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CANADIAN Journal of Fabrics

THE JOURNAL OF THE Textile Trades of Canada.

Vol. XVII.

TORONTO AND MONTREAL, JANUARY, 1900.

No. 1.

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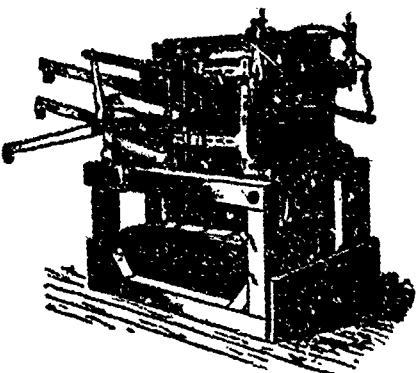
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CANADIAN JOURNAL OF Fabrics

THE JOURNAL OF THE
Textile Trades of Canada.

Vol. XVII.

TORONTO AND MONTREAL, JANUARY, 1900

No. 1.

Canadian Journal of Fabrics

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

Subscription Canada and United States \$1.00 per year Great Britain, 5' Advertising rates on application.

Offices 62 Church Street, Toronto, and the Fraser Building, Montreal

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Business correspondence should be addressed to Montreal, but cuts, news items and editorial correspondence to Toronto, cuts from abroad should be sent by post wherever possible, not by express, changes of advertisements should be in our hands not later than the 10th of each month to ensure insertion.

THE CANADIAN TEXTILE DIRECTORY

A Handbook of all the Cotton, Woolen and other Textile manufacture of Canada, with lists of manufacturers agents and the wholesale and retail dry goods and kindred trades of the Dominion, to which is appended a vast amount of valuable statistics relating to these trades Fourth edition Price, \$3.00

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THE CANADIAN WOOLEN INDUSTRY.

In our last issue we pointed out some glaring errors and misleading figures in the last Canadian census returns, dealing more particularly with the textile trades, and we expressed the hope that so intelligent an officer as our chief statistician is will see to it that when the next census is compiled the Canadian Government will be persuaded to get out of the rut of the past, and not only give us more correct returns, but give us details that mean something, instead of the piles of useless figures that have appeared for the last three or four decades. The authorities have not realized that in the last half century manufacturing systems and processes have been completely revolutionized, so that statistical tables which would have been fairly comprehensive in the census of 1851 will be meaningless

for the census of 1901. The old hand processes are fast disappearing and in some branches of the textile trades have already disappeared. In some branches of the cotton and woolen industry the "number of hands employed" and the "annual value of raw material used" may mean something, or they may mean nothing, whereas a statement of the spinning and weaving capacity means exactly what the figures show. But these two items of information, which are at once the easiest got at and the most important, are precisely the information which our census returns do not give. The same criticism applies to the other branches of the textile trades, to the paper and pulp mills, the boot and shoe factories and other industries. These are not the only reforms needed. The grouping and arrangement of certain industries should be supervised by someone who has a technical knowledge of the trade. As an instance of what the absence of such knowledge may lead to, we find the census of 1891 reports 22 cotton mills. This, as we pointed out when the returns were published, was wrong, but the inaccuracy is partly explained in other divisions, where we find one mill put under the head of "Cotton bag factories" and another under the head of "Duck and yarn factories." But these items, while they partly account for the mistakes under the head of "cotton mills," are still misleading, inasmuch as any enquirer is naturally led to suppose that there is only one factory in Canada making cotton bags and one making duck and yarn.

When we come to the woolen industry the misclassifications above referred to are still more misleading, as the extent of the industry involved is greater. For instance, according to the census of 1891 there is only one blanket mill in Canada, only one felt factory, and but one factory where woolen yarn is made. Yet we have 377 establishments enumerated under the head of "woolen mills," 223 under the head of "knitting factories," 26 under the head of "underwear factories," and 58 under the head of "hosiery factories." One naturally wonders on what plan the census takers make a distinction between "hosiery" mills, "knitting" mills, and "underwear" factories. Whether the underwear factories referred to are makers of knitted underwear or of cotton night shirts or such other garments the returns are equally astray. And what "hosiery mills" in Canada are not "knitting mills?" But one of the most remarkable features of the census returns dealing with textiles is the statement that there are in Canada 557 "carpet factories." It will hardly

be satisfactory to anyone seeking information on carpet manufacturing in Canada to be told that these 557 carpet factories must include the hand-loom weavers of rag carpets. By the way, under the head of "weavers" the census gives 2,085 establishments employing 2,445 hands; a list which embraces all the people whose whole or partial occupation is the operation of hand-looms owned by themselves, and which doubtless includes large numbers of hand-loom carpet weavers. Of these 557 so called carpet factories 344 are put down to Ontario and 29 to Quebec. As a matter of fact there are 6 carpet and rug factories in Ontario using power looms, and two in Quebec, while in Ontario there are also 13 establishments operating hand-looms sufficient in number to be fairly classified among the "factories." But assuming the census figures to include the hand-loom carpet weavers they are still woefully wide of the mark, as those acquainted with the domestic industry of Quebec are well aware. The census gives 377 woolen mills and 441 carding and fulling mills in Canada. Coming to the distribution of these mills we find 303 woolen mills attributed to Ontario and 44 carding and fulling mills to the same province. Now, the Canadian Textile Directory, which does not claim to have the Government facilities for gathering reports from the back districts, gives the names and addresses of 49 establishments exclusively devoted to carding and fulling in Ontario, besides 200 or 300 at which carding and fulling are carried on along with spinning and weaving. As for there being 303 "woolen mills" in Ontario, they never existed either in 1891 or in any other year. The fact is that the census takers have got woolen mills, carding mills, hand-loom weavers, knitting mills and other branches of the woolen industry so mixed that they are worse than useless for any statistical use.

The compilers of the Canadian Textile Directory do not claim absolute accuracy, because the textile manufacturers are not compelled to report their mills as they are compelled to report to the census takers; but the recent edition of this directory enables us to gather a large amount of information which is here for the first time presented in tabular form. In many cases where the proprietor or lessee of a mill neglected to report to the publishers the capacity in sets of cards, looms, spindles, etc., we could only estimate the figures, but the totals will not be far astray, as there is scarcely a case in which the neglectful ones operated more than one set of cards with corresponding other machinery. Our information regarding the knitting branch of the woolen industry is less satisfactory. A portion of the total of hand machines belongs to the tweed and other establishments which have in their factories a few hand knitting machines as an annex to the weaving department. The power machines do not include sewing machines, and of the power machines it must be understood that there is a great variation in the capacity and purpose of power knitting machines, so that some further classification of this machinery would be necessary before a satisfactory notion of the productive capabilities of the Canadian mills could be formed. The first tables are compiled from the first edition of the Canadian Textile Directory issued in 1885, and the second from that of 1899,

recently published. The first issue was naturally less complete than subsequent ones. It should also be noted that no attempt was made to compile a list of those who devote part or all of their labor hours to the operation of hand knitting machines in their own homes. Many of the hand machines here reported are idle and this branch of industry is disappearing even faster than the custom carding mills:

KNITTING MILLS.
(From the Canadian Textile Directory, 1885.)

	No. Mills.	No. Hand Machines.	No. Power Machines.
British Columbia .....	..	....	..
Manitoba	1	....	5
New Brunswick	2	25	....
Nova Scotia	2	....	22
Ontario	51	184	703
Prince Edward Island..	..	....	....
Quebec	8	....	148
	64	209	878

WOOLEN MILLS.
(From the Canadian Textile Directory, 1885.)

	No. Mills.	Sets of Cards.	Looms.	Spindles.
British Columbia..	....	....	....	....
Manitoba	1	1	4	240
New Brunswick ..	7	8	32	1,920
Nova Scotia	15	23	101	4,040
Ontario	182	409	1,465	87,370
P. E. Island	3	5	26	1,200
Quebec	32	69	257	13,100
	240	515	1,885	107,870

KNITTING MILLS.
(From Canadian Textile Directory, 1899.)

	No. Mills.	Hand Machines.	Power Machines.
British Columbia .....	..	....	....
Manitoba	1	3	..
New Brunswick	2	....	27
Nova Scotia	2	9	37
Ontario	54	246	1,953
Prince Edward Island..	..	....	....
Quebec	12	21	1,422
	71	279	3,439

WOOLEN MILLS.
(From Canadian Textile Directory, 1899.)

	No. Mills.	Sets of Cards.	Looms.	Spindles.
British Columbia..	1	1	5	400
Manitoba	1	1	4	200
N. W. Territory ..	3	3	13	656
New Brunswick ..	5	7	30	2,200
Nova Scotia	19	30	127	9,240
Ontario	199	440	1,859	129,086
P. E. Island	2	3	24	1,080
Quebec	40	139	583	51,224
	270	624	2,645	194,086

The above tables do not include the carpet factories, which, as before mentioned, number about 18, and have about 213 power looms and 98 hand looms; nor do they include the felt factories or shoddy mills. There are 7 concerns engaged, more or less exclusively, in the production of felt goods, having, in all, about 26 carding machines and about 35 felting machines. Besides these four concerns making paper maker's felts are enumerated under the heading of woolen mills. In 1885 there were 7 shoddy mills operating about 30 cards and 11 pickers; in 1899

there were 19 shoddy mills in Canada, having a total capacity of 60 cards, 30 pickers, 6 garnett machines and 4 carbonizers. These do not include a small number of woolen mills, who have their own carbonizers and wool stock plants.

THE PEOPLE'S KNITTING SYNDICATE. LTD.

The Co-Operative Knitting Machine Co., formerly of Georgetown and later of Toronto, Ont., has for some years been doing business as dealers in knitting machines and yarns and knit goods. The methods of the company, as announced in one of their circulars, were to sell a hand knitting machine either for cash at \$15, or on the instalment plan at \$20, and to supply to the buyer yarn to be knit and returned to the company, which sells the manufactured goods. These circulars state that "after long experimenting we have been able to produce an Automatic Machine by which all kinds of knitting is now done by a simple process." It is further stated "that the large export trade to the North-West Territories, B. Columbia, United States and the British Colonies furnishes an unlimited demand for our goods." The claim is made that a pair of socks can be knit in 30 minutes. The prices promised for knitting are: bicycle stockings, \$10 per hundred; woodman's socks, 5 cents per pair; motorman's mittens, 10 cents per pair.

In publishing this article we are anxious only to state the facts as they exist and we would be glad to hear from anyone who is in possession of any information to the credit of the Co-Operative Knitting Company, or of the People's Knitting Syndicate, Ltd., which is now carrying on the business.

A number of enquiries have reached us on this subject, and we are in receipt of the following letter, to which we should like to have the company's answer:

"In reference to Knitting Co. I enclose copy of Contract Order Form and will also give you an idea of how they fulfill it. When you order outfit and pay the required sum they forward machine at once with the work started as agreed and enough yarn to knit about one stocking. This is to be knit and returned as sample. Then they send by post enough yarn for another pair, these to be returned as samples for which they give no pay; these samples came about once in two weeks and sometimes more, not often less. After sending about six or eight of these samples, which lasts about three months, they tell you that the season is on for another class of goods and will send samples for them. They usually start with socks and then on children's toques and then bicycle hose or mitts, so that they keep their workers on samples for about ten months or a year before they give them any work that they pay them for. Then they start to send yarn enough to make about twelve to fifteen pair of socks or about fifteen to twenty toques at 5 cents which makes from 50cts. to \$1 worth, and then the workers have to pay 25 cents for express. If a person had all the work they could do they might make about 50 cents a day at the outside, but they never get enough yarn, as after every parcel has been returned they had to wait from 2 to 4 weeks for more yarn and after paying express on such small parcels there was not 50 cents a week for the workers. After sending work for about 3 or 4 months at this rate I know of two workers who received notice that they were going to move, that was last May, and as yet they have not received their pay for last work done and cannot get any answer to letters written. Should you want any witness to prove these statements I will be pleased to furnish them."

After some experience in Georgetown the Co-Operative Knitting Co. moved to Toronto, as is shown by this advertisement which appeared in the *Brantford Courier* a short time ago:

"Seven to ten dollars a week in leisure hours, anyone can do the work. We want reliable families in every locality to help us manufacture children's toques, gauntlets and bicycle leggings for the trade by a new process. No canvassing or experience required. Steady work, good pay, whole or spare time. Write to-day. Address, The Co-Operative Knitting Co., 15 Leader Lane, Toronto."

At the present time the newspapers of the Dominion are flooded with the advertisements of the People's Knitting Syndicate, Ltd. That is, the newspapers, with the exception of the dailies published in Toronto where the directors of the company reside, are so flooded. The following paragraph in some form or other usually appears in the paper with the first publication of the advertisement. This is from the *St. John Telegraph*, Dec. 30th:

"A concern that promises to have the hearty support of the public is the People's Knitting Syndicate of Toronto, Limited, stock in which to the value of \$100,000 is now offered for public subscription. It is the avowed object to oppose the large knitting combines, and to place its produce on the market at a cheaper price than the trusts can do, as well as to enable its shareholders to share in the profits of the syndicate, and to make money at their own homes. The plan of the syndicate is novel and engaging. To each subscriber for 20 \$1.00 shares in the syndicate, a knitting machine is given, and the members are then supplied with yarn to manufacture at his or her own home, such knitting goods as the syndicate requires. The syndicate promises cash payments for the knitting done by the shareholders, and also to divide among its members semi-annually, the net profits realized from the sale of goods made by the shareholders for the syndicate. The syndicate should have no difficulty in disposing of knitted goods, which are always in demand. The plan seems to be a good one, and is in the hands of well known Toronto gentlemen. It should be a great success."

Most of the advertisements contain a picture of a building which bears a large sign "The People's Knitting Syndicate, Ltd." and underneath the sign is the following statement: "The above cut shows the mill secured for manufacturing machines and yarn for the Syndicate." Though the building is situated on a street corner no street sign shows upon it, so it is presumably not in Toronto, and upon enquiry of the "trustee and transfer agent" of the company as stated in the advertisement we were informed that the company had as yet no mill, but was having the machines built under contract by a well-known machine builder, whose name, be it observed, does not appear on the machine.

Opposite the picture of the alleged factory in many of the advertisements there is printed a copy of a paragraph which appeared in the *Toronto Mail and Empire* on Dec. 8th, announcing the formation of a knitting mill trust. As no such trust has been formed it would seem hardly necessary to float the People's Knitting Syndicate, Ltd., in order to compete with it.

The character of the newspapers in which this advertisement has appeared is such as to inspire public confidence. People believe in things which are advertised in the best papers everywhere. This is especially true of the *Montreal Witness*, a paper which is known to sacrifice yearly many thousand dollars to the sense of duty and

moral obligation which prevents its publishers from accepting advertisements which are in any way immoral or which pander in any way whatever to vicious or depraved tastes. The reputation of the *Montreal Witness* in this regard is world-wide and unique.

In its weekly issue, dated January 9th, 1900, we find the advertisement of the People's Knitting Syndicate, Ltd., but the "mill picture" and the "combine paragraph" are omitted. We have no doubt that many readers of the *Witness* will buy these machines, believing that the claims made in the advertisement can be substantiated. Some most distressing cases have been brought to our notice where poor people have borrowed money to go into this scheme and have been utterly unable to repay it out of their investment. It is naturally only the very poor who would be tempted to buy this machine in the hope of making money.

The machine sold by this company will undoubtedly knit, and fair work on common goods can be done on it, in skilled hands. The old-fashioned spinning wheel will also spin yarn, and good yarn can be spun on it, in proper hands. But when put into competition with the modern automatic knitting machinery of our big factories the little hand knitting machine (whether of this company's type or any other) has as much chance of "downing the combine" as the old-fashioned spinning wheel has of "downing" the modern spinning mule of the big woolen mill which draws out 480 lengths of yarn more quickly and more evenly than the hand wheel can draw one length.

On an ordinary hand machine, say for instance, of the Creelman pattern, an expert operator can knit 4 doz. pairs of common socks per day of 9 hours, for which he will receive from 16 to 20 cents per dozen for his work. A poor operator cannot reach 2 dozen per day, and the average operator's work may be set down at two and a half dozen per day, so that even the expert operator can only make 80 cents per day at the highest rate of wages. A Creelman machine, with its various attachments, costs \$20 without extra cylinders. With extra cylinders sufficient to do most ranges of work it would cost \$50 to \$60. Now the machine sold by the Co-Operative Knitting Company costs that company, we believe, \$4 each, and has been sold at prices ranging from \$12 to \$20. As supplied to the ordinary purchaser it has no weight hooks, no weights, no set-up device, no work hook, and all these attachments are only sent as extras at prices which, to say the least, afford the sellers a big margin of profits. For instance, extra needles are charged for at 5 cents each against 2 cents each charged in the ordinary knitting machine trade, or \$10 per thousand if bought in quantities. We understand that the ordinary operator can produce about one and a quarter dozen per day on this machine, which is frequently liable to get out of order through the breakage of needles owing to the exposure of the cam cylinder.

There are other features in this company's plan of operations which are decidedly open to criticism, but it will only be necessary at the present moment to show as we have, how impossible it is for any operator on this machin

to compete with factory work. It is well known in the trade that at least half the hand machines of standard makes now in the various small factories and households are standing idle, while the big factories operating by power and running automatic machines of great capacity are crowded with orders. In another article we give statistics of the growth of textile manufacturing from 1885 to 1889 as taken from the *Canadian Textile Directory*. The reports of the hand knitting mills in the edition of 1885 were very incomplete, so that when allowance is made for this it will be seen that the hand industry has stood still; indeed, when the number of hand machines that are now idle is taken into account, this branch of the knitting business has declined actually as well as relatively, while the increase of power machines in the same period has been remarkable. The trend of trade in the knitting business is the same as that in other departments of textiles; the hand loom is being replaced by the power loom and the hand spinning wheel by the self-operating mule; and these again are now being replaced by machines which will double the work of early types. In view of all these changes which are passing before our eyes it is marvellous that so many people are still to be found who can be misled by the illusion that fortunes are to be made by knitting socks in leisure hours on a hand machine.

THE PRINCIPLES OF MILL VENTILATION.*

The century now fast drawing to its close is one of the most remarkable our country has lived through. Looked at from every standpoint, we find progress has been made, with natural results—improvement in our homes and workshops, a raised standard of living and of efficiency. Not the least important factor which has tended toward these bettered conditions is the subject we have before us to-night. Some people may inquire—What has ventilation to do with a nation's progress? The question is short, but the answer is shorter still; it is but one word—"Everything." An illustration may assist us in grasping more firmly the value of fresh air. In fixing a steam boiler, the point which has the most careful attention is the proportioning the flues and chimney, so that full-value may be obtained from the coal consumed. I have once seen an engineer try to circulate the gases from the back of his boilers over and through the fires; but the results were what you would expect—fires nearly out and steam down in a very few minutes. Why was this? Because the fires could not live when forced to take back their own gases. Look, however, at many of our mills, and we find the workers breathing over and over again the same air. Its effect can only have the same result in time as the illustration just mentioned, as the laws of combustion apply with equal force, whether in the boiler furnace or in the human frame. There are five millions of workers in our factories and workshops, whose efficiency depends largely on the condition of their air supply, thus constituting ventilation as one of the foundation stones of national well-being and progress.

*Paper read by W. H. Casmey at a Meeting of the Blackburn (Eng.) Managers' Association.

It is interesting to note that in 1802, when the first Factory Act was made law, the first clause dealt with our subject in the following words: "The masters or mistresses of such mills or factories to provide a sufficient number of windows and openings in such rooms or apartments to insure a proper supply of fresh air in and through the same." Here, then, is a condition asked for on the morning of the century, and not given even now in its entirety, as a proper supply of fresh air means nearly double the requirements of the Cotton Cloth Factories Act. My reason, however, for mentioning this old Act is merely to show how long the question of mill ventilation has been under discussion, and at the same time to compare what the Government asked one hundred years ago, inlets but no fans, with what we often find to-day even in Lancashire, mills with fans but no inlets. The Act of 1802 does not seem to have had much effect; for we find in 1833, when Lord Ashley (afterward Lord Shaftesbury) introduced a bill into Parliament for more beneficent legislation for factory operatives, that the conditions under which they worked were most unsatisfactory. The Times, in its obituary notice of Lord Shaftesbury's death in 1885, when referring to the above-mentioned Act, stated that "the evidence he brought together concerning the conditions in factories sent a thrill of horror throughout the length and breadth of England. In Bradford especially the effects of the long and cruel toil were most remarkable; cripples with distorted forms could be numbered by hundreds, and statistics proved that in the factory districts as many persons died under 20 years of age as under 40 in other parts of the country." Such results were to a great extent brought about by the insanitary conditions under which work was at that time carried on.

Look for a moment in our streets at the present day, during the time the operatives are leaving work. The contrast seen will be very great. Is not the comparison a further proof of what ventilation assists in doing? Seeing good work done is a stimulus to us to go still further. I heard my chief say fourteen years ago: "There is great satisfaction to me in pushing forward this apparatus, as from its use I know that both men and masters will benefit, the former by enjoying better health and the latter by securing more and better work." Bradford has just been mentioned as giving very practical proof nearly 70 years ago of the evils arising from insanitary conditions in mills; but we can now mention the same town as taking a lead in furthering the health of the rising generation. They have started at the right place, the homes of the children. The school board has had circulars printed and sent around recently to every house in the town. After calling attention to the necessity of cleanliness, the circular continues: "Foul air is the cause of much disease, and a child breathes more quickly than a grown-up person. Every time he breathes he throws off a poisonous gas, which he ought never to breathe again. If people sleep in rooms where no fresh air is coming in from the window or chimney, they poison one another," etc., etc. Here, then, we find the groundwork for real sanitary progress. Once let parents understand the necessity for ventilation,

and the children will be better and stronger at home. Let all our schools be warmed and mechanically ventilated by the best appliances, and, to use Sir Henry Roscoe's words, the conductors will find that "mechanical ventilation is more comfortable, the rooms are warmer, and the temperature is more uniform and more equally distributed. It is much healthier, and diminishes the risk of spreading infectious disease, owing to the rooms being supplied with purer air. The children are enabled to derive greater benefit from their education. It increases the grant-earning powers, without increasing the labor of power for earning the grant. It lessens the labor, and increases the teaching powers of the teacher."

After leaving such schools, let the children be drafted into mills and works where the same hygienic laws have been considered, and we shall find them grow up with finer physiques, more brains, and more power to use them; consequently the turn-out of work will be proportionately increased both in quality and quantity. Before passing on to the more technical part of this paper, it is only right to call attention to the efforts now being made by the Society for the Prevention of Consumption. No doubt all are now aware that consumption is not a hereditary disease, but is transmitted from diseased persons through the medium of the air, that is, it is due to want of ventilation. Sir William Broadbent, at a meeting at Marlborough House in 1898, which was presided over by H.R.H. the Prince of Wales, said: "Phthisis, with all the various forms of tuberculous disease, is the work of a microbe discovered by Koch. It is by the transmission of this bacillus that tuberculous diseases of all kinds are spread. The principal way by which they are conveyed from a diseased to a healthy body is by means of an expectoration, which contains them in large numbers, and which, when dried, are suspended in the air in the form of dust—especially in ill-ventilated rooms." A further witness we find in Dr. Ransome, who states that wherever people are gathered together the death rate from consumption is in direct proportion to the degree of crowding, and to the deficiency of ventilation. Another authority, T. R. Allison, in his book on consumption, says: "Pure air is the most essential for life; foul air is the starting point of consumption. Persons who breathe bad, vitiated and polluted air must expect weak lungs, and if they disobey other hygienic laws as well, consumption may arise." The great importance of fresh air was most ably dealt with by Sir William Preece at the opening of the Health Congress at Southampton a few days ago.

Sufficient has now been advanced to prove the necessity for still further improvement. Let us then see what perfect ventilation is, and how it can be applied to our mills and factories. The earth's surface is the bottom of an air ocean, and when a building is open and not inhabited it has the same purity of air inside as that by which it is surrounded. When, however, people collect together in such buildings, the impurities given off from their lungs and skin soon cause the interior air to become foul, such foulness being in proportion to the number of people present, and increasing in proportion to the time they are

together. Ventilation, then, is the means by which such impurities are removed and the air in the interior is kept within a fraction of the outside purity, and moved continually, so that no draught or air currents are noticeable. Such would be the acme of ventilation.

In this department, as a rule, the temperature gets very high, which is caused to some extent by the high speed of the spindles; and, owing to the nature of the work a current of air in such rooms would be most injurious. The exhaust method as adopted in the card rooms must not be applied here. As results are always better than elaborate theories, I will mention several cases of the ventilation of spinning and roving rooms that I have conducted during the last few years. The first one was a room 160 feet by 60 feet by 12 feet high. The complaints were—temperature too high in some parts, too low in others, and draughts from a hoist and from an adjoining room. In dealing with this room, we fixed small fans at various points to blow fresh air in, and a less number of the same size (also equally distributed) we fixed to exhaust. From this it will be seen that more air would be blown into the room than the exhaust fans could deal with, the result being that a slight pressure or plenum was maintained in the room, and the draughts before complained of were entirely prevented, as the tendency of the air was to escape through all openings to the outside, not to enter. The temperature throughout the room was equalized and the spinning was consequently improved. The second case was a spinning room larger than the one just referred to, and where several attempts had been made to reduce the high temperature. The same course was adopted, and the results were equally satisfactory. The third case is perhaps the most important. The room was 160 feet by 100 feet by 14 feet, but what makes this case more interesting is that the hygrometrical readings were taken inside and outside, and the same thing was done also for a week without the fans. The results were, with fans running, an increase in humidity ranging from 5 to 7 per cent. This latter firm were so satisfied with the results that they now have either eight or nine rooms fitted up on the same lines. Such results are much more to the point than anything else I could say. I would not, however, have you suppose that this plenum system of dealing with spinning rooms has not gone further than those mentioned at the present time. I can mention over twenty firms who have adopted it, and all with the same satisfactory results. It is a matter for serious consideration when the hygrometer outside registers 50 degrees dry and 46 degrees wet, and we find that from the speed of the spindles and other causes the inside temperature rises to over 70 degrees. Unless moisture be added by artificial means the air in the spinning room will contain less than 50 per cent.

—The reported amalgamation or combination of the Canadian tweed makers is still unannounced. There is every prospect that the present incomplete stage is all that will be reached, just now at least. The condition of the money market makes it unlikely that such an undertaking could be floated at all. There is also the difficulty arising

from the different financial standing of the mills. If one mill shows a surplus of a quarter of a million dollars and another a deficit of a like amount it is going to be some what harder to value the business and good-will of the going concerns which are to form the combine.

SOUTH AFRICA, ITS PEOPLE AND TRADE.

(Continued from last issue).

The foregoing were a few out of many political grievances. On the top of these the people of Johannesburg in particular had their local or municipal grievances no less trying. The condition of Johannesburg has, like other matters in the Transvaal, been much misunderstood by outsiders. The Boer newspapers and public men have sought to make it appear that Johannesburg is made up of the offscourings of the earth, to whom it would be dangerous to give rights of self-government. In the early days, it is true, a great many adventurers came from all parts, but the town passed through that phase of life as all mining communities do; and for some years past it is no better and no worse than the average city of its size. It is not an alluvial mining diggings where men of every stamp can work their own claims, but a settled industry carried on by rock-crushing, as in the Kootenay, and necessitating expensive machinery and expert hands. Indeed, the mining machinery of the Witwatersrand is the most modern, as well as the most extensive in the world, many of the large companies having their own machine shops and operating large steam and electrical plants, with large staffs of the most skilled workmen. The manual labor is done chiefly by natives, but the mining and commercial business—the former having the cleverest mining engineers and experts in the world, and the latter, including branches of the most reputable firms of England, Germany, the United States, etc.—are carried on by white people, among whom there are practically no Dutch. Where there is so much gold production (the output last year was \$75,000,000), there must be a large number of banks and financial corporations, which of necessity must have trustworthy employees, and so it must be said of business firms. Are the owners of these big mining plants, banks and financial houses likely to put their affairs into the hands of ruffians, drunkards, and thieves? If this question cannot be answered by a moment's reflection, the doubtful reader can satisfy himself by examining a copy of a recent Directory of Johannesburg, and read down the names and occupations. The same directory will show how unfounded is the statement that this agitation is purely a capitalistic one. Now imagine such a city of 80,000* progressive and energetic inhabitants being governed by thirty farmers; and imagine the representative financial and mining body of the city (the chamber of mines) being refused an ordinary charter of in-

*Besides the white population there were at the beginning of 1899, 50,000 blacks.

corporation, on the ground that it would be creating "a State within a State." At first, English-speaking men were chosen to the town council, but to cut them off from self-government, even in municipal matters, President Kruger decreed that only Dutch should be spoken in the council, and so the Anglo-Saxon was debarred there. And the Burgomaster (Mayor) is not elected by the voters, but appointed by the Government. The drainage of the city flows along the streets in open gutters, exhaling poisonous vapors, as was the case in the early days of Capetown, and the people are compelled to drink dangerously unwholesome water, with no power to alter the condition of things. Drunken zargs (policemen) swagger about brandishing revolvers, occasionally shooting down poor natives for some trifle, and insulting Uitlanders (who are not allowed to carry arms), whenever an excuse offers. The killing of Edgar by a squad of zargs, who broke into his house and murdered him in cold blood, as he was sitting on his bed talking to his wife, is a notorious example. The murderers were arrested, tried, acquitted, and some of them promoted. Such was the municipal condition of Johannesburg up to the present crisis.

The Boer Government of the Transvaal stands condemned by the liquor traffic. In theory, no liquor is sold to the natives, but in the large mining centres, particularly Johannesburg, the native laborers, who are heided in enclosures like cattle, are supplied with the vilest of intoxicating drinks, in such quantities that scarcely a day passes without one or more murders, brought about through drunken natives engaging in "faction fights." It is estimated that one-third of the total native labor supply is rendered non-effective, week in and week out, through natives being incapacitated by drink, while the damage to goods and machinery, through the same cause, is a serious item. So great did this scandal become that the Boer Church was shamed into strong representations against it last year, but though Kruger is himself an abstainer, he sided with the liquor dealers, and would do nothing, on the ground that if this traffic were stopped, a number of honest men would be put out of employment.

The operation of the liquor law in Johannesburg is thus described by a brother of the Rev. Chas. T. Cocking, of King, Ont., writing lately from the Transvaal: "Take the case of the liquor law, which prohibits sale of liquor to natives. Every Sunday one can see hundreds of natives wandering about the mines and suburbs of the town almost mad with drink. Kafir eating-houses are filled with natives drinking, and from which they stagger with sacks full of liquor to be swilled on the open veldt by fraternal groups. A special liquor detective department exists, and yet for twelve months this has gone on. Result? For two or three days following the debauch, hundreds of natives are unable to do their

work, and remain sleeping off their carouse in the mine compounds to the dead loss of the mining companies. Cause? An immensely wealthy liquor syndicate, which, by bribery, etc., prevents the law being effective. The Government is so inconsistent as to absolutely prohibit natives from drinking, but a treaty with Portugal must allow the importation of Kafir liquors and spirits through the port at Delagoa Bay, and from the duty on which they obtain a handsome increase in the revenue."

A word as to the commercial situation. In the year 1884 the revenue of the Transvaal was £161,506, and the expenditure, £184,820. The population at that time was about 45,000, of whom 35,000 to 37,000 were Dutch. That was the year when Kruger went to England to obtain the new convention. The finances of his country were in bad shape, and remembering what England and Englishmen had done to rehabilitate the country financially during the three years of British administration, he had a letter published in the London papers inviting British capitalists, miners and merchants to come and settle in the Transvaal. They accepted the invitation, and in 1885—86 the De Kaap and Witwatersrand fields were discovered, with the result that the revenue for 1898 was £3,329,958, practically all of which is derived from the energies of the Uitlander. In the face of this, Kruger now asks, and the pro-Boer organs throughout the world echo the question: "If the Uitlander does not like the treatment he gets, why does he not stay away?" The Uitlander, upon Kruger's invitation, came to the country, discovered the gold, and built up the industry. Should he be robbed of the business he has created? And if prior occupation is urged by the Boer, how about the Kafirs, whom he has dispossessed of their lands? But while an unnecessary revenue, such as this, is squeezed from one element of the population, the expenditure has gone on to keep pace with it. This year the civil service list amounted to £1,216,294, or enough to give £40 to each male inhabitant of the country. The ordinary expenditure last year was £3,476,844. A large part of this, as stated, goes to build up a military power to overawe and oppress the very people whose exertions provide the money; much of it, according to Cecil Rhodes, has gone as a bribery fund to influence elections in the Cape Colony, and carry on the propaganda for seducing the Cape Dutch from their allegiance to Britain. A huge secret service fund¹ is used here also for political purposes in Europe to the same end; while a large but unknown sum is given by the President himself, as "doles," to Boers in the back districts, ostensibly to help farmers in distressed circumstances, but in reality to keep burghers loyal to him. The various monopolies also yield large bribery funds. The dynamite monopoly, by which the sole right to make or sell dynamite was given to one man (afterwards a syndicate), who was permitted

¹The secret service and contingencies fund amounts to over £1,000,000 a year - all used for intrigues against Britain.

to charge 200 per cent. over what the article would cost in the open market, filches from the Witwatersrand mines alone £600,000 a year. Space forbids reference here to the other monopolies, but it may be noted that these monopolies are given to Kruger's favorites on articles that are chiefly imported from Great Britain, or are used chiefly by British subjects. This is one of the numerous violations of the conventions, which provided that the taxation should be equal to all classes. It may also be noted that President Kruger has not only defended these monopolists under all circumstances, but in the numerous cases in which boodling schemes have been unearthed, and scandals exposed—sometimes by honest men in his own party—he has invariably shielded the boodlers and not infrequently promoted them or given them fresh opportunities.

(To be continued).

Textile Design

LIGHT-WEIGHT FANCY WORSTED SUITING.

Yarns dyed in skein. Finished weight 12 ounces average per 6.4 width for 56 inches.

Dressed.—4,096 ends, 6.4 width, all 2.40s worsted.

Dressing-draft.

Black 4444 3 4 3444444444
Slate 4444 4 4 4444444444
Red 1
Green 1

Total, 128 threads pattern

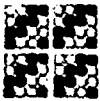
8)4,096 ends in warp

512 ends in section

4 patterns in section.

Woven—64 picks to inch; all 2.40s worsted. Weaving draft exactly same as dressing. Drawn straight on eight harnesses. Reed, 64 inches inside selvage equals 66 inches over all

Chain Draft.



Twill to right in weaving.

4,096 ends, 2.40s worsted warp, equal 6.5
64 picks, 2.40s worsted fill, equal 6.7

Estimated weight from loom equals 13.2 oz. 6.4 width

13.2 oz. shrink 10 per cent. equal 14.7 oz. near.

14.7 oz. 2.40s Australian in gray at \$1.20 per lb., equal \$1.104

Summary per 6.4 yard:

Stock in gray \$1.10 called

Manufacturing .30 called

Total cost 6.4 yard at mill equals \$1.40 called

The above is very fine stock, and excellent fabric for light-weight suiting, says The American Wool and Cotton Reporter. Attention is particularly called to the two colored overplaid which is very popular at this time, and used in nearly all foreign fabrics of this nature. Colors for above are medium slate, full red and dark bluish green. A fine shepherd check for trousering is obtained from this lay-out by using black and white in place of black and slate.

Foreign Textile Centres

MANCHESTER.—The turnover in the heavy departments this year has from all accounts been above the average. The print sections, as far as the home market is concerned, have continued to suffer from the influences which affect the trade in every distributing centre throughout the kingdom, with the result that some buyers are now taking up goods which cannot be said to legitimately belong to the print branch at all. It is scarcely probable that the formation of the Calico Printers' Association will influence the print departments to any appreciable extent. The causes which have operated to reduce the home trade in prints are beyond the powers of any combination to alter. Enterprise and taste in the production of new designs have been characteristics of the more successful firms in the industry, but this is a matter principally dependent upon brains, which have never yet been syndicated by any financial combination. The fancy rooms in the Manchester houses have made some headway during the year. There are several concerns whose pluck in connection with this branch deserves recognition, and it may be noted that some of the younger houses have made steady progress of late, while the larger concerns whose names are principally connected with the "light" departments, have considerably extended their sphere of operations. On the other hand, the opening up of agencies here by some of the London houses has been on the increase; but against this must be set the fact that some of the leading producers of fancy goods on the Continent are no longer merely satisfied with London agencies, being now extensively represented in Manchester and Glasgow. The turnover in linen goods during the year has been very extensive in this market. At first, buyers held off, owing to the substantial advances in quotations, but they have since bought with much more freedom. Prices, instead of receding, as they imagined, continued to advance, and only a few days ago one of the largest makers in the trade issued lists showing a further increase of from 5 to 7 per cent. in linens. There is some cutting spoken of occasionally, but it is not important, for it is impossible to offer goods at previous rates, except at a loss, in view of the upward movement both in flax and yarns. Houses interested in the West Indian trade have been able to do a much larger business with Cuba during the year, the linen shipments to the foreign West Indies having amounted to nearly £280,000, against £46,000 in 1898, during the first eleven months. There are signs now of falling off, however, and unpleasant rumors are afloat as to possible troubles in Cuba, the islanders being apparently restive under American domination. If the prospects prove as threatening as some imagine, there will be further serious losses in the Havana business. Liverpool shipments of linens to New York have not been up to the level of 1897, but have exceeded the figures for 1898. In the home trade increased attention has been paid to fancy embroidered linens, the sale of which has greatly increased of late years. The cotton trade during 1899 has been healthier than for some time past, spindles and looms having been kept well employed, although there has of late been a falling off in orders.

LEICESTER.—Dress beltings, cords, braids and beltings sell freely at firm prices. The hosiery trade is active. The spring trade is opening up well, and prices are higher. The yarn market is extremely active and the very heavy orders booked have stimulated production to the utmost capacity. Prices are very firm, and the finest yarns are now at a high level, while worsteds are in better demand and lambs' wools are a turn dearer.

HALIFAX.—The following is the Chamber of Commerce trade report for December: Wool—The market has continued

cheerful, and prices are very firm, while the demand for some of the lower sorts has increased. As usual, however, at this time of the year, the weight actually passing is not so great as it has been. **Worsted Yarns**—Spinners are still being moderately well employed upon most classes of yarn, chiefly on old contracts. New orders are coming to hand rather slowly, and at a price which will not leave any profit on the present prices of wool and tops, especially merinos and super crossbred qualities. **Woolens**—There does not appear to have been much change during the past few months in the woolen manufactures. Machinery is fully employed, with fairly good prospects for the future. **Cotton**—During the month there has been more business reported in doubled American numbers, at firm prices. **Fustian** and whole sale clothing houses continue active, with full employment. **Spun Silk**—Except for a slight decrease of business, consequent upon the Christmas holidays and approaching stocktaking, the month has been one of great activity. There is more steadiness in prices. **Carpets**—Business continues active, and machinery is well employed. **Pieces**—Manufacturers keep well employed, and merchants are willing now to pay better prices. Army contractors have received considerable orders, and trade is healthy all round.

NOTTINGHAM.—Business in the lace and hosiery factories and warehouses has scarcely been fully resumed after the holidays, and no change can, of course, be reported in the general condition of business, says *The Textile Mercury*. Prospects of the fancy lace trade are encouraging, there being good orders on hand for various kinds of cotton millinery laces, and the prosperity of the plain net trade seems also likely to be maintained. Fair orders for curtains are on hand. The hosiery trade is, on the whole, in a healthy condition.

KIDDERMINSTER.—The carpet business in 1899 has shared in the activity which has characterized other sections of the textile trades. The industry has had many difficulties to contend with of late years, notably from the extended use of linoleum, the popularity of "squares," and the shrinkage in the enquiry from the United States, which although the largest consumers of carpets in the world, buys less of British makes than Melbourne houses alone. The threatened danger from American competition has been renewed. It was never serious, being primarily due to the overflow which one naturally expects from a highly protected market when the home supply gets too large. The "moquettes," as they were called, which came here from New York, were pretty enough to look at, but they would never stand wear. The Alexander Smith Company, who made them, and the firm of W. and J. Sloane, who sold them, never intended, we believe, to exploit the European market permanently. Even if they did, the American system of production, which consists in getting the biggest possible output from the machine, whether carpet, silk, cotton, or calico printing, would have been against the probability of success. With this one may dismiss an industrial incident which may now be considered closed. The year ends hopefully in the carpet trade. It opened with improved prospects in the yarn sections, which had previously been adversely influenced by severe competition. Spring orders for carpets were good, and the Canadian trade, most important to Kidderminster houses, opened out well.

KIRKCALDY.—Mills spinners and linen manufacturers continue extremely busy, some of the latter having a fair share of the Government contracts. The outlook as regards the linoleum industry scarcely gives the promise of that activity which has characterized it so much of late. Business in the linen market goes on flourishing, the enquiries all round being of such a character as to denote that quotations are likely to advance in the near future, probably before the close of the year. There was a large attendance of buyers at recent flax markets. Demand was brisk, at prices ranging from 4s. 6d. to 8s. 3d. per stone.

CHEMNITZ.—The Chemnitz market is having its busiest time now and all mills and finishing establishments are running full and making overtime as often as the existing law will allow them. While makers are pushed from all sides for quicker delivery of the goods ordered in June and July, orders still keep coming in every week for large quantities. Price is almost no object at the present time, if an early date of delivery can be obtained, says *The Dry Goods Economist*. The demand so far is largely on printed and extracted hose and new orders can hardly be executed before next May or June. On staple goods delivery before March is hardly possible. At this time of the year the fall collections are usually sent away, but this season manufacturers have not found time yet to make them up. Besides that the market is in such an unsettled state that they hardly know what prices to ask, as wages and raw materials are still rising, and will probably remain so for some time to come. Mercerized hosiery is still selling, although it has not yet become as popular as it was anticipated. For men's wear fancy styles are bought largely and the collections of fancy half hose include all shades of the rainbow. In misses' hose, trade might be better, as orders on them are not very heavy, with the exception of a few special numbers in ribbed goods. These, however, go in very large quantities and sell quicker than they can be made. Trade in gloves is just as lively as in hosiery, and prices are way up. Even at these high costs it is not possible to get goods before April or May. Fall lines will be ready about the first of next year. Owing to the high cost of material and labor, manufacturers were compelled to remodel their entire line to make the different styles come in at popular prices. Fleece cotton and half-woolen gloves will sell more than last year, as they cost less than all-wool gloves. The underwear trade which was rather quiet during the summer has also picked up nicely, and manufacturers of Swiss-ribbed vests have booked orders enough to keep them busy for months to come.

MILAN.—Business in the raw silk market is generally quiet. There is no lack of enquiry, but the prices asked by sellers are considered too high by the buyers, and the enquiries are not followed by many transactions. On what actual business has been done in raws prices realized have been slightly below the figures made during the excitement of the previous weeks, but the difference is not sufficiently great to indicate a strong reaction, says the correspondent of *The Dry Goods Economist*, New York. While prices of raws show a slight loss, those of thrown silks retain the entire ground gained. Thrown silks had not advanced to the proportionate level of raws, and having gained less have also less to lose. On the whole the market is in a satisfactory condition and is passing well through the quietness that usually marks the last month of the year. In Asiatic silks business is quiet, but prices are firm. Cocoons are quiet. Waste silk is moderately active. The Turin market is not active and holders are not disposed to make concessions, as they expect to see a higher level of values in January.

LYONS.—The general tone of the silk goods market in Lyons continues good, but the demand for ready delivery has decreased as usual in the last few weeks of the year. There are buyers in the market, but they are only looking for goods that are scarce. Among these are the cheaper grades of changeable taffetas. Another article that is hard to find is black taffeta, for which there is a relatively good demand for the London market. The situation in the industry is unchanged and entirely favorable. The power looms have plenty to do, orders for light spring silks being comparatively heavy. Figured goods in these light fabrics were not greatly favored in the first orders placed for next season, but they have done a little better of late. The hand looms, while not as busy as those run by power, have had a fair share of work and there is little complaint. The demand for fringes has made active a branch of the industry that had been

doing little for some seasons. Manufacturers were unprepared for it, and as the forces previously engaged in the production of fringes and similar articles had turned to other occupations there has been some difficulty in obtaining help. For spring the first deliveries have been made and the goods have been readily accepted. Printed goods and light fabrics, as well as piece dyed stuffs, are the leading favorites. For evening wear the demand for ready delivery continues satisfactory. Muslin, grenadine, gauze and crepe de chine sell readily. Embroidered and broche tulle and muslin are in good demand. For millinery purposes light silks and lace effects appear to be the favorites. In rich novelties and in the better grades generally, business is not as good as could be desired. For next season's delivery the hand looms are working on plain, changeable and fancy taffetas, pekin effects, gauze pekin, gauze fancy, broche gauze and muslin, not to mention satin duchesse and crystalline. The looms that are usually devoted to the making of plain goods in the better qualities have not sufficient work. The ribbon market is moderately active, but as fashion is not favorable to ribbons for millinery purposes the demand is not heavy. Sashes find a good market. Velvets continue to give satisfaction, and while the demand for current consumption is decreasing, the outlook for next year is very promising. Prices are firm.

ZURICH.—There is a little more animation in the demand for silk fabrics. The business with London continues slow and is not as large as usual, although a fair number of orders have been booked in damasks and taffetas in black and white and black and lilac combinations. The demand from Paris is fair and is represented by a number of orders, which, while individually small, are fair in bulk. Some buyers have been in the market and have placed orders for future delivery, but in small lots, at good prices. The desire they have evinced for ready delivery has led to some sales of stock goods, but at prices which manufacturers find unprofitable. On the whole, mill owners seem to have little to be thankful for, either as regards the volume of orders for future delivery or the prices they are able to realize for their stock goods. It is true that the goods in stock were made with cheaper raw material than could now be bought, but manufacturers are exhausting their reserves of cheaper raw material without deriving any benefit from the advance and without being able to re-furnish their reserve except at high figures. The raw silk market is rather quiet, but firm, for Italian as well as for Asiatic silk.

CREFIELD.—The goods market is not active, the demand for ready consumption being of little importance. The season seems to have been spoiled by unfavorable weather which has retarded the sales by retailers and has lessened their supplementary orders. For spring delivery the volume of orders placed has not been particularly heavy, but nevertheless there is work enough to keep all the looms engaged. The principal cause of this smallness of advance orders is the fact that prices of goods to be ordered being advanced by the higher raw material, buyers have ordered as little as possible and will have again to come to market later. Taffetas and merveilleux find a market and have the lead. Small effects in fancies find a ready market, as does also satin duchesse. Business for export is not heavy and the London market remains slow. There is some demand for piece-dyed goods and printed goods in all-silk and in cotton backs. In linings fair orders have already been booked. In silks for blouse and for skirting purposes the garment making trade have already placed some important orders, which are now under execution. In tie silks little new business has been done. Umbrella silk manufacturers have plenty to do, but new orders have been coming in slowly of late. Velvets are not in active demand for ready consumption, although some orders have already been placed for fall, but as prices of chappe yarns have advanced and manufacturers have to ask higher prices, the demand is slow.

JAPANESE MARKET FOR WOOD PULP.

The United States Consul at Christiania, Norway, wrote a few weeks ago to his Government enclosing translation (which we find in the United States Consular Reports for December), of a cutting from a Christiania paper of recent date, from which it will be observed that the Norwegian manufacturers of wood pulp are advised, by a very well posted authority, that Japan is likely to become a good market for their product. "It will also be observed that competition from America is feared. It appears to me that American wood pulp from the Pacific coast should be able to control the Japanese market." The extract is headed, "A New Market for our Wood Pulp," and is from the *Morgenposten*, Christiania, August 22nd, 1899. In a report from Minister Gude, regarding his mission to China and Japan, he states that in the last-mentioned country there might be found a considerable market for our exports of wood pulp for paper manufacture." The minister believes that our enterprising exporters of wood pulp might be able to accomplish something in this branch there, as it still is new and but little worked. But all now depends on getting ahead of the United States. In the statistics for 1895, however, he has not found wood pulp specified as an article of import from the United States. On the other hand, he discovered several orders for wood pulp to Norwegian firms, so he reasons that the market could easily be secured and increased, if our exporters would make efforts in this direction. In Japan, both common pulp and chemical pulp are needed; both kinds are used even now in large quantities by the largest paper mill there. The Japanese, with their great facility for imitation, have, it seems, also become desirous of manufacturing a different and finer paper than the soft and porous article which they have so far made from a pulp consisting of rice straw, papyrus, bark, etc., the same as is used in China. But for this European wood pulp is needed, as the attempts to make wood pulp from Japanese wood have not met with success.

SILK INDUSTRY IN 1899.

Franklin Allen, secretary of the Silk Association of America, in his annual statement with regard to the situation of the silk industry at the opening of a new year, says: "The situation at the close of the year may be said to be a situation of confidence on the part of the manufacturer and of uncertainty on the part of the buyer. The manufacturer knows what he has to pay for raw silk, say an average of \$1.50 to \$2 per pound, which is equivalent to 50 to 70 per cent. advance over what he had to pay last year at this time, and he knows (or ought to know) what it costs him to manufacture, dye and finish the goods, and there you are—or, rather, there he is. Certainly wages, expenses, wear and tear and per cent. of depreciation chargeable off at the end of the year have not diminished any during its course; in fact, these necessary elements of successful, prudent manufacturing have grown somewhat larger, owing to the prosperity of general trade throughout the country in the year just ended. The conditions of the silk industry in the United States during 1899 have in the main favored the buyer; he has had the manufacturer at a disadvantage, because the price of the latter's raw material has been constantly advancing. It has cost the American silk manufacturer \$10,000,000 more in 1899 for raw silk than he paid for the same quantity in 1897. The importation of raw silk was about the same in both years—say, 73,000 bales, or 40,000,000 pounds. It is a very gratifying fact that our manufacturing plants are well equipped to meet any demand made upon them as regards quality of goods and speed in filling orders, but the possibility of superabundant production is manifestly increased when so considerable an advance in the price of raw material is maintained. On the other hand, the American silk manufacturer

has one distinct advantage—our own market is right here at our doors. Our manufacturers are able to follow closely the demands of consumption, and to their credit be it said, they do not fail to realize that low-priced textures give greater employment to labor than high-priced weaves, for which the demand is as yet necessarily limited in this country. Many attempts have been made to supersede the product of the silk worm for textile use, but as yet none has succeeded on any scale of magnitude. Mercerized cotton, though not nearly up to the textile strength of silk, is being used to some extent and in machine twist chiefly. Spun silk or schappe yarn is more largely used than heretofore, and chiefly in velvets, plushes and upholstery silks. The importation of this class of raw material is, say, 50 per cent. greater since July 1st than during the corresponding period of 1898. It is noteworthy that the importation of foreign textiles shows a decided increase in volume and value in 1899 over 1898, the increase in quantity being, say, 8 per cent. and the increase in foreign invoice value 18 per cent. These facts make it evident that the buyers here are paying more for foreign-made goods. The statistics of foreign production of silk goods indicate that, as a rule, the silk manufacture is increasing in all countries. Operatives have, with few exceptions, been steadily employed, and the year has been comparatively free from labor troubles in the silk industry. As a matter of fact, labor has been, during 1899, more abundantly rewarded relatively than the proprietors of the mills. As to the Silk Association itself, during the past year it is gratifying to be able to state that its membership has increased from 140 paying members January 1st to 154 at the present time. Its membership now embraces the most representative firms in all the branches of the industry."

NEW DYESTUFFS.

Wool Blue R, Extra.—This new brand is said to possess all the advantageous properties of the older N extra brand, and only differs in its somewhat redder shade and its lower price. Wool Blue R extra levels well, and is recommended as being specially suited for the dyeing of half-woolen goods. In its good solubility, easy level dyeing properties, and good fastness to light and alkalis, it closely approaches the fast acid violets.

Victoria Navy Blue.—This is a new acid wool dyestuff which is especially adapted for the production of cheap navy blues. Dyed with sulphuric acid it levels well and gives very cheap blues of good fastness to rubbing. It is equally adapted for the dyeing of yarn or piece goods.

Fram Blue G.—This new wool dyestuff is not only distinguished by its very bright shade, but it is offered in a very concentrated form at a low price. Dyed as a self shade, or with an addition of Naphthaline Acid, Black 4 B, navy blues can be produced. Dyed in one bath, in combination with Logwood, full dark blues are obtained. Its fastness to light and milling suffices medium requirements, but it is considerably improved by dyeing on a chrome mordant, or by after-chroming. Fram Blue G is therefore suited for the dyeing of shoddy which has been stripped with chrome.

Chloramine Violet R.—Chloramine Violet R is not so fast to light as Chloramine Yellow M, Chloramine Orange, or Chloramine Brown. It is, however, as fast as Benzo Violet R, which it closely resembles in shade, fastness to alkalis, acids, perspiration and ironing. Apart from the dyeing of cotton, it should also prove of service for the dyeing of half-silk. In cotton printing Chloramine Violet R is well adapted for padding purposes, and the color is discharged fairly well with zinc or tin.

Alizarine Red P S Powder.—Alizarine Red P S powder is adapted for the dyeing of wool, and is fixed on the fibre in exactly the same manner as the older W and S B qualities dyeing either in one or two baths on an alumina or chrome

mordant. The main difference between this new mark and the older W brand is that its shade is more yellowish and is possessed of greater fastness to milling. This property will prove of particular value to those requiring a red product, fast to milling, for dyeing of loose wool, slubbing, yarns and shoddy. There are a sufficient number of yellows, browns, blues and blacks already at the dyer's disposal for this class of work, but hitherto no fast red color to shade same with.

Diamond Brown B R.—Diamond Brown 3 R is dyed with acetic acid and the bath exhausted with sulphuric acid, and after chromed in the usual manner. It produces a violet brown tone which hitherto was only obtainable by shading Anthracene Brown with Alizarine Red. Its fastness to light and milling is very good, and is equal to the ordinary shade produced with Anthracene Brown when dyed according to the two bath method, and has the further advantage of being considerably cheaper. Diamond Brown 3 R can be dyed according to the above mentioned process on loose wool yarn and piece goods, the cotton edges being slightly tinged.

Trona Red G G, 3 B and 7 B.—The Trona Reds besides being fast to organic and cold diluted mineral acids are possessed of great clearness of shade, especially when dyed on mercerized yarn. Trona Red 3 B is in this respect far superior to Benzo Purpurine 4 B. Trona Red 7 B closely approaches the shade of Turkey Red. In fastness to light and washing these products are on a par with the average fastness of artificial dyestuffs. The Trona Reds are, above all, adapted for the dyeing of cotton yarns used in the weaving of bed ticks. They are further suited for the dyeing of loose cotton and piece goods. The Trona Reds can be discharged well with zinc and fairly well with tin crystals.

Samples, instruction circulars and shades of the latest color products will be mailed gratis to interested dyers from the Dominion Dyewood & Chemical Co., sole agents in Canada for the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany.

FIREPROOFING FABRICS.

Although the combustible state of certain fabrics is directly or indirectly the cause of many deaths every year, it is somewhat doubtful whether any means will ever become general for making these materials fireproof. Accidents of such a nature, although numerous, affect a very small percentage of the population, and the only knowledge which the general public have of them is from the newspaper accounts of some such terrible occurrence. These accidents also may usually be traced to gross carelessness, and whether it be the death of a child whose clothes caught fire, or the burning of the drapery of some public decorations, subsequent enquiries usually bring to light some neglect or carelessness without which the disaster would not have occurred. As the generality of persons, even the most absent-minded, would be ready to disclaim any tendency towards carelessness, they feel that fireproofed garments or upholsterings are unnecessary, and only the small proportion of people who have come into closer contact with some accident of this kind have any sympathy with the care devoted in various quarters for perfecting a preventative. Another drawback is the additional cost, which, although possibly small, is still an important item. Perhaps the greatest disadvantage of all is the effect upon the color of the fabric, which would require the practical abolition of certain shades for fireproofed goods.

In time we may expect to see all or most of the above drawbacks removed, and the fireproofing of all inflammable fabrics made general; but for the present a secondary interest only appears to be evinced on discovery of any new process. The latest composition of this description has been recently patented

by a London gentleman, and is said to be generally applicable for almost all classes of fabrics, from the finest muslins to the heaviest draperies. It is inexpensive, and practically harmless to handle, and as the liquid with which the fabrics are dipped is also recommended as an effective chemical fire extinguisher, its fireproof qualities would appear to be assured. In preparing the materials on a small scale, 3 lb. of sulphate of ammonia are dissolved in 7 pints of boiling water, and after being well stirred the liquid is allowed to stand six days, strained through a fine sieve, when ten drops of creosote are added. It is said that fabrics dipped in this solution become fireproof without injury to either texture or color. If it is desired to mix the liquid with distemper colors, the following proportions should be used: Sulphate of ammonia, 3 lbs.; boiling water, 5 pints; best gum arabic, 12 ozs., previously dissolved in 2 pints of water. This is strained, and 20 drops of acetic acid added. It should be applied at a temperature between 90 and 100° F.

Another recent formula aiming at a similar result is of Galician origin, where two solutions are used, which are mixed together immediately previous to their application. One consists of 500 cc. water, 130 to 140 grms. carbonate of potash, and 10 grms. boracic acid; the other of 500 cc. water, 40 grms. sulphate of magnesia; 25 grms. carbonate of potash; 20 grms. sulphate of alumina, and 10 grms. boracic acid. The above are standard proportions, although the various quantities may require revision to suit certain classes of work.—The Textile Manufacturer.

TOOLS IN THE MILL.

A subject which often appeals to one class of men may fall far short in interesting others occupying similar positions in the same business. This may be truly said in connection with a mill equipment. Even in a completely equipped plant, perfect in every detail, and for which money has obtained every up-to-date device, starting auspiciously, very soon troubles come, and unless an efficient supply of tools has been provided, also a reserve stock of standard valves, fittings, and other articles, the absence of which under such an emergency entails loss of time and delays important work going through, perhaps not until then does the necessity of such a reserve force itself upon the attention of those in charge.

With a view to providing for such a state of affairs it is necessary to know where such tools and supplies can be obtained at short notice, and suitable for your needs. The Aikenhead Hardware Co., 6 Adelaide street east, Toronto, in this issue illustrate in our columns some of the most necessary tools required in a mill. Founded in 1831 this concern's long experience in the supply trade ensures that their customers will receive prompt and efficient attention, and goods of standard quality will be supplied. They carry in stock the Fairbanks' Globe valves, as well as valves of other standard makers, but the points of merit of the Fairbanks valve is claimed to recommend it especially for mill service.

THE WOOL MARKET.

Toronto.—The season's business being practically over very little is doing. We quote, 19 to 20c. for washed fleece. In pulled wools there is a moderate demand and prices are steady at 19 to 20c. for supers and 21 to 22c. for extras.

Montreal.—Market continues very bare of wool of all classes, but as is usual at this season there is little doing. We hear of some small transactions in Capes at 25½c. We quote: Capes, 25 to 28c.; medium, 19 to 25c.

WOOL DRYING AND CARBONIZING.

Many changes and improvements in the methods of handling raw stock have been introduced into modern mills, one of the noticeable features being the replacement of the older forms of table-dryers by the automatic stock dryers, which in first cost are said to be no more expensive than the old style dryers, and not only take up much less floor space, but also save considerable labor, heat and power.

The "Hurricane" automatic stock dryers and carbonizers, illustrated herewith, are built by the Philadelphia Drying Machinery Co., 6721 Germantown avenue, Philadelphia. A self-feed is frequently used in connection with these machines, but if desired the machine can also be fed by hand. After the stock is distributed to the dryer, as it enters the machine, it is subjected to the greatest heat. The steam which is thus driven off is carried away by an exhaust fan. The machine being divided into compartments, the heat is regulated independently in each, and it is claimed to be possible to grade the temperature so that



"HURRICANE" AUTOMATIC DRYER AND CARBONIZER.

the stock is finally delivered thoroughly dry and in a cool condition. This grading of the temperature during the drying, as the wool travels toward the delivery end of the machine, is a point upon which too great stress cannot be laid. The fact of the stock being subjected to the greatest heat as it enters the machine and where it contains the most moisture, is said to counteract the effects of the heat, prevents all possibility of the stock "baking" or becoming harsh. The temperature being gradually reduced in the successive portions of the dryer, the stock is finally delivered dry, cool and in a soft, lofty condition. The arrangement of an automatic machine for carbonizing wool, noils or rags is somewhat different from a standard dryer, and when ordered especially for carbonizing purposes, the machine is constructed with the following points in view. In order to do thorough and complete carbonizing it is necessary to maintain a dry atmosphere at a high temperature. If cold, wet stock is allowed to enter, therefore, it counteracts the conditions most essential for carbonizing. Before the stock enters the carbonizing compartment in these machines, it is first thoroughly dried in the first compartment and moisture removed by an exhaust fan, but the balance of the air is returned over the steam pipes and heated before being again forced through the wet stock, this operation of recirculating the hot air being utilized to such an extent that the greatest economy is attained in the use of the steam. Travelling continuously from the drying into the carbonizing chamber, a high, dry heat is then easily maintained.

By means of cone pulleys the apron can be run at several speeds, depending upon the character of the stock. Only one apron is used with these machines, and the fact that the highest of these machines are less than seven feet, enables them to be installed without making expensive alterations. The wire aprons vary in width from four to twelve feet, and, as the Phila-

delphia Drying Machinery Co., build about twenty-five standard sizes of automatic dryers, and other special sizes when required, the capacity varying from 1,000 lbs. to 15,000 lbs. per ten hours. they will be pleased to quote on any capacity and give the floor space, height and power required.

THE ONTARIO AND LAKE SUPERIOR CO.

A couple of years ago we wrote very strongly on the subject of the great profits made in the chemical industries, such as the manufacture of bleaching powder and caustic soda, etc., in Great Britain and Germany, and those great natural advantages possessed by Canada for carrying on this business in the form of unlimited supplies of raw materials and power.

The following statements made recently through the daily press by F. H. Clergue show that large amounts of capital are about to be invested in this business in Canada. Mr. Clergue said: "We are building reduction and refining works at Sault Ste. Marie that will cost \$2,500,000, will give employment to a thousand men and have a capacity of a thousand tons a day. The works are now under construction, and will be ready for operation on June 1 next. We shall treat nickel, copper and other ores from all over Ontario. These works will give an added value to the mineral properties in this province, and will provide a market for mineral products. We shall draw ore from the district extending from Sault Ste. Marie to Sudbury. We are also erecting large chemical works in connection with the reduction works, for utilizing sulphur and producing sulphurous anhydride for use in sulphide pulp mills. Alkali plants are also being built for the production of caustic soda and bleaching powder. The chemical works will cost five hundred thousand dollars, while the alkali plants involve an outlay of one million five hundred thousand dollars. A sulphide pulp mill costing two hundred and fifty thousand dollars is being erected in connection with our existing plant. We are also about to establish a steel rail mill that will cost about two million five hundred thousand dollars. This will have a capacity of a thousand tons of steel rail daily."

LITERARY NOTES.

The Canadian Dry Goods Review has issued its Spring Trade number in January with a handsome colored cover. There are one hundred and eighty pages, containing late information about the dry goods trade, trade announcements, etc.

We have received a desk calendar pad for 1900 from the Dominion Dyewood and Chemical Co., Toronto. A handsomely leather bound pocket memorandum book has also reached us with the season's compliments from this enterprising and progressive firm.

Sheldon's Jobbing and Manufacturing Trades, containing jobbers in Dry Goods, Cloths, Tailors' Trimmings, Furnishing Goods, Hosiery, Notions, Fancy Goods and Millinery, of the United States, arranged in states and cities, giving location of office in New York, name of resident buyer, the several departments and buyers; also manufacturers of shirts, etc., has been issued by J. D. Sheldon & Co., Leonard street and West Broadway, N.Y.

The fifth edition of E. B. Biggar's Boer War: Its Causes, and its Interest to Canadians has just been issued. The profits of this edition will be devoted to the Red Cross funds, and the price will be ten cents as heretofore, but anyone wishing to give more will of course be contributing to this most deserving fund. The Galt Reporter says that Mr. Biggar "treats the subject in a concise and most interesting manner." "A timely little book." The Star, Toronto; "The most effective though calm and even-tempered indictment of Kruger and the Boers which has yet been published anywhere."

Up to date. The Canadian Journal of Fabrics has received calendars for 1900 from the following companies and firms: Morton Phillips & Co., manufacturing stationers and printers. Montreal, Royal Victoria Life Insurance Co., Montreal; National Assurance Co., of Ireland, Montreal and Toronto, the J. C. McLaren Belting Co., leather belting and mill supplies, Montreal and Toronto; Alex. Bremner, drain pipes, Portland cement, fire bricks, etc., Montreal; the Pope Manufacturing Co., bicycle manufacturers, Hartford, Conn.; Hamilton Times, Hamilton, Ont.; London Assurance Corporation, Montreal, Que.; Union Mutual Life Insurance Company, Toronto; the Niagara River Line, Galt Knitting Co. These calendars are up to the former standard of excellence of the firms and companies issuing them, and we heartily thank the senders, reciprocating their good wishes for the new year.

FABRIC ITEMS.

A branch of the Garment Makers' Union has been organized in Dundas, Ont.

Cockburn, Drake & Rea, wholesale milliners, Toronto, dissolved partnership last month.

Fire did \$10,000 damage to Berner & West's dry goods store, Montreal, January 3rd. The insurance amounted to \$78,000.

E. Forbes, Moncton, N.B., twenty years in the dry goods trade in that town, has offered 30 cents in the dollar to his creditors.

Desjardins & Viens, dry goods, Montreal, have made an assignment to the Court, and the statement of liabilities filed foots up to \$24,895.

About half a million dollars is the share of the sealer profits that comes to Victoria, B.C., this year. Prices were 40 per cent. in advance of last year.

D. Magee's Sons, hatters and furriers of St. John, N.B., presented each of their employees with a life insurance policy for \$1,000 as a Christmas present.

The T. Eaton Co., limited, of Toronto, has bonded a large block of land on Prince street, Sydney, it is said, and will likely start a branch in that place very shortly.

The wholesale clothing stock of the R. Greene Mfg. Co., London, Ont., has been bought by J. A. Cole. Creditors of Greene would not accept a compromise. The liabilities were over \$100,000.

At Portage la Prairie, Man., the assignee is in possession of the clothing firm of McLeod & Rothwell. This is an old-established business, and was originally conducted by A. R. McLeod & Co., and subsequently by McLeod & Rothwell, who assigned in June, 1897. This was settled by an agreement with the creditors to purchase the stock at 50 per cent., and in August, 1897, a bill of sale was registered to Mary McLeod and Mary E. Rothwell, the present owners.

A serious charge is held against Louis Cohen, who had been a general storekeeper in Halifax, and who is now in Montreal, awaiting trial for having obtained some \$10,000 worth of goods under false pretences from Montreal merchants. It is alleged he came here from Halifax a few months ago, and, declaring himself in good financial circumstances, purchased goods from Greenshields & Co., Hermann Wolff, Canadian Underwear Co., Montreal Waterproof Clothing Co., Freedman & Co., R. J. Tooke, and others. Cohen says he intended to get into business outside Halifax, and counted on making money to settle with his creditors.

At the annual meeting of the Wholesale Dry Goods Association at the Board of Trade, Montreal, there being in attendance A. Racine, president; E. B. Greenshields, Thomas Brophy,

R. N. Smyth, A. A. Thibaudeau, J. Rodger and James Slessor, the president submitted a report of the business transacted during 1899, and the following officers were elected for 1900: President, James Rodger; vice-president, James Slessor; treasurer, George Sumner; directors, Messrs. Thomas Brophy, A. Racine, R. N. Smyth and B. Tooke. R. W. McDougall, who has represented the association on the council of the Board of Trade for the past year, was chosen for re-election.

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.

Geo. Street, Delhi, Ont., now has his new woolen mill running full time.

Jas. Randle, Meaford, Ont., has added one set large cards and mules to his new woolen mill.

The Truro Knitting Co., is about to double the capacity of its mill, says The Pictou Standard.

Dick, Ridout & Co., Cobourg, Ont., have had Geo. Reid & Co., Toronto, put in another set of cards.

The Sanford Mfg. Co., Hamilton, Ont., has been rushing out uniforms for the second Canadian Transvaal contingent.

Harris & Co., Ltd., Rockwood, Ont., has added several broad looms built by Geo. Reid & Co., Toronto.

J. Adam Tesky, Appleton, Ont., is putting looms and mules into the addition to the mill which was built some time ago.

Brown & Wigle, Ltd., Kingsville, Ont., have had one set of cards and spinning machinery installed by Geo. Reid & Co., Toronto.

P. J. Campbell, of the Elmsdale flannel mills, Almonte, Ont., was presented by the employees with a handsome easy chair as a holiday token of goodwill.

Edward Robicheau, aged 18, an employee in the cotton mill, Moncton, N. B., accidentally shot himself last month. It is supposed he slipped on the ice, thus discharging his gun.

Waterhouse & Bradbury, Ingersoll, Ont., have been supplied with some new looms, and broad finishing machinery by Geo. Reid & Co., Toronto.

J. T. Wood, Rockwood, Ont., has added a set of 48-inch carding, and also spinning machinery to his knitting plant. The whole equipment is supplied by Geo. Reid & Co., Toronto.

Wm. Thoburn, Almonte, has put in an additional set of cards in his flannel mill, and J. H. Wylie the same in his Golden Fleece mill, Almonte. Both sets were supplied by Geo. Reid & Co., Toronto.

The Toronto Carpet Co. has increased its order for electric plant, and is now installing a 55-k.w. generator in place of the 30-k.w. originally ordered. The Canadian General Electric Co. has the work in hand.

It is rumored that people in Three Rivers and Montreal are negotiating for a company to establish a cotton mill at Three Rivers. It is thought that a mill at Three Rivers, and operated by electricity from the Shawenegan Falls, on the St. Maurice, would be a good investment. It will manufacture for export.

Paris, Ont., gave a great send-off to three of its young men who are on the second Canadian contingent for South Africa—all well known in Almonte, says The Almonte Gazette—Geo. K. and Arthur Shepherd, brothers of David Shepherd, Almonte,

and Arthur Flanagan, who until last fall was boss knitter in the Anchor Knitting Mills in Almonte.

Waterhouse & Bradbury, Ingersoll, Ont., are running overtime.

A. W. Brodie was elected reeve of Hespeler, Ont. at the annual elections, January 1st.

The Montreal Cotton Co., Valleyfield, Que., requires a cotton warp beamer or woolen warp dresser. A good situation to the right man.

Trifling damage was done to the Cloak Mfg. Co., and the Standard Cap Co., by a small fire in the caretaker's rooms at No. 14 Front street east, Toronto.

The employees of the Eagle Knitting Co., Hamilton, Ont., deny that they are making more money under the new scale or that they are better satisfied with it.

A young man named Thomas Stewart, had his left hand caught in a saw at the Shantz Button Works, Berlin, Ont., last month, as a result of which he lost two fingers.

A small fire did less than \$200 damage in the picker room of the Galt Knitting Co.'s factory last month. The excellent service of the sprinkling apparatus prevented what might have been a serious blaze.

Seven new broad Crompton looms, a new dresser and a lot of new worsted machinery have been added to the plant in No. 1 Mill during the past week or so. The Rosamond Woolen Co. appear to be setting the pace for the times.—Almonte Gazette.

Albert Hewitson, who for some time has been assistant foreman of the weaving department of the Canada Colored Cotton Mills, Hamilton, Ont., will go to Merriton, Ont., he having accepted the position of overseer of the weaving in the mills there.

D. Peever, for some time overseer of the dressing, warping and spooling room of the Cornwall Mfg. Co.'s mill, Cornwall, Ont., has resigned and returned to his home in Appleton, Ont. Before leaving Cornwall he was presented with an address and a purse.

The New Toronto Wool Stock Co. has been reorganized since the death of the late Alfred Parker. W. H. Parker and J. H. Parker are now the principal partners, and have got the business in good shape. Improvements have been made in the plant and the machinery is now run to its full capacity.

The council of Maisonneuve, near Montreal, has granted a bonus of \$8,000 to the Kingsbury Footwear Co. A small factory to run on cotton worsteds to be located there by W. Wells will also receive a loan of \$2,500, to be returned in sums of \$500 a year.

At the annual meeting of the Sissiboo Pulp & Paper Co., which was held last month in Montreal, the following board of directors was elected: A. F. Gault, Robert Mackay, Jas. Crathern, R. Wilson-Smith, Chas. Burrill, Weymouth, N.S.; S. F. Smith, York, Pa.; and Geo. E. Faulkner, Halifax.

In the Superior Court in Montreal the trial is proceeding of Patrick Gibbons, tutor to his minor daughter, Ida Florence Gibbons, against Skelton Bros., shirt and collar makers. In this action plaintiff, on behalf of his daughter, is seeking to secure a condemnation for \$1,999 against defendants for an accident which happened to his daughter while in the defendants' employ, whereby she lost the use of her hand in operating a "cuffing" machine, used for the purpose of ironing cuffs. It is alleged that the machine at which the accident took place is of an antiquated kind, and that when the accident took place no appliances were at hand with which to free the hand.

Robt. Dunlop, who has been an employee in W. Thoburn's flannel mill, Almonte, Ont., for some time, was presented January 1st, with a handsome chair on the eve of his leaving to take a situation in J. H. Wylie's Golden Fleece mills.

A. Devitt has resigned his position as superintendent of the Mississippi Woolen Mills at Appleton, Ont., and has gone to Perth, Ont., to superintend the tweed and felt department of the Perth Woolen Mills. J. A. Tesky's oldest son will be superintendent of the Mississippi Woolen Mills.

The stock, etc., dyes, wools, amounting to \$317.64, and book debts, \$793.80 of J. Hall, manufacturer, Trenholmville, Que., were sold at auction in Montreal last month. The stock brought 33 cents on the dollar, and the book debts 17½ cents. All were bought by Mrs. E. H. Armitage.

Provincial Secretary Stratton has sent out an order to the bursars of all provincial institutions to purchase for their institutions as far as possible goods manufactured in Ontario, and in the expenditure of public moneys to give preference to Ontario artisans and workmen. Mr. Stratton has made this order because considerable quantities of foreign products, articles that might be obtained in Ontario, are used in public institutions.

About a year ago George Grafton, a native of Toronto, became ill at Hespeler, Ont., and died. Deceased was a roofer, and at the time of his death was doing some work at the Brodie woolen mills for a Toronto roofing company. Mrs. Grafton has entered suit against the Brodie Co. for \$5,000, claiming that her husband met his death by inhaling poisonous fumes from a tank, presumably the carbonizer, while at work at the mills.

M. J. Dodge, New York; A. R. Creelman, Q.C., and J. J. McNeil, Toronto; W. J. Sheppard, Waubashene; W. Irwin, Peterborough; A. McLeod, Bracebridge; T. H. Sheppard, G. McCormick, Orillia; J. Playfair, Midland; C. A. McCool, Ottawa, and W. D. Lummis, Spragge, Ont., have been incorporated as the Spanish River Pulp and Paper Company, Ltd., with a capital of \$1,500,000.

The Laurentide Pulp Company, Ltd., has applied to the Quebec Government for an Act to amend the Act incorporating the village of Grand Mere, Que., in order to enable the officer of the said company appointed for that purpose by its board of directors, to vote in the name of the said company on all by-laws, which by-laws must be submitted to the proprietors of real estate in this village, and also to vote at the election of municipal councillors.

H. L. Mason, who has been for over a year and a half connected with the Stratford Clothing Co., as chief cutter, has tendered his resignation to the company. He has been successful in organizing a stock company in Toronto, which will carry on the manufacture of readymade clothing. Mr. Mason will be a large shareholder in this company, and will be their chief designer and cutter. During his stay in the city he has made many friends who will regret to hear of his removal from the city, but as the company will open up their new business on the 1st of February he will necessarily have to leave shortly in order to make the necessary preparations.—Stratford Beacon.

Alex. and Mrs. Hunter, of Drayton, Dakota, arrived in Almonte on New Year's Day, and will spend three months in visiting their Lanark county friends. Mr. Hunter and his brother John, who lives near Emerson, Manitoba, at one time owned what was known as No. 3 Woolen Mill here and the Hunterville woolen mill, and operated both at the same time; but unfortunately both were destroyed by fire, causing the brothers heavy loss. It is over twenty years since Mr. H. went to Dakota, and he says he notices wonderful changes and improvements in Almonte in the two decades that form the interval. In the greater part of North Dakota Mr. Hunter says the bulk

of the people are Canadians, and most of them are doing well. In the Drayton section it is a regular Canadian colony, and is largely settled by people from Lanark county.—Almonte Gazette.

The Montreal Cotton Co., Valleyfield, Que., is pushing the extension to its new power house, and expect that by May 1st next, it will be completed, and the new 1,200-k.w. generator in operation. An interesting feature of this installation, which will be the largest industrial electric plant in the world, will be the switchboard arrangement. This will consist of a series of blue vermouthe marble panels, 36 inches wide by 88 inches high, upon which will be mounted the necessary switches for controlling the motor circuits, and all instruments for controlling the generators and excitors. There will be used for present equipment twelve feeder panels and six generator panels. The entire board, as covered by present orders, will be 54 feet long, and when completed will present an imposing appearance, and will meet all requirements necessitated by the peculiar condition under which this plant operates, and the entire work will no doubt reflect credit upon the Canadian General Electric Co., to whom it has been awarded.

The large factory built by Tooke Bros. on Elizabeth street, St. Henri, Que., has been opened. There were about four hundred young women present at the opening from the factory on Latour street, Montreal, and other departments of the business, and the event passed off very successfully. The guests assembled at an early hour in the afternoon, and after having luncheon, were entertained with music and recitations. The new factory consists of two buildings, four stories high, and 264 feet in length. Fire escapes in detached towers have been provided, and all the latest improvements are employed. In one of the buildings there will be a paper box factory. The cost of the paper boxes used in the business has been, it is said, about \$75,000 annually in past years, and in future the firm will make its own paper boxes. By their contract with the town of St. Henri, the Tooke Bros. are obliged to employ at least six hundred persons in their factory, but it is expected that the number of employees will reach 1,100. The wages paid annually are about \$250,000.

TEXTILE IMPORTS FROM GREAT BRITAIN.

The following are the sterling values of the textile imports from Great Britain, for November and the eleven months ending November, 1898-1899.

	Month of November.		Eleven months ending November.	
	1898.	1899.	1898.	1899.
Wool.....	£ 3,311	£ 5,291	£35,978	£24,137
Cotton piece-goods .....	.....	.....	.....	.. ..
Jute piece-goods.....	14,548	7,778	123,520	103,352
Linen piece-goods	9,714	9,989	134,651	155,761
Silk lace .....	.....	.....	.....	.....
" articles partly of ..	.....	.....	.....	.....
Woolen fabrics	8,308	13,784	265,120	29,751
Worsted fabrics.....	21,109	27,316	512,412	501,560
Carpets	5,454	9,764	163,901	177,363
Apparel and slops	10,266	13,940	249,828	219,117
Haberdashery	4,394	5,455	127,990	149,300
Writing-paper, &c.	4,014	3,503	24,723	28,358
Other paper .....	.....	.....	.....	.....

—It is stated by those interested in the binder twine industry that the supply of hemp from the Philippines for next season's twine output has failed owing to the continued hostilities there, and that while there are large quantities in the interior of the island, it has not come to Manila. If no supplies are received, binder twine will be at famine prices next season.

--Leopold, Cassella & Co., Frankfurt a M., have issued a folder giving directions for dyeing with Diamine Black R M W. pat. The instructions are printed in English, French and German.

--The American Knit Underwear Association, comprising the principal fleece lined underwear manufacturers of the State of New York, at an executive meeting at New York decided to raise the price of knit goods $12\frac{1}{2}$ cents a dozen. Prices are to be advanced on yarns and other raw material entering into the production of fleece-lined knit goods.

A correspondent of the "Jornal de Commercio" (Rio de Janeiro) calls attention to the fiber of the Guaxima, a plant of the family of "malvaceas," growing wild almost everywhere in Brazil, but found in largest quantities on the low lands near the sea. It is believed that this fiber would prove an excellent substitute for jute, which is nearly all imported into the Republic, and, when cultivated, prove the basis of an important industry. The threads are said to be long and very strong, and capable of resisting the action of water, the fiber is used by fishermen on the coast for their nets, which last for years when soaked in a tincture of aroeira bark. "The process of elaboration of the guaxima fiber," we are informed, "does not require long maceration in vessels, as is the case with jute; immersion for a few days in running water being sufficient for loosening the green outer bark with the hands, after which the rods should be exposed to the sun, in order to dry the woody part, which then contracts and allows the fibers to be easily separated." A sample is, it is understood, to be sent to England to be spun and woven, and its uses and application thoroughly investigated.

--Nettle fiber is stated by Consul Sawter, of Glauchau, in a communication to the State Department, Washington, to have come greatly into favor in Germany in the manufacture of fine yarns and tissues. There are factories which use these fibers, both in spinning and also for other purposes. In nettle spinning alone, over 10,000 spindles and some hundred workmen are employed. The raw material is imported almost exclusively from China, whence 3,000 to 4,000 double cwts. (661,500 to 802,000 lbs.) are annually sent to Germany. Nettle fiber produces one of the finest tissues obtainable from any known vegetable source. In view of the importance which this seems likely to attain in connection with the weaving industries, it is intended to introduce the cultivation of nettles, if possible, into the Cameroons (Africa). The idea is to prepare the products of this experimental culture at the place where they are obtained, and test them in German factories. Should favorable results follow from these experiments, it is intended to organize nettle-growing enterprises on an extensive scale.

--Attempts to secure a silky lustre on wool and cotton fabrics have been made before now by pressing woven fabrics with a roller provided with grooves parallel to the weft of the fabric or to the roller axis. A German inventor, however, has noticed that the effect obtained by this method of silk finishing is inadequate, and he patents a method to supply the deficiency. He subjects the material to the action of a special roller made to operate on it under a sufficiently high pressure. This roller is provided with very fine parallel lines, which are made to form with the weft an acute angle, usually from 15 to 30 deg. The roller is heated so that the surfaces produced by the lines engraved in it may be permanent. Owing to the fact that the surfaces lie in different planes, extending across the warp and weft, the material, when viewed under widely varying visual angles, will present in the angle of reflection surfaces whose number may be greater at one moment and less at the next, the material accordingly appearing lustrous at one time and dull at another. And it is by reason of this circumstance that cotton treated by this method will become just like silk in appearance.

WANTED—A good cotton warp beamer or woollen warp dresser. Steady employment guaranteed to a good man. Apply **THE MONTREAL COTTON COMPANY**, Valleyfield, P.Q.

WANTED POSITION—By **BOSS SPINNER**; experienced in cashmeres, flannels, dress goods, blankets, hosiery yarns. Had charge 19 years English and American operators. Age 35; married. Address "SPINNER," care Canadian Journal of Fabrics, Montreal, Que.

SITUATION WANTED—Blanket Mill Manager. so. Experience on all kinds of bed, steamboat, railroad and heavy camping blankets, and all kinds of carpets and yarns. Warrant from 10% to 15% profit per year. Address **MANAGER**, care of Canadian Journal of Fabrics, Toronto.

WANTED—Man thoroughly acquainted with the manufacture of Worsted and Mohair Braids. None but experienced hands in the manufacture of braids need apply. Address No. 6, Canadian Journal of Fabrics.

POSITION WANTED—Young man of good education, at present employed as superintendent in a large woollen mill in the south of Scotland, would like similar position in Canada. Can assist in designing. Address "SUPERINTENDENT," care of Canadian Journal of Fabrics, Montreal, Que.

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By a thorough practical worsted spinner (with small capital), a partner with capital, to start worsted spinning business and weaving worsted goods, in Canada, as there is a good opening for same, with good inducement offered at some places, correspondence confidential, only those with capital need apply. For further particulars address **CANADIAN JOURNAL OF FABRICS**, Box 7.

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Woolen Mill in the Province of Quebec, near St. Lawrence River, and on line of railway; substantial stone buildings, both flour mill and carding mill, excellently situated for a large flour, pulp or woollen mill, and having the good will of a large country trade; owner wishes to retire because of advancing age, stone dwelling house attached, and the property in every way a desirable one. Address **O. G. P.**, care Canadian Journal of Fabrics.

Two-Sett Woolen Mill for Sale

A 2-sett woolen mill in first-class condition, 40 and 60 inch cards, all modern machinery to run on fine tweeds. The mill building is a four-story solid stone building with attic. The water power is one of the finest on the Mississippi River, having 18 feet fall and the whole flow of the river. Situated at Snedden's Station, on the main line of the C.P.R., in Lanark County, Ont. Apply to

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Woolen Machinery for Sale

- 1 60 in. 2-Cylinder Card.
- 1 Cam Loom, 100 in.
- 1 Crompton Loom, 45 in.
- 1 Picker, 30 in.
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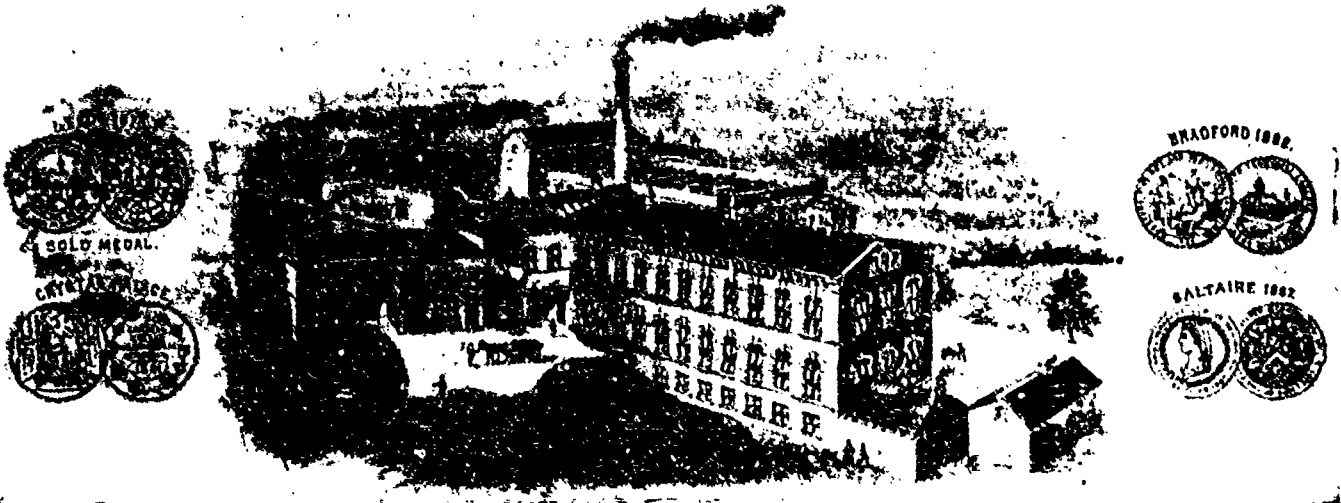
May be seen at **MESSRS. GEO. REID & CO.'S**, 118 Duke St., Toronto, who will quote prices, or application may be made to

Qu'Appelle Felt & Boot Co.
QU'APPELLE, N.W.T.

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Spinning, Weaving and Twisting; 8,000 spindles all in first-class condition; cash or part cash and part bonds. For particulars address **COTTON MILL**, Office of the Canadian Journal of Fabrics.



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EFFORTS TO UNITE THE VARIOUS TEXTILE WORKERS' UNIONS IN THE UNITED STATES.

Efforts are being made to unite the National Union of Textile Workers in the United States, the National Carders' Union, the National Association of Mule Spinners, the National Slashers' Union, the National Federation of Textile Workers, the National Loom Fixers' Union, and form one national body. Delegates from these several unions met in Boston, Sept. 10th and 11th. Immediately after the calling of the roll delegates from each union laid upon the secretary's desk recommendations in favor of consolidation, and plan for achievement of that object. The question was discussed throughout the day and evening Saturday and nearly all of Monday. It was stated that the several organizations represented had 75,000 members in good standing, and that they incidentally represented nearly 500,000 operatives. The following resolution was passed: Recommended, To the local and national unions that the formation of a grand national union in the textile industry, the national unions at present existing to retain their individuality within the federation providing they pay all their dues and assume obligations of the consolidated union.

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:

- 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
- Technology of Textile Design, by Posselt. 5 00
- The Dyeing of Textile Fabrics, by Hummel. 2 00
- Textile Calculations; very complete; by E. A. Posselt. 2 00

CHEMICALS AND DYESTUFFS.

Nothing of any importance to note, market continues firm in all lines. Business quiet. Bleaching powder has advanced another quarter cent since last month:—

Bleaching powder	\$ 2 50	to \$ 2 70
Bicarb. soda	2 00	" 2 05
Sal soda	0 75	" 0 80
Carbolic acid, 1 lb. bottles.....	0 36	" 0 39
Caustic soda, 60°	2 00	" 2 25
Caustic soda, 70°	2 35	" 2 60
Chlorate of potash	0 13	" 0 15
Aium	1 35	" 1 50
Copperas	0 65	" 0 70
Sulphur flour	2 00	" 2 50
Sulphur roll	2 00	" 3 00
Sulphate of copper	6 00	" 6 25
White sugar of lead.....	0 08	" 0 09
Bich. potash.....	0 10	" 0 11
Sumac, Sicily, per ton	75 00	" 80 00
Soda ash, 48° to 58°	1 30	" 1 40
Chip logwood	1 90	" 2 00
Castor oil	0 09	" 0 09½
Cocoonut oil	0 10	" 0 11

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DIRECT DYEING ANILINES FOR
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 Best prices paid for Wool Pickings, Woolen
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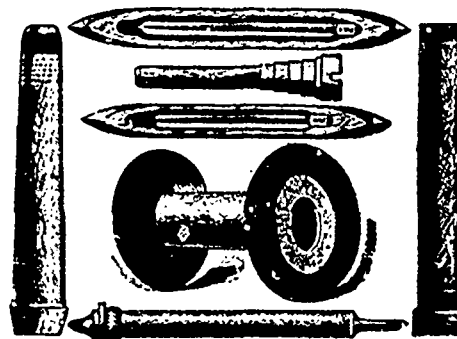
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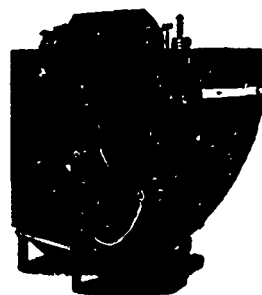
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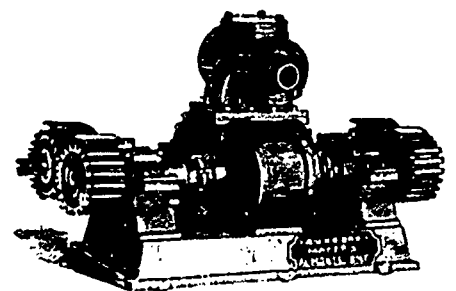


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*Slubbing, Roving and all kinds
 of Bobbins and Spools for
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 a large stock of
 Thoroughly Seasoned
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 haust Fan Driers, Dusters, Rotary Force Pumps for Fire Duty, Boiler Feed Pumps,
 Shafting, Hangers, Castings, Pulleys, Gearing, Forgings.
 Full equipment of mills of every kind.
YOUNG BROS., Almonte, Ont.

GANG NEEDLE MACHINES.

It is a more or less familiar fact that sewing machines are used nowadays for sewing many different materials, as leather, paper, canvas, carpets, rubber. They are used for making buttonholes and sewing on buttons. They are made of many types and in simply hundreds of varieties for special uses. But it may not be known so commonly that there are many sewing machines now made with more than one needle, says The New York Sun. The first of these, a two-needle machine, was made in the early eighties, about fifteen years ago. It was used by manufacturers of heavy clothing, perhaps first of all by the over-all manufacturers, making seams stronger by putting in two rows of stitching. The utility and economy of the two-needle machine soon became apparent, and it came into widespread and diversified use. Whenever two rows of stitching were to be made, a two-needle machine was used. A familiar illustration of the work is seen in the two parallel lines of stitching running with perfect exactness around the top of a shoe vamp. Shirt sleeves are stitched into the body of the shirt on a double-needle machine, the two rows being made in the same time that it would take to make one. Collars and cuffs were stitched on two-needle machines, as were a great variety of these things.

and later there were produced machines with more than two needles, the first of these coming into use within five or six years. There are now made sewing machines with as many as twelve needles. A twelve-needle sewing machine simply has twelve needles where the ordinary sewing machine would have one. Instead of a single spool of thread on the top of the machine there appears a rack of twelve spools. There are twelve tension disks. The thread from each spool runs through its own tension disk to its own needle. There are below twelve shuttles, one for each needle. When this machine is operated it makes twelve rows of stitching, just as an ordinary machine would make one. The twelve-needle machines are used chiefly in the manufacture of corsets.

The Rosamond Woolen Co., Almonte, Ont., has done some all night work recently in rushing out the cloth for the uniforms for the second Transvaal contingent.

—The German Imperial postoffice has been requested by the textile manufacturers of the Empire, says the Textile Mercury, Manchester, Eng., to make experiments with postal cards as a means of sending samples of textile goods through the mails. The samples are to be pasted on the back of the cards.

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Manufacturers of

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Hessians, Starched and Dyed Jute Canvas.

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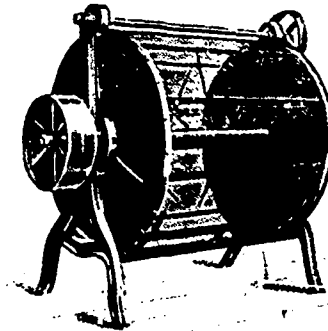
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PATENT WASTE CLEANER

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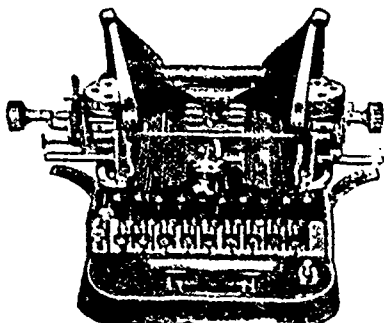
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Production 1000 lbs. per day.
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Unequalled Speed,
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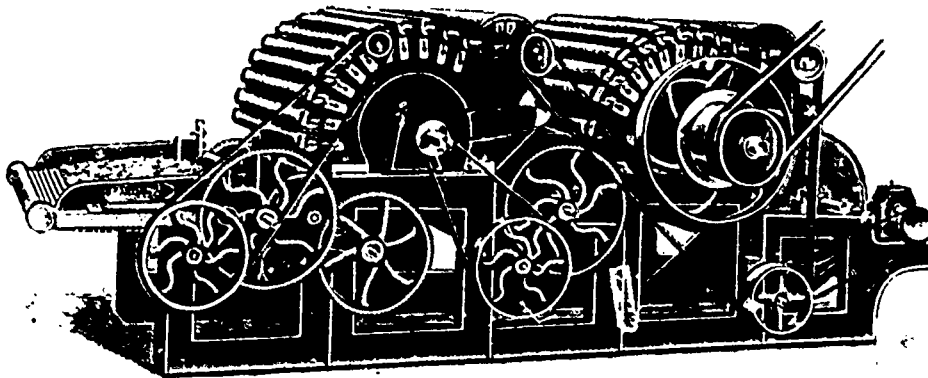
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THESE MACHINES have a world-wide reputation. They are made in various widths up to 60 inches on the wire, and with one, two, or three swifts. They can be clothed as fine as 24 rows per inch so as effectually to open the finest threads.

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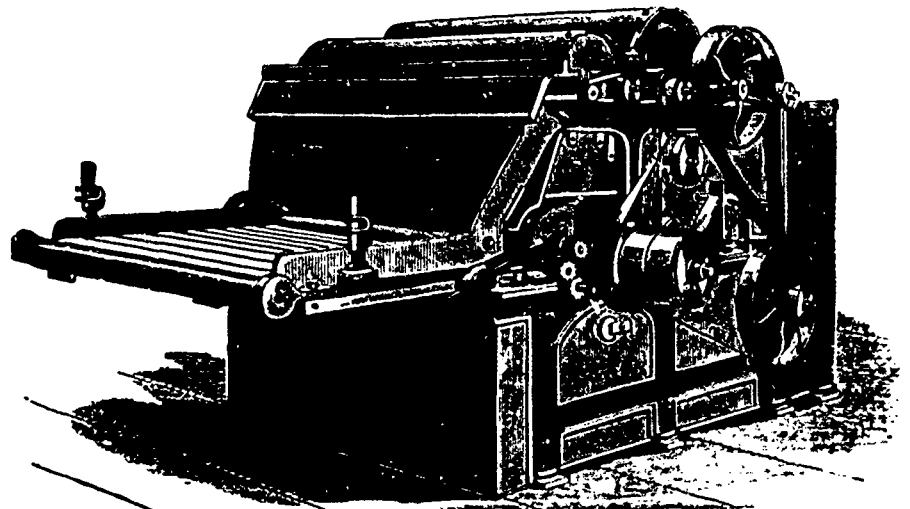
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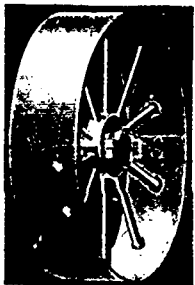


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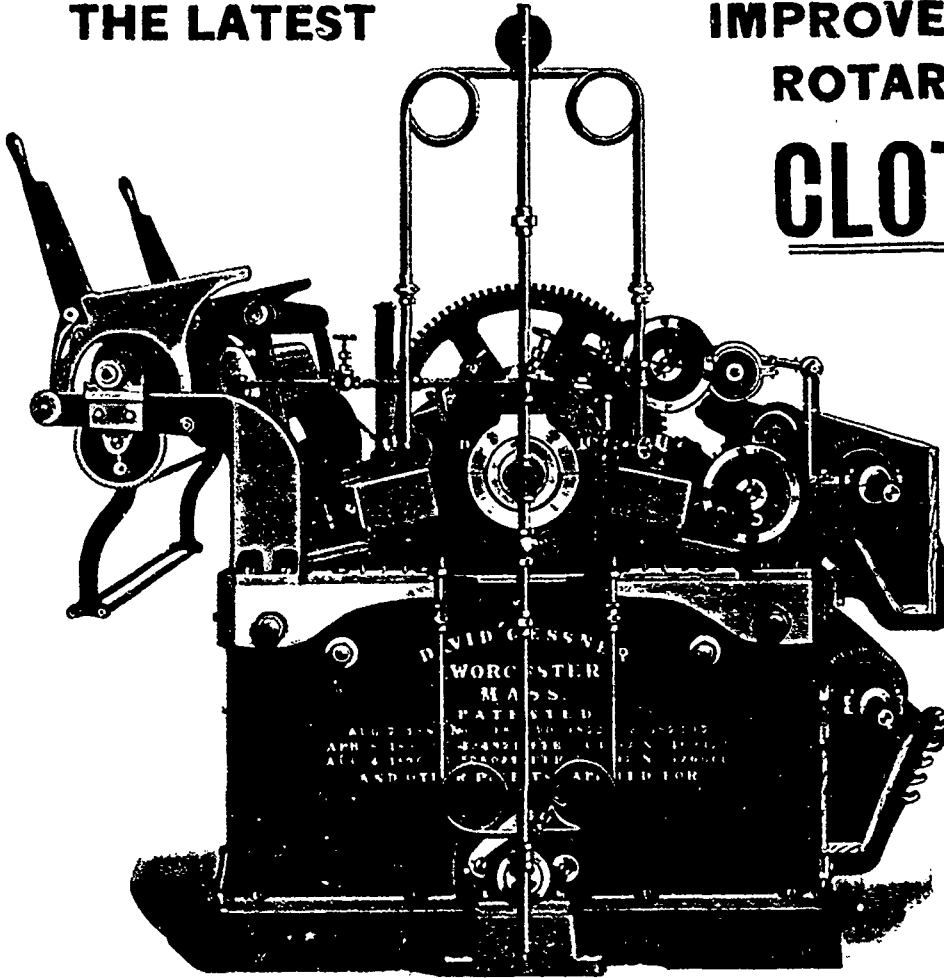
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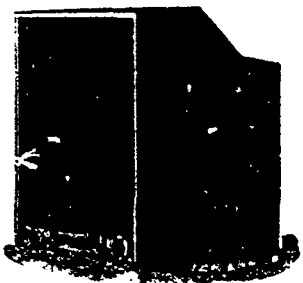
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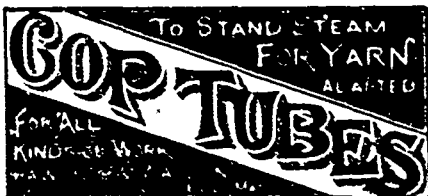


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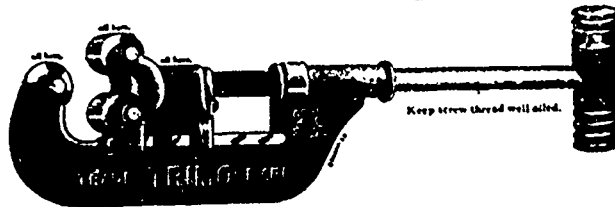
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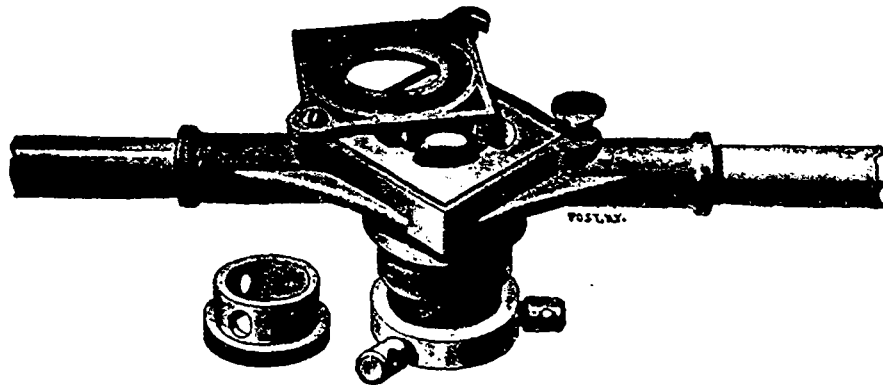


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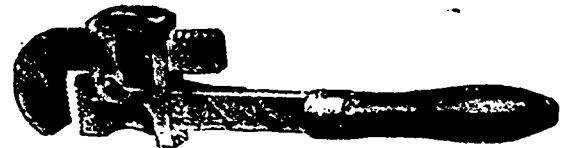
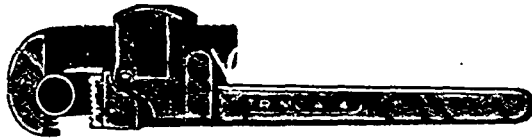
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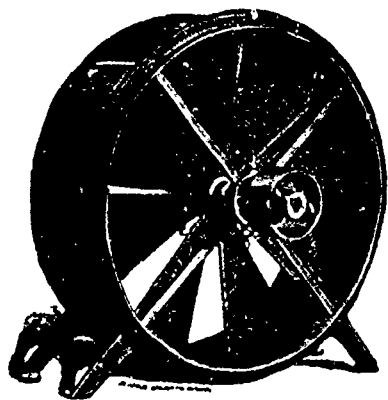
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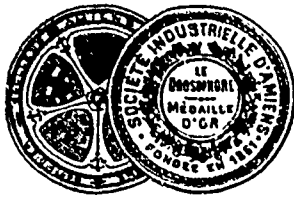
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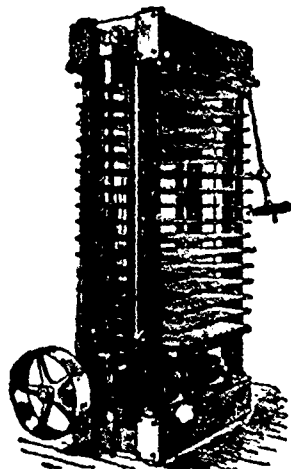
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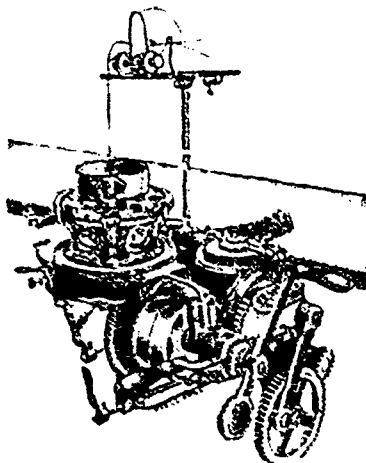
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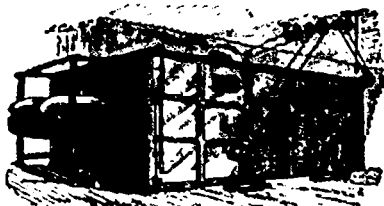
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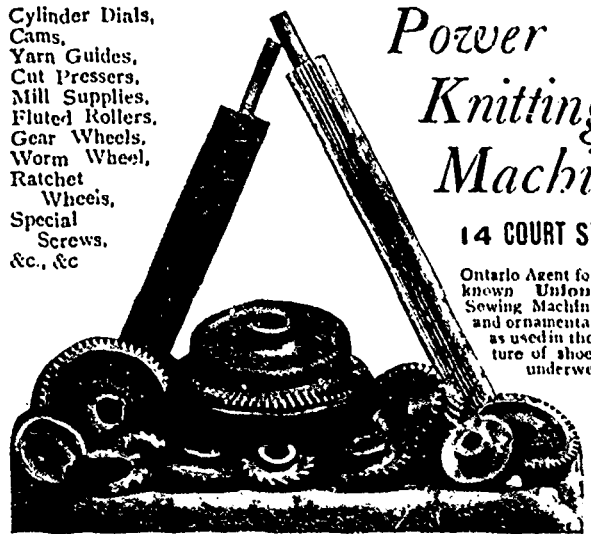
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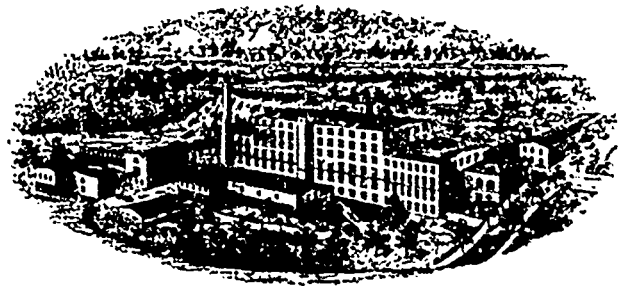
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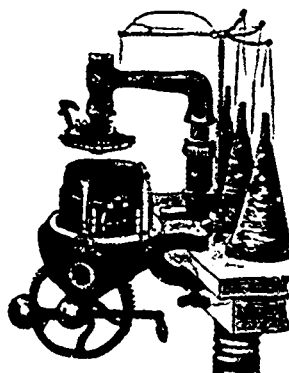
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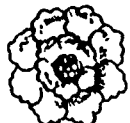
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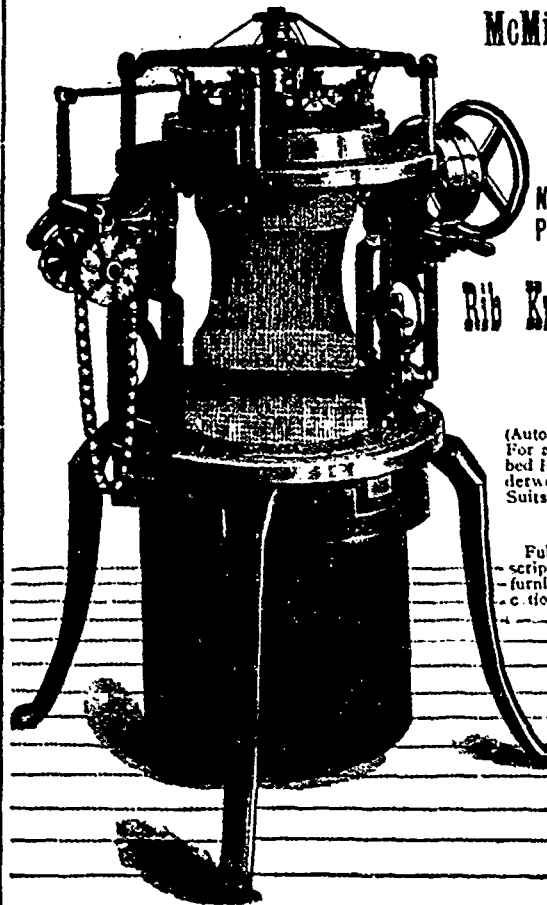
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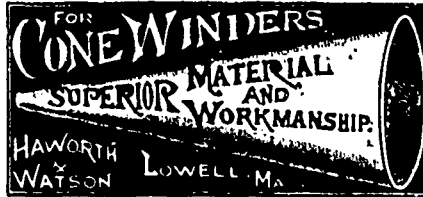
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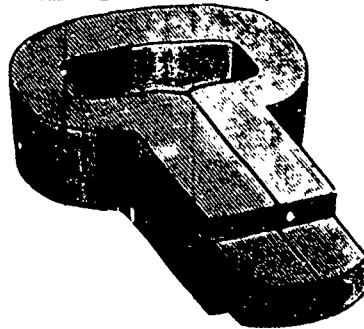


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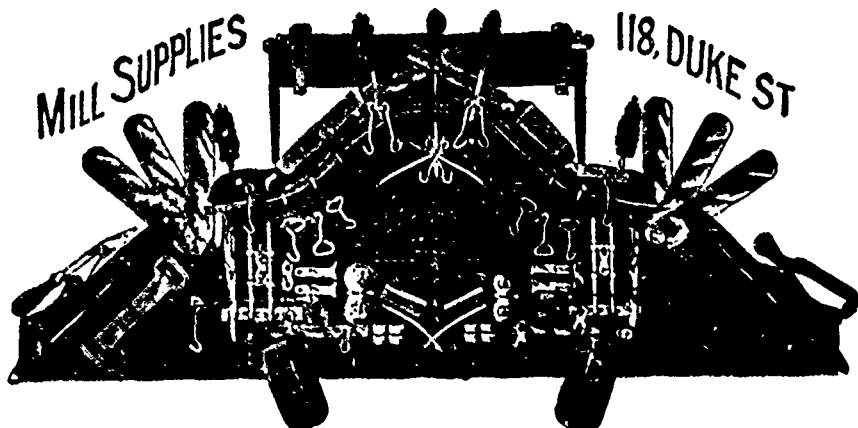
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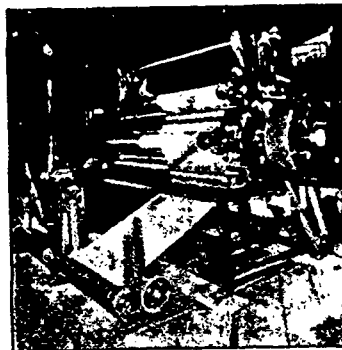
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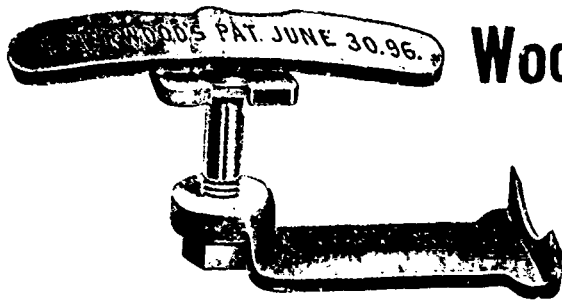
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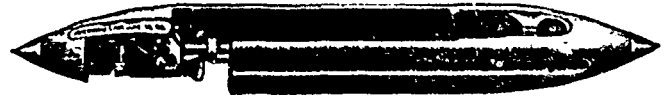


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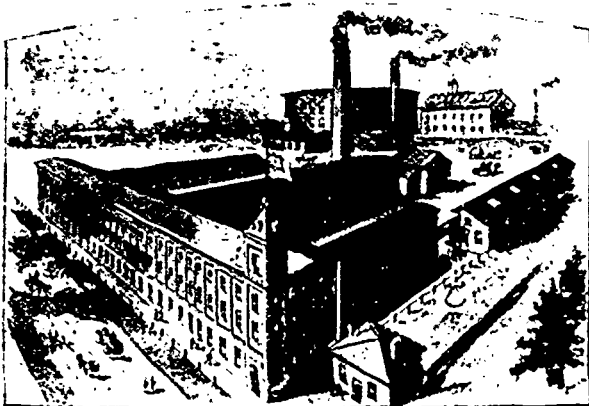
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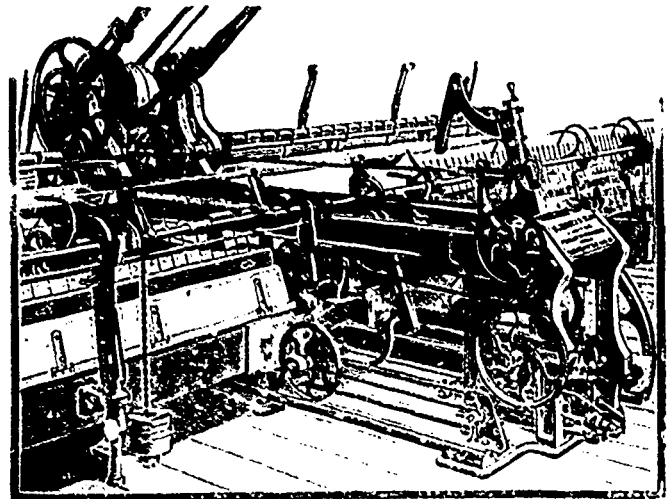


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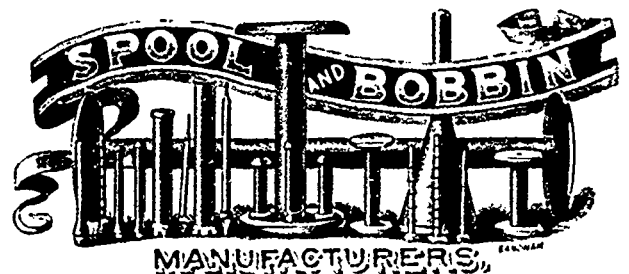
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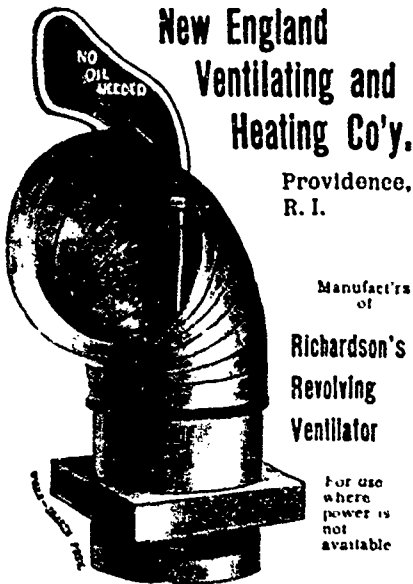
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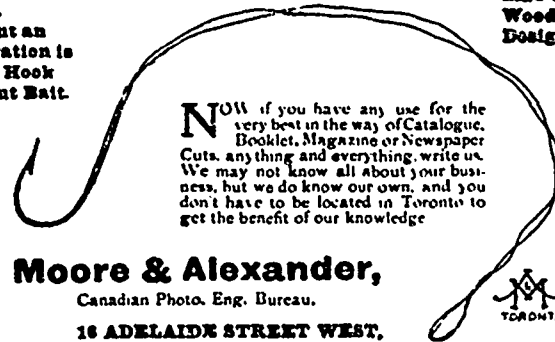
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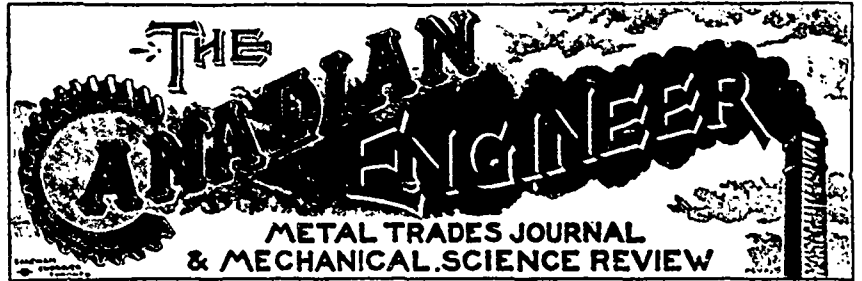
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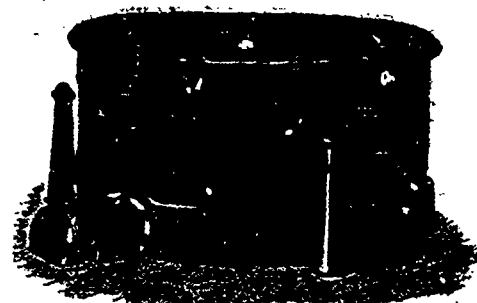
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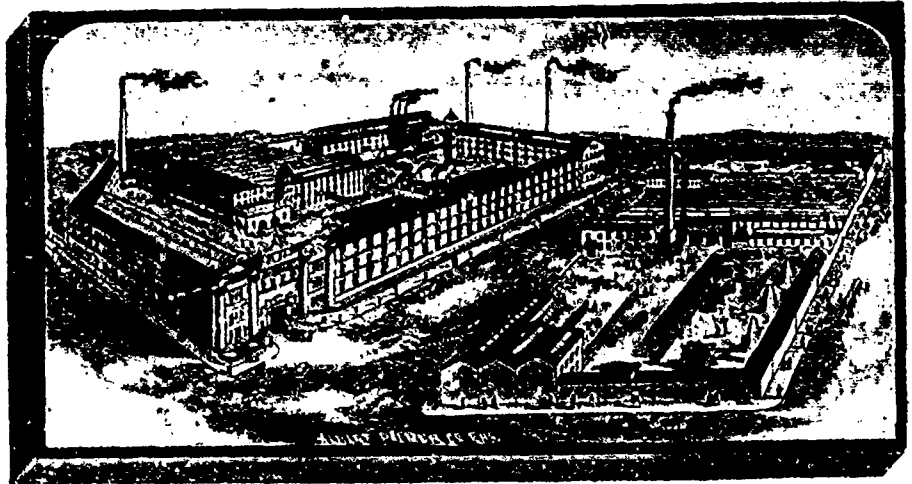
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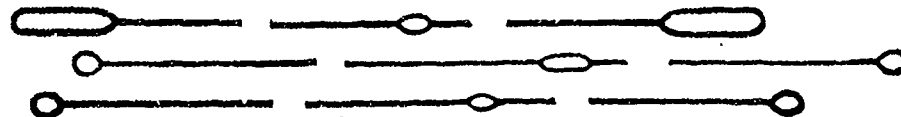
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