted for discharging aniline black, as well as for the printing of wool, half-wool, silk and linen.

Naphthole Black, 2 B. This color is dyed in the usual way with bisulphate of soda or Glauber's salt and sulphuric acid, and produces a bright blue black shade. It is easily soluble, penetrates well and dyes easily level, and its fastness to alkali, acid, rubbing and perspiration is good. The principal features, however, of this product are its excellent fastness to water and light, and its fastness to milling on the other hand answers moderate demands. Naphthole black, 2 B, is chiefly to be recommended for piece dyeing, but it can also be suitably employed for dyeing woollen yarn and hats, as well as for braids and cords. Dyed in light shades, this color is well adapted for working in combination with soluble blue and violet, or acid green for the production of cheap navy blues on chevrot and worsted cloth.

Mercerized Velveteen. Our latest pattern card illustrates a range of shades on mercerized velveteen which have been dyed in the yarn with the fastest Benzidine colors to light Katigen colors, and some with Alizarine Sapphirole, S E., according to recipes given. Owing to the splendid appearance and cheapness of the article for upholstery goods, curtains, etc., it will undoubtedly meet with general favor and adoption; and as the patterns in this card marked with a square have been dyed with colors especially remarkable for their fastness to light, and the others with products sufficiently fast in this respect, we think it will be of interest not only to velveteen and plush dyers but also to dyers of mercerized yarns.

Samples, instruction circulars and any of the above new shade cards mailed gratis to interested dyers by the Dominion Dyewood & Chemical Co., Toronto, Canada, sole agents in Canada for the Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany.

## Textile Design

UNION CASSIMERE.



*Complete Weave.*  
Repeat 6x12.

Warp—2,400 ends, 2/20 black cotton, 72 inches wide in reed; 6 or 12-harness straight draw.

Filling:—58 picks per inch, arranged thus:

1 pick, light shade, | 3½ ton woolen yarn.  
1 pick, dark shade, |

—Textile Record of Philadelphia.

## CHIMNEY VERSUS FAN.

BY A. W. BAYARD, M.E.

The chimney has long been the commonly accepted agent for supplying the fuel of steam boilers with that amount of oxygen which is demanded for combustion. For draft production, however, the chimney is an extremely wasteful contrivance. For years and years it has served its purpose, after a fashion, and even to-day it were folly to say that the huge tube had outlived its usefulness. However, the rapidly altering conditions of modern industry are productive of many radical changes in methods and processes. Rapidity is now the order of things, and economy is a vital consideration. As a result of these economic forces the mechanical draft fan entered the field against the chimney and by reason of many advantageous features, soon firmly established itself. Before

attempting to bring out the many advantages of mechanical draft, it would be well to state the case against the chimney.

The active force causing the flow of air and gases is the difference between the weight of the column of hot gases inside the chimney and the weight of a column of external air of the same dimensions, the height being measured from the level of the grate. Hence, for a given chimney, this force, and consequently the volume discharged, increases with the difference in temperature between the external air and the gases. This force is a comparatively small one. For instance, in a chimney 200 feet high, with a temperature difference of 500 F., the pressure per square inch is less than an ounce, though the theoretical velocity due to this is, of course, quite high, owing to the lightness of air. By reason of the many obstructions to the flow of air, such as the grate, fuel, flues and elbows, as well as the skin or surface friction of the chimney, only a small fraction of the theoretical velocity is attained in practice. It must be remembered, however, that although the draft intensity and the volume of air moved increases with the temperature of the gases, the density decreases at the same time, so that between 600° and 700° F., a temperature is reached at which the weight of air handled is a maximum. Hence it will be seen that a chimney fixes once for all the maximum power of the boiler plant. If the heating surface is such as to allow the gases to pass away at a greater temperature than the critical one for the particular chimney, great unnecessary waste is entailed; whereas, if the products of combustion are cooled to a lower temperature by the heating surfaces, the intensity of draft, the rapidity of combustion, and hence the furnace efficiency, is correspondingly reduced. If considerations of economy demand an economizer of feed-water heater, it is found that to obtain the necessary draft a chimney more than 200 feet in height is essential.

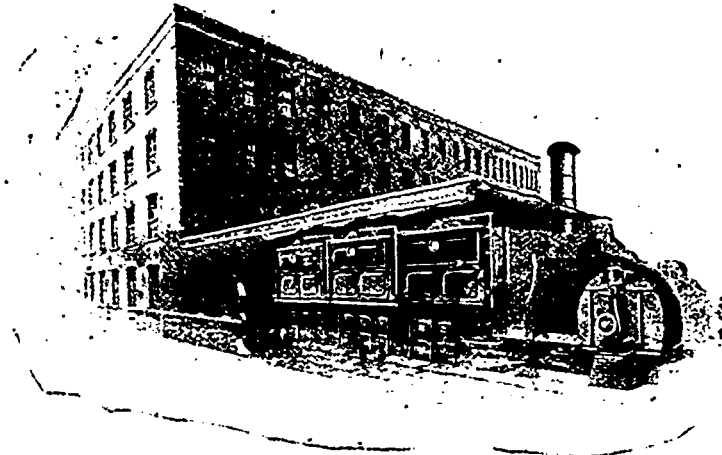
Large chimneys require heavy substantial foundations, often with extensive piling. They occupy a ground space in many cases of great value. They are invariably expensive, and the interest on the fixed capital, represented thereby, is considerable. Tall chimneys must be protected from lightning, and are not infrequently wind-wrecked.

In addition to limiting the boiler capacity, a chimney gives a fluctuating draft, due to varying atmospheric conditions. An increasing external temperature not only lowers the draft intensity, but it also increases the volume of air which must be handled, in order that a given weight of oxygen may be supplied to the fuel. Varying barometric and hygrometric conditions likewise have their effect. For instance, the effective heat of the furnace is reduced by an amount necessary to vaporize the moisture entering with the air, which may be considerable.

The chimney is purely and simply a device for moving air, and for such purposes a more wasteful mode could hardly be devised. Since heat is convertible in a definite ratio into mechanical energy, we can easily compare the work accomplished with that which is expended. Assume, for example, an interior temperature of 500° F., and an exterior temperature of 32°. Then a simple calculation will serve to show that the heat in one pound of the gases above 32° F. is equivalent to sufficient mechanical energy to raise its own weight approximately a height of 90,000 feet. If, therefore, the chimney is but 100 feet high, only one nine-hundredth part of the heat is utilized. In other words, the efficiency of the chimney is about one-tenth of 1 per cent., the remaining 999 per cent. of the energy overcoming the flue and chimney friction, escaping as radiant heat, or being discharged at the top as sensible heat of the gases. This latter factor is by far the largest, of course. We can see from this also that

the efficiency of a chimney increases as its height; a 500-foot chimney would transform into useful effect one-half a per cent. of the energy supplied it. If now we replace the 100-foot chimney by a fan, the efficiency of this arrangement with boiler and engine, may well lie somewhere between 3 and 4 per cent., or from 30 to 40 times as great as the chimney, a figure that will be greatly increased if the fan-engine exhaust is utilized. This brings us to a consideration of draft production by mechanical means.

connections of the boiler, and hence increases the effective draft pressure. In other words, for the chimney is substituted a mechanical agent, at once vigorous, positive and flexible. With a chimney the gases cannot be cooled below a certain point, which means unavoidable waste of heat. With a fan, however, the minimum temperature has no effect upon the draft and hence a great deal of heat may be utilized by passing the gases through an economizer or other heat-abstracting device. By a proper application of an economizer and in-



The steam jet, as a method of draft production, is a device of exceeding wastefulness and will not here be considered. The use of the fan for draft purposes may be classified under the heads of forced and induced draft. The first of these methods consists of forcing air under the grates of the furnace, and may be applied either by the closed ash-pit or the closed stoke-hole system, the latter being extensively used in naval practice. Forced draft is usually installed to provide for greater steaming capacity, to help out an overloaded chimney, or to enable low grades of fuel to be successfully employed. The first cut illustrates the application of

duced draft fans to a boiler plant, a saving of from 10 to 15 per cent. may be readily effected.

Turning to the furnace, it is found that the most important losses there are caused either by too little or too much air. Average coal requires for perfect combustion a theoretical air supply of about twelve times its own weight, but in practice it is found that, to provide for oxygen which escapes combustion utilization, a varying percentage of excess must be supplied. If too little oxygen is furnished, the coal burns to carbonic oxide, and in doing so develops less than one-third as much heat as it does if it obtains enough air to burn to



forced draft to a battery of three boilers. The Buffalo direct connected three-quarter housing steel plate fan, delivers air to a brick duct leading through the bridge walls, where dampers control its admission into the ash pit. Mechanical induced draft consists in the application of an exhaust fan between the boiler and the stack, which by withdrawing the gaseous products of combustion reduced the pressure in the smoke

carbonic acid. Here there is an important source of loss from insufficient air. On the other hand too much air is productive of loss. In general, the higher the furnace temperature the greater is its efficiency. If now a greater volume of air enters than is necessary to effect complete combustion, the heat developed cannot raise the greater volume to as high a temperature, in addition to which the increased amount of



moisture entering with the air acts to decrease the temperature and heat-imparting power. This increased volume must also move at a greater velocity, and consequently give up less heat. Hence too much air means loss all around. Again, during the progress of combustion the gases in the furnace evolve finely divided particles of carbon; if oxygen is supplied to these while they are hot, they are burned, but if they are chilled below their temperature of ignition, they pass off unburned as smoke. The panacea for all these ills is, of course, a proper supply of air in which the excess is just that required for most efficient combustion, and this state of affairs can most readily be brought about by means of a fan. Induced draft, allowing a thicker bed of coal, affords a more intimate commingling of the oxygen with the fuel, and thus decreases the excess of air needed; it also increases the rapidity of combustion. For these reasons the furnace temperature, and hence its efficiency is increased, premising of course, a properly proportioned heating surface.

Another important advantage of induced draft is the ability to make use of low grades of fuel, which could not otherwise be employed. In places where both anthracite and bituminous is available, a mixture of 75 per cent. of the former with 25 per cent. of the latter produces the best and hottest fire, with the practical elimination of the smoke nuisance, a matter of some weight within the limits of certain cities. In addition, induced draft provides for future increase of capacity, for more steam at any time may be had by an extra turn of the fan-engine throttle. In this way also absolute independence of atmospheric conditions is secured. If desired, the boiler pressure may be maintained constant by an automatic device regulating the fan, engine or motor, so that a decreasing boiler pressure, due to increased steam consumption or otherwise, causes the fan to speed up.

As to the comparative expense, the cost of fans, engines, connections and short light stack, represent but a small fraction of the outlay necessary for a chimney. The fans need little or no foundation in fact, they can be placed above the boiler floor level, and ground space thus economized. In addition to low first cost, the maintenance cost is low, and, in fact, if the fan-engine exhaust is utilized for heating or other purposes, as is often the case, this expense becomes of no moment.

The second of the accompanying cuts shows a type of Buffalo duplex induced draft apparatus, with steel-plate fans, housings and connections to the stack. The gases enter the fan wheels in a direction parallel to their axes, from a connection between the fans and are discharged radially from the tips of the wheel blades upward through the connections to the short stack of sheet steel. The last cut shows a slightly different form of apparatus, with Buffalo vertical direct-connected engines, overhung fan wheels and water-cooled bearings. In connection with the six boilers and the induced draft apparatus is shown an economizer and automatic stokers. With the latter system mechanical draft goes hand in hand. The plant shown here is typical of advanced boiler practice.

In conclusion the writer wishes to make acknowledgment to the Buffalo Forge Company, of Buffalo, N.Y., mechanical draft experts, from whose installations these cuts have been obtained.

### CAPITAL ASTRIDE THE LINE.

A writer in *Wades' Fibre and Fabric*, of Boston, thus philosophizes on the effect of the trusts upon the commercial relations of Canada and the United States: "The work of the money magnet in this economic revolution through which we are passing at the present time has many lines, and will have

in due time many unexpected consequences. For instance, consider the effect it will have upon the relations between the United States and Canada. Under the old-style method of business, there were two entirely separate countries. Certain men owned woolen mills in Canada, others owned Canadian cotton mills, iron mines, saw mills and other numeral industries. Still other men owned similar establishments in the United States. The owners of the Canadian industries tried to keep the Canadian market for themselves by duties on American products. The American producers tried in similar fashion to preserve their own home market by duties on Canadian goods. Thus the most powerful influence in each country tended towards separation. On each side, the men who controlled politics were engaged in building up a tariff wall. Canadian interests were looked upon as essentially opposed to American interests, and vice-versa. But how will it be in the era of combinations? The capitalists of to-day pay no attention to international boundary. They treat North America as one territory. American capitalists are opening woolen mills, cotton mills and silk mills, and iron works that are subsidized by the Canadian government on Cape Breton; shipyards and elevators at Montreal, railroads at Manitoba, and gold mines in the Klondike. Before long all the important industries of the continent will be centralized under the control of a few corporations with headquarters at New York, Philadelphia, Boston or Chicago. Then all the influences that have hitherto kept Canada and the United States apart will tend to bring them together. The importation of American goods into Canada and of the Canadian goods into the United States will no longer disturb the owners of the home factories when the mills on both sides of the line are owned by the same men. On the contrary, it will be to the interest of these men to have intercourse between the two countries made as free as possible, so that each of their factories can supply the region naturally tributary to it, and obtain the materials at the smallest possible expense. Under these conditions, Canada and the United States will become commercially one country. Whether this commercial union shall ever lead to a political union is a minor matter which may safely be left to take care of itself."

Without questioning the prescience of the writer, we may observe that there is neither a cotton nor silk mill anywhere in Cape Breton; that no United States capital is invested in shipyards or elevators in Montreal; and (much to the sorrow of people in Manitoba), United States railway men so far from investing there, have unloaded a white elephant road on that province, or as the writer puts it thrown it "at" Manitoba.

### AFFAIRS OF JOHN CALDER AND CO.

The creditors of John Calder & Co., clothing manufacturers, Hamilton, whose assignment was referred to last month, decided not to entertain an offer of \$110,000 for the purchase of the stock, and appointed D. B. Dewar, T. B. Peploe, W. G. Long, George Kerr, of Toronto, and George Pattison, of Hespeler, inspectors to proceed with the settlement of the affairs of the estate.

The statement showed direct liabilities of \$185,000 and \$250,000 indirect, made up of \$173,318.02 to the Bank of Commerce and \$77,619.09 to the Molsons Bank. The secured claims of the banks are \$21,000. The trade creditors in Canada were principally the woolen and cotton mills, and have claims totalling \$100,000, with claims of \$45,000 by English creditors. The assets total \$178,245.11, made up of stock \$159,190.29, book accounts \$14,814.82, and real estate \$4,240. Preferred claims total \$8,805.59. The creditors number nearly 200, fifty being English and Scotch houses. The statement shows:



Assets—	
Stock .....	\$159,190 29
Book accounts ..	14,314 82
Real estate .....	4,210 00
	\$178,245 11
Liabilities—	
Preferential claims .....	\$ 8,805 59
Liens on goods, warehouse receipts against advances	20,871 00
Ordinary claims .....	155,504 00
	\$185,180 59

Indirect liabilities—	
Canadian Bank of Commerce .....	\$173,318 02
Molsons Bank .....	77,619 09

The chief creditors are:

Toronto—Dick, Ridout & Co., \$627; W. J. Stenhem & Co., \$1,047; Canada Woolen Mills, \$12,983; N. Rooney, \$432; Central Agency, \$705; Lambton Woolen Mills, \$1,532; Grefl, Bredt & Co., \$423.

Montreal—Dominion Woolen Mills, \$3,166; Gault Bros. Co., \$2,199; Dominion Cotton Mills, \$906; Belding, Paul & Co., \$886; Excelsior Woolen Mills, \$2,965; Kidd, Ruthertford & Co., 1,416; Merchants' Cotton Co., \$705; Montreal Woolen Mills, \$6,223.

Hamilton—Rogers Coal Co., \$486; I. O. Hope, \$1,349; F. R. Waddell, \$418; Molsons Bank, \$4,460; C. W. McDonell, \$975; Teetzel, Harrison & Lewis, \$531; sundry claims, \$800; Mrs. Sarah Calder, \$31,817.

Old Country—Ulster Weaving Co., \$108; Rylands & Sons, \$542; C. Lemon & Co., \$2,405; Nelson & Woolger, \$1,059; Jos. Brooke & Co., \$1,070; A. Dux & Co., \$815; John Paterson & Co., \$620; Hermann, Samson & Lippoc, \$354; Firth, Booth & Co., \$359; Eidelstein, Moses & Co., \$853; G. R. Portway & Co., \$947; T. A. J. Tinker, \$327; R. Haworth & Co., \$936; Kessler & Co., \$1,538; J. Booth & Son, \$680; A. & S. Henry & Co., \$309; H. M. Addey & Co., \$844; Baxter, Woodhouse & Taylor, \$749; Broome & Foster, \$303; Ewing, Son & Co., \$576; Bedford St. Weaving Co., \$345; Law, Russell & Co., \$1,861; Brookfield Linen Co., \$753.

Other Canadian—Canadian Woolen Mills, St. Hyacinthe, \$2,242; Auburn Woolen Co., Peterboro', \$4,615; A. W. Brodie, Hespeler, \$1,146; R. Roschman & Bro., Waterloo, \$867; Montreal Cotton Co., Valleyfield, \$4,264; George Pattinson & Co., Preston, \$8,165; R. Forbes & Co., Hespeler, \$4,825; Cornwall Manufacturing Co., Cornwall, \$3,153; Rosamond Woolen Co., Almonte, \$11,444; Paton Manufacturing Co., Sherbrooke, \$3,204; Trent Valley Manufacturing Co., Campbellford, \$5,282; J. Y. Shantz & Son, Berlin, \$1,061; S. T. Willett, Chambly Canton, \$2,430; J. A. Humphrey & Son, Moncton, \$687.

After some consideration it was decided to sell the estate by auction, which was held by Suckling & Co., Toronto, on the 12th inst. The details of the estate were advertised as follows: Manufactured goods, \$59,336; tweeds, \$26,405; cottons and denims, \$2,483; braids and trimmings, \$22,151; linings, \$15,811; goods in bond, \$22,666; machinery and furniture, \$9,555; goods in Winnipeg, \$779; total, about, \$159,186. The sale was duly held, and the outcome is thus reported by the Hamilton Times:

"The stock and plant was purchased by Copley, Noyes & Randall, of Toronto, at 58 cents on the dollar. Mr. Calder was present and with him was a well-known London barrister, who did considerable bidding on behalf of Mr. Calder, while the price rose rapidly from 40 cents to 58½ cents. This was the London man's last bid, and then a Hebrew firm from Montreal bid 58¾. In the meantime, Mr. Calder's legal friend had gone out, and fearful of losing the stock, Mr. Calder bid 59 cents. Amid loud cheers from the crowd the stock was knocked down to Mr. Calder, although his price was a cent

below the reserve bid. Before the crowd could disperse, however, Auctioneer Suckling announced, on behalf of the assignee, C. S. Scott, that the important matter of making a deposit on the purchase price and signing the document of sale was necessary before the sale became an actual fact. The auctioneer and the crowd waited while Mr. Calder's backer was sent for. When he returned, to the surprise of everybody, he declined to back up Mr. Calder's bid. The Montreal firm then refused to make good their bid of 58¾ cents, offering instead 52½ cents. Mr. Calder's backer also declined to stand by his 58½ cent bid, and eventually the stock was sold to the Toronto firm at 58 cents. The new owners of the business are ex-employees of the Calder concern who went to Toronto about a year ago, and started business on their own account, and have met with considerable success. They have announced that they will continue the business here if they get sufficient encouragement from the city council in the matter of taxes and water rates. It will be a good thing for the city if the business can be retained here. Mr. Calder has intimated that he intends starting in business again on a smaller scale."

The friends of Mr. Calder will be glad to hear that his health is now steadily improving and it is to be hoped he will be able to regain his connection with the trade again. Mr. Calder was an exceptionally able business man, and it is now pretty well known that his prolonged illness was alone accountable for the difficulties into which his affairs had drifted.

## Foreign Textile Centres

MANCHESTER.—Business has undergone no material change in its commercial features from what has prevailed for some weeks. Cotton is a little firmer, and a few points dearer, but the general impression is that this arises from the conflicts of the bulls and the bears, says the Textile Mercury. The speculating element is looking with a good deal of apprehension to July, as it is hoped on one side and feared on the other that a coup has been prepared which may have rather far-reaching consequences.

BRADFORD AND HUDDERSFIELD.—There is every indication, says The Draper's Record, that the prices of English wools will never again rise to any great extent above the present very low range of prices, as, in addition to the increasingly large quantities of wool of a similar character which are coming from Australia, there has been a large admixture of English blood introduced into the flocks of the large wool-producing areas of South America, and it seems probable that an increasing proportion of this production will find its way to the Bradford market. Although Bradford woolcombers and spinners have paid special attention to dealing with these cheaper crossbred wools from abroad, which are, very similar in character to many of the classes of English wool, there is also a very large consumption here of pure merino wool and of the finer classes of colonial crossbred wool, which approach very nearly to merino wool in character, but the conditions which affect this department of the wool trade are quite distinct from those governing the English and crossbred wools previously referred to. In proof of this, since the beginning of the present year the prices of pure merino wools have advanced fully 10 per cent., whilst the quotations for the coarser crossbred wools are distinctly reduced. The tendency to-day appears to be towards an increasing use of the finer classes of wools, as both for men's wear and dress goods soft handling and fine materials are coming more into favor, so that the prices of the best merino wools will probably be kept firm. The demand for the finest class of mohair is still very good, as there continues to be a good demand for both mohair dress goods and linings, but as the ordinary mohair fleeces only contain about 20 per

cent. of hair sufficiently fine for the above purposes, and the demand for mohair sealskins and plushettes has fallen off, there is a large accumulation of the inferior kinds of mohair on the market, so that there is a good opening for some new fabric which would utilize this accumulation. In Huddersfield there is an improved tone in business, and makers of the best class of woollens and worsteds are doing better. Some of the large limited concerns in this district are, however, showing only poor results for the year's trading. There is nothing new to report in connection with the flannel or blanket trade, and even the best makers fear that there will be great difficulty in getting an advance on manufactured goods at all equal to the advance in the prices of fine wools as established at the recent sales in London.

**LEEDS.**—In the Leeds clothing trade the factories have been busy, but the general season's trade amongst the manufacturing clothiers has not been equal to last year. As the cost of most classes of both cloths and linings are, however, now nearly as low as they were before the great wool advance set in, it is expected that customers in the provinces and the large centres will have more confidence in the present range of prices being maintained, and that a steadier trade in the home districts may be looked for. In the heavy woolen districts, although many complaints are heard of the unsatisfactory state of trade, there is, on the whole, more business passing through, and some makers of special cloths are well employed.

**LEICESTER.**—The yarn market shows a steady revival, and stocks are kept small by the larger deliveries. The hosiery industry is brisker in all branches.

**NOTTINGHAM.**—In fancy millinery laces what enquiry there is, is for Valenciennes, Torchons and Malines, with allover nets and galons. Honiton braids, beadings, and purples are in full average request for the home trade and for export. The silk lace branches continue very depressed. Irish trimmings and crochet laces in moderate request for export. Bobbin nets and Mechlin tulle are in steady but less buoyant request, and the trend of prices is in favor of buyers. Good quantities of mosquito nets are selling for the home trade and for export. Spotted nets are in good request for millinery purposes. These branches have had a good spell of prosperity, but manufacturers and buyers are now proceeding with more caution, and providing for a time of probable declining values. Reports from the hosiery trade are somewhat conflicting. Some manufacturers are fairly employed, while others have a difficulty in procuring orders. Stockings and socks are only in limited request, but larger goods are moving in fair quantities. There is a moderate demand for fancy open-work and embroidery stockings and half-hose in silk, wool, and lisle thread. Cashmere vests are languid. Merino and natural wool vests and combinations are firm in value, and some good orders are being booked.

**KIDDERMINSTER.**—In carpets nothing more can be reported than a steady trade, mostly in small quantities for quick delivery. Business is somewhat unequally divided, some firms working overtime while others are quiet. The yarn trade is clearly in better spirits, though prices are miserably low. A good many enquiries come to hand, and orders are occasionally placed. Not much can be said for the demand for delivery, and such business as there is, is probably speculative; but in general there is more stirring in yarns than for some time past.

**KIRKCALDY.**—There is no particular change to note in connection with the linoleum industry. In the linen industry, owing to the scarcity of flax and the consequent dearth of yarns, manufacturers continue very slack, with a tendency to further curtail production by short time and other means. But for the fact that some Government orders are passing through the looms, matters would be even worse.

**DUNDEE.**—The jute trade is strong and healthy in all its branches, reports The Textile Mercury. Jute is firm. The reports from India are encouraging. The crops may be a little late, but the weather in all the growing districts is reported favorable. On the spot, jute of fine quality is held firmly; as much as £19 10s. is asked for good RFC quality. The Calcutta syndicate speak of restricting production there. This all tends in favor of the Dundee trade. Flax is in a peculiar position. There is decidedly a stronger desire evinced to clear out stocks. This applies especially to the inferior qualities, but even for the very finest qualities there are now few buyers. The Continental buyers are also few, and further restriction of production is becoming general. The general yarn trade is dead. The buyers refuse absolutely to follow the great rise in values. Some considerable Government orders have been placed, and this is so far good, but instead of helping the general trade it injures it. The ordinary buyers absolutely refuse to follow the prices paid. Further stoppages of spinning machinery are therefore imminent.

**BELFAST.**—The linen market continues in much the same dull condition as reported last month, the high prices for raw material still being held, and there is little expectation of improvement for some months. Rates all round are well maintained, but may be said to be in favor of buyers. The yarn market keeps quiet. The coarser numbers of tows continue most in demand, and prices are notably unaltered, though concessions would likely be made to get rid of stocks, but these are generally very light. The attempt to get all the spinners to join in a "short time" agreement to reduce the output has been unsuccessful. There is little activity in the brown cloth market. Power-loom linens for bleaching are in very quiet request. Cloth for dyeing and holland is selling moderately well, and there is a very fair trade passing in dress linens. Sales of damasks, towellings and household linens are somewhat increased. Handkerchiefs continue in dull demand, particularly the linen qualities, and although the production of hand-loom linens for bleaching has fallen off, as usual during this season, demand has decreased even more. The turnover in the bleached and finished end of the trade is fairly well sustained, and a good demand exists for dress goods in both linens and unions. There is also a steady business passing in damasks and housekeeping goods. Rates are maintained at about recent level.

**CHEMNITZ.**—In spite of the large numbers of buyers recently in the market says The Dry Goods Economist, the orders placed on staple goods are not very important. Prices on staple hosiery have not changed to any extent. Here and there stock lots are offered at especially low figures and always find ready sale, but at the regular market quotations plain hosiery is not in much demand, although much better values are offered at the popular prices than could be bought during the last year. Split-sole hosiery is still in good demand, and prices in this article have not dropped off very much. Lace hose are bought a great deal for immediate delivery and manufacturers do not have stock enough on hand to supply their customers with goods as quickly as they would like. In fancy hosiery striped goods are expected to sell well again next year, especially in patterns striped throughout. Persian effects are also shown again in great variety. Extracted styles are going to be good in women's as well as in men's hosiery, and fancy patterns will be preferred to the plain polka dots. Large dots, however, are still bought a good deal. Printed hosiery is also going to sell, especially in the low grades at the limit, as extracted goods cannot be had at that price. Especially good in those is a series that looks like an embroidered style and is shown in a large variety of patterns. Trade in gloves has not changed. Knit gloves are in the same demand as they have

been all season and manufacturers could sell far more goods than they can turn out. The demand for cashmere gloves is still rather small, but manufacturers expect orders on those later in the season. As stocks of those in America are not very large, they feel quite sure that importers will have to place orders for quick delivery after the season opens up.

**CREVELD.**—The demand for silk fabrics in Creveland is fair. This is especially the case with Louisine which, after a period of practical indifference, finds itself a first favorite in the re-assortment. Louisine sells in plain colors as well as in changeable. It is seen in stripe arrangements, in combination with small fancy effects and as ground for damasse. Gold effects may live to see the fall season. Gold threads are used with large jacquard patterns. In order to retain the metal effect in the front, silver or other metal thread is sometimes used in place of gold. Gold brocade is a great favorite as a trimming, and is continually scarce in the market and has also been ordered for fall. A great favorite also is damasse. Black damasse in good qualities are good sellers, and in large as well as in small patterns. In colored goods, changeable effects are likely to be good later. Damasse are seen in grounds of satin duchesse as well as of taffeta, merveilleux, etc. In warp prints a good business has also been done, and dark grounds are finding relatively better consumption. In the industry there is no change. Manufacturers cannot be directly affected by the volume of current consumption, and many of the looms are being turned to the production of fall fabrics.

**CALAIS.**—No new developments manifest themselves in the lace field, except that the outlook for fall grows steadily stronger. It looks as though nothing could crop up to interfere with the sale of laces. This is primarily the season of low-priced goods; the trade does not want the better stuff. The finest trade has already done its buying, and this means a vogue of the medium and low-priced goods for the popular trade. These are all they are selling at the moment, but they are selling in quantities sufficient to create a considerable demand. Galloons of certain sorts are still in vogue. For the more popular trade, Plauen effects are very strong. For a better class of use, however, batiste effects are taken. These batistes have been a big feature this season. Serpentine galloons in these are very strong, and have been so all the season. Batiste laces are much employed for making the lace collars which have been so much used. The call for vals, and, in fact, all kinds of narrow goods of this character, has been so large as to rather deplete stock. No such demand was expected. The call was no larger than it has been in some other seasons, but the stock on hand of these goods was exceedingly limited; when the demand developed, therefore, the supply was entirely inadequate to meet same, and in some cases, substitutes had to be provided for the goods wanted. The demand during the fall promises to run largely to galloons and nets. The galloons will be in serpentine effects and also in plain, and will be seen in a great variety of sorts. The Arabian ideas are looked upon to hold their present position, but diversity will largely characterize the showing. It will be a case of the display of galloons in all the pretty and popular laces.

**THE SILK TRADE.**—The returns from the Lyons Conditioning House show a remarkable increase, greater than any clearance at this time of the year for the last five years. This result seems to have been due to the increased clearances of throws, trams—or weft silk—especially. Possibly this tendency to increase at this time of the year may be a consequence of retarding influences on the new silk crops, which seem likely to be late, though exceptionally few complaints respecting the prospects as regards the ultimate yield are heard of. Any way, more numerous buyers of available supplies has been the recent experience, and manufacturers, in particular, appear to have been pressing buyers. Stocks of throws apparently continue

relatively scarce. While Paris buyers have been most active, London buyers have been very conservative, the English market being quiet. The Italian markets have continued relatively quiet, owing to buyers' offers being at unacceptable limits. Shanghai telegraphic advices report some activity of demand on American account, and an upward movement in the prices of China filatures. The Yokohama market is reported firm, with a moderate business. French handlooms are busy, and have work on hand on high-class fancies. In Louisine, plain and fancy, and pekin gauze the last orders will soon be delivered, and no fresh ones are there to take their place. On the whole, the market is in the transition state in which it always is toward the close of a season. The velvet market is active, and while a number of orders have been booked for silk velvet in black and colors, the bulk of the business is being done in schappe pile goods. Some business in millinery velvets has been done, changeable and chameleon effects having found buyers.

### ARTIFICIAL SILK.

There have been of late two Consular reports to the State Department, Washington, relating to artificial silk factories in Europe. The reports are not full nor satisfactory to one at all interested in the manufacture of artificial silk. Still they show that this product is still a matter of consideration in European textile manufacturing centres. It appears that there are on the Continent three factories only, in active operation for artificial silk production, one at Wolston, England, one at Besancon, France, and one in Germany. All of these three factories are reported as not producing much over 9,000 pounds a week.

At one time this process bid fair to be introduced into the United States. Some capitalists were induced to take hold of it in a sort of experimental way, and exhibitions were made of the product in New York, Boston, and elsewhere, where it attracted considerable attention by its beauty, having all the appearance and handle of true silk. Nothing was done from this early attempt, and few felt sufficient confidence in its success to warrant the investment of any amount of capital. What little was put in was lost. The inflammability of goods made from artificial silk condemned it for material for ladies' wear; the danger of wearing goods made from it was too great to warrant its manufacture and sale.

The silk made from wood pulp is not adapted to weaving, except on hand looms, because of its fragility. This silk is quite brittle, having but about 80 per cent. of the strength of true silk. Aside from all this, the cost is seriously against it, as being much greater than that for natural silk, and it is doubtful if it can be produced low enough to compete with the real. The inducement for its manufacture has been the scarcity of the silkworm for the production of genuine silk, aside from the constant tendency of all inventors to get up something to take the place of a natural product.

There is another artificial silk—the discovery or invention of Oswald Seyfert. This silk is made from cotton by submitting the fiber to strong alkaline solutions, and thus undergoing a process of mercerizing and reducing to the condition of a pulp, the same as that obtained from the treatment of wood. This new artificial silk is much stronger in texture and preferable in other respects to anything made from wood, and can be woven on power looms. As might naturally be expected of anything made from cotton treated with a strong alkali, this silk is capable of taking on dyes and producing colors of great brilliancy.

George Irving, manager of the Irving Umbrella Co., of Toronto, is making a six months' business trip round the world.

## Among the Mills

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

The Westport, Ont., Woolen Mill is busy filling government orders.

A. Young & Co. have registered at Montreal as felt manufacturers.

The Chase & Co.'s woollen mills, Nottawa, Ont., are again running full time.

The Imperial Cotton Co., Hamilton, are about to erect 50 houses close to the factory for its employees.

Christian Miller, late of Milltown, N.B., is in charge of the napping department at the Montmorency Cotton Mill.

Wilson & Co., wool importers, have moved their offices from 102 Front St. west to 52 Wellington St. west, Toronto.

Peter Scott, late of Sherbrooke, Que., is now superintendent of the Warren Woolen Company's plant, Stafford Springs, Conn.

The Anchor Knitting Co.'s mill, Almonte, Ont., is now running night and day. E. Ainley has been engaged as boss carder.

The death is announced of J. D. Barbour, head of the firm of Barbour & Sons, thread manufacturers of Paterson, N.J., and Ireland.

Samuel Tempest, boss carder in the Richelieu woollen mill, Chambly Canton, Que., has resigned his position and gone to the States.

John A. McLaren, of Perth, has purchased the old woollen mill at Innisville, Ont. He owns the water power from the slide to the north shore.

Robt Mann, from the Cornwall Mfg. Co., Cornwall, Ont., has succeeded J. W. Steelbrook as boss finisher with the Auburn mills, Peterboro', Ont.

Sarah Fisher, aged 14, killed in a Gananoque corset factory by an iron bar falling on her head, had only been working a day.

P. H. Norton, formerly employed at the Bowden felting mill, Millbury, Mass., has become superintendent of the Perth Felting Co., Perth, Ont.

R. B. Smith, boss dresser for the Cornwall Manufacturing Co., Cornwall, Ont., has accepted a similar position with the Montreal Woollen Mills Co.

Edmonton, Alberta, will submit a by-law on July 2, to provide a bonus of \$500, and exemption from taxation for ten years, for the building of a woollen mill. W. J. Webster, of Westport, Ont., is willing to erect a mill on these terms.

G. Liersch, of the Canada Woollen Mills, Hespeler, Ont., was seriously hurt while reversing a fulling machine. The machinery was set in motion by another man, and Liersch was struck by the lever.

W. Knox, late foreman of the Woodstock woollen mills, N.B., has moved to York Mills, N.B., and taken charge of the new woollen factory there. He has leased the factory for a number of years and is now engaged putting it into shape.

The Columbus Power Co., of Columbus, Ga., have placed an order with the Wm. Firth Co., for gassing frames. These machines will be built by Joseph Stubbs, Manchester, England, for whom the Wm. Firth Co. are sole agents in Canada.

The William Firth Co., Equitable Building, Boston, had a shipment of 113 cases of machinery on one steamer arriving last month. They report great success in handling their new line of machinery made by Asa Lees & Co., Ltd., Oldham, England.

Cluthe & Company's shoddy mill, Doon, Ont., was destroyed by fire on May 18. All machinery was ruined. Loss variously estimated at \$5,000 to \$10,000. No insurance, cause of fire not known. The buildings were the oldest in the town, and were erected by Adam Ferrie in 1839, as a grist mill.

John Groves, a loom fixer in the St. Croix cotton mill, Milltown, N.B., has invented a device to do away with the long leather lug strap on the Crompton looms equipped with the horizontal shedding motion. About 100 looms have been fitted with this new invention, and give good satisfaction.

The Wm. Firth Co.'s new comber, especially made for them by Asa Lees & Co., according to the specification of their experts, to suit the American and Canadian trade, has arrived. From the reports of those who have seen the machine in operation, the Wm. Firth Co. will doubtless have a large sale on this comber, which is on the Heilmann principle.

The L. S. Watson Mfg. Co., Leicester, Mass., have been appointed selling agents for Canada and the United States for spinning and twisting travelers made by the Prouty Wire Co., of Charlton City, Mass. So confident are the Watson Mfg. Co., of the superiority of these travelers that they will send a sample box free of charge to any concern wishing to test them.

The senior carpet manufacturer of the empire died at Kidderminster, England, in the person of John Humphries. He was the head of the firm of James Humphries & Co., established in the century before last, and had been active in the trade for between sixty and seventy years. He was also remarkable for confining his interest in public affairs to paying his rates and taxes.

W. M. Crowe, 477 Broome street, New York, is Canadian agent for Wm. Hollins & Co., Ltd., of Nottingham, manufacturers of worsted and merino yarns, and for Wm. Aykroyd & Sons, Ltd., of Bradford, manufacturers of mercerized cotton yarns, both of which firms are favorably known in this country.

The William Firth Co., 150 Devonshire street, Boston, have been appointed Canadian and United States agents for Geo. Hattersley & Sons, Ltd., makers of looms for plain and fancy cloths. A list of the other agencies held by this company appears in our advertising pages.

The by-law agreeing to a small bonus to the Agar Cordage Works, when established in St. Johns, Que., was carried by acclamation last month. Mr. Agar must establish his cordage works within three months, put in machinery to the value of \$25,000 or more, employ at least 30 hands, pay a minimum of \$10,000 annually in wages, and keep in operation at least five years. In return he is to receive \$3,000 when the machinery is installed, and \$500 per year for four years, besides exemption from municipal taxation. Preferential claim on machinery and transfer of a fire insurance policy for \$5,000 is the security given by Mr. Agar, who has acquired the old Opera House for his business.

The annual meeting of the shareholders of the Canadian Colored Cotton Mills Co., was held in Montreal. The president, David Morrice, was in the chair. The statement for the year, which was favorable, was read and adopted. Mr. Morrice and C. D. Owen were re-elected president and vice-president and the Hon. G. A. Drummond, E. S. Clouston, T. King and D. Morrice, jr., were reappointed directors. A special meeting was afterwards held, which passed a by-law authorizing the renewal of the \$2,000,000 issue of bonds, falling due in April, 1902.

The Dominion Woolen Mfg. Co., Beauharnois, Que., have ceased night work.

Mrs. Frs. A. Laplante, of Montreal, has registered as F. X. Laplante, hosiery manufacturer.

The woolen mills at Baden, Ont., after having been closed all winter have started work again, running full time.

The mills of the Hudson Bay Knitting Company, Montreal, have been damaged by fire and considerable damage was done the stock in store and in process of manufacture.

The directorate of the Anchor Knitting Company, Almonte, Ont., at a meeting held on 11th inst. virtually decided to build an extra storey to the company's factory.

Robert Latimer, formerly of Perth, has given up newspaper work and is at present superintendent of a twenty two set woolen mill in a manufacturing village in Maine.

The question of building a cotton mill to produce its grey cotton for printing purposes will be decided in a few days by the Colonial Bleaching and Printing Co. of Montreal.

The Montmagny Light and Pulp Company, Limited, of Montmagny, Que., has been incorporated; capital stock, \$100,000; incorporators, Wm. Price, P. G. Owen, P. C. Dupuis, H. Price, J. D. Stewart. Quebec charter.

H. J. Robins, who has left the Eagle Knitting Co., Hamilton, Ont., was presented with a gold watch by his fellow employees and a travelling case by the shipping staff of the factory. He has secured a position in the offices of the Great Northern Railway at St. Paul.

A proposed new company to be called the Seguin Power Co. Ltd., of Parry Sound, Ont., are treating with the Parry Sound Town Council for the purchase of their recently acquired power plant, with a view to erecting various enterprises, amongst which will be a woolen mill.

The Kidderminster Shuttle reports the departure of B. Eck, representing Thos. Bond, Worth & Sons, C. E. Lowe, representing Jas. Humphries & Sons, and R. Ransom, representing Morton & Sons, for Canada via New York. The above firms are all manufacturers of carpets.

A company of Nova Scotians are preparing to carry the pulp industry into the unexploited region of Newfoundland, and Labrador. T. G. McMullen, M.P.P., of Truro, and Alfred Dickie, of Stewiacke, are the principal promoters of the Grand River Pulp and Lumber Company, which is to conduct extensive operations in the regions named. Work has already begun in Labrador, where large tracts of land have been purchased and mills are to be erected.

The Clinton News-Record says: "The Goderich Knitting Co.'s factory is booming. They have bought the knitting plant of the Ever Ready Dress Stay Co., Windsor. The new departure will be the manufacture of Alaska sock and mitts together with all patent rights and everything pertaining to the above line of business. A new fire-proof storehouse 30 by 40 feet with cement floor is to be added to the present knitting factory building."

The Waterloo Chronicle reports that the factory building at Bloomingdale, Ont., belonging to Geo. McAllister has been leased to Richard Westwood, of Guelph, for the manufacture of wool and union ingrain carpets. His samples will be out immediately and goods prepared for the fall trade. Mr. Westwood was instrumental in establishing one of the carpet factories at Guelph in 1899 and was manager since that time. His deal with the town of Cornwall appears to have fallen through.

There is a temporary depression in the pulp business and prices have dropped somewhat. As a result of this, and for other reasons, the Clergue Syndicate's big mill at Sault Ste. Marie has been shut down for a time. No hardship is caused in this case, however, as all the men from the pulp mill are employed in one or another of Mr. Clergue's various enterprises in and about the "Soo." A reason given for the depression in the trade is that the bountiful rains of the last few months have so swollen the streams of the United States that many pulp mills which ordinarily run only two or three months in the year, owing to the low water, have been able to keep going the greater part of the time. This has stocked the home market and caused a large export business, which has cut into the European trade of the Canadian exporting mills.

Norman Dick, who has had control of the McKellar factory for a number of years, has transferred his services to the Carling factory.

S. J. Lennard, of Leonard & Sons' knitting factory, Dundas, Ont., is going on a trip to the old country. Mrs. Lennard accompanies him.

A. L. Grindrod & Co. have pulled down their old dye-house and are building a new one in connection with their woolen mill at Sherbrooke, Que.

The promoters of the proposed binder twine factory at Brandon report that the stock is being rapidly subscribed for. A number of farmers are among the subscribers.

A number of hands in the carding and picking department of No. 1 mill, Almonte, went on strike the other day, but thought better of their action after a few days, and returned to work.

Jones & Crosland, whose new rug factory at 19 Jarvis St., Toronto, was mentioned in last issue, have rented land in St. Catharines, Ont., and intend at an early date to transfer their plant to that city.

Last month before Judge Falconbridge the McLachlan Electric and Gasoline Motor Company were the petitioners in proceedings at Osgoode Hall to wind up the Imperial Woolen Mill Company of Streetsville. The order was granted.

J. E. Molleur's underwear factory at St. Johns, Que., was totally destroyed by fire on the 12th inst. He places his loss at \$40,000, with \$8,741 insurance. Mr. Morin, who occupied a part of the building, as a hosiery factory, lost \$2,000, with \$1,000 insurance.

On the 18th ult. on the occasion of leaving Almonte to take charge of a knitting mill at Dunnville, John Brennan, superintendent of the knitting department of the Almonte Knitting Co.'s mill, was presented with a gold ring and an address by employees in his department. He was succeeded by J. Flannigan.

Jas. Gillies, Mrs. and Miss Ida and Geo. Gillies, and John McDonald and his daughter, Mrs. J. B. McDougall, all of Carleton Place, have gone on a trip to the old country. They will visit Scotland first, then England and Ireland, and will probably be three months away.

The estate of J. Arthur Paquet, formerly Z. Paquet, Quebec, desire to sell the straw hat factory. The factory contains 59 sewing machines, 3 hydraulic presses, 3 tip machines, and many other machines for the manufacture of straw hats. Nearly all the machinery is new.

The accident at the Halifax cotton mill, referred to elsewhere, is an unusual one, and we only know of one previous mishap to a cotton mill engine in the history of the trade in Canada. This occurred to the old Dundas cotton mill about 20 years ago, when some heavy weight fell on the engine smashing it, and causing damage to the amount of \$7,000. The mill was closed down several months before repairs could be effected, as the broken parts had to be sent from Providence, R.I.

Hatch & Backus, of Chicago, representing Chicago capitalists are negotiating with the Ontario Government to secure a water-power at Fort Francis, in the Rainy River district. Three other applications for power for pulp works are reported to be under consideration by the Government, which, if granted and mills established, would double the pulp industry in Northern Ontario. The localities applied for are the Wahnapiac River, the Montreal River and the Abitibi Lake, all in Nipissing.

Judge Davidson rendered judgment the other day in Montreal in the case of S. T. Willett (proprietor of the Richelieu woolen mill) vs. the Chambly Manufacturing Company and the Chambly Manufacturing Company vs. the Stillwell, Bierce and Smith-Vail Co. By this action the principal plaintiff claimed from the principal defendant \$22,000 on account of damage caused to his mills at Chambly by a dam constructed by said company defendant on the Richelieu River, and the action also asked that the company be condemned to demolish the dam or to make the necessary works to prevent further damage. The Chambly Manufacturing Company in their turn called in guarantee the Stillwell, Bierce and Smith-Vail Company, who constructed their works, holding them responsible for the damage claimed. By its judgment the court maintained the principle plaintiff's right to damages and referred the case to the Judge in Chambers, who will appoint experts to establish the amount of damage and report on the protective works to be erected. The action in warranty against the Stillwell, Bierce and Smith-Vail Company was dismissed.

Wm. Hallitt, spinner in W. C. Caldwell's woolen mill, Lanark, recently received news of his boy, who is in the Philippines, a soldier in the American army.

At the session of the Dominion parliament just closed the question of the water powers of the Welland Canal was brought up by W. M. German, member for Welland. He said that in the past many of these leases had been granted for nominal considerations. Water powers worth from \$50,000 to \$75,000 were not being used. One of 1,500 horse-power, leased for \$250 per year, was being held at \$75,000. The Lybster cotton mills were offered \$30,000 for a water power which they were not using and would not allow anyone to use. Water was being used and was not being paid for. Power was a valuable asset, and the Welland canal might become a hive of industry if properly regulated. The whole matter should be looked into, either by commission or in some other way.

The woolen mill and jute manufactory business of Dick, Ridout & Co., Cobourg and Toronto, has been turned into a joint stock company called John Dick, Limited, capital \$500,000, with head office in Toronto. The members of the company are: John Dick, manufacturer; J. B. Hallworth and F. H. Kidd, accountants; F. J. Kennedy, traveller, and Isabella Dick, married woman, all of Toronto. The objects of the company are stated as follows: "To carry on business as a textile manufacturer, agent and dealer and, for the said purposes (a) To manufacture, buy, sell and deal in jute and cotton bags, buckram canvas, tweeds, woolen goods, ropes, twines, and all kinds of textiles and all materials and articles entering into or required in connection with the manufacture, sale and disposition thereof, and (b) to acquire and take over, as a going concern, the business heretofore carried on under the name of Dick, Ridout & Co." We understand Mr. Ridout has retired from the firm and will carry on business as a manufacturer's agent representing chiefly Scotch jute and linen houses.

Application has been made by the Canadian Spool Cotton Company, Montreal, for a provincial charter, the capital to be \$200,000. The applicants are: S. A. Coats, director, of New York; W. Wilson, actuary, of Brooklyn; John Beattie, of the Central Agency representing the Coats syndicate in Montreal; Walter Wilson, thread agent, of Montreal; and W. C. McLeish, manager, of Montreal, which city will be the headquarters of the business. The purposes of the company are set forth to be "To manufacture cotton, silk, wool, linen and other threads, cloths, fabrics and other manufactures, articles and goods composed in the whole or in part of cotton, flax, hemp, wool or other materials; to buy, grow, prepare, and sell the stock and raw material for such manufactures; also to act as agents for the sale of spool cotton and other threads and other manufactured articles, also to purchase, lease or otherwise acquire and undertake all or any part of any business or businesses or trades of a nature or character similar to any of the businesses authorized to be carried on by the company, or profitable to be transacted in connection therewith, as well as the goodwill or other assets of any such business or businesses, and the same to sell, pledge or lease; also to amalgamate with any corporation or corporations carrying on such business or trade, etc." At present the Canadian end of the Coats thread syndicate are reellers of thread used for domestic and manufacturing purposes but the object here is to establish a thread factory for spinning cotton thread as well as reeling.

Frank Rutledge, one of the three burglars who was convicted of robbing the bank at Aurora and who anticipated the charge of murder by committing suicide at the Toronto jail the other day, was a former employee of the old Streetsville woolen mill. The arrest and trial of the three men, their conviction on the charge of burglary, and their desperate attempt to escape while being conveyed in a cab from the court house to the jail, in which attempt they shot and killed Constable Boyd with a revolver which was thrown into the cab by an accomplice, are fresh in the minds of most readers from the accounts in the daily papers. A Toronto Star reporter who paid a visit to the grief stricken old father of Rutledge, near Streetsville, refers thus to the sensation in the usually quiet village: "All Streetsville is talking about the suicide now; it is the topic at both hotels, it is the topic

at the stores, it is the topic at the postoffice, and on the streets little groups of men stand on the corners, and many of them say: "Poor Frank, he was a good fellow." Jumping in the old 'bus, I drove up last night with the mail man, sitting in the same seat that Rutledge sat in not long ago, when he took the reins and showed the same man who handled the ribbons how to put the old team through their paces. I saw the old woolen mill where Rutledge first entered as an apprentice, and where he worked for a year and was counted a steady man. They say he was a good boy, that he was always on time when the whistle blew, and that he seldom looked at the clock which announced the whistle for 6 o'clock. But the firm failed, and Rutledge was left without employment.

## FABRIC ITEMS.

L. Mills, Montreal, has registered as a wholesale dry goods merchant.

The Jackson Mfg. Co., Clinton, Ont., have bought a four horse power gasoline engine and new machines which are being installed in their new clothing factory.

The Emerson-Hague Manufacturing Company, Limited, Winnipeg, has been incorporated with a capital of \$75,000, to take over the business of Emerson & Hague, Winnipeg, and will manufacture all kinds of men's and boys' clothing, also wagon covers, etc.

A final dividend of 15½ per cent. has been declared in the estate of the Cloak Manufacturing Company, Limited, Toronto, in liquidation making total dividends of 30½ cents on the dollar on liabilities of \$90,000.

The Standard Shirt Company, Limited, Montreal, shirt, collar and cuff manufacturers, have decided to increase their capital from \$200,000 to \$1,000,000. The Company now employs 1,000 hands, and ships its goods to South Africa and Australia.

The American Silk Waist Company, with a total capital stock of \$50,000, headquarters at the City of Montreal, has applied for a charter to take over the business known as "The American Silk Waist Manufacturing Company." The applicants for incorporation are:—E. B. Greenshields, G. B. Fraser, E. C. B. Fetherstonhaugh, G. L. Cains, merchants, and J. H. Armstrong, accountant, all of Montreal.

The G. H. Harrower Company, Limited, with a capital of \$50,000, headquarters at the City of Montreal, has applied for a charter to manufacture and deal in shirts, blouses and men and women's clothing. The applicants are:—G. H. Harrower, manufacturer; R. A. Dunton, notary; A. Walford, accountant; F. G. Roe, manager, and J. C. Baker, gentleman, all of Montreal.

The New York Mail and Express says that, under the title of the American Shirt and Collar Company, a \$20,000,000 linen goods manufacturers' trust will be incorporated under the laws of that state. I will control the wholesale shirt and collar trade of the country. A gentleman interested in the combination of the American shirt and collar interests said the combination had not been consummated. It might fall through entirely.

J. P. Morgan has donated three collections of textile fabrics, the Bodia of Barcelona, the Rivas of Madrid, the Bron from Paris, to the Cooper Union, New York City. They are stated to be worth between \$50,000 and \$100,000. Their artistic value may be gauged from the fact that the German Government asked the privilege of borrowing six of the specimens in order to copy and photograph them. The fabrics acquired by Mr. Morgan form a remarkable group, as they cover the whole history of weaving between the Middle Ages and the sixteenth and seventeenth centuries.

Bedard, Bertrand & Gauvin, large retail dry goods merchants of Quebec, have assigned. The liabilities are \$52,415, and assets \$52,535. The principal creditors are Thibadeau, Freres & Co., \$12,710; Fitzgibbon, Schafheitlin & Co., Montreal, \$3,562; Herman H. Wolff & Co., Montreal, \$3,253; H. Gault Bros. Co., Limited, \$1,831; H. W. L. Brock Co., Limited, Montreal, \$705; Thos. May & Co., \$641; Caverhill & Kissock, \$577; Tooke Bros., \$738; J. Bourdeau & Son, \$371; John McDonald & Co., Toronto, \$793; Merchants Dyeing & Finishing Co., \$874; S. F. McKinnon Co., Limited, \$1,290.



A Merchant Tailors' Exchange has been formed in Vancouver B.C., with Mr. Mortimore as President. A library for members will be installed, containing all the trade papers.

O Feiczwicz and J. Taplitzky, heretofore carrying on business at Quebec, under the firm name of "The Dominion Silk Waist Company," have dissolved partnership; and Mr. Taplitzky will carry on business at Quebec and elsewhere under the same name.

Among the new buildings in Montreal for which permits have been taken out, are a large extension to Carsley & Co's dry goods store, to cost \$70,000; a wholesale fur warehouse for Silverman, Boulter & Co., to cost \$20,000, and a shirt and collar factory for the Gault Bros. Co. to cost \$42,000.

At the Hamilton Courts the other day in the motion on behalf of Chalcraft, Simpson & Co., of Toronto, asking for speedy judgment for \$200 against Schweitzer, Reid & Co., clothiers, who failed some months ago, Judge Monck gave an order dismissing the motion and sending the suit to the County Court for trial.

The annual general meeting of the Watson, Foster Company Limited, manufacturers of paper hangings, was held a few days ago in Maisonneuve, Montreal. Reports of the business for the past year were considered satisfactory. The officers elected for the coming year are: Hugh Watson, President; S. S. Boxer, Vice-President and Managing Director; W. A. Sutherland, Secretary-Treasurer.

### LITERARY NOTES.

The 29th annual report of the Silk Association of America, just issued, makes a volume of 124 pages and contains a great deal of information on the silk trade of the U.S. The aim of the U.S. silk manufacturers appears to be to produce a good quality of low priced goods without attempting the artistic weaves, and their success in this line is referred as follows, by Emile Levasseur, the French economist, who says, "To produce in large quantities, quickly and cheaply, the United States is better equipped than any other land in the world." Some of the statistics given seem to confirm this report, for it appears that out of the general total of the world's supply of raw silk in 1900—35,187,620 lbs., the United States mills consumed 8,180,163 lbs. To show in another way the progress U.S. silk mills have made, it may be stated that the imports of raw silk to the U.S. in 1870, were 583,589 lbs.; in 1880, 2,562,246 lbs.; in 1890, 5,943,360 lbs.; and in 1900, 11,268,310. At the same time the U.S. imports of manufactured silks have remained about stationary in all that time. In 1872 they were \$35,174,708 and in 1900 \$30,358,771, in some years falling to a little over \$20,000,000.

Wm. J. Matheson & Co., Ltd., Foundling st., Montreal, sole agents in Canada for Leopold Cassella & Co., send us a striking book of diamine colors on angola yarn, regarding which they say, "The yarn used for these dyeings is composed of wool and cotton mixed during the spinning process. The perfect uniformity of shade of the patterns is another proof of the excellent properties of our Diamine Colours for dyeing mixed fibres; the very simple method of application will be found in the pattern card. With regard to the properties of the individual products we beg to refer to our book, 'Application of Diamine Colours on cotton and wool mixed goods.'"

The Canadian Magazine reaches its hundredth number with June issue, and the occasion is celebrated by a sketch of early Canadian magazines. Between those issued in French and English there were at least half a dozen magazines published in the last century with the same title as our contemporary, which has had a longer life than any home venture, except the New Dominion Monthly, published by John Dougall & Son, in Montreal, in the 70's. Of all the Canadian periodicals of the past the New Dominion Monthly was the best both in point of original and selected matter.

The July number of the Delineator, published by the Butterick Pub. Co., New York, is rich in colored illustrations, the pictures of the Pan American exhibition being particularly well done. They are done in multi-color printing from the original water color sketches by C. Y. Turner, the color artist of the exhibition.

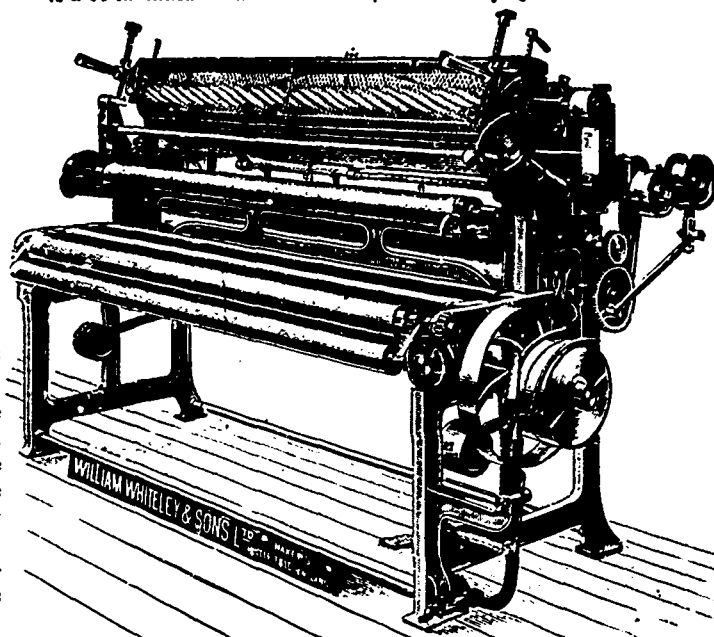
The Century Magazine for June is a special College number. Among the interesting articles on that subject are "Working one's way

through College," by Alice Katharine Fallows; "College Training Tables," by Walter Camp, and "Alleged Luxury among College Students," a burning subject of the present day. "The Venezuelan Boundary Question," by ex-President Cleveland is of special interest in view of the attraction that the Central States are now causing. Waldon Fawcett's article on "The Center of the World of Steel," is a study of Pennsylvania iron and steel industries.

Among the good articles in the June Ladies' Home Journal is a candid criticism of the American woman and her dress, by Helen Watterson Moody. Her remarks are based on the marked difference in the way the different nationalities of women visitors at the Paris Exposition last summer treated the problem of clothes. The English women were gowned with the utmost regard for utility and comfort. The American and French women appeared in toilettes of silk and satin and lace which properly had no place whatever in the Exposition grounds. But while the French women's clothes were as beautiful as the American woman's, and fuller of that indescribable charm called style, they were not nearly so costly. The cost of dressing grows greater every year, and the shifts of fashion are prompter and more imperative. Where the English woman goes plainly dressed with a serene mind the American woman "keeps up with the fashion," but lines her face with anxious thought as to how it shall all be managed. Our last season's gowns, perfectly fresh and just as pretty and suitable as ever, are altered and recut and retrimmed at the cost of many dollars and much time and hard work, not because they need it, not because we want to, either, but simply because Mrs. Wood across the way, and Mrs. Pope in the next street, are doing the same thing—and they are doing it because we are! The truth is, says the writer, that the American women not only lay too much emphasis upon dress, so that it takes quite too prominent a place in our scheme of life, but we also spend too much money on dress.

### SHEARING MACHINE.

The accompanying engraving shows an improved type of cutting or shearing machine designed and manufactured by Wm. Whiteley & Sons Ltd., of Lockwood, Huddersfield, the well-known makers of machinery for woolen and worsted manufacturers and finishers. This is a 66-in. machine and has an improved safety guard which will be



appreciated in a country like this where actions for damages are not by any means of infrequent occurrence. The speed of the machine is 300 revolutions per minute, height 5 ft. 3 in., width 8 ft. 8 in., front to back 4 ft. 6 in. Weight, 22 cwt. gross or 16 cwt. net. Whiteley & Sons, the makers, are in the front rank of manufacturers of all kinds of machinery for the spinning, finishing and dyeing of woolen and worsted goods, and for mangle and bleaching of fabrics. They



have just issued three handsome catalogues, one of which called "Catalogue A," is devoted to woolen and worsted machinery, another, "Catalogue B," to bleaching, dyeing and mercerizing, and the third "Catalogue C," to woolen and worsted finishing machinery. These catalogues contain a varied amount of information and will be sent to any Canadian manufacturer on application.

### THE TRADE PRESS AS AN ADVERTISING MEDIUM.

The following observations on the value of the trade journal as an advertising medium are from the pen of Leonard L. Cline, of Detroit, who has built up one of the most successful advertising agencies in the United States:

To the man who ties himself up to the principle that only mediums of large circulation are necessary to successful advertising, the enormous amount of money spent for space in the trade press may seem bad judgment, and yet the volume of this business has steadily increased during the past ten years. As smoke is usually considered as evidence of some fire, there must be a reason for this, and the only possible explanation would seem to be that the advertiser gets the worth of his money.

That he does, is all the more complimentary to the trade journal, for in no other class of publication has there been so little attention paid either to the text or arrangement of advertising matter.

As late as four years ago it was the rule with the majority of advertisers in these journals to devote maybe fifteen minutes to the preparation of their announcements and leave the rest to the tender mercies of the printer, no further attention being given the matter until the cut and type were worn almost to illegibility. This system—or rather lack of system—would ordinarily be sufficient to kill any advertising proposition no matter what the merit of the publication. That the trade journal continued to prosper in the face of it was due to the actual interest of its readers in the subjects discussed editorially as well as a demand for the things advertised.

Within the past four years the trade press has developed as has no other branch of journalistic enterprise.

Many publishers have employed the "ad." writer and artist to assist with ideas and suggestions those advertisers who appreciate the service, and to-day the advertising columns of many technical and trade journals will compare favorably with those of the more pretentious literary magazines.

This is the age of the specialist, and in no other profession has he developed the influence he wields in journalism. To the advertiser the trade journal offers a concentrated circulation. It is the text book of the artisan and the merchant, the consumer and middleman, with a percentage of buying power, in proportion to circulation, ten times greater than that of the magazine or the daily newspaper. Its readers may be addressed with the assurance that they will appreciate a point well taken and for that reason it offers an exceptional field for educational advertising.

I have before me an article published in a recent addition of an advertising periodical criticising the practice of rate-cutting by trade journals. Having had an experience of some eight years in placing advertising in this field, I am frank to say I have found less of this among these publications than is practised either by newspapers or magazines.

### NEW BEDFORD TEXTILE SCHOOL.

The New Bedford, Mass., Mercury of the 7th inst., says:

All residents of this city who take an interest in its affairs, as well as those who are particularly interested in educational matters, should visit the New Bedford Textile School building, and view the work accomplished by the students there. The exhibition is larger and better than that given last year, and conveys a good idea of the result of a textile education so far as it is possible to show it.

The exhibition is made in one of the large drawing rooms on the third floor. The bulk of the work to be seen is of a practical nature, and the information gained from actual acquaintance with the working

of the machinery is a valuable supplement to an examination of the work in the display room. To-day is the last one of the school year, and all students will have a vacation until the last of September. The tables in the drafting room are covered with students' note books, samples of product from the machines, and drawings of varied characters. The work of the designing department is displayed near the entrance. It includes specimen designs and analyses of fabrics, together with pattern books. The collection is very interesting in its details and makes an attractive table for visitors. Ernest Whitworth is the instructor under whom the students worked.

The hand loom department has a display of students' work which they designed and produced themselves. A strip of leno weaving, in which the work of a number of students is included, is considered by C. P. Brooks, Managing Director of the School, as good work as can be found in any textile school in this country or abroad. A variety of goods and colors show the work to good advantage. The students in this department were taught by Samuel Holt.

The next table is devoted to the display of the warp preparation and weaving department. This is another very complete collection consisting of samples of various grades of cloth entirely designed and woven by the students. It is a very creditable exhibition, and denotes much ingenuity and ability on the part of the students. Some very fine gingham are displayed, and there are also some excellent samples of towels, pique and Bedford cords. There is also a good display of lecture record books by students of the day and evening classes. Thomas S. Yates conducted the classes in these departments.

At the west end of the room are the tables for the exhibit of the cotton picking, carding and spinning departments, showing the various processes from the raw material, to the yarn. The display illustrates the use of both American and Egyptian cotton. All the material displayed has been worked through the machinery by the students who have graduated this year. In addition there are shown the students' books in which the record of their work was kept. James T. Broadbent is the instructor in this department.

### THE WOOL MARKET.

The Canadian Wool market is decidedly quiet, the new clip coming in slowly. Outside influences of an adverse nature are causing farmers to move quietly and the buyers to act with caution. The cold rainy weather has affected the wool washing operations, and damaged the wool by discoloring. The price of fleece in Britain is lower than has been known for a long time, and the large consignments of Argentine coarse wools to the United States have checked to some degree the demand for the Canadian article. The increased call for Argentine mutton has naturally lessened the stock of finer merino sheep, and larger animals giving more flesh and coarse wool have been substituted. The result is that Argentine enters very actively into competition with Canada in the wool markets of the States. The effect on our own manufacturing interest should perhaps be rather beneficial than otherwise, as it is evident that the softer wools for clothing are now being extensively called for. Washed fleeces in Toronto are quoted at 13c.-14c., unwashed at 8c., Supers 16c. and extra Supers 18c.-19c.

The Montreal market has been affected by the condition prevailing in the west; the demand is slow, although a few large sales have been effected, and the supply is coming in, as elsewhere but slowly. The price for coarser wools show no change, but the finer grades maintain the slight improvement of last month, though small quantities so far have been offered. The following are quotations: Cape 13½ to 14½c., Natal 14 to 15½c., Australian, greasy, 16 to 18c., B. A., washed, 25 to 35c., Canadian washed fleece, 13 to 14c., unwashed 8 to 9c.

Quotations for wool in the following towns in Ontario since our last issue have varied as follows:

Arthur 12-17c., Baverton 12c., Bradford 14-15c., (unwashed 7-10) Clinton 13-18c., Clifford 13-15c., Drayton 7-11c., Elora 9-12c., Eggleville 16-18c., Fergus 12-14c., Farnell Falls 7-12c., Galt 15-18c., Guelph 12-13c., (unwashed 7-8c.) Hamilton 12-15c., (unwashed 7½c.) Kingston 10-15c., Lindsay 12½-14c., (unwashed 7-9c.) London 13-14c., (unwashed

7-8c.) Mitchell 17c., Mount Forest 8-14c., Ottawa 13-16c., (unwashed 7-8c.) Orillia 12-13c. Peterboro 12-14c., (unwashed 8-9c.) St. Marys 16c., Renfrew 16-20c.

The Winnipeg market, says the Winnipeg COMMERCIAL, is exceedingly dull, the price offered for fleeces. (New Manitoba) not yet exceeding 7½c., and for inferior qualities as low as 6c. It is not surprising considering that over 1,000,000 pounds of last year's clip are still held by buyers, that the outlook is decidedly discouraging. The offering of new wool is small. Vancouver sales have varied for new fleeces from 6 to 10c.

The third series of colonial wool sales closed in London on the 20th May. Comparing the rates with those of March the advance in Australasian merinos ranges from not far short of 10 per cent. on the finest qualities, both of greasy and scoured, to 5 per cent. on the general run of the latter class and on really good greasy wools. Ordinary 60's quality in the grease, also wools of indifferent breed or very faulty condition show no quotable change. In the case of lambs, while the superior parcels have improved in about the same ratio as the finest sheeps' wool, ordinary qualities have receded about 5 per cent., and inferior, short and faulty, 7½ to 10 per cent. South African descriptions met with a steadier demand than for many sales past. Roughly speaking, the better classes in all conditions have appreciated to the extent of about 5 per cent., while the others remain practically unchanged. Compared with a year ago, that is, at the close of the corresponding series in 1900, the value of Australasian merino wool shows a reduction ranging from 15 to 20 per cent., that of South African a decline ranging from 18 to 25 per cent. Fine crossbreds are lower to the extent of about 17½ per cent.; medium qualities fully 25 per cent., and the coarsest grades quite 20 per cent.

The quantity sold, 215,000 bales, was almost equally divided between home and export, the Continent of Europe being estimated to have taken 103,000 bales, the United States 4,000 bales. Of the wool held over, 47,000 bales, 39,000 bales were not submitted to the hammer. Nearly 20,000 bales is New Zealand produce, which may be taken as almost entirely of crossbred character, while some 7,000 bales are of South African growth.

The home trade this year absorbed 144,000 bales more, while the Continent of Europe has taken 142,000 bales less. In the purchases of the United States there is a decline of 12,000 bales.

The fifth series is to begin on September 17th, and the final auctions of the year commence November 26.

The arrivals of wool for the fourth series of auction sales, which commence on July 2nd, have closed, with the following amounts scheduled: New South Wales, 82,895 bales; Queensland, 17,107; Victoria, 93,959; Tasmania, 20,323; South Australia, 14,023; West Australia, 3,945; New Zealand, 89,146; Cape and Natal, 39,332. Of this stock 54,000 bales Australasian and 24,000 Cape and Natal were forwarded direct.

### THE METRIC SYSTEM.

There has been an encouraging interest in the chart of the metric system of weight and measures, published by the proprietors of The Canadian Engineer, and already three of the Provincial Governments have reported their intention to introduce it into the schools, while other Provinces are considering the same matter. Two of the leading commercial colleges of Toronto have also acted on the friendly suggestion of the Monetary Times, and ordered the charts for teaching the system.

The Monetary Times, which is without question the ablest financial and mercantile journal in Canada, makes these timely remarks on the chart:

One of the best aids to a knowledge of the metric system is a chart published by The Canadian Engineer. This gives illustrations, actual size, of the meter (39.37 inches), the kilo (2.25 pounds), the liter (1.76 English pints), and the cubic decimeter, which has the same cubic contents as the liter has liquid. The important feature of this system is the ingenious

inter-relation of these various measures. This can be better illustrated by diagrams than stated here; and we are of the opinion that the 'Engineer' chart, we now describe, published at Montreal and Toronto by Biggar, Samuel & Co., at ten cents per copy, ought to be secured for our Public Schools. The reason is plain. Canadians will have to adopt this system if they expect to do a successful foreign trade in the future. Fifteen European countries have adopted it. Mexico and the Latin republics of South and Central America are constantly using it. So also with Japan, while the United States will soon make the system compulsory, since they have adopted it for their dependencies of Cuba, Porto Rico, and the Philippines. And much of the success which Germany, Belgium and France have found in foreign trade, much more, indeed, than the British seem to perceive, has arisen from their use of this convenient system.

The Canadian Engineer has done a real service in taking the trouble to arrange this object-lesson on the metric system, and we trust the chart may, by the action of the Government or otherwise, be made widely known in Canada. The commercial colleges of Canada, if they are alive to their proper educational interests, will give instant attention to the metric system.

### PICRIC ACID FOR SCALDS AND BURNS.

Scalding accidents are so common in the dye-house that a simple and effective remedy, discovered by the well-known firm of Mommer & Co., deserves to be made known at large. The remedy consists in a cold saturated aqueous solution of picric acid, which is readily prepared, and should always be kept on hand. The remedy, if applied to the burn or scald by means of a bunch of wadding (previous washing or treatment with oil being avoided), affords immediate relief. In case the skin should be fatty or the burn caused by hot fat, a little friction must be used, and blisters should be cut open first. The pains will presently return, to again disappear on the further application of the remedy, until they cease entirely. Numerous cases have been treated in this manner, some of them most serious, and throughout the cure has been satisfactory and rapid. There is on record the case of a workman, one-fourth of whose skin had been scalded by steam, who was capable of resuming work after eight days.—Textile Recorder.

**FOR SALE**—One set Woolen Mill with Saw Mill and Feed Chopper. In central Ontario, no other Woolen Mill in county. Water and steam power. A good steady trade for the right man. Full particulars on addressing Wm. Bowerman, 26 Adelaide st. West, Toronto.

## FOR SALE 3-SET WOOLLEN MILL

230 HORSE POWER, WATER

Suitable for manufacturing either blankets or tweeds, having mules and all broad looms.

Stone Building No. 1 (70x31)—5 stories, each flat 10 ft. from floor to ceiling.

Stone Building No. 2 (50x30)—Dye house 1 story.

Stone Building No. 3 (55x35)—5 stories, each flat 10 ft. from floor to ceiling.

Stone Building No. 4 (30x20)—3 stories, each flat 10 ft. from floor to ceiling.

Stone Building No. 5 (14x9)—2 stories, 1st floor engine room, 2nd floor superintendent's office.

Building No. 6 (50x26)—2 stories, stone warehouse.

For full particulars apply to

**GEO. REID & CO.,**

11 and 13 Front St. East, Toronto

TEXTILE PUBLICATIONS.

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

- Loom Fixing; a handbook for loom fixers working on plain and fancy worsteds and woollens; containing chapters on shuttles and bobbins, and their management; head motion; putting in warps; filling; adjusting and starting new looms; chain building, etc.; 104 pages, by Albert Ainley .....\$1 00
- Technology of Textile Design; explains the designing for all kinds of fabrics executed on the harness loom, by E. A. Posselt ..... 5 00
- Structure of Fibers, Yarns and Fabrics, the most important work on the structure of cotton, wool, silk, flax, carding, combing, drawing and spinning, as well as calculations for the manufacture of textile fabrics, by E. A. Posselt ..... 5 00
- Textile Machinery Relating to Weaving, the first work of consequence ever published on the construction of modern power looms, by E. A. Posselt..... 3 00
- The Jacquard Machine Analyzed and Explained; explains the various Jacquard machines in use, the tying up of Jacquard harness, card stamping and lacing, and how to make Jacquard designs, by E. A. Posselt..... 3 00
- Textile Calculations; a complete guide to calculations relating to the construction of all kinds of yarns and fabrics, the analysis of cloth, etc., by E. A. Posselt.. 2 00
- Wool Dyeing; an up-to-date book on the subject, by E. A. Posselt ..... 2 00
- Worrall's Directory of Cotton Spinners, Manufacturers, Dyers, Calico-printers and Bleachers of Lancashire, giving the mills of the British cotton district, with

- number of looms and spindles, products of the mills, cable addresses, etc .....\$2 00
- Worrall's Directory of the Textile Trades of Yorkshire, comprising the woolen, worsted, cotton, silk, linen, hemp, carpet, and all other textile mills, giving looms and spindles, and the various lines of goods manufactured, etc .....\$2 00
- Worrall's Textile Directory of the Manufacturing Districts of Ireland, Scotland, Wales, and the counties of Chester, Derby, Gloucester, Leicester, Nottingham, Worcester, and other centres not included in preceding works, with capacity, products of mills, cable addresses 2 00
- The Wool Carder's Vade-Mecum, by Bramwell; third edition, revised and enlarged: illustrated; 12mo..... 2 50

CHEMICALS AND DYESTUFFS.

Nothing has transpired of any importance; prices remain unchanged. We quote as follows:

Bleaching powder .....	\$ 2 75	to	\$ 3 00
Bicarb. soda .....	2 00	to	2 05
Sal soda .....	0 75	to	0 80
Carbolic acid, 1 lb. bottles.....	0 50	to	0 60
Caustic soda, 60° .....	2 35	to	2 60
Caustic soda, 70° .....	2 60	to	2 85
Chlorate of potash .....	0 13	to	0 15
Alum .....	1 35	to	1 50
Copperas .....	0 65	to	0 70
Sulphur flour .....	2 00	to	2 50
Sulphur roll .....	2 00	to	3 00
Sulphate of copper .....	6 00	to	6 25
White sugar of lead .....	0 08	to	0 08
Bich. potash .....	0 11	to	0 12
Sumac, Sicily, per ton .....	75 00	to	80 00
Soda ash, 48° to 58° .....	1 30	to	1 40
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DOUBLE STRENGTH

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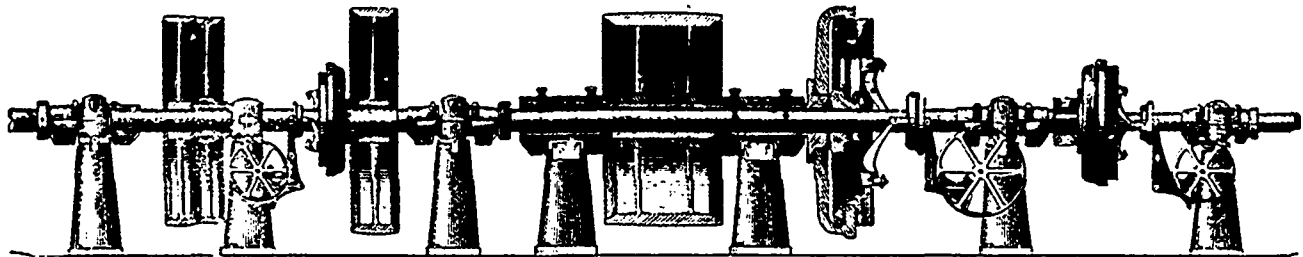
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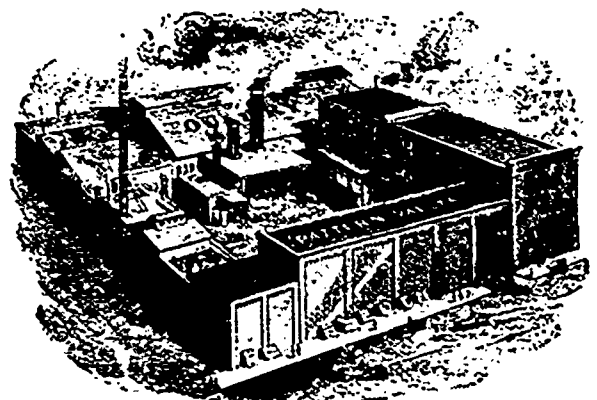
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ASA LEES & CO., Limited, Textile Machinery—Including Self-Acting Mules for Cotton, Woolen and Worsted. Nearly 1,000,000 Spindles of this well-known make at work or on order in Canada and the United States. All parts carried in stock. Also Bale Breakers Revolving Flat Cards for Cotton, Drawing Frames, Slubbing Frames, Intermediate Frames, Roving Frames, Combers, Ribbon and Combers Lap Machines, Carding Engines for wool, wadding, and also condensers, &c.

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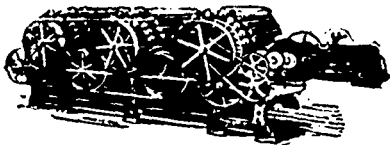
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**Garnett Machines.**

"CYCLONE" DRYERS,  
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WILLOWS, BURRING MACHINES,  
BREASTS, METALLIC FEED  
ROLLS, Etc.

ARE LEADERS IN THEIR CLASS.

**Philadelphia Textile Machinery Company,**

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The cylinder-head of the 500-h.p. engine at the Dominion Cotton Mills Company in Halifax blew out on the 13th inst., wrecking the whole engine room and damaging some of the looms in the factory itself. A loose strap of the cylinder head caused the accident. It will keep the factory idle for four or five weeks, throwing 350 hands out of employment. This will be the first suspension of the factory for seven years, except on one occasion, when a strike occurred. No one was hurt as the accident occurred while the hands were away for dinner.

**EVAN ARTHUR LEIGH**

Successor to E. A. LEIGH & COMPANY

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IMPORTER OF

**Textile MACHINERY**  
Etc.

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BY FAR THE LARGEST MAKERS OF TEXTILE MACHINERY IN THE WORLD

Platt's Cotton, Woolen and Worsted Machinery.  
Sole makers of Brown's Patent Carding Rollers for wool—  
give woolen yarn a worsted appearance.

New Patent Noble Comb—increased production, better work.

Platt's Special Machinery for making English and French  
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The Best System on the Market.

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Woolen and Worsted (Critchley's). Vary's Fallers and Circles, etc.

Fine Cotton and Worsted Yarns. Machinery delivered duty and  
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**Canadian Colored  
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Company.**

Cottonades,	Zephyrs,
Tickings,	Skirtings,
Denims,	Dress Goods,
Awnings,	Lawns,
Shirtings,	Crinkles,
Flannelettes,	Cotton Blankets,
Ginghams,	Angolas,
	Yarns, etc.

WHOLESALE TRADE ONLY SUPPLIED.

**D. Morrice, Sons & Co.**

Agents,

Montreal and Toronto.

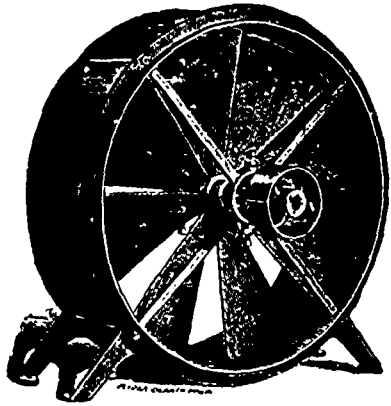
Returns just issued by the Department of Trade and Commerce show that according to the United States figures, Canadian wool to the amount of 18,041 lbs. was shipped to the United States for the first nine months of 1899, as compared with 1,571,235 lbs. and 589,128 lbs for the like periods of 1900 and 1901, respectively.

The Ontario Government has fixed the price of binder twine made this year at the Central Prison at 8c. per lb.

A storage barn of the Zurich, Ont., flax mill was burnt a few days ago, and to the value of \$300 was burnt. No insurance.

At an executive meeting of the woolen section of the Canadian Manufacturers' Association on the 13th inst., W. K. McNaught, on behalf of the Toronto Exhibition Association, explained that if the woolen manufacturers exhibited in a body at Toronto this year they would get a building to themselves. It was decided to recommend such an exhibit.

**NEW ENGLAND Ventilating & Heating Co.**



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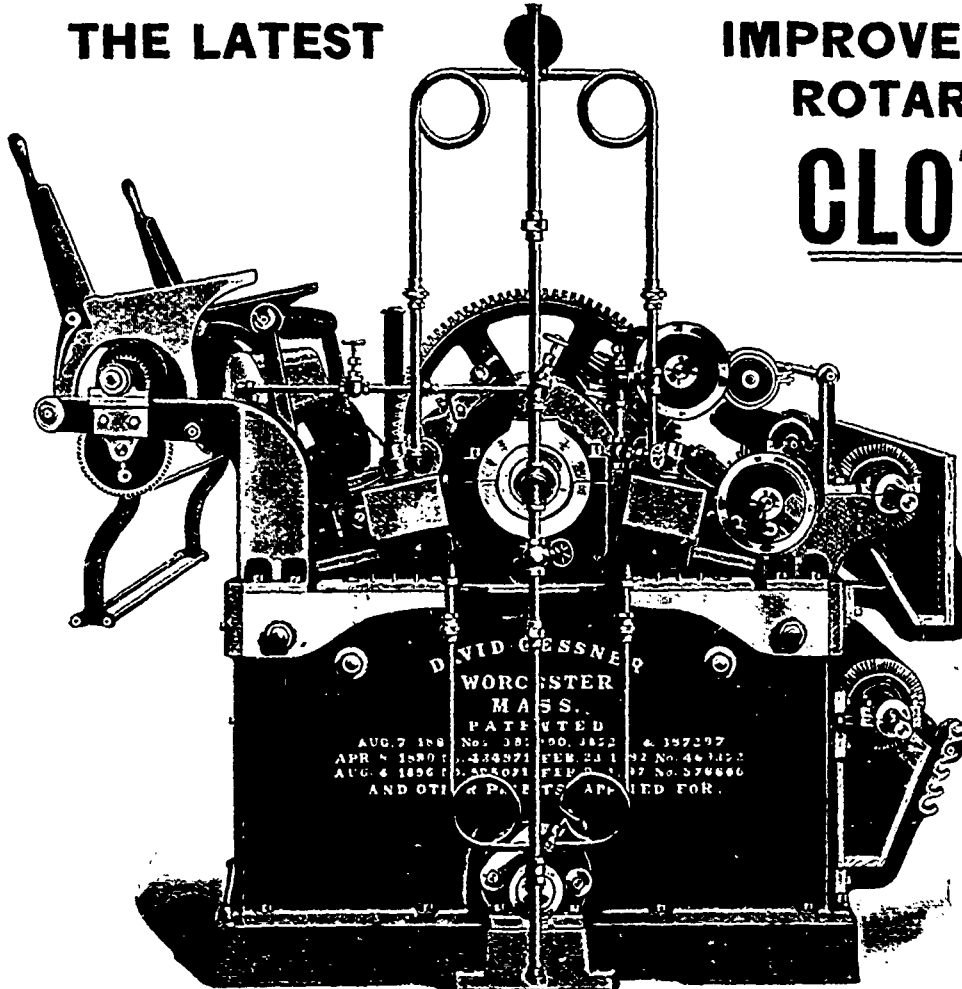
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**IMPROVED DOUBLE-BED  
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The bed plates are self-adjusting, the levers that operate them being mounted upon sliding steel fulcrum bars within the frames. The trussing apparatus of the bed plates is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

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**“GENUINE OAK”**  
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**MORE SOLID LEATHER TO THE FOOT THAN  
ANY BELT MADE**

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**EVERY BELT STAMPED WITH SPRIG OF OAK**

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**FULL STOCK ON HAND.**

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**Established 1820**

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**MILL SUPPLIES** of every description

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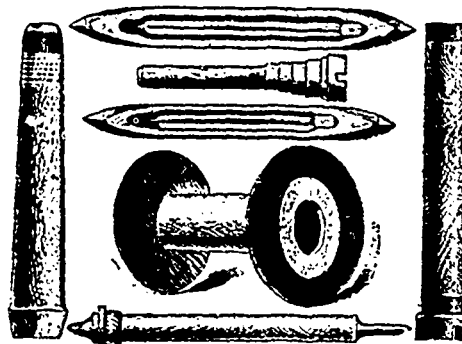
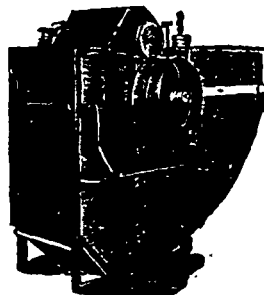
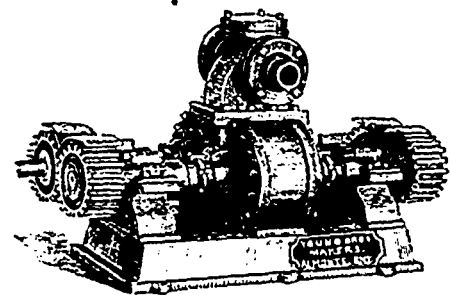
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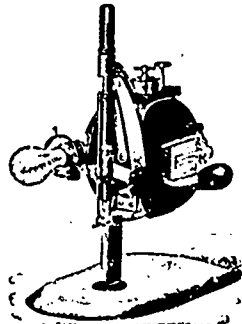
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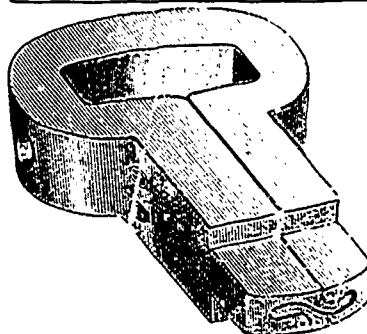
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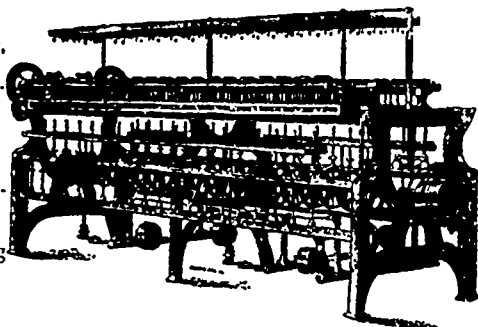
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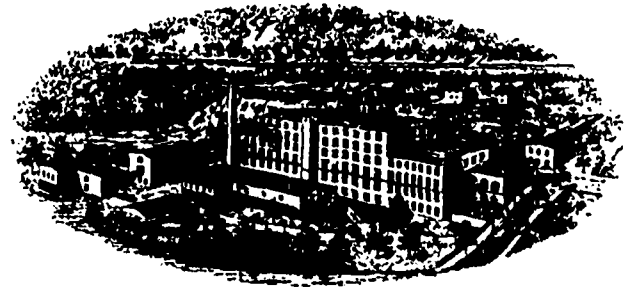
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**TEXTILE EXPORTS OF GREAT BRITAIN TO CANADA.**

The following are the values in sterling money of the exports from Great Britain to Canada for April, 1900 and 1901:

	Month of April.		Four months to April.	
	1900.	1901.	1900.	1901.
	£	£	£	£
Raw wool .....	3,235	5,352	21,223	11,752
Cotton piece goods .....	49,756	35,306	275,362	250,684
Jute piece goods .....	15,036	13,311	50,339	51,544
Linen piece goods .....	13,550	10,258	78,856	62,375
Silk, lace .....	1,254	526	7,731	5,578
Silk, articles partly of .....	2,067	3,378	19,654	21,719
Woolen fabrics .....	22,931	20,378	156,482	159,307
Worsted fabrics .....	28,522	32,454	231,117	212,945
Carpets .....	25,725	15,701	129,764	114,855
Apparel and slaps .....	19,293	21,252	107,794	98,253
Haberdashery .....	8,136	8,704	64,886	51,901

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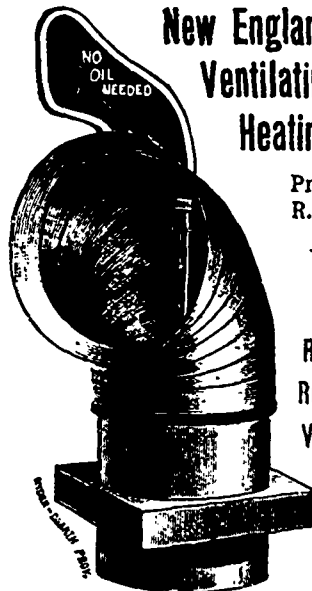
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Manufacturers of

**Richardson's Revolving Ventilator**

For use where power is not available.

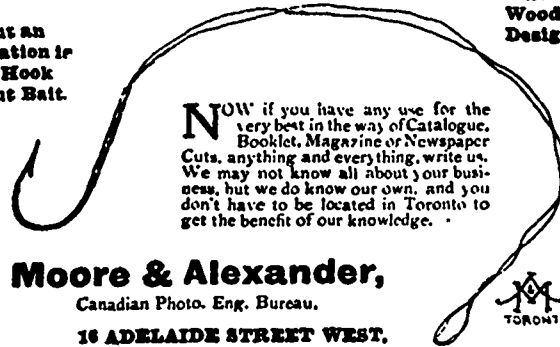


This Ventilator is balanced, has ball bearings and revolves with the least perceptible current of air, having no obstruction to its outlet, and never fails to give satisfaction. Specially adapted for Mills, Dye Houses, Workshops. They are so compact that any carpenter can erect them.

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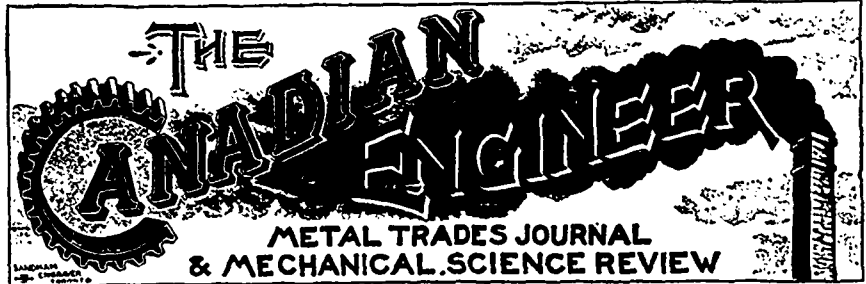


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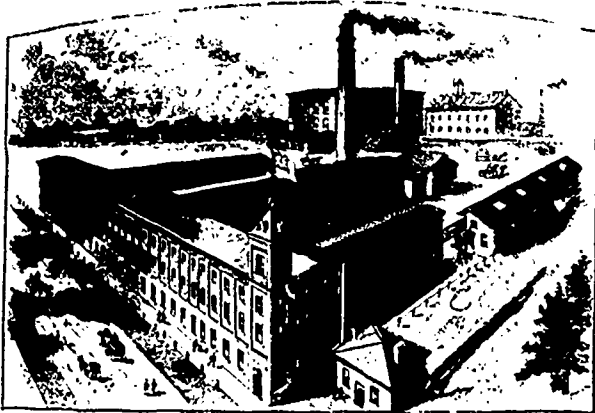
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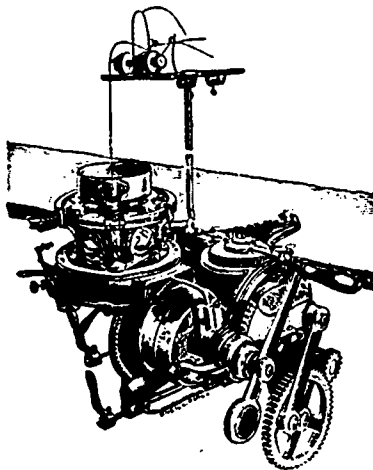
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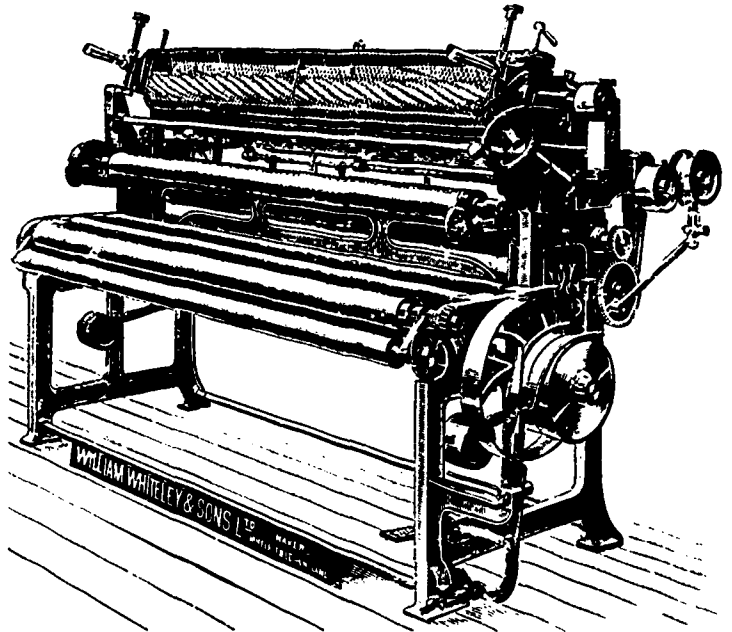
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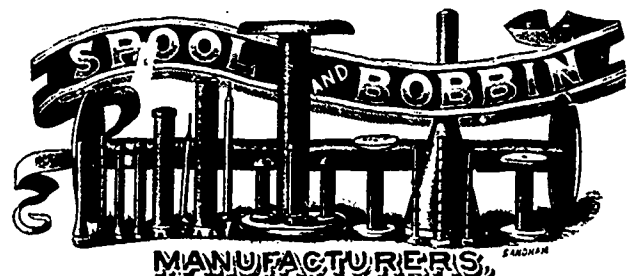
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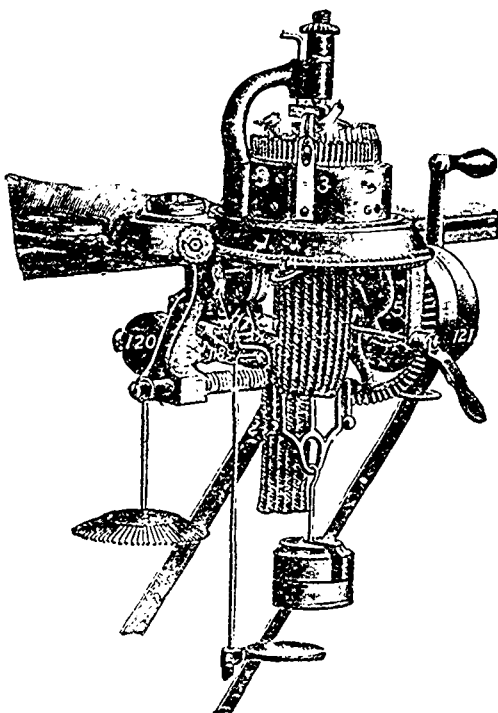
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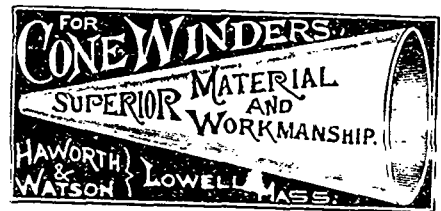
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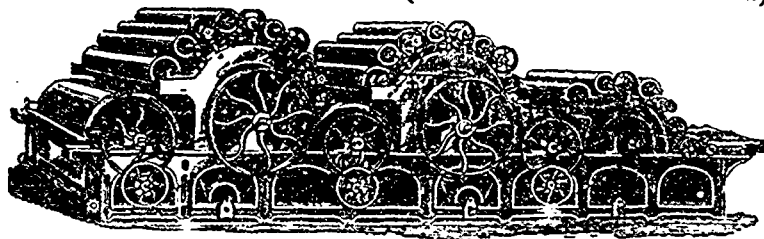
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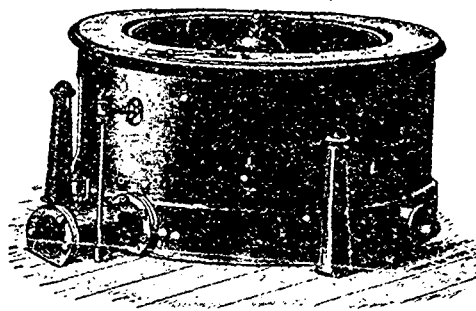
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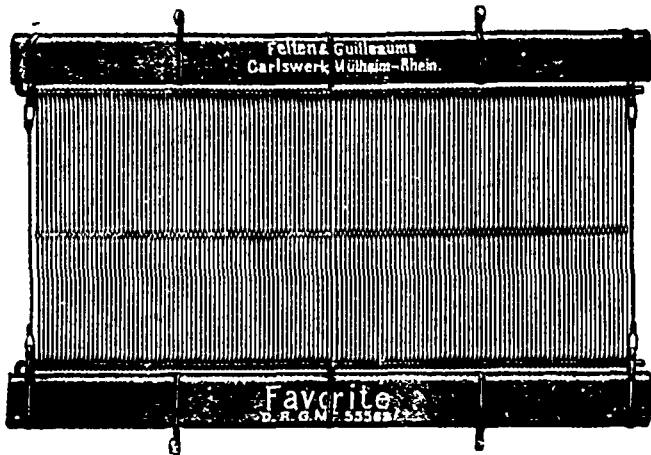
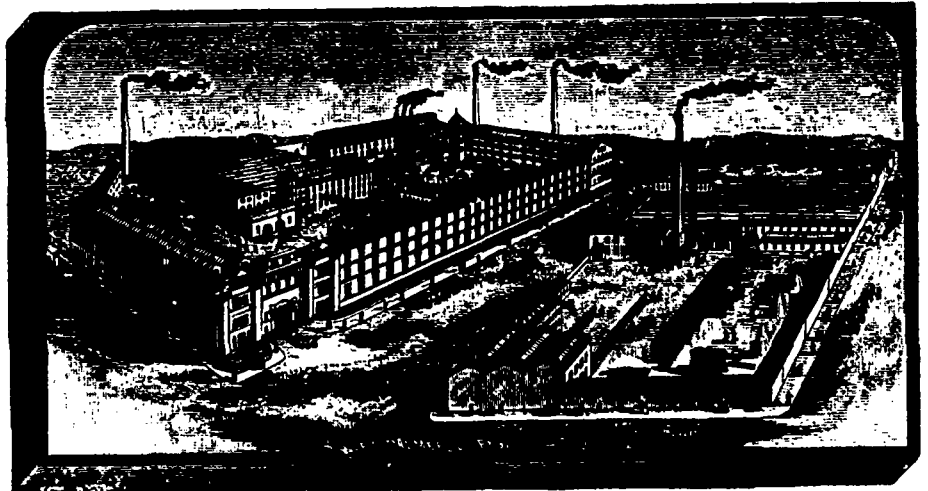
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